DRAFT ENVIRONMENTAL IMPACT REPORT
COUNTY OF LOS ANGELES PROJECT NO. 00-81
STATE CLEARING HOUSE NO. 2000071052
VESTING TENTATIVE TRACT MAP NO. 53189

VOLUME I
ENVIRONMENTAL IMPACT REPORT

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

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TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

Appendices (Under Separate Cover)

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

INTRODUCTION

This Executive Summary has been prepared in accordance with Section 15123 of the California Environmental Quality Act (CEQA) Guidelines. This Draft Environmental Impact Report (EIR) has been prepared by the County of Los Angeles Department of Regional Planning to analyze the potential impacts on the environment resulting from the implementation of Project 00-81 Vesting Tentative Tract Map No. (VTTM) 53189 and Conditional Use Permit (CUP) 00-81. The EIR discusses alternatives to the proposed project and includes a mitigation program that will offset, minimize, or otherwise avoid significant environmental impacts.

The proposed project consists of 66 lots (60 single-family, 3 open space, and 3 public facility). The project site is located in the unincorporated County of Los Angeles north of the City of Santa Clarita. The project site is accessed regionally by Interstate 5 and/or State Route (SR 126) and is located north of Copper Hill Drive between San Francisquito Canyon Road on the east and the Tesoro del Valle residential development to the west. Local access to the project site is currently provided via San Francisquito Canyon Road to Lady Linda Lane, although upon completion of the project, access to the single-family lots on the project site will be possible only through the Tesoro del Valle development.

The project site is surrounded by open space to the west, ranchland to the north, east, and southeast, and the Tesoro del Valle residential development (currently under construction) to the west and southwest. The Tesoro del Valle project will eventually develop a large portion of the hillsides to the west and north of the project site. The proposed project would develop 60 single-family homes along two main streets; “A Street” runs north to south and “B Street” runs east to west, and the smaller “C Street”, which will provide access to Lots 6-12 as well as private property to the north of the project site. “A” and “B” Streets would connect to planned streets in the Tesoro del Valle project, which would ultimately connect to Copper Hill Drive. The southerly connection of “A Street” with “Stoney Creek Road” would be constructed first and provide the initial access to the site. No access to the single-family lots would be available via San Francisquito Canyon Road.

The approximately 186-acre project site is currently undeveloped vacant land with a few dirt roads traversing through the property. The County of Los Angeles has designated the San Francisquito Canyon Creek as Significant Ecological Area (SEA) No. 19, which flows north-south from the Angeles National Forest to the Santa Clara River and comprises a large portion of the eastern side of the project property. SEA No. 19 is considered sensitive partially due to the populations of unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*) found in San Francisquito Canyon Creek. The unarmored threespine stickleback is listed as a federal and state endangered species and requires clean, free-flowing perennial streams and ponds surrounded by natural vegetation. The portion of the San Francisquito Canyon Creek within the project boundary is an intermittent stream that is dry during the summer months.

Three large open space lots (including the SEA No. 19 within Lot 61) would comprise approximately 80 percent of the project site. The development footprint of the proposed project is located west of the SEA No. 19 boundary. The project site supports various vegetation communities which are described in Section 4.3, Biota, of this EIR.

The proposed project site is currently designated by the Santa Clarita Valley Area Plan (SCVAP) as Hillside Management Area (HM), Non-Urban 1 (N-1), and Floodway/Floodplain (W). The N1 designation includes 127 acres of the project site and allows a maximum of 0.5 dwelling units (du) per acre for slopes less than 50 percent (1 du per 20 acres for slopes

above 50 percent). The HM designation comprises 4.58 acres of the site and has the same dwelling unit requirements as the N1 designation. The W designation does not allow for development. Therefore, the SCVAP would allow for approximately 61 lots on the project site. The project site contains 60 proposed residential lots, which is in conformance with SCVAP requirements.

PROJECT IMPACTS AND MITIGATION MEASURES

Table ES-1 at the end of this section provides a summary of the potential environmental effects of the project, the recommended mitigation measures, and identifies any unavoidable adverse impacts. The reader is referred to the full text of this EIR as well as the technical appendices for a description of the environmental effects of the proposed project and the recommended mitigation measures.

The summary provided in Table ES-1 shows that the proposed project would result in potentially significant impacts to the following topical issues: Geotechnical Hazards, Fire Hazards, Water Quality, Air Quality, Biota, Cultural Resources, Traffic/Access, Sewage Disposal, Education Services, and Environmental Safety. After implementation of the mitigation program, the following impacts would remain significant:

- Air Quality – Emissions of NO_X on the Peak Day and the Peak Quarter during construction

PROJECT ALTERNATIVES

In accordance with Section 15126.6 of the CEQA Guidelines, Section 8.0 of this EIR includes an analysis of a reasonable range of alternatives that could feasibly attain the basic objectives of the project and evaluates the comparative merits of the alternatives. The following alternatives to the proposed project area evaluated in this EIR:

Alternatives Under Consideration:

- Alternative 1: No Project/No Development
- Alternative 2: Small Lot Alternative
- Alternative 3: 30 Large Lot Alternative
- Alternative 4: 52 Lot Alternative

Alternatives Considered and Eliminated:

- Alternative Location
- Large Lot Alternative

AREAS OF CONTROVERSY/ISSUES TO BE RESOLVED

CEQA requires a EIR to identify areas of controversy which are known to the lead agency, including issues raised by other agencies and the public. Areas of controversy associated with the proposed project are known through the responses to the Notice of Preparation as well as through an understanding of the issues in the Santa Clarita Valley area. Areas of controversy and issues to be resolved include the following:

- Potential impacts to the SEA No. 19 and associated wildlife/habitat,
- Ensuring an adequate water supply and potential impacts to water wells that supply neighboring ranches,
- Maintaining equestrian trail connections to existing trails and the Angeles National Forest,
- Potential water quality impacts to surface and groundwater,
- Proper handling of two abandoned oil wells located within property boundaries,
- Potential impacts to Native American archaeological resources, and
- Exposure of people and property to wildland fires.

TABLE ES-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

POTENTIAL IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Geotechnical Hazards (Section 3.1)		
The compact footprint of the project design has reduced the extent of remedial alluvial removals anticipated as well as minimized the total graded area.		
Drainage devices (i.e. interceptor drain/concrete swale) shall be constructed at the mouth of the swale behind Lot 28 and Lot 29 to convey drainage and sediment to appropriate storm drain inlets.		
Manufactured slopes shall be contoured to conform to the natural topography to the greatest extent feasible.		
The project shall comply with the Uniform Building Code (UBC) and compliance shall be verified by the Department of Public Works prior to issuance of grading permits. Development on the project site shall comply with the applicable provisions of the UBC, which regulate the design and construction of excavations, foundations, retaining walls and other elements to control the effects of seismic ground shaking and adverse soil conditions.		
The project site is in a seismically active region and people and structures could be exposed to seismic ground shaking and secondary seismic-related impacts, including liquefaction.	MM 3.1-1 During construction, all grading and earthwork shall be conducted in conformance with the recommendations set forth in the geotechnical investigation and review sheets from A.G.I. Geotechnical, Inc.; shall be performed under the observation of a registered geotechnical engineer in order to achieve proper sub-grade preparation, selection of satisfactory materials, and placement and compaction of all engineered fill; and shall be verified by the Department of Public Works. MM 3.1-2 Removal of alluvial and colluvial soils shall be required during grading and prior to fill replacement. The removed soil shall be re-compacted as engineered fill in accordance with the recommendations in the Geotechnical Investigation and Response to Review Sheets by AGI Geotechnical, Inc.; shall be performed under the observation of a registered geotechnical engineer; and shall be verified by the Department of Public Works. The specific depth and extent of removals shall be determined during grading based upon observation and testing. Removal of compressible materials shall be required in areas planned for development.	Mitigated to a level less than significant.
Flood Hazards (Section 3.2)		
An underground bank stabilization levee system will be constructed below the graded pads along the existing floodplain boundary from the northern project boundary near Lady Linda Lane and southerly to Lot 46. The levee system would extend approximately 20 vertical feet below the ground and would be constructed with ungrouted rip-rap. Upon completion of the levee construction, the excavation would be entirely backfilled with existing creek soil and approximately four horizontal feet (2 vertical feet) of above ground levee “free board” space would be visible.		
Energy dissipaters will be constructed at every storm drain outlet that would drain into San Francisquito Canyon Creek in order to slow the flow velocity of concentrated discharges and to minimize potential erosion. The ultimate size and design of the energy dissipaters will be determined in the final design stages of the project according to the Los Angeles County Public Works Department standards.		

TABLE ES-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

POTENTIAL IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Lots 34 through 44 are within the flood limits of Zone A as defined by FEMA; however, the recent on-site hydrology assessment concludes that the boundary is inaccurately depicted.	MM 3.2-1 Prior to approval of a grading permit, the project applicant shall submit a CLOMR to FEMA and receive a notice of approval from FEMA for the adjustment to the Zone A flood limits.	Mitigated to a level less than significant.
Fire Hazards (Section 3.3)		
In an effort to avoid off-site fuel modification, a six-foot solid fire wall will be located along the backyard property boundary of Lots 1 through 8 to provide adequate fire protection for these lots. This fire wall would negate the need for the off-site fuel modification Zone C.		
The proposed residential development is located within a Fire Zone 4 VHFHSZ and would be exposed to naturally vegetated open space, thereby increasing potential exposure to wildland fires.	MM 3.3-1 As required by Section 1117.2.1 of the County of Los Angeles Fire Code (Title 32), a fuel modification plan, landscape plan, and an irrigation plan shall be submitted to the Forestry Division and the County Department of Regional Planning and must be approved prior to the issuance of a grading permit. The project shall comply with the all applicable requirements of Los Angeles County Code Title 32, Fire Code.	Mitigated to a level less than significant.
	MM 3.3-2 The CC&Rs of the Homeowner's Association shall state that structures constructed with flammable materials are prohibited in the backyards of Lots 33 through 42 in order to maintain the 100-foot fuel modification buffer without impacting the SEA. The HOA shall enforce this requirement.	
	MM 3.3-3 Prior to issuance of a grading permit, the project applicant shall pay the required fire mitigation fee for fire services provided by the County of Los Angeles.	
Water Quality (Section 4.1)		
The project design includes three debris basins, desilting inlets, and fossil filter catch basins inserts to satisfy the Los Angeles County Department of Public Works SUSMP requirements.		
Energy dissipaters will be installed at stormwater discharge locations to minimize erosion in the San Francisquito Canyon Creek.		
Manufactured slopes shall be landscaped with native, drought tolerant vegetation as soon as practicable after completion of grading to reduce potential erosion and sediment discharges.		

TABLE ES-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

POTENTIAL IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
During construction, the proposed project may significantly impact water quality by causing soil erosion and releasing vehicle-related pollutants into downstream waters during storm events.	MM 4.1-1 Prior to the issuance of a grading permit, the project applicant shall be responsible for filing a Notice of Intent and the appropriate fees to the State Water Quality Control Board in order to obtain coverage under the NPDES General Construction Permit for construction activities. Pursuant to the permit requirements, the project applicant shall develop a Stormwater Pollution Prevention Plan that incorporates Best Management Practices, including sandbags along roadways and temporary desilting basins, for minimizing construction related pollutants in the site runoff.	Mitigated to a level less than significant.
The proposed project would increase the amount non-point source pollutants in the surface runoff from the site. Increased urban pollutants carried from the project site runoff to the Santa Clara River would result in potentially significant surface water quality impacts.	MM 4.1-2 Prior to issuance of a grading permit, the project applicant shall apply for annexation into the service area of the Los Angeles County Sanitation District No. 36. The proposed project will comply with the Los Angeles County Sanitation District No. 36 requirements that prohibit the installation of self-regenerating water softeners. The Homeowner's Association CC&Rs shall specifically prohibit the use of self-regenerating water softeners.	Mitigated to a level less than significant.
	MM 4.1-3 All storm drain inlets and catch basins with the project area shall be stenciled with prohibitive language (such as: NO DUMPING – DRAINS TO OCEAN) and/or graphical icons to discourage illegal dumping. Signs and prohibitive language shall be posted at public access points along the San Francisquito Canyon Creek within the project area and all signs and stenciled shall be maintained by the Homeowner's Association.	
	MM 4.1-4 The use of herbicides and pesticides will be prohibited from use on the manufactured slopes adjacent to the rear of Lots 33 through 51 along the SEA. The CC&Rs of the Homeowner's Association will specifically prohibit the use of such chemicals by the landscape contractors hired by the HOA to maintain the common areas on the site.	

TABLE ES-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

POTENTIAL IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
The proposed project would increase the amount non-point source pollutants in the surface runoff from the site, which has the potential to infiltrate into the Alluvial Aquifer, which would result in potentially significant water quality impacts.	MM 4.1-2 and SC 4.1-3 mitigates for this impact.	Mitigated to a level less than significant.
Air Quality (Section 4.2)		
Without mitigation, NO_X and PM_{10} emissions during construction activities would be significant in the peak day and in the peak quarter.	MM 4.2-1 Per the SCAQMD Rule 403 Implementation Handbook, the project applicant shall implement the following BMPs to minimize fugitive dust emissions. This requirement shall be included in the construction plans and verified by the County Engineer. • Visible roadway dust tracked from the project site to public paved roadways as the result of active operations shall be removed at the conclusion of each workday. • Gravel or a comparable substance shall be placed at the entrance to the project site to remove excess dust and debris from the tires of construction vehicles. • Bulk material tracked onto paved public roadways should either be prevented or removed within one hour. MM 4.2-2 The project applicant will require that all coatings are SCAQMD-compliant and will use pre-coated materials to the extent feasible.	Mitigation measures would reduce daily and quarterly PM_{10} emissions during construction activities to a level below the SCAQMD threshold for significance. However, NO_X emissions would remain significant in both the peak day and in the peak quarter after mitigation. All other emissions, including operational emissions, would be less than significant.

TABLE ES-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

POTENTIAL IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	MM 4.2-3 The following mitigation measures used in the URBEMIS 2002 model will reduce PM_{10} fugitive dust emissions and equipment gaseous emissions. • Apply soil stabilizers to inactive areas. • Replace ground cover in disturbed areas quickly. • Water exposed surfaces three times daily. • Cover all stockpiles with tarps. • Water all haul roads three times daily. • Reduce speed on unpaved roads to 15 miles per hour. • Turn off equipment when not in use for longer than 5 minutes.	
Biota (Section 4.3)		
As a condition of approval for the project, the three open space parcels (Nos. 61, 62, and 63) will be shown on the proposed Tentative Tract Map as open space and will be granted to the County of Los Angeles and will remain as open space in perpetuity.		
As a standard condition of approval for the project, levee construction will be conducted outside of the rainy season and will avoid any ponded water potentially present on the project site.		

TABLE ES-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

POTENTIAL IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Special Status Vegetation: The proposed project would result in the loss of coastal sage scrub, holly-leaf cherry woodland, and alluvial sage scrub.	MM 4.3-1 The loss of coastal sage scrub, holly-leaf cherry woodland, and alluvial sage scrub (i.e., proposed roadway expansion) within the impact area is considered a significant impact. These vegetation types will be restored onsite or, if appropriate, offsite at a ratio of not less than 1:1, as agreed to by the County of Los Angeles Department of Regional Planning and the Project Applicant. A revegetation program will be implemented in accordance with a County-approved landscape palette on all graded areas not utilized for improvements or structures. The revegetation program will be submitted to the County of Los Angeles Department of Regional Planning for review and approval by a qualified biologist prior to issuance of grading permits. Restoration will consist of seeding and container planting of appropriate species. Impacts are considered less than significant after implementation of the following measures: A detailed restoration program will be developed prior to map recordation and implemented and will contain the following items: a. Responsibilities and qualifications of the personnel to implement and supervise the plan. The responsibilities of the landowner, specialists, and maintenance personnel that will supervise and implement the plan will be specified. b. *Site selection*. The site(s) for mitigation will be determined in coordination with the project applicant and the Los Angeles Department of Regional Planning. The site will be located in a dedicated open space area and will be contiguous with other natural open space areas. c. *Site preparation and planting implementation*. The site preparation will include: 1) protection of existing native species, 2) trash and weed removal, 3) native species salvage and reuse (i.e., duff), 4) soil treatments (i.e., imprinting, decompacting), 5) erosion control measures (i.e., rice or willow wattles), and 6) native seed mix application. d. *Schedule.* Establishment of restoration/revegetation sites will be conducted between October 1st and January 30th. Seeding and planting of container plants will take place immediately after preparation of the restoration sites.	Mitigated to a level less than significant.

TABLE ES-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

POTENTIAL IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	e. Maintenance plan/guidelines. The maintenance plan will include: 1) weed control, 2) herbivory control, 3) trash removal, 4) irrigation system maintenance, 5) maintenance training, and 6) replacement planting. f. Monitoring Plan. 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 three to five years. The monitoring will be conducted for three to five years, depending upon the performance of the mitigation site. g. Long-term preservation. 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. h. Performance standards will be identified and will apply for the revegetation of sage scrub. Revegetation 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. In addition, 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.	

TABLE ES-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

POTENTIAL IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
ACOE and CDFG Jurisdiction Areas: The proposed project would result in impacts to approximately 0.41 acre of non-wetland ACOE and CDFG jurisdictional waters.	MM 4.3-2 Upon completion of construction activities, impacts to approximately 0.17 acre of non-wetland ACOE and CDFG jurisdictional waters will be mitigated within the project boundaries through the creation of 0.17 acre of non-wetland jurisdictional waters. In addition to this assurance of "no net loss" of ACOE and CDFG jurisdictional area within the project boundaries, another 0.17 acre of non-wetland jurisdictional area will be restored or enhanced on the project site for a total of 2:1 replacement. Acquisition of a Section 404 "dredge and fill" permit from the ACOE (possibly through the use of Nationwide Permit No. 39), a Section 1602 "streambed alteration" permit from the CDFG, and a Section 401 water quality certification or waiver will be obtained from the Regional Water Quality Control Board. Prior to the final submittal of an application for an ACOE permit or CDFG agreement, the Project Applicant will develop a mitigation plan for the ACOE, CDFG, and Los Angeles Department of Regional Planning. The objective of the mitigation is to ensure no net loss of habitat values as a result of the project. The detailed restoration program will contain the following items: a. Responsibilities and qualifications of the personnel to implement and supervise the plan. The responsibilities of the landowner, specialists and maintenance personnel that would supervise and implement the plan will be specified. b. *Site selection.* The site(s) for the mitigation will be determined in coordination with the project applicant and resource agencies. The site will be located in a dedicated open space area and will be contiguous with other natural open space. c. *Site preparation and planting implementation.* The site preparation will include: 1) protection of existing native species, 2) trash and weed removal, 3) native species salvage and reuse (i.e. duff), 4) soil treatments (i.e., imprinting, decompacting), 5) temporary irrigation installation, 6) erosion control measures (i.e., rice or willow wattles), 7) native seed mix application, and 8) native container species.	Mitigated to a level less than significant.

TABLE ES-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

POTENTIAL IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	d. *Schedule.* A schedule will be developed which includes planting to occur in late fall and early winter, between October 1st and January 30th. e. *Maintenance plan/guidelines.* The maintenance plan will include: 1) weed control, 2) herbivory control, 3) trash removal, 4) irrigation system maintenance, 5) maintenance training, and 6) replacement planting. f. *Monitoring Plan.* 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 resource agencies, 4) monthly reports for the first year and bimonthly reports thereafter, and 5) annual reports which will be submitted to the resource agencies for three to five years. The site will be monitored and maintained for five years to ensure successful establishment of riparian habitat within the restored and created areas; however, if there is successful coverage prior to five years, the Project Applicant may request from ACOE and CDFG to be released from monitoring requirements. g. *Long-Term Preservation*. 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. h. Performance standards will be identified and will apply for the restoration of riparian habitat. Revegetation 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 and restored and/or created habitat areas. This revegetation/enhancement plan may be combined with the revegetation plan required by Mitigation Measure 4.3-1, if appropriate.	Mitigated to a level less than significant.

TABLE ES-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

POTENTIAL IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Braunton's Milk-Vetch: Braunton's milk-vetch was not observed during focused surveys in Spring 2004. However, because it may germinate following initial grading activities and/or any other soil disturbance, the potential for this plant to occur on site exists. Should this plant germinate and establish itself, significant impacts to this species would occur.	MM 4.3-3 Braunton's milk-vetch was not detected during the special status plant surveys. Prior to issuance of a grading permit, a follow-up survey for this species will be conducted in any area partially disturbed for surveyor access or geotechnical studies, or areas that may have recently burned in a wildfire. If Braunton's milk vetch is found in the study area during follow-up surveys, the applicant will be required to consult with the USFWS and CDFG to obtain a permit under Section 7 or 10(a) of the federal Endangered Species Act and a Section 2081 concurrence from CDFG under the state Endangered Species Act to impact this species. The consultation process will include preparation of a mitigation plan to avoid, relocate, or minimize impacts on this species. This plan will be submitted to and approved by the USFWS and CDFG.	Mitigated to a level less than significant.
Slender Mariposa Lily: Due to the presence of suitable habitat or substrate, the potential for the slender mariposa lily to occur on the project site exists and any impacts to such species would be considered significant.	MM 4.3-4 Slender mariposa lilies (Calochortus clavatus ssp. gracilis), possibly hybridized with club-haired mariposa lilies (Calochortus clavatus ssp. clavatus), have been observed during special status plant surveys on the site. Impacts on the slender mariposa lily population are considered significant under the CEQA, but can be mitigated to a level less than significant by the following measures. a. Preparation and Submittal of Mitigation Plan: A Mitigation Plan will be prepared by a qualified biologist. The plan will include: 1) a summary of mitigation area conditions; 2) a discussion of the mitigation program and anticipated success; 3) guidelines for mitigation area preparation; 4) guidelines for bulb collection; 5) guidelines for transporting and replanting salvaged bulbs; 6) guidelines for long-term site maintenance and performance monitoring, 7) site status documentation; and 8) a discussion of site performance standards such as survival rate.	Mitigated to a level less than significant.

TABLE ES-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

POTENTIAL IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	b. Collection and Transplantation of Bulbs: Prior to any ground-disturbing activities, the slender mariposa lily population located within the project impact area will be transplanted to an onsite mitigation area. The mitigation area is located in Open Space Lot 62 and is outside of the proposed grading footprint and fuel modification areas. The bulbs will be transplanted directly into the mitigation area on the same day they are collected by a landscape contractor experienced in native habitat maintenance, and the plants will be protected from herbivores by the installation of wire cages. c. Supervision and Documentation of Transplantation: Bulb transplantation efforts will be documented by a biological monitor, who will keep field notes including the number and condition of bulbs transplanted. d. Establishment of Maintenance and Monitoring Plan: Performance criteria and remediation measures will be reviewed and approved by the County. Program monitoring will occur over a five-year period, including qualitative monitoring visits during the first season after transplant, monthly visits during the first lily blooming season (February – June 2006) to assess establishment success, non-native species coverage, and general site conditions, and additional monitoring visits to assess site conditions that may affect future success of lily establishment.	
Western spadefoot tadpoles have been observed on the project site in two ponds that would be impacted by grading for the project.	Remedial measures, such as invasive species control or soil amendments, will be recommended as needed in a timely manner to facilitate compliance with required performance standards. Any necessary contingency planting would be performed using seeds collected from adjacent lily populations located on the site, outside the project impact area.	Mitigated to a level less than significant.

TABLE ES-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

POTENTIAL IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	MM 4.3-5 A relocation program for the western spadefoot will be conducted during the spring prior to construction at the height of the breeding season for this species (February through May and as determined by a qualified biologist monitoring a known location of this species). A detailed methodology for this effort will be submitted and approved by CDFG prior to implementation of the relocation program. Results of the relocation program will be provided to CDFG and the County of Los Angeles. The intent of the relocation plan will be to capture and relocate as many western spadefoots as possible. Western spadefoots will be relocated to an area of suitable habitat that takes into consideration habitat requirements for all life stages of the toad, as approved by CDFG. The site will be granted to the County of Los Angeles and will be located in an area of preserved open space protected from future development. The relocation breeding pool will be no smaller in size, and similar or better in quality, as the habitat within the project impact area where the western spadefoots are captured.	
Reptiles and Amphibians: Construction activities including the graded pads, roadways, and future fuel modification zones would directly impact coast horned lizard, coastal western whiptail, ringneck snake, coast patch-nosed snake, and loggerhead shrike.	MM 4.3-6 A qualified biologist, approved by the County, will install pit-fall traps and arrays beginning at least one week prior to the commencement of vegetation removal. The qualified biologist will be present to monitor the traps during vegetation removal and will also opportunistically salvage and relocate the coastal western whiptail as well as other special status amphibians and reptiles to similar habitat within proposed open space in San Francisquito Canyon.	Mitigated to a level less than significant.
Nesting Birds: Brush management and landscape activities would potentially impact birds nesting in the immediate area.	MM 4.3-7 Trimming of some native plants and clearing of non-native invasive species for fuel modification, will be monitored by a qualified biologist if it occurs during the peak bird nesting season. If possible, dependent upon the growth cycle of targeted annuals and the requirements of the Fire Department, brush management will be conducted outside of the peak bird nesting season (March 15 to September 15) to ensure that potential impacts to nesting birds are avoided.	Mitigated to a level less than significant.

TABLE ES-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

POTENTIAL IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Native Plants: The planting of non-native or invasive species adjacent to natural areas could significantly impact existing native vegetation.	MM 4.3-8 Prior to the issuance of a grading permit, a Landscape Plan, prepared by HRP LanDesign, will be submitted and approved by the Los Angeles County Department of Regional Planning. The Landscape Plan requires the planting of native, drought tolerant plant species. Implementation of the Landscape Plan and brush management requirements will be coordinated with the project biologist and approved by the Los Angeles Department of Regional Planning.	Mitigated to a level less than significant.
Raptor Nesting: Nesting raptors would potentially incur temporary short-term impacts from construction noise if present in the vicinity of the proposed project, and would potentially be temporarily displaced due to these disturbances.	MM 4.3-9 Seven days prior to the start of construction activities, a qualified biologist will conduct a survey to determine if any raptors are nesting in or adjacent to the impact area. If nesting is not occurring, construction work can proceed. If an active nest is present, construction work will be prohibited within 500 feet of the nest (or as otherwise determined and approved by Department of Regional Planning biologist) until fledglings have left the nest. Results of the surveys will be provided to CDFG and the County.	Mitigated to a level less than significant.
Urban pollutants: Improper disposal of petroleum and chemical products from construction equipment (temporary) could adversely affect water quality and, in turn, affect populations of species in San Francisquito Creek and other downstream areas within SEA No. 19.	MM 4.3-10 Prior to the issuance of a grading permit, the Project Applicant will apply for coverage under the State Water Resources Control Board's General Permit for Storm Water Discharge Associated with Construction Activity (Construction Activities General NPDES Permit) and will comply with all the provisions of the permit, including the development of a Storm Water Pollution Prevention Plan, which includes provisions for the implementation of Best Management Practices and erosion control measures. Best Management Practices will include both structural and non-structural measures. The purpose of this mitigation measure is to insure that site runoff does not adversely affect SEA No. 19 and downstream biological resources.	Mitigated to a level less than significant.
Night Lighting: Lighting of the homes and yards in the proposed development would potentially spill over into SEA No. 19 and adversely affecting the behavioral patterns of nocturnal and crepuscular (i.e., active at dawn and dusk) wildlife in this area.	MM 4.3-11 The Codes, Covenants and Restrictions (CC&Rs) of the Homeowner's Association (HOA) shall require that all backyard lighting in Lot 33 through Lot 51, which are adjacent to the SEA No. 19, must not be directed into the SEA. For these lots, all backyard lighting must be mounted to the home structure and may not be freestanding or placed on backyard fences.	Mitigated to a level less than significant.

TABLE ES-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

POTENTIAL IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Human activity: The potential for intrusion into the SEA from human activity and domestic pets could result in significant indirect impacts to the biological resources of the SEA.	MM 4.3-12 The portion of SEA No. 19 located within the proposed project site will be recorded as Open Space Lot No. 61 with approval of the Tentative Tract Map. Backyard fencing will be constructed behind all lots to protect open space areas, including the SEA No. 19 upon completion of site preparation and grading. This fencing would be required in order to prevent intrusion by future residents of the development and their pets. The fencing will discourage people and pets from entering the SEA. The fence will include permeable materials (i.e., wrought iron) in order to maintain view from the properties. Signs will be evenly spaced along the western edge of the SEA near Lot 33 through Lot 51 indicating that areas on the other side of the signs contain sensitive biological resources. The signs will be installed and maintained throughout the life of the project by the HOA. The CC&Rs of the HOA shall disclose the existence of the SEA and the responsibility each homeowner has for ensuring its protection.	Mitigated to a level less than significant.
If street lighting would be installed along San Francisquito Canyon Road, the lighting may adversely affect the behavioral patterns of small-ground-dwelling animals that use the darkness to hide from predators, and on owls, which are specialized night foragers. Indirect impacts as a result of the proposed project are considered potentially significant prior to mitigation. .	MM 4.3-13 Should lighting be required by the County to illuminate San Francisquito Canyon Road upon widening of the roadway, a lighting plan will be submitted to the County for review prior to approval of the roadway project. The lighting plan shall demonstrate that illumination from the proposed road expansion will be directed away from natural open space areas on and adjacent to the project impact area. If the County determines that the proposed lighting plan would potentially indirectly impact adjacent biological resources, the lighting plan will be redesigned or additional mitigation consistent with Mitigation Measure 4.3-15 will be required.	Mitigated to a level less than significant.

TABLE ES-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

POTENTIAL IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Oak trees: Construction of the proposed San Francisquito Road and/or Cliffie Stone trail could impact 0.1 acre of coast live oak woodland.	MM 4.3-14 Prior to the initiation of the San Francisquito Road expansion and/or the Cliffie Stone Trail construction, a tree survey will be conducted within the area of the proposed roadway expansion and trail area. All trees meeting the County Oak Tree Ordinance requirements will be tagged, mapped, and evaluated to determine the approximate number of trees that would be impacted. Project design will be altered to avoid and minimize impacts on oak trees to the extent practicable, particularly if a heritage tree would be impacted. The heritage trees on the project site are adjacent to the proposed road alignment. Upon approval of the final design plans for the proposed roadway and trail alignment, the Project Applicant will develop a detailed oak woodland mitigation plan and submit the plan to the County for review and approval. The objective of the mitigation plan is to ensure no net loss of habitat values as a result of the project implementation. Required replacement trees shall be in the ratio of at least 2:1, consistent with the Los Angeles County Oak Tree Ordinances (Ord. 88-0157, adopted September 13, 1988). The mitigation plan shall require that a biological monitor be present during project grading to record the exact number of native trees impacted.	Mitigated to a level less than significant.
Special Status Species for San Francisquito Road Expansion and Cliffie Trail: Direct impacts on special status plant and wildlife species for the proposed road expansion and trail construction have not been determined.	MM 4.3-15 Prior to the issuance of a grading permit for the construction of the San Francisquito Road expansion and/or the Cliffie Stone Trail, special status plant and wildlife surveys will be conducted. The results of these surveys and associated mitigation will be submitted to Los Angeles County Regional Planning Department for approval.	Mitigated to a level less than significant.
Construction of the levee system has the potential to impact biological resources in the SEA No. 19.	MM 4.3-16 Upon completion of the levee construction, the excavation area shall be entirely backfilled with existing San Francisquito Creek soil and only the four horizontal feet of above ground levee “free board” space would be visible. The impacted area shall be restored onsite with alluvial sage scrub habitat in accordance with the requirements of the County of Los Angeles Department of Regional Planning approved revegetation program. The levee shall be constructed with ungrouted rip-rap, which would allow for percolation of water, accumulation of transported soils, and establishment of plant life.	Mitigated to a level less than significant.

TABLE ES-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

POTENTIAL IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Cultural Resources (Section 4.4)		
Grading and excavation activities could significantly impact paleontological resources on the site, due to deep excavations within the development footprint and grading in the hills and ridges of the western and northern portions of the tract.	MM 4.4-1 In accordance with PRC 5097.94, if human remains are found, construction activity in the area of the find must halt and the Los Angeles County coroner must be notified within 24 hours of the discovery. If the coroner determines that the remains are not recent, the coroner will notify the Native American Heritage Commission for consultation. MM 4.4-2 The applicant shall agree to suspend construction in the vicinity of an archaeological resource encountered during ground-disturbing activities at the site and leave the resource in place until a qualified archaeologist can examine them and determine appropriate mitigation measures. MM 4.4-3 A qualified paleontologist shall be retained to attend pre-grade meetings and to monitor earthmoving activities, including grading and trenching below a depth of eight feet in lower alluvial areas of the site and all grading and cutting in elevated hilly areas of the site. If fossil resources are uncovered, a subsurface evaluation may be needed to assess the discovery. In the event that fossils are exposed, the paleontologist shall be allowed to temporarily divert or re-direct grading in the area of the exposure to recover potentially significant fossils. Because the Saugus Formation is known to contain tiny microfossils, the paleontologist should periodically screen sediment samples in order to identify these resources. Excavated significant fossil finds shall be offered, on a first right-of-refusal basis, to a repository with a retrievable collection system and an educational and research interest in the materials such as the Natural History Museum of Los Angeles County.	Mitigated to a level less than significant.
Visual Qualities (Section 4.5)		
Approximately 80 percent of the project site is preserved as open space in Lots 61, 62, and 63. Approximately 122.6 acres, or 66 percent of the project site, would remaining as undisturbed open space not impacted by fuel modification, in order to maintain the natural and aesthetic features of the project site.		
The final configuration of the Cliffie Stone Trail and the Butterfield Overland Stage Trail will be determined by the County of Los Angeles Parks and Recreation Department. The trails will not traverse the SEA and it is the intent of the applicant that the trails shall avoid oak tree impacts.		

TABLE ES-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

POTENTIAL IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
The majority of the landform and topography changes would not substantially alter the character of the site and there would not be any engineered fill slopes that would obstruct views. However, the grading hillside areas would necessitate a variety of manufactured slope areas that would reduce/alter the ridgetops of the surrounding hills.	MM 4.5-2 At the completion of construction activities, all manufactured slope areas shall be landscaped. Landscaping plans for the project site would use native vegetation (i.e., oaks, coastal sage scrub) on manufactured slopes that are adjacent to naturally vegetated areas to minimize the potential visual impacts of development. The plan materials, placement, and maintenance of the native revegetation would be approved by the Fire Department, Department of Regional Planning, and by the project biologist. The manufactured slope behind Lots 31, 32, and 33 would be constructed at a 3:1 grade to ensure slope stability and to minimize potential erosion along the hillside area. This manufactured slope shall be contoured to reflect the natural topography to the greatest extent feasible in order to enhance the aesthetic qualities of the slope area.	Mitigated to a level less than significant.
Traffic/Access (Section 5.1)		
The implementation of the proposed project would contribute to a cumulatively considerable traffic impact at the intersection of McBean Parkway and Copper Hill Drive during the AM and PM hours.	MM 5.1-1 Prior to the issuance of occupancy permits, the project applicant will contribute its pro-rata fair share (1.3 percent) of the costs of restriping the McBean Parkway and Copper Hill Drive intersection.	Mitigated to a level less than significant.
Sewage Disposal (Section 5.2)		
The proposed project would result in the generation of approximately 0.0156 million gallons per day (15,600 gallons per day) of wastewater to be treated by the SCVJSS. Though this facility would be able to handle the additional increase from the proposed project alone, the facility would be under pressure to expand to accommodate wastewater generated by related and future projects including the existing flows from the proposed project.	MM 5.2-1 Prior to the issuance of connection permits and building, the project applicant shall pay connection fees to the County Sanitation Districts of Los Angeles County.	Mitigated to a level less than significant.
	MM 5.2-2 After approval of the annexation by the Board of Directors of County Sanitation District No. 32 of Los Angeles County and prior to the issuance of occupancy permits, the project applicant shall pay annexation fees to the County Sanitation Districts of Los Angeles County.	Mitigated to a level less than significant.
Education (Section 5.3)		
Saugus Union School District is currently at capacity and the projected increase in enrollment of 25.86 new students would cause a significant impact.	MM 5.3-1 Prior to the issuance of a grading permit, the project applicant shall pay developer fees to the Saugus Union School District pursuant to the requirements established in SB50.	Mitigated to a level less than significant.

TABLE ES-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

POTENTIAL IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
William S. Hart School District is currently at capacity and the projected increase in enrollment of 26.2 new students would cause a significant impact.	MM 5.3-2 Prior to the issuance of a grading permit, the project applicant shall pay developer fees to the William S. Hart School District pursuant to the requirements established in SB50, or shall negotiate a separate agreement with the WHSD for school mitigation.	Mitigated to a level less than significant.
The growth in demand for library services (approximately 510 library items, 93 square feet of space, and 0.2 computers) resulting from the proposed project would significantly impact the County of Los Angeles Public Library system and service capabililties.	MM 5.3-3 Prior to the issuance of a grading permit, the project applicant shall pay the Facilities Mitigation Fee Program for library services.	Mitigated to a level less than significant.
Water Utilities (Section 5.4)		
The provision of water service to the project site could be denied unless conducted according to the Newhall County Water District's requirements and policies.	MM 5.4-1 Prior to issuance of a grading permit, The developer shall submit to the NCWD all plans, designs, and fire department regulations for the development in order that the NCWD may design the necessary water system facilities required for the development in accordance with the NCWD's Rules and Regulations; or, at the NCWD's option, the water system may be designed by the developer, subject to the NCWD's review and approval.	Mitigated to a level less than significant.
	MM 5.4-2 Prior to the issuance of a grading permit, the developer shall grant the NCWD any and all easements required for water service, together with a policy of title insurance, satisfactory to the NCWD, guaranteeing the NCWD's title to such easements.	Mitigated to a level less than significant.
	MM 5.4-3 Prior to the issuance of a grading permit, the developer shall, in accordance with the NCWD'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, and if NCWD elects to design the water system, all costs and expenses of design.	Mitigated to a level less than significant.

TABLE ES-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

POTENTIAL IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Environmental Safety (Section 6.1)		
The abandoned oil wells on-site may pose a hazard to future development if it is determined that the abandonment procedures were not adequate.	MM 6.1-1 Prior to issuance of a grading permit, the two abandoned oil wells on the project site will be re-abandoned according to current California Department of Conservation, Division of Oil, Gas, and Geothermal Resources standards. Vegetation temporarily impacted by the re-abandonment process will be reseeded with native plant material mix.	Mitigated to a level less than significant.

SECTION 1.0 INTRODUCTION

1.1 PURPOSE OF THE EIR

This Draft Environmental Impact Report (EIR) has been prepared for the County of Los Angeles Project No. 00-81 pursuant to the California Environmental Quality Act (CEQA) Guidelines to evaluate the potential project-specific and cumulative environmental impacts that could result from the implementation of the proposed project. Pursuant to Section 15121 of the CEQA Guidelines, this EIR is an informational document that would inform public agency decision makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the proposed project that would reduce or avoid potentially significant impacts. The decision makers would consider the information in this EIR before taking action on the proposed project. This EIR may constitute substantial evidence in the record to support the agency's action on the project.

The County of Los Angeles (County) is the Lead Agency under CEQA and is responsible for preparing the Project No. 00-81, Vesting Tentative Tract Map (VTTM) 53189 EIR. For each significant impact identified in the EIR, the County must make findings and, if appropriate, prepare a statement of overriding considerations if mitigation presented does not reduce impacts below a level of significance. Other responsible agencies discussed in the following section would use this EIR in their discretionary approval processes involving issuance of the required permits.

1.2 PROJECT APPROVAL ACTIONS

The County and the responsible agencies identified below are expected to use the information contained in this EIR during their respective deliberations. This EIR has been prepared to support the discretionary actions and approvals necessary for implementation of the proposed project. The proposed project would require the following approvals and permits:

TABLE 1-1
REQUIRED APPROVALS AND PERMITS

DISCRETIONARY APPROVAL OR PERMIT	AGENCY	STATUS
Vesting Tract Map	County of Los Angeles	Lead Agency
Conditional Use Permit (Hillside Management, SEA, Density Controlled, Highway Realignment)	County of Los Angeles	Lead Agency
Section 404 Permit	U.S. Army Corps of Engineers	Responsible Agency
Streambed Alteration Agreement (1603)	California Dept. of Fish and Game	Responsible Agency
Section 401 Water Quality Certification	State Water Resources Control Board	Responsible Agency

1.3 INITIAL STUDY AND NOTICE OF PREPARATION

In compliance with the CEQA Guidelines, the County conducted an Initial Study of the proposed project and determined that a EIR would be the appropriate environmental document to analyze the project's potential impacts to the environment. In June 2000, the County prepared an Initial Study for a previous project site design for Project No. 00-81, VTTM 53189 that included residential homes along the eastern edge of San Francisquito Canyon. A Notice of Preparation (NOP) and the Initial Study were circulated between July 13, 2000 and August 11, 2000 for a

30-day public review period to the responsible and interested agencies and key interest groups to solicit comments and inform the public of the proposed project.

A new Initial Study was prepared in July 2003 to evaluate a revised site design. The new Initial Study was not circulated, as it was determined that the 2000 and the 2003 proposed designs were sufficiently similar so as not to warrant a need to recirculate the NOP. The new Initial Study and the NOP response letters from the 2000 NOP circulation are included in Appendix A of this document. NOP responses were received from the following:

- California Regional Water Quality Control Board, Los Angeles Region
- Department of Conservation, Office of Governmental and Environmental Relations
- Department of Fish and Game
- Department of Toxic Substances Control, California EPA
- Department of Transportation, District 7
- Native American Heritage Commission
- Santa Clarita Organization for Planning the Environment (SCOPE)
- Sherrie Stolarik

The Initial Study and NOP comments were used to establish the scope of the issues addressed in this EIR. The following environmental issues were identified through preparation of the Initial Study as being potential impacts associated with the implementation of the proposed project and are addressed in this EIR.

- Geotechnical
- Flood
- Fire
- Water Quality
- Air Quality
- Biota
- Cultural Resources
- Visual Qualities
- Traffic/Access
- Sewage Disposal
- Education
- Utilities
- Environmental Safety

Environmental issues that were determined to have “no impact” or “less than significant impact” on the Initial Study, and therefore not addressed in this EIR, are presented below.

- Noise
- Mineral Resources
- Agricultural Resources
- Fire/Sheriff Services
- General
- Land Use
- Population/Housing/Employment/Recreation

A discussion of why these environmental topics were determined to have “no impact” or “less than significant impact” is presented in Section 7.0 of this EIR.

1.4 LEAD AGENCY AND PROJECT APPLICANT CONTACT PERSONS

The County of Los Angeles is the lead agency for the preparation of this EIR; all inquiries regarding the EIR should be directed to the County.

Lead Agency: County of Los Angeles
Mr. Daniel Fierros
Department of Regional Planning
Impact Analysis Section
320 West Temple Street, Room 1348
Los Angeles, CA 90012

Applicant: SunCal Companies
Mr. Jerry Schamp
21900 Burbank Blvd., Suite 114
Woodland Hills, CA 91367

1.5 REVIEW OF THE EIR

This EIR is distributed to responsible and trustee agencies, other affected agencies, surrounding jurisdictions, and interested parties, as well as others requesting a copy of the document in accordance with the Public Resources Code Section 21092. The Notice of Completion (NOC) of the EIR was also distributed as required by CEQA. The EIR will be available for public review for not less than 45 days, pursuant to Section 15105 of the CEQA Guidelines. During this public review period, the EIR including technical appendices is available for review at the following locations:

Los Angeles County Department of Regional Planning
Impacts Analysis Section
320 West Temple Street, Room 1348
Los Angeles, CA 90012

Canyon Country Jo Anne Darcy Library
18601 Soledad Canyon Road
Canyon Country, CA 91351

Newhall Library
22704 W. 9th Street
Newhall, CA 91321

Valencia Library
23743 West Valencia Boulevard
Valencia, CA 91355

Written comments on the EIR should be addressed to Mr. Daniel Fierros at the address provided above. Upon closing of the public hearing, written responses will be prepared to address comments provided on the EIR and made available for review at least ten days before the Regional Planning Commission certifies the Final EIR. These environmental comments and their responses will be included as part of the environmental record.

1.6 ORGANIZATION OF EIR

This Project EIR is organized according to the structure of the County of Los Angeles Department of Regional Planning Initial Study. This Initial Study is included in Appendix A of

this EIR. This EIR conforms to the content requirements stated in Sections 15120 through 15130 of the CEQA Guidelines.

Section 1.0 Introduction

This section provides a general introduction to the purpose of the EIR, scoping of the EIR, process of reviewing the EIR, and appropriate methods of providing comments on the document.

Section 2.0 Environmental Setting and Project Description

This section discusses the location, objectives, and general characteristics of the proposed project. The environmental setting of the project, including surrounding land uses and biological considerations are also discussed. A summary of the required approvals and permits is provided in Table 1-1.

Section 3.0 through Section 6.0

The County Initial Study groups environmental issues into four categories: ***Hazards***, ***Resources***, ***Services***, ***Other***. These four sections include several environmental topics that are analyzed in the EIR. Each environmental topic includes an analysis of the potential impact of the implementation of the proposed project. Each environmental topic is analyzed in the following format:

Existing Conditions

Section 15125 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… from both a local and regional perspective." The existing conditions are used as the baseline physical conditions to which potential adverse impacts associated with the implementation of the project would be compared. A discussion of the regional setting is included as appropriate and an emphasis is placed on environmental resources that are rare or unique to that region and would be affected by the project. This section also includes information about policies, procedures, and requirements which would be applicable to the proposed project.

Project Impacts

This section presents the consideration and discussion of environmental impacts associated with the implementation of the proposed project. The analysis includes the consideration of all phases of the proposed project. The thresholds of significance are presented, which are mandated by the CEQA Guidelines to constitute an identifiable quantitative, qualitative, or performance level of a particular environmental effect. If an environmental impact associated with implementation of the project exceeds the threshold of significance, then mitigation is required to reduce the impact.

Cumulative Impacts

Pursuant to Section 15130 of the State CEQA Guidelines, "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable. As defined in Section 15065(c) of the State CEQA Guidelines, an effect may be cumulatively considerable if "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."

Analyses are in compliance with CEQA Guidelines Section 15130(b)(1) which states the analysis may consider either a list of past, present, and probable future projects or may use a summary of projections contained in an adopted general plan or related planning document, or in a prior adopted EIR. This EIR uses both methods for the cumulative analyses.

Mitigation Measures

The mitigation program identifies methods of reducing potential project impacts through Project Design Features (PDF) and Mitigation Measures (MM).

Project Design Features are specific design elements proposed by the project applicant that have been incorporated into the project to prevent the occurrence of, or reduce the significance of, potential environmental effects. Because PDFs are incorporated into the project, they do not constitute mitigation measures as defined by CEQA. However, they have been incorporated into the project design in a preventative manner to minimize potential environmental impacts. PDFs are identified in the mitigation section for each topical issue to ensure that they are included in the mitigation monitoring program to be developed for, and implemented as a part of, the proposed project.

Mitigation Measures are incorporated when a potentially significant environmental effect has been identified and is not reduced to a level considered less than significant through the application of PDFs. Mitigation measures may be based on local, state, or federal regulations or laws that are frequently required independently of CEQA review and also serve to offset or prevent specific impacts. Project specific mitigation measures are recommended to minimize the potentially significant impacts of a project. The incorporation of mitigation measures does not ensure that project impacts would be considered less than significant.

Section 7.0 Effects Found Not to Be Significant

This section contains a summary of the environmental factors that were found not to be significant through the Initial Study analysis performed by the County of Los Angeles. Each issue found not to be significant is summarized. The Initial Study is provided in Appendix A.

Section 8.0 Alternatives Analysis

Pursuant to Section 15126.6 of the CEQA Guidelines, this section provides a discussion and analysis of alternatives to the proposed project. Alternatives are analyzed that would feasibly attain most of the basic objectives of the project, but would avoid or lessen any of the significant effects of the project. The comparative merits of each alternative are evaluated.

Section 9.0 Long-Term Environmental Effects

This section discusses the long-term environmental effects of the proposed project, including an analysis of growth-inducing impacts and changes that would be considered significant and irreversible. The analysis includes a discussion of the project's potential to foster economic or population growth (e.g. extend utilities, create new housing) or other activities that could significantly and irreversibly affect the environment, either individually or cumulatively.

Section 10.0 List of References

This section provides a listing of all sources of information referenced for the analysis contained within this EIR.

Section 11.0 List of EIR Preparers and Contributors

This section provides a listing of all persons that directly contributed to the preparation of this EIR.

SECTION 2.0 PROJECT DESCRIPTION AND ENVIRONMENTAL SETTING

2.1 PROJECT LOCATION

The proposed project (VTTM 53189) is located in the unincorporated territory of the County of Los Angeles just north of the City of Santa Clarita. The project site is bordered on the east by San Francisquito Canyon Road, on the north by Lady Linda Lane, and to the south by Lowridge Place. There is currently no development west of the project site, although the Tesoro del Valle residential development is currently under construction to the southwest of the site and will eventually extend to the west and north of the project site. The nearest highways are Interstate 5 (I-5) and State Route 126, located approximately four miles to the southwest of the project site. Thoroughfares that provide regional access to the site via San Francisquito Canyon Road include McBean Parkway, Copper Hill Drive and Seco Canyon Road. The proposed project's regional location and local vicinity are depicted in Figures 2.1-1 and 2.1-2, respectively.

2.2 ENVIRONMENTAL SETTING

The proposed tract map depicting the project design is provided in Figure 2.2-1A and 2.2-1B. VTTM 53189 contains vacant, undeveloped land located within the Santa Clarita Valley in Los Angeles County. The San Francisquito Canyon runs north to south through the eastern half of the project site. The San Francisquito Canyon contains an intermittent creek that drains hillside areas in the Angeles National Forest to the north and upper Santa Clarita Valley. Vegetation on the project site includes coast live oak woodland, Riversidian alluvial fan sage scrub, mixed chaparral/holly-leaf cherry woodland, chamise chaparral, coastal sage scrub, eucalyptus woodland, and non-native grassland.

The San Francisquito Canyon Creek is classified as Significant Ecological Area (SEA) No.19 by the County of Los Angeles General Plan. San Francisquito Canyon Creek possesses populations of the unarmored threespine stickleback fish, which is listed as a federal and state-listed endangered species. The San Francisquito Canyon Creek floodplain is included in the SEA in order to preserve downstream stickleback habitats. The boundary of the SEA No.19 is labeled on the VTTM 53189 (Figure 2.2-1A).

The project site contains six drainages outside of the SEA No. 19 (San Francisquito Canyon Creek). None of the six drainages meet the criteria for wetlands, but they are considered "waters of the United States" according to the U.S. Army Corps of Engineers (USACE) definition. These drainages traverse the property generally from west to east towards the SEA.

Site topography ranges from 1,250 feet above mean sea level (amsl) within the San Francisquito Canyon Creek to 1,480 amsl in the northwestern edge of the property. The majority of the project site can be characterized as being relatively flat and becoming more steeply sloped around the northwestern edges of the site. Land adjacent to the project site to the north and west contains steep slopes and ridges that drain into the San Francisquito Canyon Creek.

The project site was recently burned by wildfire. In 2002, the Copper Fire consumed approximately 19,000 acres in the Santa Clarita Valley area and the project site is within the burned area. This fire has resulted in changes to most of the vegetation on-site, although the native vegetation is generally expected to recover over time.

Regional Location

Figure 2.1-1

VTTM 53189

N W E S

10 5 0 10 Miles

Bonterra CONSULTING

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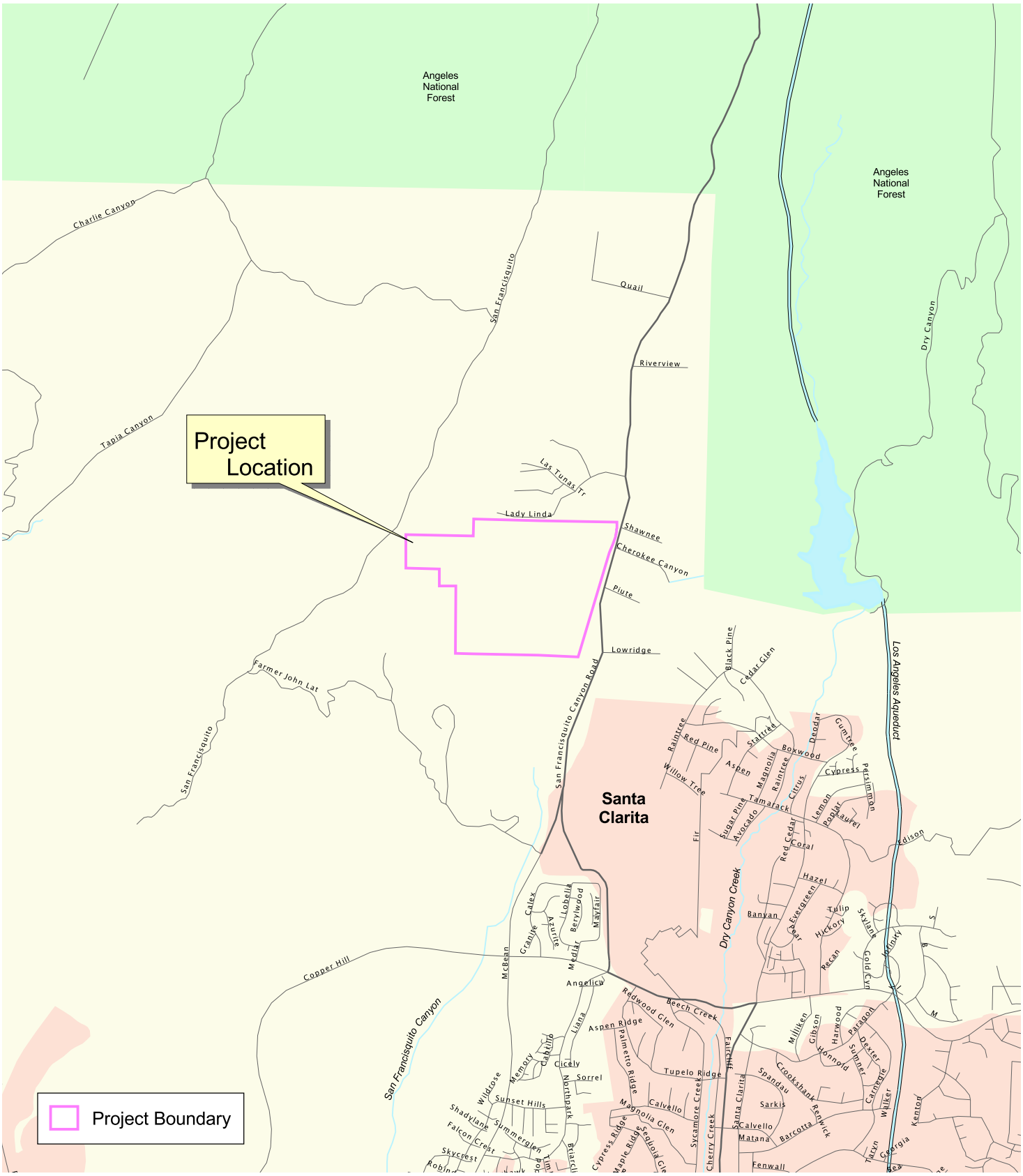

Local Vicinity

Figure 2.1-2

VTTM 53189

N
W E
S

0.5 0 0.5 Miles

BonTerra CONSULTING

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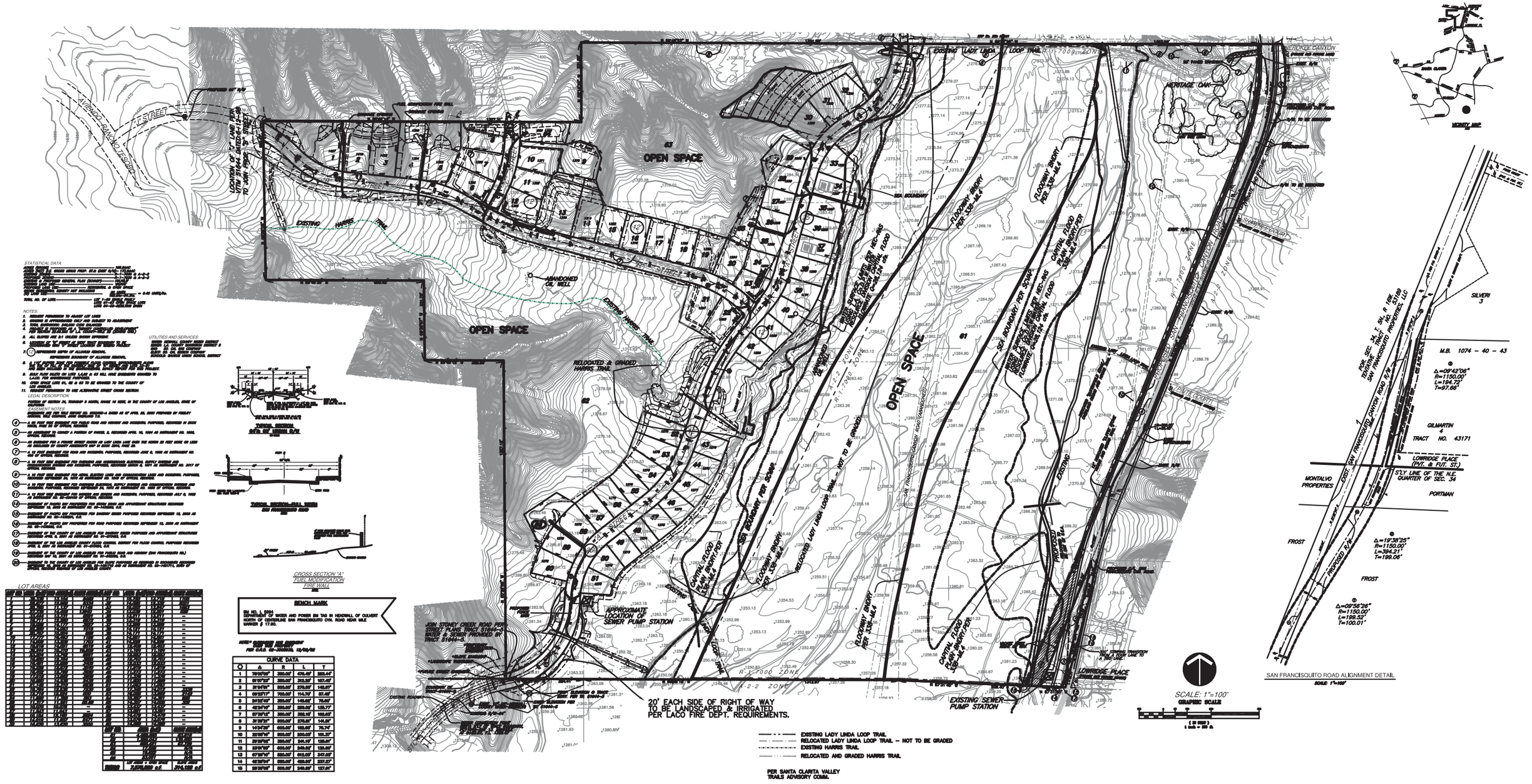

Vesting Tentative Tract Map 53189

Figure 2.2-1A

VTTM 53189

Source: B & E Engineers

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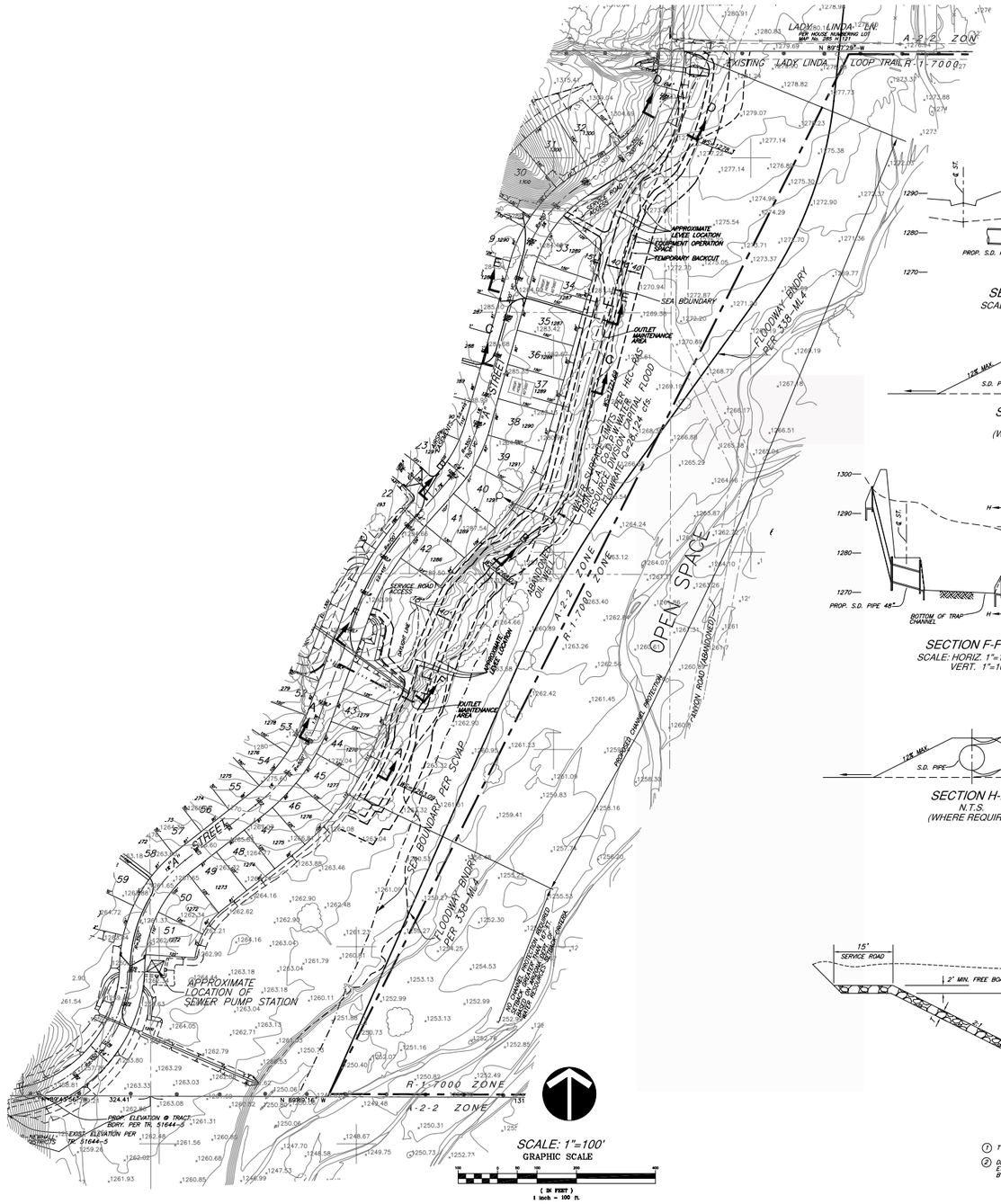
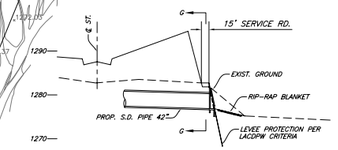
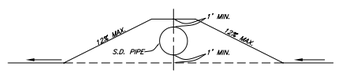
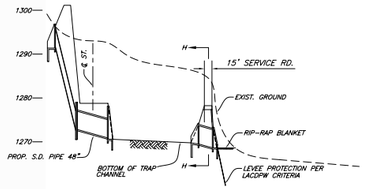




SECTION E-E
SCALE: HORIZ. 1"=100'
VERT. 1"=10'



SECTION G-G
N.T.S.
(WHERE REQUIRED)



SECTION F-F
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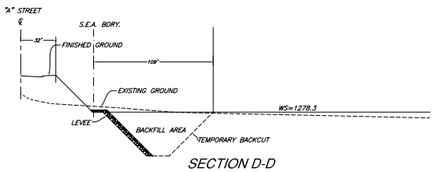
VERT. 1"=10'



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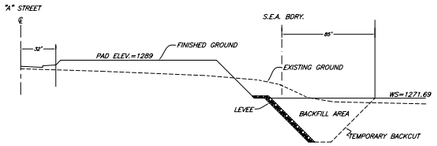

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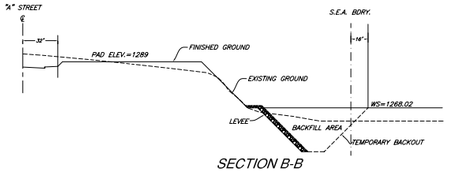
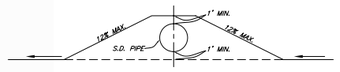


SECTION B-B



SECTION H-H
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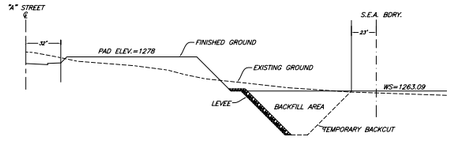
(WHERE REQUIRED)



SECTION A-A

SECTIONS SCALE
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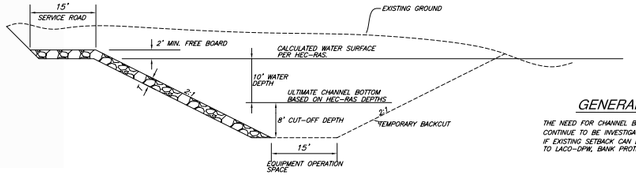

TYPICAL LEVEE SECTION

① T PER LACO-DPW REQUIREMENTS DURING FINAL DESIGN.

② DETAILS OF LEVEE TYPE (i.e. RIP-RAP, SOIL CEMENT, GUNITE, ETC.) TO BE DETERMINED DURING FINAL DESIGN AND APPROVED BY LACO-DPW.

GENERAL NOTE:

THE NEED FOR CHANNEL BANK PROTECTION WILL CONTINUE TO BE INVESTIGATED. IF EXISTING SETBACK CAN BE DEMONSTRATED SATISFACTORY TO LACO-DPW, BANK PROTECTION WILL BE MODIFIED.

Slope Protection Model - Tract Map

Figure 2.2-1B

VTTM 53189

N W E S

Source: B & E Engineers

BonTerra CONSULTING

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2.3 PROJECT DESCRIPTION

2.3.1 Setting

The 185.8 acre project site is partially within a Hillside Management Area. Slopes on the project site include approximately 161 acres of 0 – 24.9 percent slopes; 15.3 acres of 25 – 49.9 percent slopes; and 10 acres of 50 percent or more slopes. According to the Santa Clarita Valley Area Plan (SCVAP), development within a Non-Urban Hillside Area is required to occur in "the most suitable and least environmentally sensitive areas, and will be designed in terms of scale and intensity in a manner compatible with the natural resource values and character of the area." The proposed project avoids the majority of the steeply sloped areas and does not propose development within the SEA in order to avoid sensitive biological resources.

The project site is governed by the SCVAP and is designated as Hillside Management Area (HM), Non-Urban 1 (N-1), and Floodway/Floodplain (W). Figure 2.5-1 presents the land use designations per the SCVAP and the slope densities on the project site. The W designation refers to the central portion of the site, which accounts for 54.3 acres of the project site and does not allow for residential development. The large majority of the remaining portion of the project site is designated as N-1, which includes 127 acres and allows a maximum of 0.5 dwelling units per acre. The area designated as N-1 could contain up to 60 residential units, given the various ranges of slope on the site. Approximately 4.6 acres of the project site are included within the HM area, which could contain a total of 1.0 units, based on the range of slopes on the site. Therefore, based on the land use designation in the SCVAP, the project site could contain a total of up to approximately 61 units. The proposed project contains a total of 60 residential lots, which is in conformance with the SCVAP land use designations.

The Los Angeles County General Plan designates the area as Non-Urban and SEA No. 19. The proposed project site is zoned by the County of Los Angeles as R-1-7,000 (Single-Family Residence Zone) and A-2-2 (Heavy Agricultural Zone). The R-1-7,000 is applied to the eastern portion of the project site (approximately 75 acres), including the SEA No. 19, and indicates a residential zone with a minimum lot size of 7,000 square feet. In theory, there is enough land in the R-1-7,000 zone for up to approximately 460 dwelling units within this portion of the project site. The A-2-2 zone (Heavy Agricultural Zone) is applicable to the land west of the SEA No. 19 (approximately 111 acres), and requires a two acre minimum lot size. In theory, there is enough land in the A-2-2 zone for up to 55 dwelling units within this portion of the project site. Based on the current zoning, up to approximately 515 dwelling units could be allowable (without the consideration for hillside management or SEA restrictions). The proposed project includes only 60 dwelling units, in conformance with the SCVAP land use designation, which is considerably less dense than the number of lots that could be created from acreage under the Los Angeles County zoning designation for the site.

The project site is surrounded by undeveloped vacant land to the north and west. The Angeles National Forest is approximately 0.5 mile north of the project site. Directly north of the project site, at the intersection of Las Tunas and Quail Haven Trail, are two residential properties. Another residential property is located further west near the northern boundary of the property. This property is currently accessed through the project site via dirt road that connects to Lady Linda Lane. The undeveloped hillsides dominate the landscape further north of the project site, although there are a few ranch properties further north along San Francisquito Canyon Road.

To the south and west of the project site is the Tesoro del Valle single-family residential development. The first phase of this project, located in the southern portion of that property, has been graded and is currently under construction. Further south of the project site are single-family homes and ranch properties. There are no land uses to the west of the project

site, although the Tesoro del Valle project is entitled to develop a large portion of the hillsides in this area.

To the east of the project site are several ranches, many specializing in equestrian activities, and residential land uses. The San Francisquito Canyon bisects the project site and continues to the north into the Angeles National Forest and south through the City of Santa Clarita, where it joins the Santa Clara River. Further east of the San Francisquito Canyon Road along Lowridge Place are new single-family homes. Several existing trails traverse the project site. These trails are predominantly used for equestrian activities through San Francisquito Canyon, as well as through the upland areas of the project site. Ranging in width from 5 feet to 12 feet in some areas, these trails constitute existing disturbances to the project site and are not a part of the County regional trail system.

2.3.2 Project Design Features

The proposed project involves the construction of 60 residential single family lots, three large open space lots, and three debris basin lots on the 185.8 acre site. All project development will occur on the west side of San Francisquito Canyon Creek, with the exception of the development of two equestrian/hiking trails: the Cliffie Stone Trail along the San Francisquito Canyon Road and the Butterfield Overland Stage Trail located between the eastern SEA No. 19 boundary and the Cliffie Stone Trail.

Residential Lots

The 60 residential lots would range in size from 39,336 square feet to 10,075 square feet, or 0.90 to 0.23 acres, respectively. The footprint of the residential development would lie entirely within the western portion of the site, west of the San Francisquito Canyon SEA, and has been designed to preserve the majority of the biological resources on-site. The homes would be developed in a sideways "T" shape along three planned roadways; "A" Street will run north-south along the edge of the San Francisquito Canyon Creek and will connect to Stoney Creek Road in Tesoro del Valle to the south and with Las Tunas Trail to the north, "B" Street will run east-west and will connect "J" Lane in Tesoro del Valle with "A" Street, and "C" Street will connect "B" Street with a private property north of the project site.

Open Space Lots

Approximately 80 percent of the project site is designed to be preserved as open space within Lots 61, 62, and 63. The open space lots will be granted to the County of Los Angeles and will remain as open space in perpetuity. These open space lots will be maintained through a Homeowner's Association (HOA), consistent with the approved conditional use permit. The three open space lots include:

- Lot 61 4,510,386 square feet (103.5 acres)
- Lot 62 1,294,891 square feet (29.7 acres)
- Lot 63 666,421 square feet (15.3 acres)

Lot 61 includes the portion of SEA No. 19 along the eastern portion of the project site from north to south, as well as its associated floodplain. This lot also contains the two proposed County designated equestrian/hiking/biking trails. The Cliffie Stone Trail would be located adjacent to San Francisquito Canyon Road and the Butterfield Overland Stage Trail would be located further west, but would not impact SEA No. 19. In the northeast corner of Lot 61, a small portion of the existing dirt road extension of Lady Linda Lane would be paved from San Francisquito Canyon Road. This paved area would be approximately the length of a

driveway and would include approximately 3,370 square feet, or 0.08-acre. This small driveway would not impact the SEA No. 19 and would be located over the existing dirt road.

Lot 62 includes property in the southwest portion of the project site that contains holly-leaf cherry woodland. Lot 63 is located in the northwest corner of the site and includes the steeper hillsides and ridgetops. The large majority of these open space lots will be preserved in their natural state, although some portions of these lots will include fuel modification zones and manufactured slopes vegetated with native plants.

Debris Basin Lots

Three debris basins will be developed on the project site and are designated as Lots 64, 65, and 66. Debris basins are constructed earthen depressions that are designed to capture stormwater runoff and allow the debris and silt to settle out before entering natural drainages or storm drain systems. The accumulated debris and silt will require periodic removal in order to ensure the proper functioning of the basins. The three debris basin lots on the project site will be dedicated to the County of Los Angeles. Therefore, these lots will become the property of the County and will be maintained by the County in perpetuity.

Manufactured Slopes

Manufactured slopes would be developed on approximately 284,101 square feet (approximately 6.5 acres) of the project site. The manufactured slopes are designed along the outer edges of the property boundaries to transition the graded lots to the natural surrounding environment. Some slopes would be developed along the edges of the proposed roadways. The largest manufactured slope is located in the northern portion of the site behind Lots 30, 31, and 32. All manufactured slopes on the project site will be landscaped with native vegetation and irrigated and will be maintained by the Homeowner's Association.

The project would involve approximately 246,000 cubic yards (cy) of raw excavation, approximately 600,000 cy of alluvium removal, and approximately 86,000 cy of excavation for the bank stabilization levee (discussed below), for a total of approximately 932,000 cy of grading which would be balanced on-site. Soil stabilization activities would also be required in many areas of the site due to the loose alluvial soils underlying the majority of the project footprint. Considerable changes to topography due to grading activities would be avoided due to the compact development design that maintains the majority of the natural on-site features.

Below-Ground Bank Stabilization Levee

A below ground levee will be constructed to provide adequate flood protection for the project site. The levee would provide protection for the graded pads in case the braided stream of the San Francisquito Canyon Creek was to meander toward the development and erode the supporting soil during a 50-Year Capital Flood event.

Because the locations of the graded pads are significantly above the 50-Year Capital Flood for a bulked and burned flow, the bank stabilization levee would be located below the graded pads along the existing floodplain boundaries and would extend below ground. Figure 2.2-1B illustrates the boundaries of the proposed levee system, which would extend from the northern most project boundary near Lady Linda Lane southerly to Lot 46. Cross-sections A-A through H-H are depicted in Figure 2.2-1B and illustrate the location of the levee system in relation to the pad elevations. The levee system would contain the following components:

- 15 foot wide paved service road for flood control systems maintenance adjacent to the manufactured slopes of the graded pads (impervious surface)

- four foot wide portion of the levee that would be above ground and visible (two foot vertical and four foot horizontal at 2:1 slope), which would provide approximately two feet of free board during a 50-Year Capital Flood event

- 20 foot deep levee below ground (2:1 slope), which includes the two feet of vertically visible levee

- 15 foot wide horizontal area below ground for construction purposes

- 20 foot deep temporary backcut (towards the eastern boundary of SEA No. 19 to allow for levee construction below ground (2:1 slope)

Upon completion of the levee construction, the excavation would be entirely backfilled with existing creek soil and only the four horizontal feet of above ground levee "free board" space would be visible. The levee would be constructed with ungrouted rip-rap, which would allow for percolation of water, accumulation of transported soils, and establishment of plant life. The uneven nature of the rip rap would mimic the natural environment and would not increase the creek flow rates along the levee or facilitate erosion along the levee.

2.3.3 Project Circulation Design

Access to the project site is currently provided by Lady Linda Lane, which connects to San Francisquito Canyon Road in the northeast corner of the project site. Lady Linda Lane is a private dirt road that traverses the San Francisquito Canyon Creek to access two homes located along Las Tunas and Quail Haven Trail just north of the project site. Upon implementation of the proposed project, Lady Linda Lane would not provide access to the project site in order to avoid impacts to the San Francisquito Canyon SEA No. 19. However, there is an existing easement over this portion of the project site that would allow the property owners to the north to continue to use Lady Linda Lane to access their properties.

Access to the project site is designed to occur through two planned roadway connections from the Tesoro del Valle residential development (Tract Map 51644). Tesoro del Valle is part of a 1,795-acre, 1,791-dwelling unit master planned community. The first phase of the development is currently under construction. Figure 2.5-2 shows the proposed circulation design between the proposed project site and the neighboring Tesoro del Valle site, denoted by the red-dashed line.

Stoney Creek Road (from Tesoro del Valle) would connect with the proposed "A" Street in the southwest corner of the project site. "A" Street would traverse north and south and would eventually connect with Las Tunas Trail near Lady Linda Lane. "B" Street is proposed to connect to the central stretch of "A" Street and would travel east and west to connect with "J" Lane in the Tesoro del Valle project area. "C" Street would be a short street that would connect "B" Street to an existing residential property north of the project site. The only access to this private property is currently through the project site; therefore, this access would be maintained and improved as a part of the proposed project.

San Francisquito Canyon Road traverses the eastern edge of the project site. Direct access from San Francisquito Canyon Road to the proposed developed portion of the site would necessitate the construction of a roadway that would cross over the SEA, which could result in significant impacts to the wildlife corridor. Therefore, no access to or from the single-family homes on the project site via San Francisquito Canyon Road is proposed.

Although direct access to San Francisquito Canyon Road is not proposed as a part of the VTTM 53189, improvements to the roadway would be eventually required by the County of Los Angeles in order to comply with the County's Highway Plan. San Francisquito Canyon

Road is currently a two-lane corridor that is planned for future expansion. The new proposed alignment of the road would largely conform to its existing location, although it would be designed to avoid biological resources in the SEA and would be widened to meet County Secondary Highway Standards. The project includes a variation in the alignment of the road that is specified in the Master Highway Plan, which includes a 60-foot easement for the planned highway. A portion of the new alignment near the southeast corner of the project site would include the footprint of the existing roadway and would be located approximately 100 feet east of the existing right-of-way for the originally planned roadway alignment. Therefore, the new roadway alignment would be further away from the Flood Hazard Limits and biological resources within the San Francisquito Canyon Creek.

The timing of the development of the roadway is undetermined. However, the rehabilitation of the San Francisquito Canyon Road from a two-lane corridor into a highway would not be performed in conjunction with the development of the proposed project. The applicant would provide a payment to the County's "Valencia Bridge and Major Thoroughfare District" in lieu of constructing the roadway in order for the timing of the construction of the new San Francisquito Canyon Road to be in accordance with the local traffic demands and the County's schedule.

2.3.4 Recreation

Unimproved dirt roads and trails are located throughout the project site. These informal trails are predominately used for recreational equestrian activities. The existing trails are depicted on the tract map, Figure 2.2-1A. These trails constitute existing disturbances to the project site and are not a part of the County designated regional trail system.

Numerous ranches are located within proximity to the project site and trails are evident throughout the property. The Tesoro del Valle development located adjacent to the project site will incorporate a seven-mile equestrian trail into the project design, named the "Cliffie Stone Trail." An extension of the Cliffie Stone Trail has been incorporated into the proposed project design and would be located adjacent and parallel to the San Francisquito Canyon Road and east of San Francisquito Canyon Creek, as illustrated in Figure 2.2-1A. The connection of the Cliffie Stone Trail in Tesoro del Valle to the trail in the project site has yet to be determined and would be finalized by the County Department of Parks and Recreation. The trail is required by the County Department of Parks and Recreation to be a part of their regional trail system. The 12-foot wide trail will be constructed with a railing and will be within open space Lot 61, which will be owned and maintained by the County of Los Angeles.

In addition to the Cliffie Stone Trail, existing Butterfield Overland Stage Trail will be slightly widened to 12 feet for recreational horse riding, hiking, and biking. This trail is located within Lot 61 between San Francisquito Canyon Road and the eastern boundary of SEA No.19, as illustrated in Figure 2.2-1A. The southernmost leg of the Butterfield Overland Stage Trail would be moved slightly eastward of its current location in order to avoid impacts to the SEA.

The Los Angeles General Plan states that four acres per thousand population is required to satisfy the demand for local park facilities. The General Plan also states that Santa Clarita Valley requires six acres per thousand population in order to satisfy the regional demand for park facilities. As part of the project, the project applicant will provide the Quimby obligation of $91,917, as determined by the County, for payment in lieu of new recreational facilities. The requirement to fulfill the County's recreational facility needs will be satisfied by the payment of the Quimby obligation. It is then the County's responsibility to use these funds for the purchase or expansion of recreational facilities for future residents.

2.3.5 Infrastructure

No utilities are currently located within the project site. Development of the proposed project would require the construction of infrastructure systems including drainage, water, sewer, and utilities. The necessary on-site infrastructure would be constructed by the applicant to specifications of the County of Los Angeles Public Works and the respective utility companies.

Drainage System and Water Quality BMPs

The proposed drainage plan incorporates the use of Best Management Practices (BMPs) to comply with County of Los Angeles Standard Urban Stormwater Mitigation Plan (SUSMP) requirements. The ultimate size and location of drainage facilities would be determined during final design in coordination with the County of Los Angeles Flood Control District. During construction, the proposed project site would include sandbags that line the graded roadways and parkways in order to reduce sediment in the stormwater runoff from the site. Additionally, temporary desilting basins would be placed around stormwater outlets, creating a "check dam" of sandbags that would trap sediments and allow clearer water to be released through outlet pipes near the top of the check dam.

The current drainage flow on the property runs from the western hillsides towards the east into the San Francisquito Canyon Creek. The eastern portion of the property adjacent to San Francisquito Road drains to the west into San Francisquito Canyon Creek. The proposed project includes the construction of a storm drain system that drains the project site and deposits the runoff into the San Francisquito Canyon Creek. In order to protect the project site from flooding, maintain flood protection to the downstream properties, and protect water quality in the Creek, several BMPs are included in the project design.

Three debris basins are proposed on the project site and are labeled on the tract map (Figure 2.2-1A) as Lot 64, 65, and 66. These debris basins would be located north of Lot 10, west of Lot 26, and west of Lots 58 and 59. A debris basin is an earth-bottom basin that traps stormwater runoff from the surrounding hillsides and allows for the slow exfiltration of the water through the soil and through desilting inlets. Desilting inlets facilitate the sedimentation process and reduce bulk stormwater flows by preventing debris and silt from passing through to the storm drain with the stormwater. Catch basins with fossil filters would be located in the storm drains inlets to remove debris and pollutants from stormwater runoff originating from the developed portion of the site.

The storm drain system would be constructed under the streets of the project site and would deposit the stormwater runoff into the San Francisquito Canyon Creek through three storm drain outlets. Runoff from the open spaces would also be captured and either channeled into the storm drain system via debris basins or, in the case of the central drainage feature, would be channeled under the roadway and into the Creek as "bulked flow". At the end of the three proposed storm drain outlets, energy dissipaters, such as rip-rap, would be installed to slow down and diffuse the stormwater runoff entering San Francisquito Canyon Creek. The central drainage between Lot 42 and Lot 43 would likely involve the installation of a 60-inch pipe under the road and a 20 foot by 20 foot grouted rock energy dissipater. The other two storm drains would likely involve the installation of 30 inch pipes under the roadway and the construction of smaller rock energy dissipaters.

Water System

The proposed water system for the project site would connect to the water system of the Tesoro del Valle project. A 12-inch ductile iron pipe (D.I.P.) water line would connect with the project site from under Stoney Creek Road. Newhall County Water District would provide water service

to the project site. All water pipelines would be constructed underneath the proposed roadway system.

Wastewater System

Wastewater services would be provided by the County Sanitation Districts of Los Angeles County (District No. 32). The project site would need to be annexed into the Sanitation Districts' service area. The wastewater system infrastructure would be located underneath the proposed roadway system through the Tesoro del Valle tract for conveyance to the Rye Canyon Trunk Sewer, located in Rye Canyon Road at Newhall Ranch Road. The Saugus Water Reclamation Plant (WRP) and the Valencia WRP would treat the sewage from the project site.

A "Gravity Sewer Feasibility Study" was performed by B&E Engineers for VTTM 53189. The purpose of the study was to determine the feasibility of constructing the sewer system without constructing a new sewer lift station. The sewer system is currently designed to convey the project's sewerage to the downstream sewer trunk line in the Tesoro de Valle project site via a lift station that would be constructed at the southern end of the project site. Several alternatives were reviewed that would convey sewer discharges via gravity flow at the minimum allowable slope of 0.4 percent.

The analysis determined that all five of the alternatives under consideration would be impractical or infeasible. It was concluded that the construction of a sewer lift station would be required since attempts to design positive gravity sewer flow through the alternatives studied were unsuccessful. The lift station would be located south of Lot 51. The Gravity Sewer Feasibility Study is located in the technical Appendix J of this EIR.

2.3.6 Flood Zone Adjustment

The proposed project site is adjacent to the San Francisquito Canyon Creek, which is also designated as SEA No. 19. The Creek bed is wide and contains a braided stream system. The current flood hazard limits per the Los Angeles County Guidelines (based on FEMA Zone A designation), as depicted on the VTTM 53189, crosses three areas on the project site, including the northern portion of "A Street", Lot 33, and Lot 41. The Zone A line crosses Lots 33 through 41 and results in a minimal intrusion into the currently delineated flood zone. However, as a result of the hydrology evaluation on the project site by B & E Engineers, it has been determined that the westernmost FEMA Zone A line is incorrectly depicted on the project site. As currently depicted on the tract map in Figure 2.2-1A, the FEMA zone line crosses over the raised streambed bank; therefore, the FEMA line appears to be inaccurate based on the hydrology study.

The project applicant will file a Conditional Letter of Map Revision (CLOMR) with FEMA to correct the FEMA map and move the flood zone line easterly towards the creek bed in order to accurately reflect the current hydrology of the Creek. The CLOMR will be completed and approved prior to grading plan approval. Upon completion of the construction of the proposed project, a Letter of Map Amendment (LOMA) would be issued for the site, confirming the new alignment of the FEMA Zone A line.

2.3.7 Fuel Modification

A fuel modification plan is required to reduce the threat of wildfire because the project site is adjacent to natural open space areas and is located within a "Very High Fire Hazard Severity Zone" (VHFHSZ). The fuel modification program would require a 200-foot buffer zone, which includes a combination of a 20-foot wet zone (Zone A - landscaped and irrigated), an 80-foot irrigated zone of more native plants (Zone B), and a 100-foot thinning zone (Zone C) over most

of the project site. The thinning zone would include the removal of brush and dead plant materials, removal of non-native tree species, and periodic grass and weed cutting. The fuel modification plan will be submitted to the Los Angeles County Fire Department Forestry Division and would need to be approved prior to any construction activities.

As approved by the County Fire Department, fuel modification activities for Lots 33 through 51 would require a 100-foot fuel modification buffer rather than the maximum 200-foot buffer around the rest of the project site. The reduced fuel modification zones for this portion of the project site are due to the naturally sparse and low-lying vegetation within the adjacent SEA. The existing vegetation would not provide a substantial source of fuel for wildfires and does not warrant a 200-foot fuel modification buffer. Additionally, a 100-foot fuel modification buffer would not result in any vegetation thinning or other impacts to the adjacent SEA No. 19. Biological impacts associated with fuel modification activities are discussed in Section 4.3 of this EIR and in the Biological Resources Technical Report in Appendix E. Figure 4.3-2 in the Biota Section presents the proposed boundaries of the fuel modification zones on the project site.

2.4 PROJECT DEVELOPMENT

The project would be graded and developed in one phase. Grading is anticipated to take approximately six months and the construction activities associated with the homebuilding are anticipated to take approximately nine months.

2.5 PROJECT OBJECTIVES

The overall objectives of the project as defined by the project applicant are to:

1. Provide single-family housing within the Santa Clarita Valley that contributes to the local diversity of housing and lot sizes for existing and future residents and that is consistent with the type and size of housing satisfying the market demands in this area.

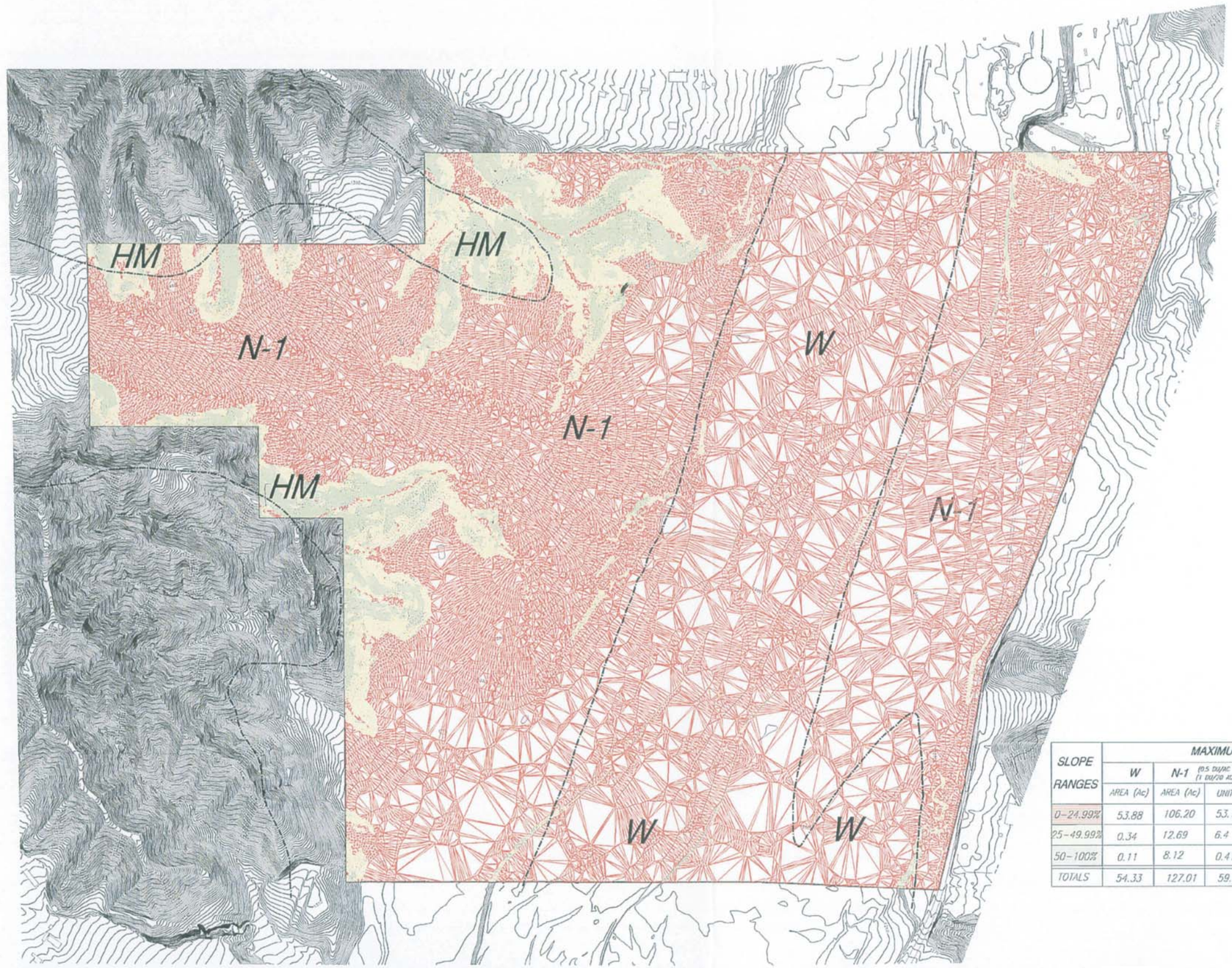
2. Provide high-quality housing that will help to meet the existing and future demand and help alleviate the housing shortage in the Santa Clarita Valley.

3. Provide a residential development that complies with the Santa Clarita Valley Area Plan land use designation and density requirements.

4. Incorporate design techniques, such as developing a compact project footprint that avoids sensitive biological resources and hilltop development and preserves open space, in order to create a visually harmonious project.

5. Preserve the natural drainage features of the San Francisquito Canyon SEA No.19 that transects the property.

The County of Los Angeles General Plan and the Santa Clarita Valley Areawide Plan have objectives for residential development that support the proposed project. These objectives include the following:



SLOPE RANGES	MAXIMUM DENSITY							LOW DENSITY THRESHOLD	
	W	N-1 (0.5 DU/AC <50%) (1 DU/20 AC >50%)		HM (0.5 DU/AC <50%) (1 DU/20 AC >50%)		TOTALS			
	AREA (Ac)	AREA (Ac)	UNITS	AREA (Ac)	UNITS	AREA (Ac)	UNITS	AREA (Ac)	UNITS
0-24.99%	53.88	106.20	53.1	0.69	0.35	160.77	53.49	160.77 @ 1/5	32.15
25-49.99%	0.34	12.69	6.4	2.26	1.13	15.29	7.53	15.29 @ 1/10	1.53
50-100%	0.11	8.12	0.41	1.63	0.08	9.75	0.49	9.75 @ 1/20	0.49
TOTALS	54.33	127.01	59.91	4.58	3.03	185.81	61.51		34.17

SCVAP Land Use and Slope Density

Figure 2.3-1

VTTM 53189

N
W E
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Source: B&E Engineers, 2000

BonTerra CONSULTING

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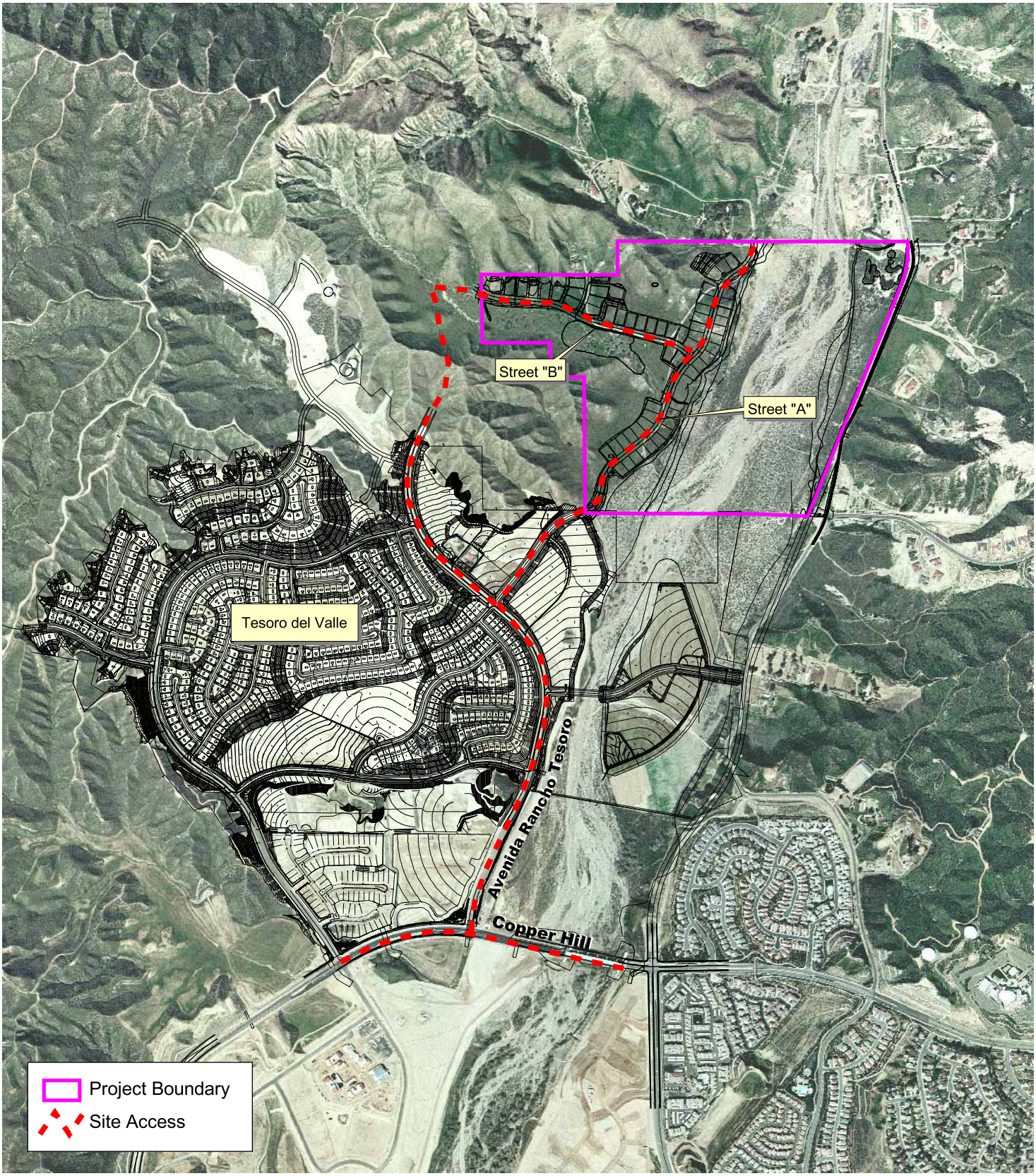

Source: Aerials Express, January 2003

Aerial Location and Site Access

Figure 2.3-2

VTTM 53189

N
W E
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0.25 0 0.25 Miles

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Los Angeles County General Plan

Land Use Element

1. Require that new developments in non-urban areas have adequate accessibility to paved roads and water lines of sufficient capacity.

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.

Conservation, Open Space, and Recreation

8. Preserve significant ecological areas by appropriate measures, including preservation, mitigation, and enhancement.

Santa Clarita Valley Areawide Plan

Land Use Element

1.1 Accommodate the year 2010 population and land use demand as projected for the Santa Clarita Valley, designating sufficient area for appropriate use and a reasonable excess to provide adequate flexibility.

5.1 Concentrate land use growth in and adjacent to existing urban, suburban, and rural communities. Within these areas, encourage development of bypassed lands designated and appropriate for development.

5.2 Direct future growth away from areas exhibiting high environmental sensitivity to development unless appropriate mitigating measures can be implemented.

Environmental Resources Management Element

2.1 Protect identified resources in Significant Ecological Areas by appropriate measures including preservation, mitigation and enhancement.

2.3 Require site level analysis of proposed development projects within Significant Ecological Areas to insure that adverse impacts upon resources within identified Significant Ecological Areas are minimized.

Trails

6.2 Encourage developers to accommodate trail needs within and between equestrian developments, including the construction of private feeder routes into the main trails system. The provision of local trails is particularly compatible with the hillside management and open space provisions of this plan.

2.6 BASIS FOR CUMULATIVE ANALYSIS

Pursuant to Section 15130 of the state CEQA Guidelines, the following elements are necessary for an adequate discussion of significant cumulative impacts, either "(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency or, (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document

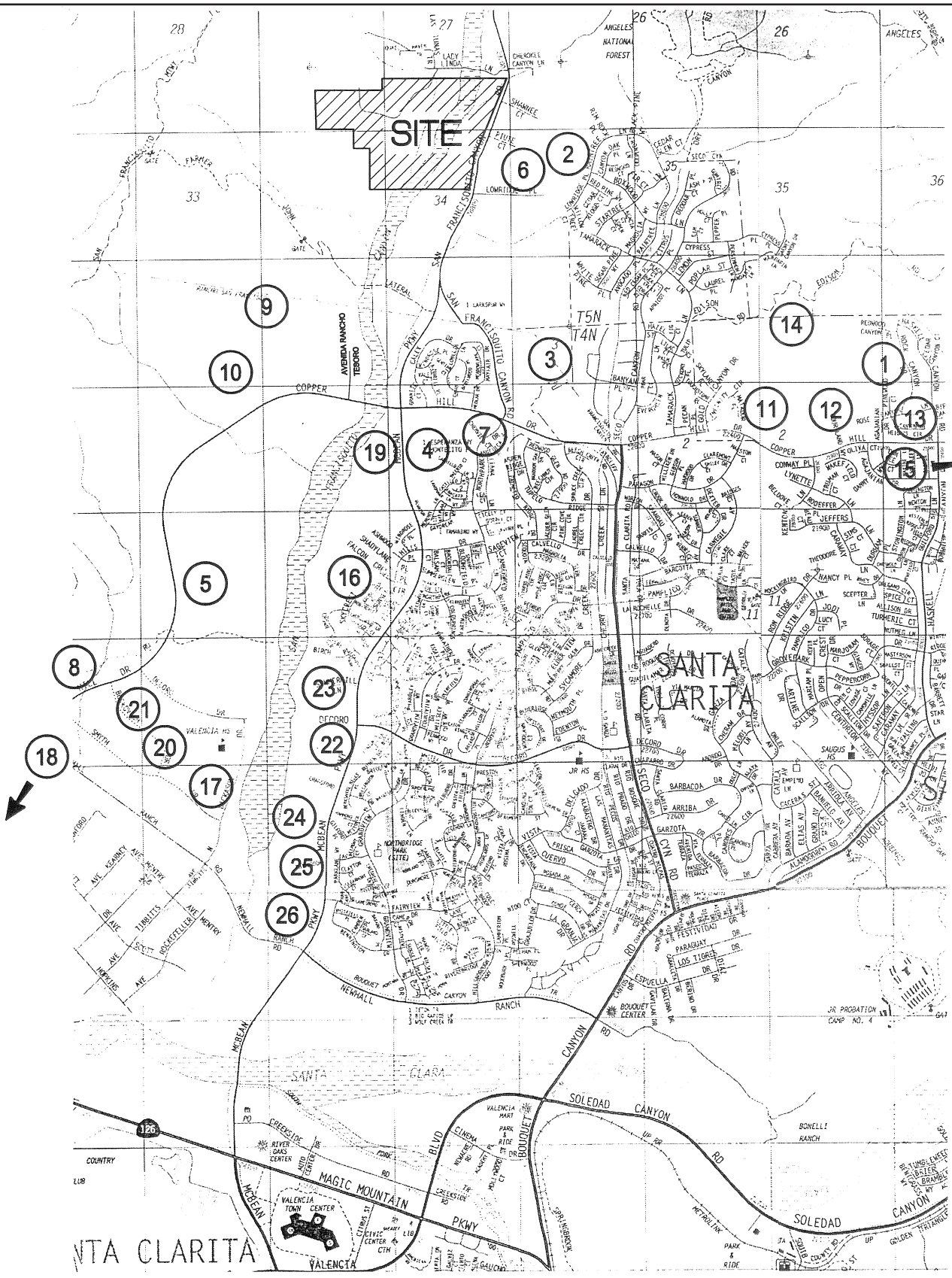
which has been adopted or certified which described or evaluated regional or area-wide conditions contributing to the cumulative impact…". This EIR uses both methods for cumulative impacts analysis. The projects considered in the traffic report conducted by Linscott, Law and Greenspan, 2003, for cumulative impacts are presented in Table 2-1 below. These are the projects that are considered in the cumulative analysis for each section of this EIR, unless otherwise stated. The corresponding map locations are presented in Figure 2.6-1.

TABLE 2-1
CUMULATIVE PROJECTS FROM TRAFFIC ANALYSIS

FIGURE 2.6-1 NO.	PROJECT NUMBER	LOCATION	LAND USE	SIZE	STATUS
County of Los Angeles					
1	98170	Curtis Development Copper Hill Drive and Haskell Canyon Road	Single-Family Housing Condominium Commercial	421 DU 115 DU 39,200 SF (est.)	Approved Not Defined
2	88280	Seco Canyon Development North terminus of Boxwood Lane and Raintree Lane	Single-Family Housing	303 DU	Built
3	02-341	Davidon Homes North of Copper Hill drive and east of Hidden Hills Drive	Single-Family Housing	6 DU	Recommend Denial
4	88321	Valencia Company Northerly extension of McBean Parkway between Westerly extension Decoro Drive and San Francisquito Canyon Road	Single-Family Housing Condominium	701 DU 730 DU	Recorded
5	95075	Valencia Company North of Decoro Drive and east of Copper Hill Drive	Single-Family Housing Condominium	190 DU 268 DU	Built
6	97088	Lincoln Property Company North of Copper Hill Drive between San Francisquito Canyon Drive and extension of Raintree Lane	Single-Family Housing	11 DU	Approved
7	98016	The Newhall Land and Farming Company East side of McBean Parkway, between Copper Hill Drive and Northpark Drive	Apartment	330 DU	Recorded
8	99155	Valencia Company Copper Hill Drive approximately 500 feet east of Smyth Drive and Boskovich Drive	Light Industrial	83,334 SF	Approved
9	92074	Montalvo Properties - Tesoro De Valle West of San Francisquito Canyon Road and north of Copper Hill Drive	Single-Family Housing Condominium Commercial	1,601 DU 901 DU 75,000 SF	Area A Under Construction
10	98008	Valencia Company – West Creek West side of San Francisquito Canyon Creek	Single-Family Housing Condominium/Apt. Commercial	1,248 DU 1,297 DU 180,000 SF	Approved
11	88422	Maybell Bishop Copper Hill Drive, 1500 ft of Seco Canyon Road	Single-Family Housing	419 DU	Approved

TABLE 2-1 (Continued)
CUMULATIVE PROJECTS FROM TRAFFIC ANALYSIS

FIGURE 2.6-1 NO.	PROJECT NUMBER	LOCATION	LAND USE	SIZE	STATUS
12	94021	Cucamonga Development Company North of Copper Hill Drive 1300 ft west of Haskell Canyon Road	Single-Family Housing	194 DU	Approved
13	88044	Davidon Homes NWC of Copper Hill Drive and Haskell Canyon Road	Single-Family Housing	213 DU	Approved
14	88596	Seco Canyon Development #4 Northerly extension of Seco Canyon Road between Haskell Canyon Road and San Francisquito Canyon Road	Single-Family Housing	594 DU	Approved
15	88082	CJB Development Inc. North terminus of Haskell Canyon Road northeast of Copper Hill Drive	Single-Family Housing Condominium	421 DU 99 DU	Approved
16	93179	The Newhall Land and Farming Company West of McBean Parkway between Decoro Drive and Copper Hill Drive	Single-Family Housing Condominium	146 DU 244 DU	Approved
City of Santa Clarita					
17	03-154	Smyth Drive and Dickason Drive	Church	55,000 SF	Preliminary Review
18	03-170	NEC of Alta Vista and Constellation (Copper Hill Drive between Smyth Drive and Decoro Drive)	Industrial	132,000 SF	Approved
19	02-193	North Valencia II - Hidden Creek SWC of McBean Parkway and Copper Hill Drive	Senior Housing	275 DU	Approved
20	02-251	Greystone: North Valencia II - Alta Vista Copper Hill Drive and Alta Vista Drive, west of Valencia High School	Single-Family	160 DU	Approved
21	02-251	Standard Pacific: North Valencia II - Alta Vista Copper Hill Drive and Alta Vista Drive, west of Valencia High School	Single-Family Multi-Family	79 DU 90 DU	Approved
22	02-292	Warmington Homes: North Valencia II - The Willows SWC McBean Parkway and Decoro Drive	Single-Family	205 DU	Approved
23	02-335	Fountain Glen: North Valencia II Decoro Drive and Sunny Creek	Single-Family	226 DU	Proposed
24	02-442	William Lyons Homes: North Valencia II - Andora SWC of McBean Parkway and Cottonwood	Single-Family	141 DU	Proposed
25		KB Homes: North Valencia II West of McBean Parkway, South of Decoro Drive	Single-Family	155 DU	Proposed
26		Olsen Company: North Valencia II West of McBean Parkway, South of Decoro Drive	Single-Family	168 DU	Proposed



Locations of Related Projects – Traffic Analysis

Figure 2.6-1

VTTM 53189

N
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(Not to Scale)

BonTerra CONSULTING

Source: Linscott, Law & Greenspan Engineers 2003

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SECTION 3.0 HAZARDS ANALYSIS

3.1 GEOTECHNICAL

This section describes the geotechnical hazards associated with implementation of VTTM 53189. Information provided in this section includes a summary of a Geotechnical Investigation performed by Geolabs-Westlake Village in April 2000 for a previous tract map design for the same property and a Geotechnical Investigation and Response to Review Sheets performed by A.G.I. Geotechnical, Inc. in October, 2003, which updates the 2000 Investigation according to the proposed project design. The A.G.I. Geotechnical, Inc. report is located in Appendix B.

The Geologic Map associated with the 2003 investigation is provided in Figure 3.1-1. The cross-sections A-A[1] through L-L[1] depicted in Figure 3.1-1 are enlarged to illustrate the existing grade versus the proposed grade in each cross-section in Figure 3.1-2 and Figure 3.1-3.

3.1.1 Existing Conditions

Project Site Characteristics

Elevations in the project site range from approximately 1,450 feet above mean sea level in the upper ridges in the northwestern corner site to 1,250 feet in the San Francisquito Canyon Creek bed in the southern-most portion of the site. The project site has significant variability in slope, from relatively flat in the central portion of the creek bed and in the central-western valley areas to steep slopes in the hillsides along the northwestern and southwestern edges of the project boundary.

The project site contains the following soil components and materials, which are depicted on Figure 3.1-1 by their symbols noted in parenthesis:

Artificial Fill (Af): Because the project site is undeveloped vacant land, artificial fill is only present underneath and adjacent to the San Francisquito Canyon Road on the eastern border of the project site.

Alluvial Deposits (Qal and Qal_1): These unconsolidated mixtures of gravel, sand, and silt were encountered within the canyon bottoms and floodplain of the San Francisquito Canyon Creek within the central portion of the site. Notable pebbles, cobbles, and boulders were found within the westerly canyon and are generally loose and dry at the surface, becoming slightly moist and medium dense to dense with increasing depth.

Colluvial Deposits (Qc): Colluvial deposits and slopewash materials mantle the natural slopes and reach the greatest thickness near the toe of the slopes. These materials are likely interlaced with alluvial deposits along the sides of the canyons and are comprised of poorly sorted sand, gravel, and cobbles, which have been shed by bedrock materials upslope.

Landslide Deposits (Qls): One small landslide was identified within the site, located along an existing unimproved road in the northern portion of the site. This failure appears to be a thin rotational slump-type failure within the Saugus Formation.

Saugus Formation (TQs): Within the project limits, the Pliocene to Pleistocene-age Saugus Formation consists of non-marine sandstone, conglomeratic sandstone with subordinate conglomerate, siltstone, and red sandy claystone. These materials are

generally poorly cemented and locally friable. Beds are typically several feet thick and exhibit gradational contacts as well as scoured, channelized contacts.

Castaic Formation (Tc): The late Miocene to Pliocene-age marine sandstones and siltstones underlie the Saugus Formation and crop out within the northwestern portion of the site. A small outcrop of Castaic Formation exists within the north-central portion of the site. These materials are generally very fine to fine-grained.

Groundwater exists within the Saugus Formation and the Castaic Formation. A discussion of the groundwater conditions below the project site is presented in Section 4.1, Water Quality.

Geologic Structure

The Saugus Formation is approximately 1.8 million years old. The Saugus Formation was deposited during a time of great geologic uplift in the region. Later uplift after the deposition of the Saugus beds caused the strata to be tilted. The canyon floors are composed of recently deposited alluvium from streams. The underlying geologic structure of the Saugus and Castaic Formations on the project site consists of broad, open folds, the axes of which have westerly to southwesterly trends. Broad anticline (a structure of bedded rocks that dip away from the axis on both sides) obscured by alluvium traverses throughout the San Francisquito Canyon.

Faulting and Seismicity

The two principal seismic considerations for most properties in southern California are surface rupturing of earth materials along fault traces, and damage to structures and foundations due to seismically induced ground-shaking. The fault classification system adopted by the State Mining and Geology Board, which delineates Special Studies Zones along active or potentially active faults (Alquist-Priolo Earthquake Zone Act), is used for habitable structures.

The project site contains no known active or potentially active faults, nor is it within an Alquist-Priolo Fault Rupture Hazard Zone. However, regionally active and potentially active faults have the potential to produce significant ground shaking at the project site. Nearby faults include the San Gabriel fault (approximately 3.5 kilometers south of the site), Holser fault (approximately 5 kilometers southwest of the site), and the San Andreas fault (approximately 24 kilometers northeast of the site). Figure 3.1-4 illustrates the locations of these faults in relation to the project site.

Liquefaction and Seismic Settlement

Liquefaction is a major cause of earthquake damage in Southern California. Liquefaction is a condition where the soil becomes unstable during earthquake-induced ground shaking. Under the stress of an earthquake, the soil collapses and acts in a liquid-like manner, causing ground displacement. The possibility of liquefaction occurring at any given site is dependent upon the occurrence of a significant earthquake in the vicinity, sufficient groundwater to cause high pore pressures, and on the grain size, relative density, and confining pressures of the soil at the site. Based on boring data gathered by Geolabs-Westlake Village, liquefaction is predicted to occur at some locations on the project site underlain by alluvium. One small landslide is known to exist on the northerly portion of the site.

The California Division of Mines and Geology in the Official Map of Seismic Hazard Zones of the Newhall 7.5 Min. Quadrangle dated February 1, 1998 has designated the hillside terrain within the project site as an area subject to earthquake-induced landsliding. Although the Official Map of Seismic Hazard Zones of the Newhall 7.5 Min. Quadrangle has also depicted the majority of

the site as within a liquefaction hazard zone, explorations documented by Geolabs-Westlake Village show that only portions of the site exhibit the necessary conditions for liquefaction.

Hydroconsolidation Potential

Hydroconsolidation is a condition where dry or moist soils undergo settlement upon being wetted. In many cases, no additional surface load is necessary to trigger the hydroconsolidation. The potential for this effect has been evaluated by Geolabs-Westlake Village based upon test results of excavated borings.

Near surface alluvial deposits (less than 20 feet below grade) were determined through testing to be potentially susceptible to settlement, while deeper alluvial materials (greater than 20 feet below existing grade) were not.

3.1.2 Project Impacts

Thresholds of Significance

The following thresholds were determined to indicate that potential geotechnical impacts could be significant for the proposed project:

- Location of the project site in an active or potentially active fault zone, Seismic Hazards Zone, or Alquist-Priolo Earthquake Fault Zone.
- Location of the project site in an area containing a major landslide(s).
- Project site conditions with high slope instability.
- Necessity of substantial grading and/or alteration of topography including slopes of more than 25 percent.

Impacts Analysis

In order to understand the potential impact of the proposed project on the geology of the site, GeoLabs-Westlake Village and AGI Geotechnical, Inc. conducted laboratory testing on undisturbed and bulk soil samples from the site. The tests conducted include the following: moisture-density, compaction and expansion tests, hydrometer and grain size distribution analyses, shear tests, load consolidation tests, corrosion potential, and soil corrosiveness. The results of these analyses were used to determine the appropriate mitigation measures for minimizing potential geotechnical impacts.

<u>Faulting and Seismiticity</u>

Because the project site contains no known active or potentially active faults, nor is it within an Alquist-Priolo Fault Rupture Hazard Zone, potential for ground rupture is considered to be very low. However, Southern California is a seismically active region and in the event of an earthquake, ground-shaking is likely to occur at the project site due to movement along nearby faults. A computer search of digitized historic California faulting was used to obtain a prediction of the peak horizontal accelerations that could be expected at the project site during an earthquake. The EQFAULT computer program was used for this analysis.

The results of the EQFAULT analysis determined that the San Gabriel Fault (approximately 3.5 kilometers south of the site) is capable of producing an on-site acceleration of about 0.705g from a maximum credible event with a magnitude of 7.0. The Holser Fault could produce an on-site acceleration of 0.788g from a maximum credible event with a magnitude of 6.5. The

San Andreas Fault could produce an on-site acceleration of 0.4g from a maximum probable event with a magnitude of 7.5.

These peak ground acceleration calculations are used to evaluate the probability that a ground motion value would be exceeded in a specific exposure period. This analysis, using the FRISKSP computer program, calculated the peak ground acceleration levels for a ten percent exceedance probability for an exposure time of 50-years. The results indicate a peak ground acceleration of 0.62g for a Uniform Building Code (UBC) level event, which includes a basis earthquake with a 475-year return period. A peak ground acceleration of 0.55g was obtained for the UBC level earthquake with a magnitude of 7.0 for the nearby San Gabriel fault.

Therefore, the UBC structural design requirements are adequate to account for the possible impacts to structures under five stories on the proposed project site. With the incorporation of the standard UBC requirements, potential impacts from seismic activity are less than significant, because all homes on the project site would be less than five stories.

Liquefaction and Seismic Settlement

The proposed project would involve approximately 246,000 cubic yards (cy) of raw excavation, approximately 600,000 cy of alluvium removal, and approximately 86,000 cy of excavation for the bank stabilization levee (discussed below), for a total of approximately 932,000 cy of earthmoving/grading that would be balanced on-site. No import or export of soils would be required. However, the majority of the proposed project would be constructed over alluvial deposits, which tend to be highly susceptible to liquefaction-induced ground displacement. In the event of earthquake related ground shaking events, there is a high probability of liquefaction at some locations in the project site that are underlain by alluvium. In order to minimize potential liquefaction hazards, those slopes that are anticipated to expose alluvial or colluvial soils would be reconstructed during project grading as engineered fill. This process involves the removal, stabilization, and re-compaction of the soils in need of mitigation. Figure 3.1-5 presents a graphic depiction of the estimated locations and depth of alluvium removal and stabilization. TT presents the estimated seismic settlement for each boring and cone penetration test (CPT) location after the removal and re-compaction of the impacted soils. The location of the boring and CPT test sites are depicted in Figure 3.1-1.

The historic high water mark; as presented in Table 3-1 is a required parameter for analysis of liquefaction. Because the actual ground water level fluctuates over time and is generally lower than the historic high water mark, this data provides a “worst case scenario” for the liquefaction analysis.

Because the CPT is more sophisticated and reliable than conventional drilling and sampling methods, the settlements derived from the CPT sites are considered to be more representative of actual settlement than would be expected under the design earthquake and groundwater conditions. Therefore, maximum total settlements are estimated to be approximately 2.1 inches, with up to 2/3 of that as differential settlement, or 1.5 inches.

However, because the alluvial deposits have a gentle slope (approximately six percent) and there are no steeply descending slopes nearby, the risk of significant lateral spread movement or surface manifestation associated with the predicted seismic settlements is considered very small. In order to further ensure that the project site would not be impacted by seismic settlement, post-tensioned slab foundation designs are recommended as a part of the A.G.I technical report.

TABLE 3-1
ESTIMATED SEISMIC SETTLEMENT

Excavation Location	Nearest Lot Number	Average Anticipated Removal Depth (feet)	Historic High Water Mark	Seismic Settlement		
				Liquefaction	Dry Sand	Total
CPT 1	7	12	40	0.0	0.0	0.0
CPT 2	18	12	20	1.3	0.4	1.7
CPT 3	East of 50	12	20	0.4	0.0	0.4
CPT 4	58	25	20	2.1	0.0	2.1
CPT 5	East of 28	25	20	0.1	0.0	0.1
Boring 1	South of 52	25	20	2.0	0.0	2.0
Boring 2	49	25	20	3.9	0.0	3.9
Boring 3	East of 44	12	20	1.6	0.0	1.6
Boring 4	South of 13	12	40	0.0	0.0	0.1
Boring 5	South of 23	12	20	2.5	0.1	2.5
Boring 6	East of 29	25	20	0.0	0.0	0.0
Boring BH7	South of 17	12	30	2.0	0.3	2.3
Source: A.G.I. Geotechnical, Inc. March 11, 2004						

As illustrated in Table 3-1, the average anticipated removal depths in certain locations on the project site would be below the historic high water mark for grading activities. However, it is highly unlikely that the historic high water mark would represent the actual depth of groundwater under the site. For instance, exploratory borings performed in 2000 were conducted to determine the depth of groundwater within the project site. Table 3-2 presents the depth of the groundwater table encountered in the soil boring tests in 2000. As illustrated by the data, the groundwater table is deep enough below the surface that it is not anticipated to be encountered during construction and would not complicate grading operations.

TABLE 3-2
GROUNDWATER DEPTH

Location	Depth (feet)	Elevation (feet)
Boring 1	33	1,228
Boring 2	33	1,230
Boring 3	48	1,230
Boring 4	-	-
Boring 5	43 (perched)	1,259
Boring 6	27 (perched on Castaic Formation)	1,257
Boring 7	46	1,249
Source: A.G.I. Geotechnical Inc. October, 2003		

The proposed project is anticipated to excavate to maximum depths of approximately 25 feet, and actual removal depths would be determined during grading activities. Additionally, grading activities would be generally avoided during times of heavy rain (when groundwater levels would be highest). Therefore, it is unlikely that any groundwater would be encountered during grading activities. However, if groundwater is encountered, grading activities could not proceed and

would be temporarily stopped until conditions were favorable. Therefore, groundwater quality would not be negatively impacted by grading activities.

The majority of the project design avoids development in the hillsides. The largest manufactured slope would be located northwest of Lots 30, 31, and 32. In order to ensure maximum stability on the cut slope, it would be constructed at a gradient of 3:1, horizontal to vertical. The manufactured slope adjacent to Lot 10 would also be constructed at a gradient of 3:1 and all manufactured slopes would be contoured to conform with the natural topography to the greatest extent feasible. If friable, weathered, or other unsuitable bedrock is encountered in the planned cut slopes, stabilization would be required. The need for such stability fills would be determined during the grading activities and would be based on the quality of the bedrock materials exposed. The potential for slope instability during a seismic event is a significant impact that would be mitigated through standard design and engineering techniques, such as manufactured slopes and re-engineered fill, to a less than significant level.

Hydroconsolidation Potential

Because the potential for hydroconsolidation (soil collapse) may occur in the surface alluvial deposits (less than 20 feet below grade), these materials will require removal, reconstitution, and re-compaction prior to development. After removal and re-compaction of the alluvial soils, the potential for collapse would be less than significant.

Slope Stability

The footprint of the proposed project avoids development within most of the hillside terrain of the project site in order to avoid hazards associated with earthquake-induced landsliding and to minimize earth-moving activities. Cross sections through the project site were analyzed for slope stability and are depicted on Figure 3.1-1 and include cross sections A-A' through K-K'. The pertinent cross sections for the purpose of the slope stability analysis are summarized below.

Cross Section C-C' A small landslide is located near the rear of Lots 28 and 29. Cross section K-K' also depicts this area. The most critical failures along this section were found to occur within the Saugus Formation. This area would be completely removed and re-compacted in order to ensure stability.

Cross Section E-E' This cross section depicts proposed 3:1 cut slopes associated with Lots 9 and 13. Bedding is anticipated to be laterally supported with respect to the approximately 40 foot high cut slope between the lots. The slope along the north side of Lot 10 will be trimmed back at a gradient of 3:1.

Cross Section H-H' A 3:1 cut slope is proposed at the rear of Lots 30 through 32. The bedding is anticipated to be laterally supported with respect to the slope face with the syncline axis near the top of the ridge. A 2.10 static factor of safety and a 1.46 pseudostatic factor of safety were obtained for this area through the project design. Factors of safety against slope failure are greater than the code requires in this area of concern between the Saugus and Castaic Formation.

Three detention basins are proposed on the site. The tallest slopes are near the detention basin north of Lot 10 (Lot 64), which is designed to have a maximum height of 11 feet. Alluvial soils in this area would be removed and replaced with engineered fill material. This would allow a 1.95 static factor of safety and a 1.42 pseudostatic factor of safety. The construction of

manufactured slopes would be conducted according to the recommendations provided in the A.G.I. Geotechnical reports to ensure adequate slope stability. Slopes at a gradient of 3:1 would be constructed at the rear of Lot 9 and Lots 30 through 32 to ensure slope stability and potential impacts would be less than significant.

Debris Flow

A tall swale containing colluvial soils is located above Lot 29. The lot lines for Lot 29 do not include the steep portion of the swale. The buildable pad of Lot 29 is roughly 70 feet from the location where debris flow could be deposited in rain events. Therefore, Lot 29 is not at risk from debris flows. Drainage devices (i.e. interceptor drain/concrete swale) would be constructed at the mouth of this swale to convey drainage around Lot 28 and Lot 29 to the appropriate storm drain inlets and potential impacts would be less than significant.

3.1.3 Cumulative Impacts

Generally, geotechnical issues are site-specific and are usually limited to areas within the development boundaries of the project site. Any incremental contribution of the proposed project to soils and geological impacts is not considered cumulatively considerable because: development of the project site is allowed by the General Plan; the proposed project would comply with the applicable requirements of the Uniform Building Code; and, the mitigation requirements identified below would be implemented. These requirements would avoid any cumulative geotechnical impacts that may occur on the project site.

3.1.4 Project Design Features and Mitigation Measures

Project Design Features

- The compact footprint of the project design has reduced the extent of remedial alluvial removals anticipated as well as minimized the total graded area.

- Drainage devices (i.e. interceptor drain/concrete swales) shall be constructed at the mouth of the swale behind Lot 28 and Lot 29 to convey drainage and sediment to appropriate storm drain inlets.

- Manufactured slopes shall be contoured to conform to the natural topography to the greatest extend feasible.

- The project shall comply with the Uniform Building Code (UBC) and compliance shall be verified by the Department of Public Works prior to issuance of grading permits. Development on the project site shall comply with the applicable provisions of the UBC, which regulate the design and construction of excavations, foundations, retaining walls and other elements to control the effects of seismic ground shaking and adverse soil conditions.

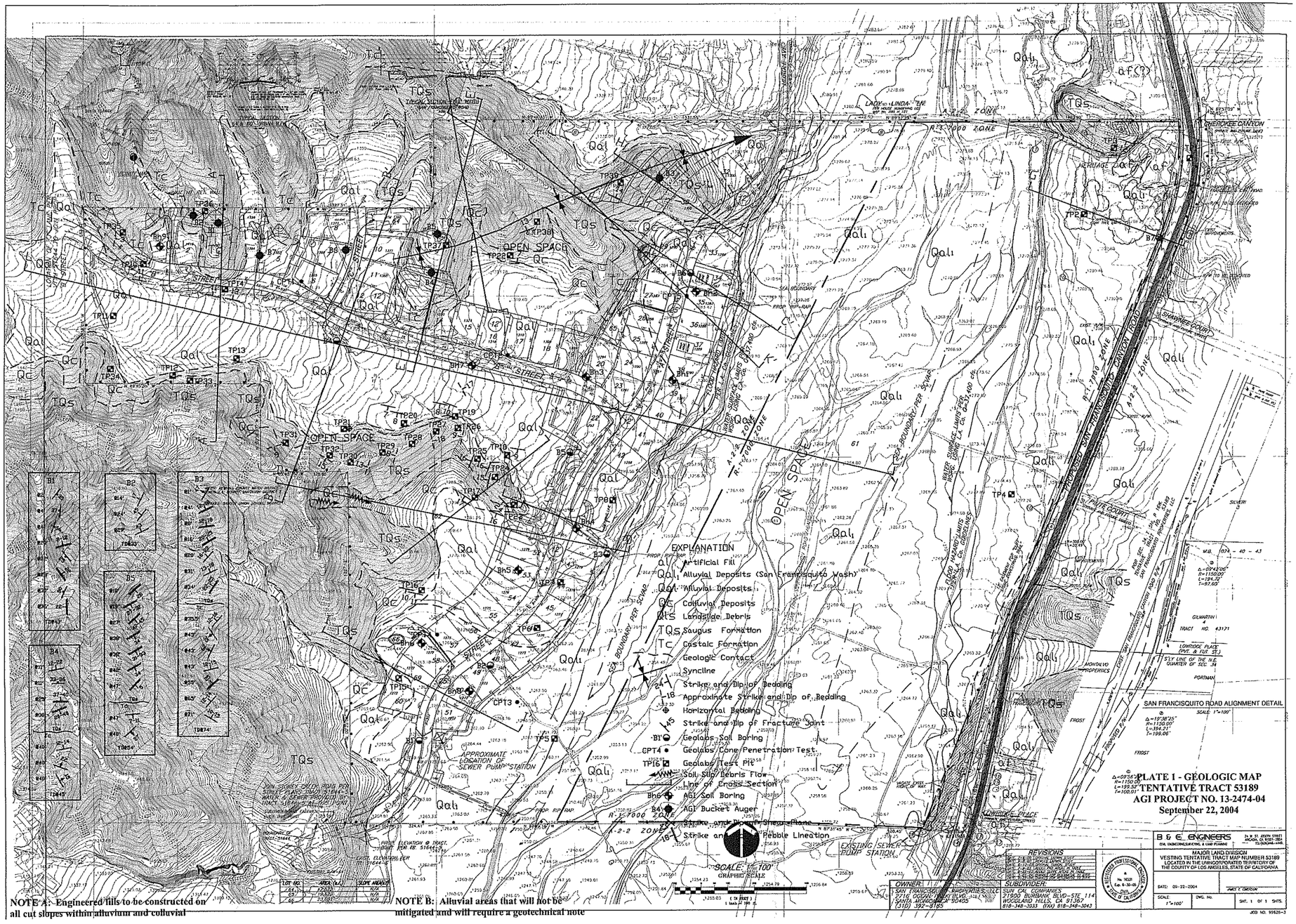
Mitigation Measures

MM 3.1-1 During construction, all grading and earthwork shall be conducted in conformance with the recommendations set forth in the geotechnical investigation and review sheets from A.G.I. Geotechnical, Inc.; shall be performed under the observation of a registered geotechnical engineer in order to achieve proper sub-grade preparation, selection of satisfactory materials, and placement and compaction of all engineered fill; and shall be verified by the Department of Public Works.

MM 3.1-2 Removal of alluvial and colluvial soils shall be required during grading and prior to fill replacement. The removed soil shall be re-compacted as engineered fill in accordance with the recommendations in the Geotechnical Investigation and Response to Review Sheets by AGI Geotechnical, Inc.; shall be performed under the observation of a registered geotechnical engineer; and shall be verified by the Department of Public Works. The specific depth and extent of removals shall be determined during grading based upon observation and testing. Removal of compressible materials shall be required in areas planned for development.

Level of Significance after Mitigation

Implementation of the mitigation measures identified above would reduce potential geologic and soils impacts to a level less than significant.



Geologic Map

VTTM 53189

Figure 3.1-1

Source: A.G.I. Geotechnical, September 22, 2004

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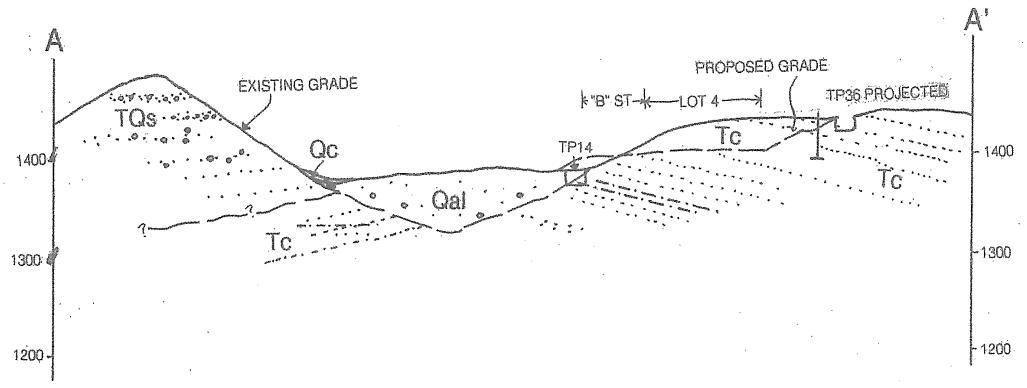

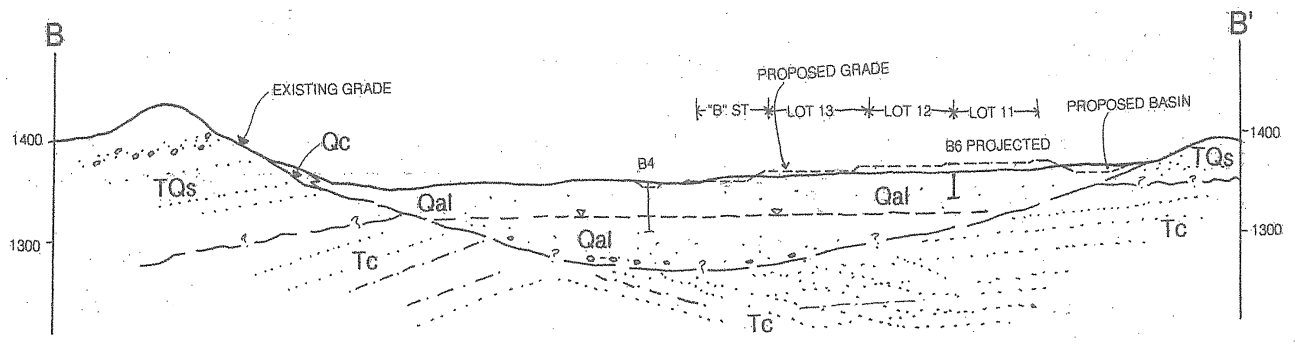

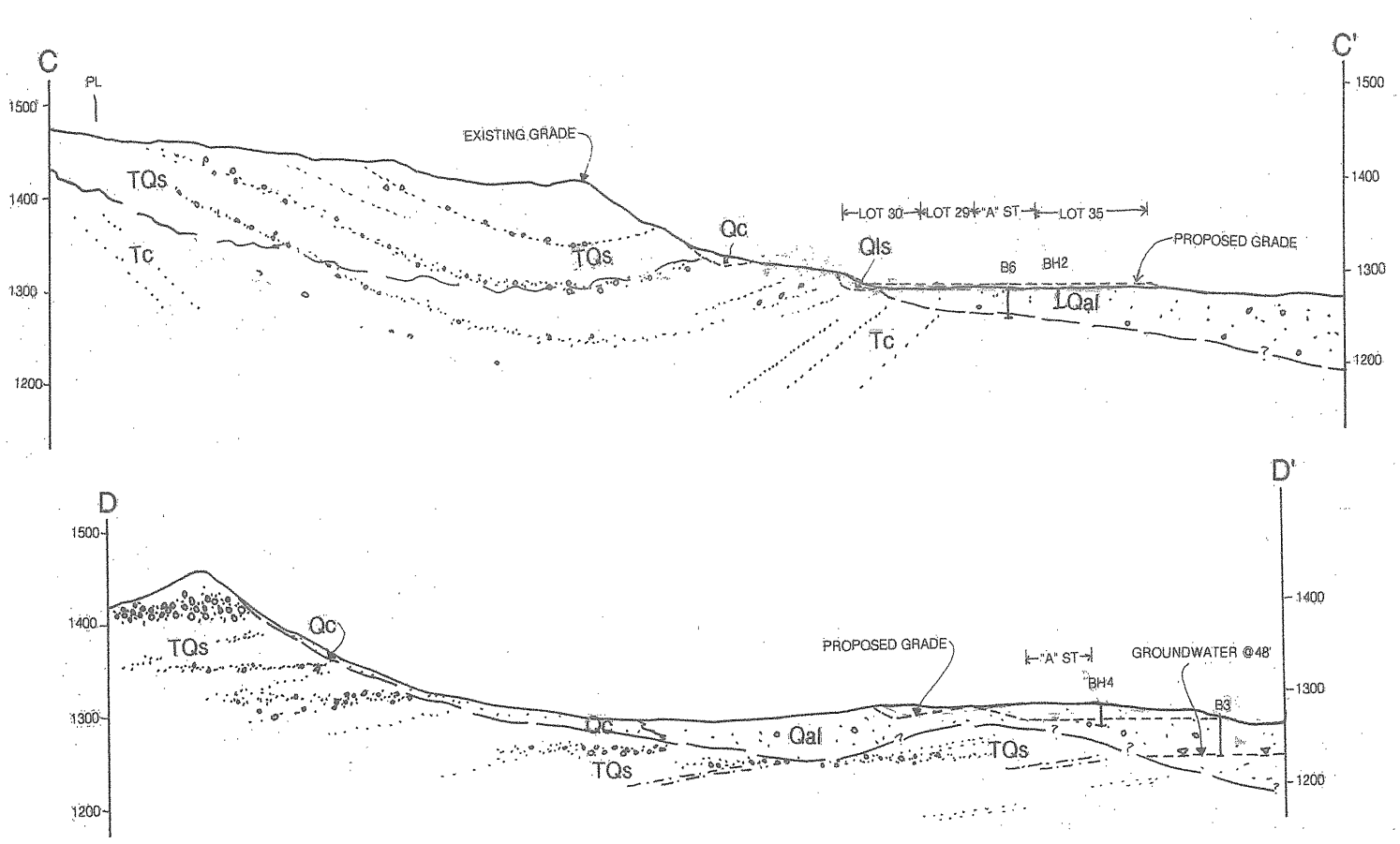

Cross Section of Geologic Map – A thru F

Figure 3.1-2

VTTM 53189

N
W
E
S

Source: A.G.I. Geotechnical, March 2004

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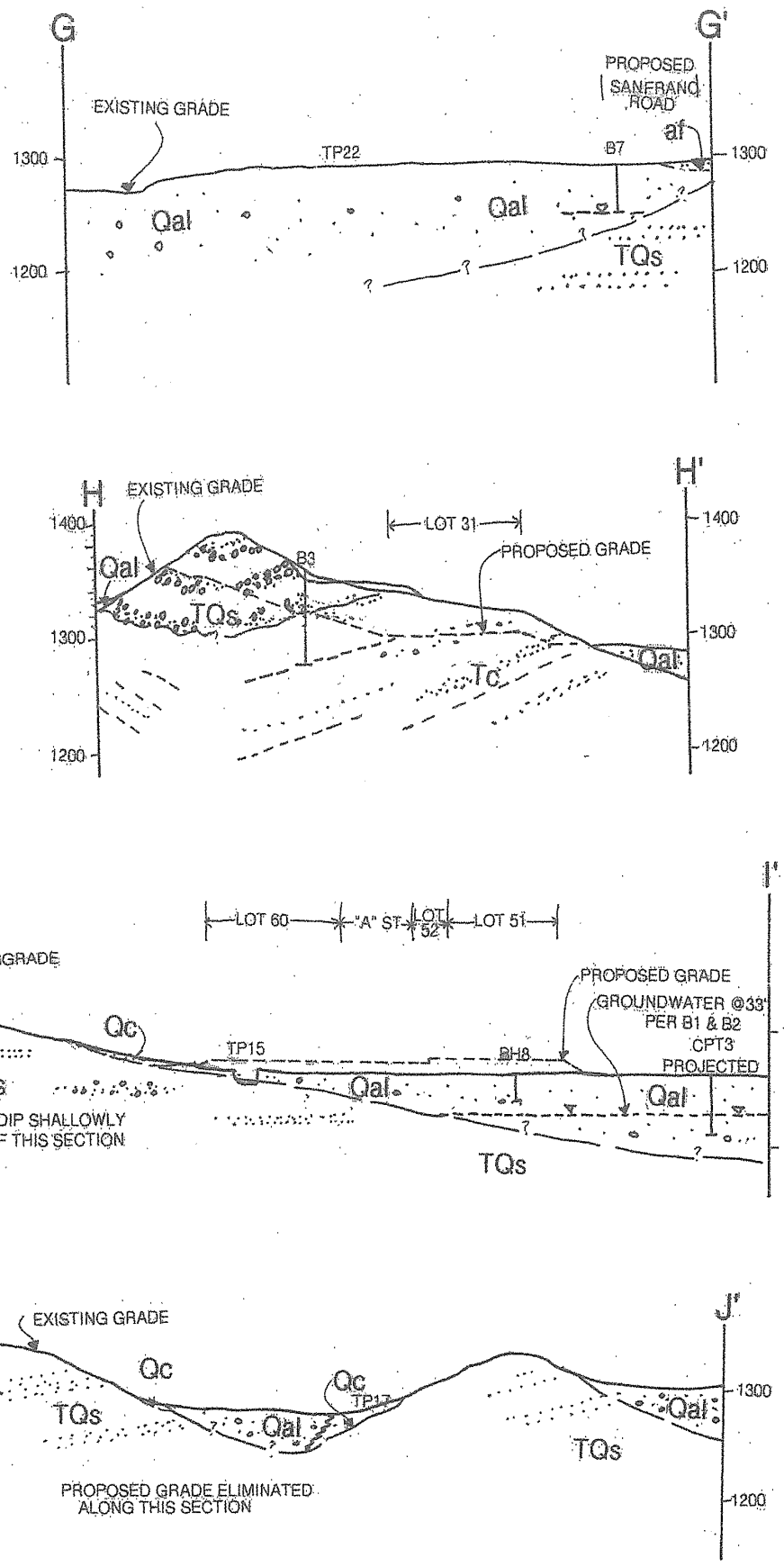

Cross Sections of Geologic Map – G thru L

Figure 3.1-3

VTTM 53189

Source: A.G.I. Geotechnical, March 2004

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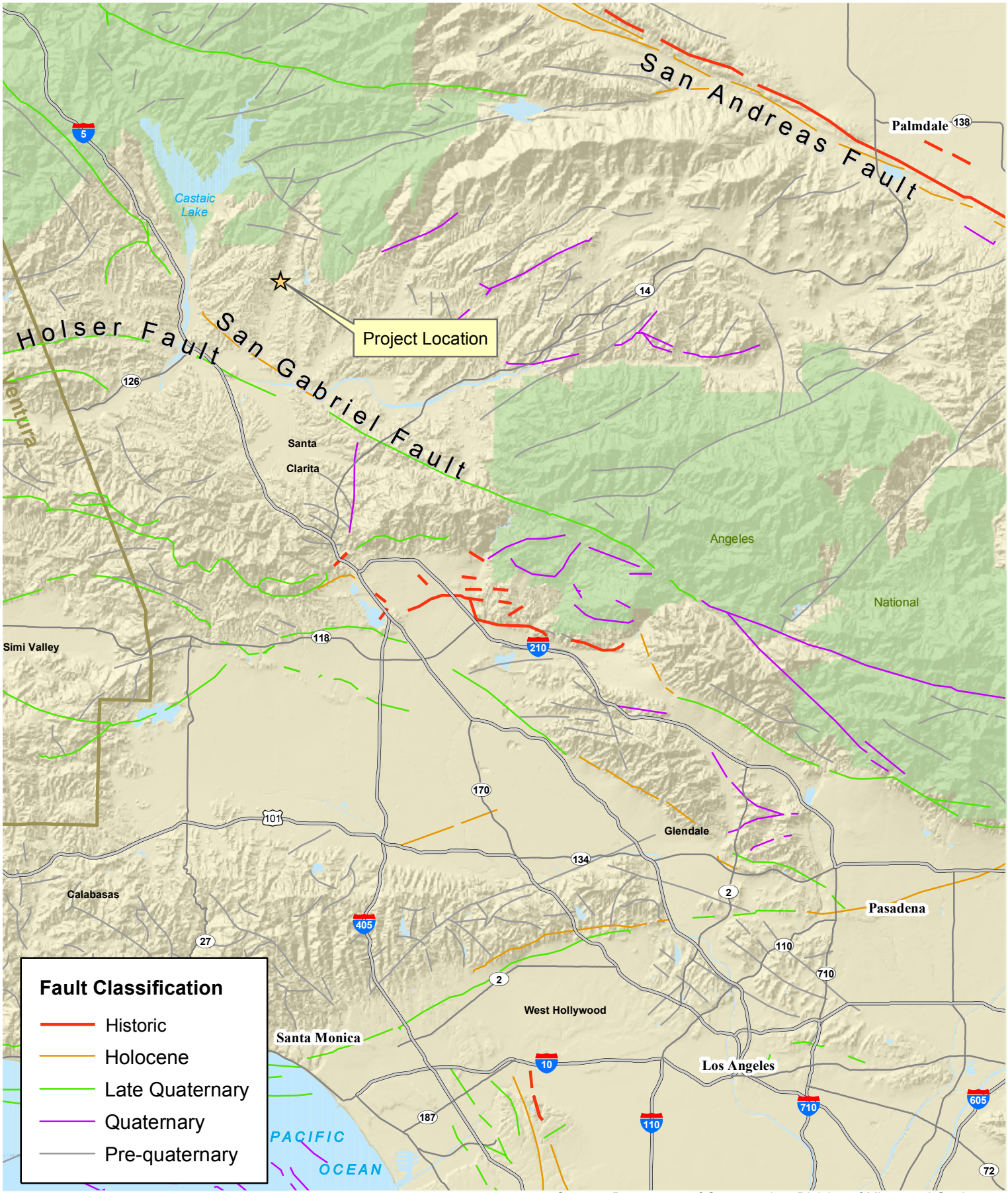

Source: Department of Conservation, Division of Mines and Geology

Fault Locations

Figure 3.1-4

VTTM 53189

N W E S

5 2.5 0 5 Miles

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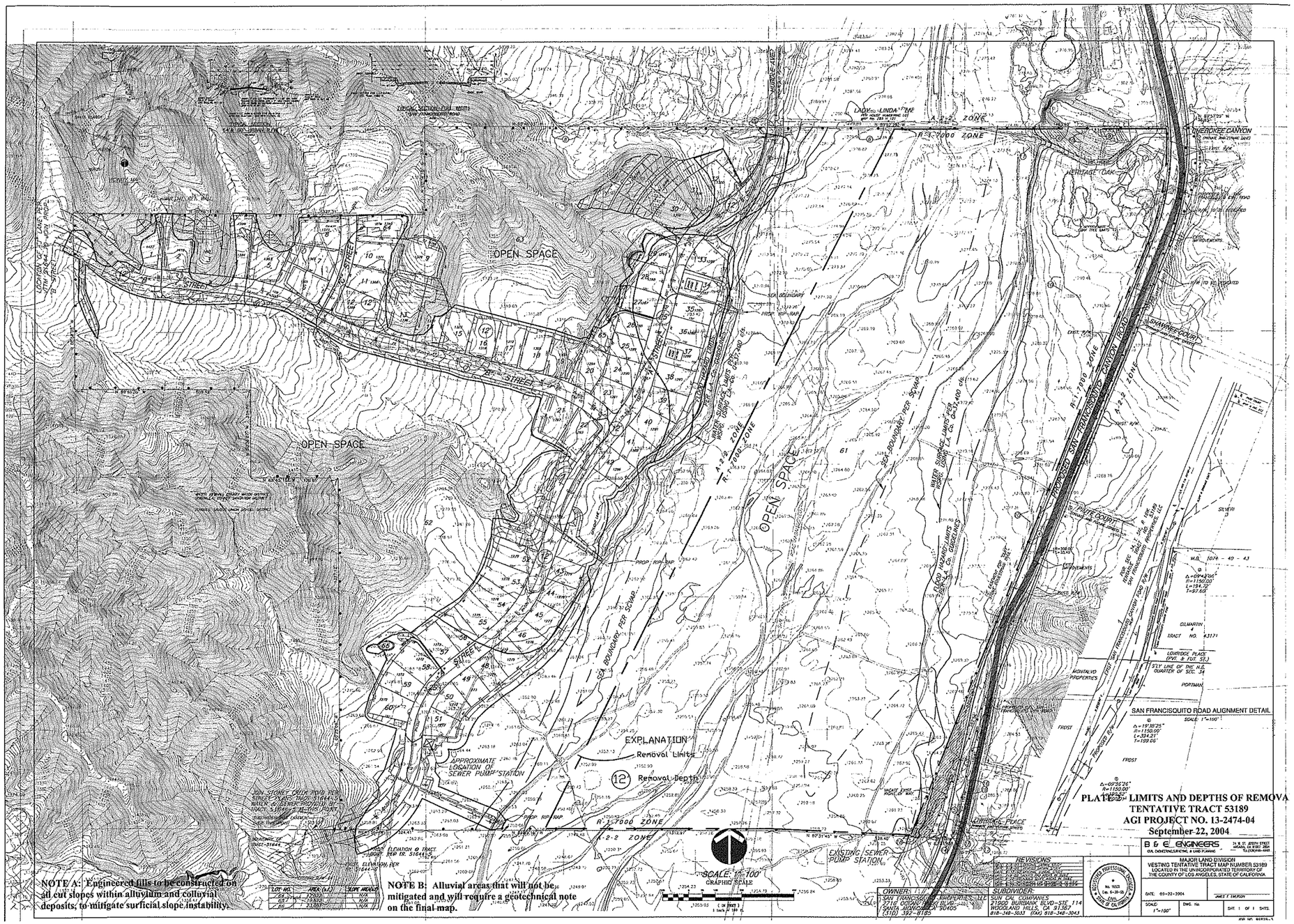

Depth of Alluvial Removal and Stabilization

Figure 3.1-5

VTTM 53189

Source: A.G.I. Geotechnical, September 22, 2004

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3.2 FLOOD

This section describes the flood hazards and hydrological impacts associated with implementation of VTTM 53189. Information provided in this section includes a summary of the Drainage Concept and Standard Urban Stormwater Mitigation Plan (SUSMP) prepared by B & E Engineers on March 29, 2004. This document is located in Appendix C.

The water surface profile and flood boundaries of the San Francisquito Canyon Creek were calculated using data supplied by the County of Los Angeles, including a Manning's N-Value of 0.060, which describes the roughness or resistance to water flow, and a Q of 28,124 cubic feet per second (cfs), which describes the amount of discharge or runoff.

3.2.1 Existing Conditions

The proposed project site contains a portion of San Francisquito Canyon Creek and its associated floodplain. Several drainage paths run from west to east through the project site and convey stormwater runoff from within the project site, as well as from areas outside the boundaries of the project site, into the Creek. These minor drainage paths are contained within three subwatersheds that drain into the San Francisquito Canyon Creek, indicated as subwatersheds A, B, and C for the purposes of this analysis.

These three subwatersheds are further broken down into eight subareas. The existing drainage patterns for the project site and off-site areas are shown in Table 3-3. This table illustrates the number of acres for each subarea and the Q (runoff rate) for each subarea in the first two columns. The second two columns include a running total, resulting in a total acreage and Q for the three subwatersheds (A, B, and C) presented in bold type. The last column presents the total Q for the three subwatersheds with a bulking factor of 1.36 to account for the movement of sediment and debris-laden runoff into the San Francisquito Canyon Creek. Bulking factors are typically used for projects that are within hillside or mountainous areas that are subject to wildfires and/or soil erosion.

TABLE 3-3
EXISTING STORMWATER FLOWS
50-YEAR STORM FREQUENCY

Sub Area Number	Acres	Sub Area Q (cfs)	Total Acres in Drainage Area	Total Q (cfs) in Sub Area and Drainage Area	Total Q with Bulking Factor in Drainage Area
1A	28	28	28	58	
2A	17	37	45	94	
3A	33	53	78	140	
4A	26	85	64	169	
5A	10	19	**114**	**182**	**240.2**
6B	18	29	18	29	
7B	19	27	**37**	**53**	**72.1**
8C	16	33	16	33	
9C	21	38	**37**	**70**	**95.2**
Source: B & E Engineers, March 2004					

The project site does not contain any existing stormwater facilities because the site is vacant and undeveloped. Figure 3.2-1 illustrates the existing drainage patterns of the project site. The water surface limit line per the Water Pressure Surface Gradient (WPSG) model, using the County of Los Angeles data Q = 28,124 cfs, is indicated by a dashed line. This line is the calculated line of the water edge during a flood, based on a water flow rate of 28,124 cfs. The Flood Hazard Limits represents a safety factor, calculated according to the County of Los Angeles Guidelines, that illustrates the appropriate distance to be maintained from the flood line. This line is depicted just outside of the surface water limits.

The Federal Emergency Management Agency (FEMA) zone for the San Francisquito Canyon Creek within the project area is Zone A. Zone A is the flood insurance rate zone that corresponds to the 100-year floodplain that is determined in the Flood Insurance Study. Because detailed hydraulic analyses are not performed for such areas, no base flood elevations or depths are shown within this zone. Mandatory flood insurance purchase requirements would apply to this zone.

3.2.2 Project Impacts

Thresholds of Significance

The following thresholds were determined to indicate that impacts to hydrology could be significant for the proposed project:

- Presence of a major drainage course, as identified on USGS quad sheets by a dashed line on the project.
- Location of the project site either within or containing a floodway, floodplain, or designated flood hazard zone.
- Project grading that would substantially alter the existing drainage pattern of the site or area.

Impacts Analysis

Project Design Features

The proposed project includes three debris basins (Lots 64, 65, and 66) with desilting inlets to minimize sediment and bulked flows in storm water runoff. These debris basins and desilting inlets would be located north of Lot 10, west of Lot 26, and west of Lot 59. A debris basin is an earth-bottom basin that traps stormwater runoff from the surrounding hillsides and allows for the slow exfiltration of the water through the soil and through the desilting inlet, which facilitates the sedimentation process and reduces bulk stormflows. All other inlets would be bulked flow inlets, which would allow for the passage of bulked flows (sediment/burned runoff) through to the San Francisquito Canyon Creek.

The project design also includes energy dissipaters (such as rip-rap), as required by the Los Angeles County Department of Public Works. At the end of the three proposed storm drain outlets, energy dissipaters would be installed to diffuse the stormwater runoff entering San Francisquito Canyon Creek, thereby minimizing erosion potential within the Creek bed. The energy dissipaters would be sized and configured according to County standards. The central drainage between Lot 42 and Lot 43 would likely involve the installation of a 60 inch pipe under the road and a 20 foot by 20 foot grouted rock energy dissipater downstream of its outlet. The other two storm drains would involve the installation of 30 inch pipes under the roadway and the construction of smaller rock energy dissipaters. The size and ultimate configuration of these energy dissipaters would be determined during final project design.

The project also includes a below-ground levee to provide adequate flood protection for the project site. The levee would provide protection for the graded pads in case the braided stream of the San Francisquito Canyon Creek was to meander toward the development and erode the supporting soil during a 50-Year Capital Flood event.

Storm Water Peak Flows

Table 3-4 presents the pre-development acreage and Q, as previously provided in Table 3-3, as well as the post-development acreage and Q. The difference between the pre- and post-development is presented in the last two columns of Table 3-4.

TABLE 3-4
PRE AND POST DEVELOPMENT STORM WATER FLOWS
50-YEAR STORM FREQUENCY

Subarea Drainage Feature	Pre-Development		Post-Development		Difference	
	Total Area (Acres)	Total Q with Bulking Factor	Total Area (Acres)	Total Q with Bulking Factor	Total Area (Acres)	Total Q with Bulking Factor
A	114	240.2	128	320.9	14	80.7
B	37	72.1	16	31.8	-21	-40.3
C	37	95.2	48	104.5	11	9.3
TOTAL	**188**	**407.5**	**192**	**457.2**	**4**	**49.7**

Source: B & E Engineers, March 2004

With the implementation of the proposed project, the post development drainage area would increase from 188 acres to 192 acres. The drainage pattern would remain separated into three subwatersheds; however, some of the flow in the internal drainage areas would be redirected internally after grading. The four acre increase from pre-development to post-development conditions is due to the adjacent development southwest of the project site (in subarea 26C) that drains onto "A" Street. Figure 3.2-2 illustrates the post-development hydrology of the project site as well as the SUSMP requirements.

The proposed project would create impervious surfaces such as roads, sidewalks, homes, and driveways. The replacement of the currently undeveloped and exposed ground with impervious surfaces would reduce stormwater infiltration. As a result, the Total Q from the project site is projected to increase. As illustrated by Table 3-4, the Q in subarea A would increase by 80.7 cfs; subarea B would decrease by 40.3 cfs; subarea C would increase by 9.3 cfs. However, this 49.7 cfs increase in the Total Q would not be considered a significant impact.

The current Q for San Francisquito Canyon Creek within the project boundaries is 28,124 cfs. Therefore, the post-development Q represents an approximately 0.18 percent increased contribution to the overall Q for San Francisquito Canyon Creek. This negligible increase would not constitute a significant impact and the minute increased storm water flows would not result in erosion or sedimentation impacts downstream. The storm water flow from the developed project site would be released to the natural drainage on-site and would remain tributary to the San Francisquito Canyon Creek, the Santa Clara River, and ultimately, the Pacific Ocean, and would not impact downstream developed property. Furthermore, the Creek is protected in the County as SEA No. 19, which is designed to preserve the stream flow in the Creek for the unarmored threespine stickleback; therefore, development would not be allowed to occur within the Creek that could potentially be impacted by the slight increase in flow from the project site. Downstream storm drain facilities and properties would not be impacted by storm water flows from the proposed project.

Additionally, the Los Angeles County Department of Public Works (DPW) has reviewed the Drainage Concept and SUSMP for compliance with the County requirements and standards for flood and erosion control. The current design has been accepted by the DPW as being in compliance with applicable County requirements. Therefore, potential site drainage and erosion impacts would be less than significant.

Floodplain Boundaries

The boundary line for FEMA Zone A is labeled on the Figure 3.2-2. The Zone A line crosses Lots 33 through 41 and results in a minimal intrusion of the project footprint into the currently delineated flood zone. However, as a result of the hydrology evaluation on the project site by B & E Engineers, the FEMA Zone A line has been determined to be inaccurately depicted on the project site. As currently depicted, the FEMA zone line crosses over the raised streambed bank; therefore, the FEMA line appears to be inaccurate based on the hydrology study.

The project applicant will file a Conditional Letter of Map Revision (CLOMR) with FEMA to correct the FEMA map and move the flood zone line easterly towards the creek bed in order to accurately reflect the current hydrology of the creek. The CLOMR will be completed and approved prior to grading plan approval. Upon completion of the construction of the proposed project, a Letter of Map Amendment (LOMA) would be issued for the site, confirming the new alignment of the FEMA Zone A line. The proposed project would not be constructed in the 100-year floodplain, and potential impacts from flood hazards are therefore less than significant.

Flood Control Measures

The proposed project site is adjacent to the San Francisquito Canyon Creek, which is wide and contains a braided stream flow. The current Flood Hazard Limits per the Los Angeles County Guidelines, as depicted on the VTTM 53189, is close to or crosses three areas on the project site, including the northern portion of “A” Street, Lot 33, and Lot 41. Prior to mitigation, this minor intrusion onto or near the edge of these properties could result in significant impacts to the graded pads along the San Francisquito Canyon Creek in a major storm event. Therefore, the project design has incorporated a bank stabilization levee system. Because the locations of the graded pads are located significantly above the 50-Year Capital Flood for a bulked and burned flow, the bank stabilization levee would be located below the graded pads along the existing floodplain boundaries and would extend below ground. The levee system would be constructed when the San Francisquito Canyon Creek is dry. Therefore, the construction of the levee system would avoid impacts to the hydrology of the flowing creek and temporary construction-related impacts would be less than significant.

Upon completion of the levee construction, the excavation would be entirely backfilled with existing creek soil and only the four horizontal feet of above ground levee “free board” space would be visible. The levee would be constructed with ungrouted rip-rap, which would allow for percolation of water, accumulation of transported soils, and establishment of plant life. The uneven nature of the rip rap would mimic the natural environment and would not increase the creek flow rates along the levee or facilitate erosion along the levee. Therefore, the underground levee system would have less than significant impacts on the long-term hydrology of the San Francisquito Canyon Creek.

3.2.3 Cumulative Impacts

The Q from the project site would be slightly increased by 49.7 cfs from pre- to post-development conditions. This represents an approximate increase of 0.18 percent to the overall flow of the San Francisquito Canyon Creek. However, this negligible increase would not negatively impact private property downstream. The proposed project site would not connect to

any existing storm drain system; therefore, the proposed project would not contribute to cumulative impacts on the capacities of downstream storm drain facilities to accommodate storm flows.

Future development that would be tributary to San Francisquito Canyon would also be required to comply with the County Flood Control standards and requirements, and potential impacts to the hydrology of the San Francisquito Canyon would need to be mitigated. For example, the Tesoro del Valle project's storm water runoff would be tributary to several watersheds, including San Francisquito Canyon. As described by the 1995 EIR for the project, the post-development Q (2,870 cfs) would be slightly less than the pre-development Q (2,924 cfs). Therefore, potential hydrologic/flooding impacts for the Tesoro del Valle project were less than significant. Since the proposed project would not represent a significant change in the quantity of flow in the Creek; the largest adjacent development (Tesoro del Valle) would also not result in a significant impact to flow in the creek; and it can be assumed that all other future developments tributary to the San Francisquito Canyon Creek would be subject to the same County Flood Control requirements, the proposed project's contribution to cumulative impacts would be negligible.

3.2.4 Project Design Features and Mitigation Measures

Project Design Features

- Energy dissipaters will be constructed at every storm drain outlet that drains into San Francisquito Canyon Creek in order to slow the flow velocity and to minimize potential erosion. The ultimate size and design of the energy dissipaters will be determined in the final design stages of the project according to the Los Angeles County Public Works Department standards.

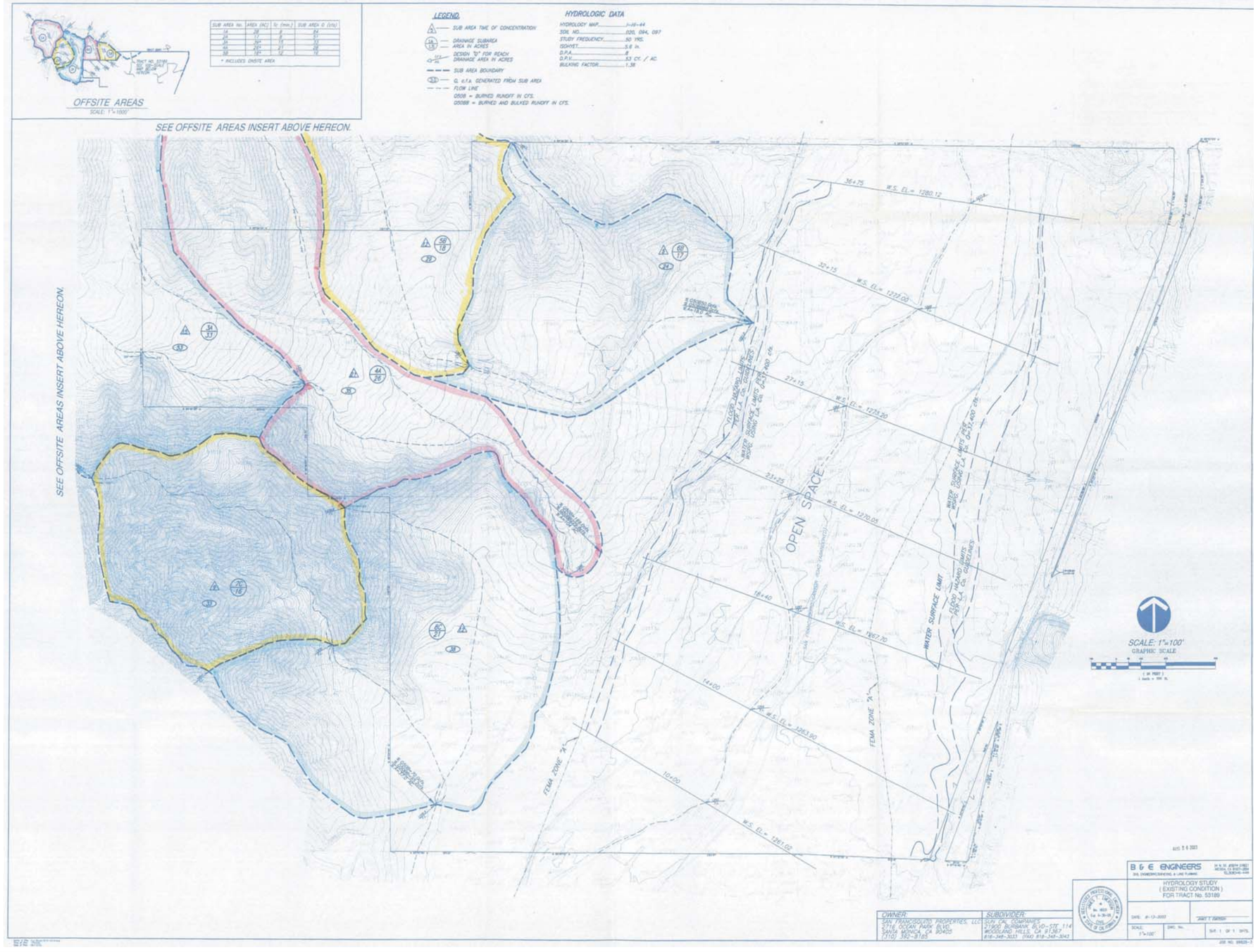
- An underground bank stabilization levee system will be constructed below the graded pads along the existing floodplain boundary from the northern project boundary near Lady Linda Lane and southerly to Lot 46. The levee system would extend approximately 20 vertical feet below the ground and would be constructed with ungrouted rip-rap. Upon completion of the levee construction, the excavation would be entirely backfilled with existing creek soil and approximately four horizontal feet (two vertical feet) of above ground levee "free board" space would be visible.

Mitigation Measures

MM 3.2-1 Prior to the approval of a grading permit, the project applicant shall submit a CLOMR to FEMA and receive a notice of approval from FEMA for the adjustment to the Zone A flood limits.

Level of Significance after Mitigation

With the implementation of the mitigation measures, potential impacts from flood hazards and site drainage would be less than significant.



Existing Conditions - Hydrology

Figure 3.2-1

VTTM 53189

N
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S

Source: B&E Engineers, August 2003

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SUB AREA No.	AREA (AC)	Tc (min.)	SUB AREA Q (cfs)
31E	30	15	54
32E	38	11	80
33E	54	10	79
34E	26	9	60
35E	26	12	50
36E	30	9	70
38E	30	12	60

SUB AREA No.	AREA (AC)	Tc (min.)	SUB AREA Q (cfs)
31E	30	15	54
32E	38	11	80
33E	54	10	79
34E	26	9	60
35E	26	12	50
36E	30	9	70
38E	30	12	60

Post Development Hydrology

Exhibit 3.2-2

VTTM 53189

Source: B&E Engineers, 2004

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3.3 FIRE

This section describes the potential fire hazard for the proposed project site and immediate vicinity and discusses impacts that could result from implementation of VTTM 53189. Information provided in this section includes an analysis of the County of Los Angeles Code and the application of the County of Los Angeles Fire Department "Fuel Modification Plan Guidelines" from the Fuel Modification Unit of the Forestry Division, as well as on-site visits and discussions with Mr. Ron Durbin of the County of Los Angeles Fire Department.

3.3.1 Existing Conditions

The proposed project site is currently vacant undeveloped land located within the unincorporated County of Los Angeles near the City of Santa Clarita. The project site contains a portion of the San Francisquito SEA No.19, which has vegetation types that include Riversidean alluvial fan sage scrub, non-native grassland, and ruderal. The vegetation types on the hillsides of the project site include non-native grassland, a mix of non-native grasses and chamise chaparral, mixed chaparral and mainland holly leaf cherry woodland, coastal sage scrub, eucalyptus woodland, and non-native grassland. Photographs that depict the current state of the project site and surrounding areas are presented in the various figures included in Section 4.5, Visual Qualities.

Hillside management areas are considered to be prone to wildfires due to the topography, vegetation susceptible to fires, and distance from fire safety measures. The proposed project site is within a hillside management area with open space directly to the north and west, sparsely developed ranchland to the east, and the Tesoro del Valle residential development (under construction) to the south. San Francisquito Canyon Creek bisects the eastern portion of the project site from north to south and eventually connects with the Santa Clara River. The western side of the project site, which would contain the proposed residential development, is largely vegetated with non-native grasses and mostly flat topography near San Francisquito Canyon Creek. The western and northwestern portions of the project site are more steeply sloped with ridges and valleys.

The Los Angeles County Fire Department Vegetation Management Division maintains a database of wildfires in Los Angeles County. Since 1960, there have been 160 documented wildfires in Santa Clarita and/or immediately adjacent areas. Of these fires, 23 were larger than 1,000 acres and six were larger than 10,000 acres. The largest fire burned 115,538 acres in 1970. The number and size of wildfires in the greater Santa Clarita area from 1990 through 2002 are presented in Table 3-5 below.

Fire Code Designation

The Los Angeles County Fire Department provides fire services to the project area. Regional Fire Prevention Unit Section II serves two regions of Los Angeles County; the Central Region, including Carson, Hawthorne, Malibu, and West Hollywood, and the North Region, including vast areas of Los Angeles County designated as "Very High Fire Hazard Severity Zone" (VHFHSZ) (Lancaster/Palmdale and Santa Clarita). This office inspects and approves all single-family dwelling units located in wildland areas. The proposed project is located within the area described by the County Forester and Fire Warden as a VHFHSZ, which designates areas that are considered to have a high fire potential.

TABLE 3-5
WILDFIRES IN THE SANTA CLARITA AREA (1990-2002)

Year	Fire Name	Acres Burned	Year	Fire Name	Acres Burned
1990	CALGROVE FIRE	89	1997	PLACERITA FIRE	0
1990	*N/A*	5	1997	PLACERITA FIRE	1
1991	POLK FIRE	135	1997	PLACERITA FIRE	3
1991	SYLMAR FIRE	702	1997	PLACERITA FIRE	455
1992	BOUQUET FIRE	120	1997	LINDA FIRE	216
1992	MADD FIRE	72	1997	FENTON	73
1992	REFINERY FIRE 28 AC	26	1997	SOLEDAD	44
1993	SAN FERNANDO FIRE	177	1998	WAYSIDE FIRE	19
1994	SCHERZINGER	30	1998	DERBY FIRE	362
1995	FREEWAY FIRE NO II	1,233	1999	WEST END	25
1995	TOWSLEY FIRE	818	2001	STABLES FIRE	6,402
1996	HASKELL FIRE	85	2001	BOUQUET FIRE	194
1996	BOUQUET FIRE NO. II	100	2002	FREEWAY FIRE I	65
1997	FREEWAY IC FIRE	45	2002	PLACERITA FIRE	359
1997	SIERRA FIRE	523	2002	COPPER FIRE	19,102

Source: Los Angeles County Fire Department Vegetation Management Division, October 2003

The County of Los Angeles Building Code (Section 6402) describes the structural building requirements for homes within a VHFHSZ to minimize the potential for wildfire damage to property. The VHFHSZ is defined in Appendix VIII of the County of Los Angeles, Title 32, Fire Code. Title 32 is intended to provide minimum standards to safeguard the public's safety and welfare. Section 1117.2.1 describes requirements for fuel modification plans in VHFHSZ. The section states:

> "A fuel modification plan, a landscape plan and an irrigation plan prepared by a registered landscape architect, landscape designer, landscape contractor, or an individual with expertise acceptable to the forestry division of the fire department shall be submitted with any subdivision of land or prior to any new construction, remodeling, modification or reconstruction of a structure where such remodeling, modification or reconstruction increases the square footage of the existing structure by 50% or more within any 12 month period and where the structure or subdivision is located within areas designated as a Very High Fire Hazard Severity Zone in the Los Angeles County Building Code. Every fuel modification plan, landscape plan and irrigation plan shall also be reviewed and approved by the forestry division of the fire department for reasonable fire safety. After such final plan has been approved by the forestry division of the fire department a signed copy of the Covenant and Agreement shall be recorded at the Registrar-Recorder/County Clerk's Office."

The County of Los Angeles Fire Department Forestry Division provides several environmental and vegetation management services, including fuel modification planning. The purpose of fuel modification is to provide a transition between urban and suburban land uses and undisturbed native areas. The "Fuel Modification Plan Guidelines" were created by the Forestry Division to set forth landscape criteria for all new construction to help reduce the threat of fires in VHFHSZ.

A fuel modification program typically consists of three zones that are subject to partial or total replacement of the native or ornamental vegetation with drought tolerant and fire retardant plants or the thinning of native plants. Zone A is a minimum 20-foot setback zone that is measured outward from the habitable structure. Most of the vegetation in this zone is limited to groundcovers, green lawns, and selected ornamental plants. This zone requires regular

vegetation trimming, continual removal and/or thinning of combustible vegetation, a well maintained irrigation system, and the removal and replacement of dead/dying fire retardant vegetation.

Zone B includes an additional 30-foot irrigation zone that provides defensible space for fire suppression forces. Some native or existing vegetation may remain if spaced according to the "Fuel Modification Plan Guidelines" and are free of dead wood. The maintenance requirements are the same as for Zone A. Zone A and Zone B are both irrigated and may be referred to as a "wet zone".

Zone C includes a 150-foot thinning zone and is designed to slow the rate of wildfire spread, reduce flame lengths, and minimize the intensity of the fires prior to reaching irrigated areas. This zone allows for predominantly existing vegetation with the removal of undesirable plant species. Natural vegetation is thinned by reduced amounts as the zone moves away from the development. The combination of Zones A though C may extend up to 200-feet from the habitable structures, depending on specific instructions from the County of Los Angeles Fire Department.

Fire Department Resources

The project site is approximately four miles from the nearest Los Angeles County Fire Station No. 111, Battalion 6. This station is located at 26869 Seco Canyon Road in Valencia and is approximately seven minutes from the project site (based on non-emergency drive-time). This fire station contains one fire engine and two squad vehicles. All fire stations in Battalion 6, which serves the Santa Clarita Valley area, are listed below.

Station 73	24875 San Fernando Rd., Newhall 91321-1520 (Battalion Headquarters)
Station 75	23310 Lake Manor Dr., Chatsworth 91311-6418
Station 76	27223 Henry Mayo Dr., Valencia 91355-1009
Station 77	46833 Peace Valley Rd., Gorman 93243-0002Mail: P.O. Box 2
Station 107	18239 W. Soledad Canyon Road, Canyon Country 91351-3521
Station 111	26829 Seco Canyon Rd., Valencia 91350-2217
Station 123	26321 N. Sand Canyon Rd., Canyon Country 91351-4020
Station 124	25870 Hemingway Ave., Stevenson Ranch 91381-1604
Station 126	26320 Citrus Drive, Santa Clarita 91355
Station 149	31770 Ridge Route, Castaic 91384-3300

The Santa Clarita Emergency Communication Team operates a program called "Santa Clarita Fire Watch," which is a program designed to prevent or reduce the number of fires in the area by activating patrols during "Red Flag Alert" days. These patrols are conducted by volunteers and are limited to the City of Santa Clarita, surrounding unincorporated areas of Los Angeles County, and the Angeles National Forest. Red Flag Alert days are determined by the local fire authorities and the National Fire Weather Service and the program includes mass media bulletins and increased patrols in designated areas to provide early detection and reporting of fires.

3.3.2 Project Impacts

Thresholds of Significance

The following threshold was determined to indicate that fire hazards were potentially significant for the proposed project:

- Location of the project site in a Very High Fire Hazard Severity Zone.
- Distance from project site to nearest fire station.

Impacts Analysis

VHFHSZ Impacts

Development of the proposed project would convert currently undeveloped land to residential land uses. The project site is within a designated VHFHSZ area and potential exposure to fire hazards is a concern due to the open space hillsides and history of fire in the region. The portion of SEA No.19 included within the project boundaries (Lot 61) is 103.5 acres in size and would remain undeveloped. Lot 61 is adjacent to the backyards of proposed residential Lots 33 through 51.

Other open spaces preserved on the project site include 29.7 acres (Lot 62) and 15.3 acres (Lot 63). Lot 62 is located in the western portion of the project site and contains the holly-leaf cherry woodland and a natural drainage feature that flows to the San Francisquito Canyon. This woodland was recently burned in a wildfire, damaging many of the trees. Lot 63 is located in the steeply sloped northwestern portion of the project site. The proposed homes on the project site would be surrounded by these three open space lots and the hillsides and each of the proposed residential lots would have at least one edge of the property adjacent to open space.

However, the project site will eventually be surrounded on the north, west, and south by development associated with the Tesoro del Valle project. This development includes approximately 1,795 acres of residential development, which would significantly reduce the amount of open space that surrounds the project site. Open space will remain between the Tesoro development (TR 51644) and the proposed project (TR 53189); however, a large buffer would be established around the project site and the open hillsides to the west. Ranches and residential subdivisions are located to the east of the project site, providing an existing buffer between the project site and the hillsides to the east. To the northeast, the proposed project is within 0.25 mile of the Angeles National Forest, which will remain as open space.

Fire hazards are increased when private property is adjacent to natural vegetation. Stringent requirements are placed on any development within a designated VHFHSZ area to ensure that fuel modification measures are taken to reduce the risk associated with wildland fires. Fuel modification of the vegetation directly surrounding the developed homes will be required. In the Biota Section 4.3, Figure 4.3-2 presents the boundary of the proposed fuel modification zone.

Fuel Modification for Internal Lots

Fuel modification for fire prevention would occur up to 200 feet around the perimeter of the project development, with the exception of graded pads located along the SEA, which will require 100 feet of fuel modification. For the majority of the project site, the first 20 feet from the residential structure outward would be in the Zone A, which would be entirely contained within the graded pads and would consist of irrigated lawn and landscaping flora. The next 30 feet would be within Zone B, which is also a “wet zone” that requires regular irrigation and

low-growing landscaping or vegetation. Much of Zone B would also be within the graded pads, depending on the width of the lot and the exact location of the home within the pad area.

Zone C would extend approximately 150 feet from the edge of Zone B. The combination of Zones A through C would total a maximum of 200 feet. Zone C would involve selective trimming and/or thinning of the vegetation, including the removal of highly-flammable non-native species and the mowing, trimming, and/or thinning of non-native vegetation so that the root structures would remain intact. This selective removal of hazardous "fuel" sources as well as the removal of dead debris for fuel modification activities would minimize the fuel available for a wildfire and reduce the likelihood of damage to the property. Natural vegetation is thinned by reduced amounts as the zones moves away from the development.

Due to the proximity of Lots 1 through 8 to the project boundary, these lots would not be able to maintain all of Zone C within the project boundaries. In cases where off-site fuel modification would be required to accommodate the 200-foot buffer zone, the adjacent landowner is legally responsible for maintaining the fuel modification buffer that extends into their property for the protection of neighboring properties. However, another option for these lots would be to develop an alternative means of fire protection, such as the development of a fire wall. In an effort to avoid off-site fuel modification, a six-foot solid fire wall will be located along the backyard property boundary of Lots 1 through 8 to provide adequate fire protection for these lots. This fire wall would negate the need for the off-site Zone C.

Additionally, construction of Tesoro del Valle adjacent to the southwest portion of the proposed project site is currently underway. Upon completion of the Tesoro project, the property to the north, west, and south of the project site will be developed. The development of the Tesoro project includes a fuel modification program that is or will be in compliance with the County of Los Angeles Fire Department requirements. Therefore, this development would provide an additional buffer from wildfire hazards for the project site. Potential hazards associated with the project's location within a VHFHSZ would be less than significant to residential structures with the implementation of the mitigation measures.

Fuel Modification for SEA-Adjacent Lots

Fuel modification behind Lots 33 through 42 along the SEA would require a 100-foot buffer zone, per Mr. Ron Durbin of the County of Los Angeles Fire Department on a site visit on July 6, 2004. The reduced fuel modification zone length is due to the fact that the vegetation within the SEA consists of naturally sparse, low-lying shrubs that would not amount to a significant fuel load in the event of a wildfire. The majority of irrigated Zone A and Zone B (approximately 45 of the 50-foot "wet zone") would be located within the graded pads of these lots. In addition to the required 50 feet of irrigated land, the manufactured slopes behind these lots will also be irrigated; thereby extending the irrigation beyond the required 50 feet an additional 10 to 15 feet. This extended "wet zone" in conjunction with vegetation thinning Zone C would total a minimum of 100 feet from the home structure.

No other flammable structures would be allowed in the backyards of these lots in order to ensure that the 100-foot fuel modification zone is not extended into the SEA. As currently planned, vegetation thinning associated with fuel modification would not impact the SEA. The 100-foot fuel modification area will provide adequate wildfire protection for Lots 33 through 42. Further south of Lot 42, the fuel modification zone would be gradually extended to coincide with the SEA boundary until the 200-foot buffer is able to be accommodated without impacting the SEA. This fuel modification boundary is depicted on Figure 4.3-2 in the Biological Resources section of this EIR. The proposed project would also comply with all County Fire Department requirements for fuel modification and landscaping specified in the County Fire Code, Title 32.

Potential hazards associated with the project's location within a VHFHSZ would be less than significant to residential structures with the implementation of the mitigation measures.

Fire Department Resources

As previously stated, the project site is approximately four miles from the nearest fire station, which is located at 26869 Seco Canyon Road in Valencia. The Los Angeles County Fire Department is planning for the development of a new Fire Station No. 138 within the Tesoro del Valle project area. The fire station will either be located within the Tesoro development or along San Francisquito Canyon Road. This station would provide fire protection service for the proposed project, in addition to the fire services already in existence in Battalion 6. August 1, 1990, the County Board of Supervisors adopted a Resolution pursuant to Chapter 22.68 of the County Code that allows for the levying of fees for fire protection services. In order to mitigate for the additional fire protection that would be required by the proposed project, the County requires the payment of a development fee assessed at $0.3716 per square foot of construction. Payment of this fee is intended to ensure that the project would have no impact on fire protection services.

3.3.3 Cumulative Impacts

This cumulative analysis takes into consideration development projects listed in Section 2.6, as well as the proposed project and the existing ranches along San Francisquito Canyon Road. Projects listed in Section 2.6, which include planned as well as developed properties near the project site, includes approximately 6,000 residential homes in the area.

The introduction of residential development into VHFHSZ areas increases the risk of exposing people and property to wildland fires along the interface between development and naturally vegetated open space areas, as well as increasing the probability of wildfires due to more frequent human contact with adjacent natural open spaces. The rapid growth of the Santa Clarita Valley region has resulted in considerable residential development within VHFHSZ areas, which translates into increased risks of exposure to wildfire for homeowners who live along this wildland interface. However, the rapid development of Santa Clarita and the surrounding areas is also facilitating the urbanization of much of the property surrounding the project site and decreasing the amount of open space that would be subject to wildfires. The increased urbanization also removes areas from being classified as VHFHSZ.

The development of the Tesoro del Valle and the West Creek projects would substantially reduce the amount of undeveloped land in the vicinity of the project site. Additionally, all new projects in the VHFHSZ must comply with County's fuel modification and landscaping requirements. Therefore, the significant amount of residential development existing, underway, and planned for the area surrounding the project site, which is subject to fuel modification requirements, would result in a reduced risk of danger from wildland fires for the entire area. Consequently, the proposed project would not contribute to a cumulatively considerable risk of wildland fire exposure.

3.3.4 Project Design Features and Mitigation Measures

Project Design Features

- In an effort to avoid off-site fuel modification, a six-foot solid fire wall will be located along the backyard property boundary of Lots 1 through 8 to provide adequate fire protection for these lots. This fire wall would negate the need for the off-site fuel modification Zone C.

Mitigation Measures

MM 3.3-1 As required by Section 1117.2.1 of the County of Los Angeles Fire Code (Title 32), a fuel modification plan, landscape plan, and an irrigation plan shall be submitted to the Forestry Division and the County Department of Regional Planning and must be approved prior to the issuance of a grading permit. The project shall comply with the all applicable requirements of Los Angeles County Code Title 32, Fire Code.

MM 3.3-2 The CC&Rs of the Homeowner's Association shall state that structures constructed with flammable materials are prohibited in the backyards of Lots 33 through 42 in order to maintain the 100-foot fuel modification buffer without impacting the SEA. The HOA shall enforce this requirement.

MM 3.3-3 Prior to issuance of a grading permit, the project applicant shall pay the required fire mitigation fee for fire services provided by the County of Los Angeles.

Level of Significance after Mitigation

With the incorporation of the mitigation measures described above, impacts associated with location of the project within the Very High Fire Hazard Severity Zone and the distance from the project site to the nearest fire station would be less than significant.

SECTION 4.0 RESOURCES ANALYSIS

4.1 WATER QUALITY

This section describes the potential impacts to water quality associated with implementation of VTTM 53189. This analysis is based on the results of the Drainage Concept and SUSMP for VTTM 53189 report prepared by B&E Engineers in August 2003. A detailed discussion of this report is provided in the Flood Section 3.2 and the full report is located in Appendix C.

4.1.1 Existing Conditions

Surface Water Characteristics

The Los Angeles region encompasses all coastal drainages flowing to the Pacific Ocean between Rincon Point and the eastern line of Los Angeles County. It is subdivided into several hydrologic units, areas and sub-areas. The project site lies within the "Santa Clara – Calleguas" Hydrologic Unit. This Hydrologic Unit covers the northwestern portion of Los Angeles County and majority of Ventura County. The area has a mix of urbanized land uses and national forest. The main drainage courses in the Unit are the Santa Clara River and Calleguas Creek. The proposed project is in the Santa Clara River watershed. The project's runoff would drain from the San Francisquito Canyon Creek into the Santa Clara River, thereafter to the Pacific Ocean.

The proposed project site contains a portion of San Francisquito Canyon Creek and its associated floodplain. As discussed in the Section 2.3, Project Description, the project site is currently vacant and undeveloped land with no paved surfaces. Several drainages run west to east and drain the project site during storms and deposit the runoff in the San Francisquito Canyon Creek. Runoff from hillsides outside of the project boundary also drains through the project site and into the creek. These minor drainages are contained within three subwatersheds that drain into the San Francisquito Canyon Creek, indicated in the Drainage Concept and Standard Urban Stormwater Mitigation Plan (SUSMP) report as A, B, and C. San Francisquito Canyon Creek drains into the Santa Clara River south of Avenue Scott just west of the McBean Parkway overpass. This portion of the Santa Clara River is defined as Reach 8 by the United States Environmental Protection Agency (USEPA), and defined as Reach 6 by the Los Angeles Regional Water Quality Control Board (RWQCB). For the purposes of this analysis, the USEPA reaches will be used.

Surface Water Quality

Under Section 303(d) of the 1972 Clean Water Act (CWA), all states are required to develop a list of water quality impaired water bodies. Water bodies must be included on the list if they do not meet water quality standards, even after the minimum required levels of pollution control technology have been installed on point sources. The law requires that priority rankings are established for waters on the lists and action plans, called Total Maximum Daily Loads (TMDL), are developed to improve water quality. A TMDL is defined by the Environmental Protection Agency as "a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and non-point sources". The San Francisquito Canyon Creek is not listed as a 303(d) impaired water body.

San Francisquito Canyon Creek drains into Reach 8 of the Santa Clara River. This Reach is defined by the USEPA as being from W. Pier Highway 99 (now Interstate 5) to Bouquet Canyon Road Bridge and is listed as an impaired water body on the 2002 CWA Section 303(d) List.

This portion of the Santa Clara River is listed for chloride and high coliform count. The Los Angeles RWQCB has approved a TMDL of 100 milligrams per liter (mg/L) for chloride for this reach of the Santa Clara River. Approval of this TMDL is pending with both the California State Water Resources Control Board (SWRCB) and the USEPA. A TMDL has not been determined for coliform in the Santa Clara River.

Sewage generated in the Santa Clarita Valley area is treated at the Valencia and Saugus Water Reclamation Plants (WRP). Reach 7 is downstream of Reach 8 and receives the effluent discharge of the Valencia WRP. The Saugus WRP discharges near the boundary of Reach 8 and Reach 9 just upstream of the San Francisquito Canyon Creek confluence. In addition to the 303(d) listing of chloride and high coliform content for Reach 7, the Los Angeles RWQCB established a TMDL for nitrate/nitrite in Reach 7 of the Santa Clara River, which was recently approved by the SWRCB and the USEPA. For non-point sources discharging into Reach 7, the combined "ammonia, nitrate, nitrite" load is nitrogen is 8.5 mg/L. Reach 8 of the Santa Clara River is included on the State Monitoring List for organic enrichment/dissolved oxygen, which may be caused by excessive nitrogen.

Agricultural runoff, stormwater discharges, and groundwater discharge may contribute to nitrate loads; however, the principal source of ammonia, nitrite, and nitrate to the Santa Clara River is from WRP discharges. The TMDL for nitrogen for the Saugus WRP is 7.1 mg/L and for the Valencia WRP is 6.8 mg/L.

Chloride

Chloride is a component in sodium chloride (table salt) and potassium chloride. The main source of chloride in the Santa Clara River comes from the Saugus and Valencia Water Reclamation Plants. Approximately 47 percent of the chloride sources in the Santa Clarita Valley come from residential land uses. Approximately 69 percent of the chloride from residential land uses is the result of self-regenerating water softener systems; approximately 16 percent is from human waste; and approximately 12 percent is from laundry detergents and chlorine bleach.

A special treatment process (microfiltration and reverse osmosis) is required to remove chloride from wastewater. These processes are expensive and are not currently available in the treatment plants that treat the sewage from the Santa Clarita Valley. In an effort to reduce chloride in the wastewater without constructing additional treatment systems, County Sanitation District No. 32 passed an ordinance that prohibits the installation of residential self-regenerating water softening appliances.

Coliform Bacteria

The presence of coliform bacteria is used as an indicator for the presence of fecal wastes from warm-blooded animals, including humans. Coliform bacteria themselves are not necessarily pathogenic, but they indicate the likelihood that more dangerous organisms, such as the organisms that cause salmonellosis, cholera or hepatitis, are present. Although contamination of waters by human wastes is especially serious, animal wastes can also transmit disease. Consequently, high levels of fecal coliform bacteria, regardless of the source, imply a high risk of disease transmission. Los Angeles RWQCB has not developed a TMDL for coliform for the Santa Clara River. However, as a general rule, waters designated for recreation uses, e.g., swimming, should not average above 200 colony forming units (CFU)/100 mls.[1]

[1] http://www.uncwil.edu/cmsr/waterq/WQuality.htm

Nitrate/Nitrite

Nitrate (NO_3) is highly soluble in water and is easily transported in streams and groundwater. Nitrates feed plankton (microscopic plants and animals that live in water), aquatic plants, and algae, which are then eaten by fish. Nitrite (NO_2) is relatively short-lived in water because it is quickly converted to nitrate by bacteria. Excessive concentrations of nitrate and/or nitrite can be harmful to humans and wildlife. Nitrate is of most concern for humans because it reacts with hemoglobin in human blood to produce methemoglobin, which limits the ability of red blood cells to carry oxygen. High nitrate and nitrite levels can also cause a similar condition in livestock and other animals. If excessive amounts of nitrates are added to the water, algae and aquatic plants can be produced in large quantities. When these algae die, bacteria decompose them and use up oxygen in a process called eutrophication. Dissolved oxygen concentrations then can drop too low for fish to breathe, leading to fish kills.[2]

Groundwater Quality

The Alluvial Aquifer and the Saugus Formation are the two groundwater sources within the Santa Clarita Valley. The Alluvial Aquifer system lies beneath the Santa Clara River and its tributaries, including the Castaic Creek, San Francisquito Canyon Creek, and Bouquet Canyon, and consists primarily of the land beneath the stream channel and floodplain. Recharge to this aquifer is predominantly from percolation of stream-flow. The Alluvial Aquifer serves as a large source of the local water supply because the groundwater is easier to access than the deeper Saugus Formation and is capable of rapid water level recovery and storage in wet periods.

The Alluvial Aquifer has historical fluctuations in the concentrations of total dissolved solids (TDS); however, these groundwater quality variations generally correlate to precipitation and stream flow. Wet periods produce recharge of higher quality water. Therefore, the presence of long-term consistent water quality fluctuations that are affected by wet and dry cycles are not indicative of a trend toward groundwater quality degradation. In 2002, perchlorate was detected in one Alluvial Aquifer well located near the former Whittaker-Bermite facility. The well was subsequently inactivated for municipal use. All other Alluvial wells have continually tested negative for perchlorate contamination.

The Saugus Formation is a large, deep aquifer that extends over an 84-square-mile area. The primary source of recharge for this aquifer is precipitation on exposed outcrops and direct infiltration from the Alluvial Aquifer located just above the Saugus Formation. Although this aquifer is larger and has much more groundwater storage capacity, it has historically been used only as a back-up source of water during dry years.

Long-term water quality data are not available for the Saugus Formation, which has only been used as a source of water since the 1970s. However, based on the most complete historical record, groundwater quality in the Saugus Formation has remained generally constant and there is no evidence of groundwater quality degradation that could be indicative of water overdrafts. However, perchlorate was discovered in four Saugus Formation wells in 1997 located near the former Whittaker-Bermite facility. All four wells are currently inactive and the water purveyors in the Santa Clarita Valley have entered into an agreement with the State Department of Toxic Substance Control (DTSC) to ensure review and oversight of the response activities related to perchlorate remediation.

[2] http://bcn.boulder.co.us/basin/data/NUTRIENTS/info/NO3+NO2.html

Water Quality Regulations

Basin Plan

The State of California Water Resources Control Board (SWRCB) delegates to the various Regional Water Quality Control Boards (RWQCB), the responsibility for the protection of water quality in watershed basins throughout the state. The Los Angeles RWQCB "Basin Water Quality Plan" objective is to preserve and enhance water quality and protect the beneficial uses of all regional waters. The Basin Plan designates beneficial uses for surface and ground waters, sets narrative and numerical objectives that must be attained (or maintained) to protect the designated beneficial uses and describes implementation programs to protect all waters in the region.

National Pollutant Discharge Elimination System (NPDES) Requirements

The State Water Resources Control Board (SWRCB), Division of Water Quality issues NPDES stormwater permit for general construction activities. The Los Angeles Regional Water Quality Control Board (LARWQCB) enforces the NPDES program for the State of California within it's jurisdiction (including all of Los Angeles and Ventura Counties), which includes the CLWA service area. Dischargers whose projects disturb one or more acres of soil are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 99-08-DWQ). Coverage under the Construction General Permit is accomplished by completing and filing a Notice of Intent with the SWRCB and by preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP) prior to grading. The primary objective of the SWPPP is to identify, construct, implement, and maintain Best Management Practices (BMPs) to reduce or eliminate pollutants in stormwater discharges from the construction site. The SWPPP must include BMPs the discharger will use to protect storm water runoff during construction and the placement of those BMPs. Additionally, a SWPPP must include a site map, a visual monitoring program, and a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of a BMP.

Standard Urban Storm Water Mitigation Plan (SUSMP) Requirements

The NPDES permit for municipal storm water issued to Los Angeles County in 1996 requires the development of a program to address storm water pollution issues. In response to this mandate, the SUSMP was developed to mandate the incorporation of Best Management Practices (BMPs) into new development and redevelopment projects in the County. Developers must incorporate appropriate BMPs per SUSMP requirements into the project design to effectively prohibit non-storm water discharges and reduce the discharge of pollutants from storm water conveyance systems to the maximum extent practicable.

All single-family hillside home developments in Los Angeles County of one acre or more require SUSMPs. SUSMP requirements include the following:

- Storm water runoff discharge rates shall not exceed the estimated pre-development rate where the increased rate will result in increased potential for downstream erosion.
- Conserve natural areas.
- Minimize storm water pollutants of concern.
- Protect slopes and channels.
- Provide storm drain system stencilling and signage.
- Properly design outdoor material storage areas/trash storage areas.

- Provide proof of ongoing BMP maintenance.
- Meet the design standards for structural or treatment control BMPs.

4.1.2 Project Impacts

Thresholds of Significance

The following thresholds were determined to indicate that impacts to water quality could be significant for the proposed project:

- Potential for project construction activities to significantly impact the quality of groundwater and/or storm water runoff to the storm water conveyance system and/or receiving water bodies.

- Post-development activities on the project site potentially degrading the quality of storm water runoff, and/or post-development non-storm water discharges contributing potential pollutants to the storm water conveyance system and/or receiving bodies.

Short-Term Construction Related Impacts

The proposed project could result in short-term construction impacts to surface water quality from grading activities, construction of structures, roadways, and infrastructure improvements, and other construction-related activities. Construction activities would result in disturbance of soils on the project site. Stormwater runoff from the project site during construction could contain soils and sediments from these activities. Spills or leaks from heavy equipment and machinery, construction staging areas, or building sites can also enter runoff. Typical pollutants used during construction could include petroleum products such as fuel, oil and grease, and heavy metals from equipment; detergents; plaster; acids; lime; glues; paints; cleaning agents; and curing compounds that could contain hazardous constituents.

The project construction activities would be directly adjacent to the San Francisquito Canyon Creek. Pollutants from construction activities that enter the surface runoff have the potential to seep into the Alluvial Aquifer. Therefore, adverse water quality impacts could result if polluted runoff entered downstream receiving waters.

The Federal Clean Water Act establishes a framework for regulating potential water quality impacts from construction activities through the NPDES program. Construction activities that involve more than one acre are required to obtain a NPDES permit from the Regional Water Quality Control Board. SWPPPs are required for issuance of a construction NPDES permit and typically include both source control and treatment BMPs to reduce water quality impacts.

BMPs that are most often used during construction include sand bags, temporary desilting basins, and timing grading to avoid the rainy season (November through April). The proposed project site would include sandbags along the graded roadways and parkways. Temporary desilting basins would be placed around stormwater outlets, creating a “check dam” of sandbags that would trap sediments and allow clearer water to be released through outlet pipes near the top of the check dam. Additionally, manufactured slopes would be revegetated with native plants as soon as feasible upon completion of grading activities in order to minimize potential wind/rain erosion and sedimentation downstream. In addition to the requirements of the NPDES program, provisions of the Uniform Building Code, grading permit requirements, and Fire Code provisions include elements that also require reduction of erosion and sedimentation impacts. Full compliance with applicable local, state, and federal water quality standards by the applicant will reduce construction impacts to a less than significant level.

Long-Term Operational Impacts

General Pollutants

Conversion of a portion of the site from vacant land to residential uses would increase the pollutant load in the surface runoff from storm events. The runoff would include various pollutants from non-point sources, including automotive leaks and spills, pesticides and herbicides, dust debris, litter, lawn clippings, animal waste, and other organic matter. This pollutant load would eventually be transported downstream in the San Francisquito Canyon Creek to the Santa Clara River during storms. As previously discussed, SUSMP requirements are designed to minimize the impact of storm water pollutants from the operation of the proposed project.

As discussed in the Drainage Concept Plan presented in Appendix C, the project incorporates three types of storm water treatment BMPs. The Drainage Concept Plan was developed to be in compliance with all Los Angeles County SUSMP requirements. Three debris basins would be located north of Lot 10, west of Lot 25, and west of Lot 58 and 59. Debris basins are earth-bottomed depressions that use the natural filtering abilities of the soil to remove debris and sediment from off-site stormwater prior to entry into the storm drain system. Stormwater would be stored in the debris basin until it gradually infiltrates into the soil or exits through the desilting inlet.

Desilting inlets are included in the debris basins to provide for the sediment of removals prior to discharge into the storm drain system. These facilities require periodic maintenance to remove sediment accumulations. Maintenance of the debris basins and the desilting inlets would be performed by the County of Los Angeles Flood Control District.

Catch basins with fossil filters would be installed in all storm drain inlets on the project site. Catch basins are designed to capture coarse solids and prevent storm drain blockages. The “first-flush” is trapped in the basin, which tends to contain the most sediment and debris, and the larger flows are allowed to bypass the catch basin and enter the storm drain system. Regular maintenance is critical (usually twice per year and/or before the rainy season begins) to ensure that solids and other pollutants are prevented from clogging the storm sewer or being washed into receiving waters. Maintenance of the catch basin and fossil filters would be the responsibility of the County of Los Angeles Flood Control District.

In addition to the water treatment BMPs, the project has design features incorporated that are intended to further minimize impacts from stormwater runoff. For example, the project site preserves large areas of open space, has concentrated development, and has reduced lot sizes from previous project designs. The preservation of trees and other natural vegetation has been maximized and drought tolerant plants will be used for revegetation activities on manufactured slopes.

The potential for other urban pollutants entering the storm drain system could be significant prior to mitigation. Specifically, the use of herbicides and pesticides on landscaped areas could enter the San Francisquito Creek via stormwater or irrigation runoff. In order to ensure that pesticides and herbicides do not significantly impact the Significant Ecological Area (SEA), the HOA will be restricted from using pesticides or herbicides along the irrigated manufactured slopes that front the SEA, including areas adjacent to Lots 33 through 51. These restrictions will be detailed in the CC&Rs of the HOA. In order to further minimize the potential for pollutants entering the storm drain system, all storm drain inlets and catch basins within the project area will be stenciled with prohibitive language (such as: NO DUMPING- DRAINS TO OCEAN), and/or graphical icons to discourage illegal dumping. The combination of the debris basins, desilting

inlets, catch basins, and mitigation measures would reduce project impacts to surface water quality to a level less than significant.

303(d) Listed Pollutants

The San Francisquito Canyon Creek is not listed as a 303(d) impaired water body. However, because the Creek is tributary to the Santa Clara River, which is listed as a 303(d) impaired water body for three constituents, an analysis of potential water quality impacts to the Santa Clara River must be performed.

Chloride

As previously mentioned, the Santa Clara River Reaches 7 and 8 are listed on the State 303(d) list for chloride. The discharges from wastewater treatment facilities are known to be the main source of chloride in the Santa Clara River. Residential land uses are the main contributor of chloride into the sewer flow via water softener systems (largest source), chloride in the drinking water, and laundry (chlorine disinfectants). According to the Los Angeles RWQCB, imported water from the State Water Project has an average of 79 milligrams per liter (mg/L) of chloride. Water that would be supplied to the proposed project through the Newhall County Water District would consist of approximately 58 percent imported water and 42 percent groundwater. Groundwater supplies for the NCWD contain an average of 63 mg/L of chloride. Therefore, the chloride content in the potable water supplied to the proposed project site would contain an average of 72.3 mg/L of chloride.

Water that is supplied to the project site that is used for indoor purposes would be discharged into the public sewer system for treatment at the Saugus and Valencia water reclamation plants. However, the proposed project site would require annexation into County Sanitation District No. 32. Due to the regional concern over high levels of chloride in the water discharged from the treatment plants, District No. 32 has an ordinance prohibiting the installation of self-regenerating water softener systems. Because the homes constructed within the project site would not be equipped with these systems, the project site's contribution of chloride to the Santa Clarita Valley's wastewater would be negligible. The prohibition of self-regenerating water softener systems will be included in the Homeowner's Association CC&Rs.

Chloride could also enter the Santa Clara River through surface runoff, via the San Francisquito Canyon Creek, through the use of potable water for lawn/garden irrigation purposes. In order to calculate the estimated contribution of chlorides to the San Francisquito Canyon Creek, the total acreage of irrigated land was determined (using the gross lot acreage less the development footprint, equaling approximately 675,000 square feet of irrigated lawn), 83,816 square feet of manufactured slope area in Lot 61, and an evapotranspiration factor of 40 inches per year, which is the average for California.

Using the data stated above, the proposed project (all 60 lots) would require approximately 18,830,218 gallons of water per year, or 57.8 acre-feet per year, for irrigation. The average rainfall for the Santa Clarita area is approximately 19.5 inches per year. This would result in a reduction of 1.63 acre-feet per year and leave a demand for irrigation water of 56.2 acre-feet per year, to be supplied by the NCWD.

Water conservation techniques are a high-priority for the Santa Clarita Valley due to the common droughts in the area and general civic awareness of the need to conserve water. For the purposes of this analysis, a scenario is used that assumes 15 percent of the irrigation water would not infiltrate into the soil and would runoff into the San Francisquito Canyon Creek via the storm drain system. In this scenario, approximately 652,243 grams of chloride per year, or 1,787 grams of chloride per day, would enter the San Francisquito Canyon Creek.

The San Francisquito Canyon Creek is not listed as an impaired water body on the 303(d) list, but it is tributary to the Santa Clara River, which is listed for chloride. Water that enters the San Francisquito Canyon Creek from the proposed project site would travel approximately four miles along the soft-bottom creek bed before contacting the Santa Clara River. This is a considerable distance that would allow ample time for the infiltration of the project site's runoff into the coarse, alluvial soils of the Creek.

Although the amount of infiltration is not readily quantifiable, it is apparent that a significant portion of the project site's irrigation runoff would be absorbed into the soil bottom of the Creek before ever reaching the Santa Clara River. This concept is further supported by the observation that most landscape irrigation occurs in the hot and dry summer months when there is no water flow in the Creek and, therefore, no means for the irrigated runoff to be transported to the Santa Clara River. Additionally, as previously discussed, irrigation water used on the project site would contain approximately 72.3 mg/L of chloride from the mixture of SWP water and groundwater. This amount is well below the 100 mg/L TMDL for chloride in the Santa Clara River and runoff from the project site would have lower concentrations of chloride than required by the TMDL. Therefore, the proposed project would not result in a significant impact to surface water related to chloride levels.

Coliform

Another pollutant of concern is the amount of coliform bacteria in the stormwater runoff from the project site and its potential impact on coliform levels in the Santa Clara River. The main sources of coliform bacteria in stormwater runoff are animal waste, including wildlife, domestic pets, and horse activity. The area surrounding the project site is largely ranch land used for equestrian activity and contains trails that are commonly used by horseback riders. These activities and land uses are presumed to be large contributors of bacteria to the San Francisquito Canyon Creek, and may contribute to coliform loads in the Santa Clara River.

The proposed project would direct equestrian riders to designated trails (Cliffie Stone Trail and Butterfield Overland Stage Trail) on the eastern edge of the property and out of the SEA No. 19. These designated trails would reduce the likelihood that riders would continue to use the central portions of the site within SEA No. 19, which is currently unrestricted to equestrian activity. However, access to the existing trails in the SEA would not be eliminated by the development of this project. Ultimately, the County of Los Angeles will own the open space lots, which include the existing and planned trails, and the regulation of equestrian activities will be subject to County discretion. Depending on the usage patterns of equestrians on the designated trails, the development of the proposed project and trails may actually serve to reduce the overall coliform bacteria load in the San Francisquito Canyon Creek, as well as from the project site. The trails would be maintained by the County Department of Parks and Recreation.

Domestic pet waste would be generally limited to private properties (fenced yards) and would likely be removed by homeowners on a regular basis, thereby minimizing opportunities for additional coliform bacteria in stormwater runoff. The County of Los Angeles has an ordinance that requires pet owners to pick up and remove pet waste from the ground in order to prevent the waste from washing down storm drains. Additionally, catch basin fossil filter inserts on the project site would be designed to prevent or reduce pollutants in stormwater discharges from the developed project in order to satisfy SUSMP requirements and would reduce water quality impacts associated with coliform to a level less than significant.

Nitrate/Nitrite

The Saugus WRP discharges its effluent upstream of the confluence between San Francisquito Creek and the Santa Ana River and into Reach 8. The Valencia WRP discharges its effluent

downstream of the connection between the Creek and the River into Reach 7. These two treatment plants are known to be major contributors of nitrate/nitrite to the Santa Clara River. Reach 7 is listed as impaired (303(d)) for nitrate/nitrite. A TMDL of 9.0 milligrams of nitrate/nitrite per liter (N/L) was recently established for Reach 7. Nitrogen forms that are important in wastewater include organic nitrogen, nitrate (NO_3), nitrite (NO_2), ammonia (NH_4) and nitrogen gas (N_2), all of which are biochemically able to be converted from one form to another.

An estimated average amount of total nitrogen in wastewater generated by residential land uses is 40 mg/L per household. This average amount of total nitrogen in the sewage from the proposed project would be channeled directly to the wastewater treatment plant(s), which would facilitate the breakdown of nitrogen through nitrification/denitrification in the wastewater treatment process. Denitrification is a process that removes nitrate from treated wastewater that is available in some wastewater treatment plants.

The proposed project would contribute to the amount of nitrogen in the sewage flow to the treatment plants, which ultimately discharge into the Santa Clara River. The sewage flow is then treated according to applicable federal and state regulations for water quality. The wastewater treatment facilities must comply with the TMDL water quality requirements for nitrate/nitrite. As noted in Section 5.2.1, a two-phased expansion of the Valencia WRP has been approved that will increase treatment capacity of the Santa Clarita Valley Joint Sewerage System (SCVJSS) by 15 million gallons per day. The first phase involves a 9 mgd expansion, which will be completed in 2004 and is expected to meet the Regional Growth Management Plan forecasted demand through 2010. The second phase, scheduled to be completed in early 2010, will consist of an additional 6 mgd expansion and will increase the SCVJSS treatment capacity to 34.1 mgd, which will be sufficient to meet the demand until 2015. The SCVJSS currently processes an average flow of 18.3 million gallons per day of sewage. The proposed project would contribute approximately 15,600 gallons per day, or 0.015 million gallons per day of sewage. This relatively minor contribution of nitrogen into the total sewage flow treated by the SCVJSS is not expected to create a significant impact regarding the WRP's ability to meet the TMDL requirements.

Stormwater discharge may also contribute to nitrate loads in downstream receiving waters and groundwaters, including the Santa Clara River. According to data from the Stormwater Manager's Resource Center, the average concentration for total nitrogen (mg/L) in residential runoff is 2.2 mg/L and roadway runoff is 3.0 mg/L. Sources of nitrate include fertilizer applications to lawns and landscaping, animal waste, and the atmospheric deposition of automobile emissions to impervious surfaces.

A reduction in equestrian activities within the SEA boundaries could substantially reduce the amount of nitrate/nitrite in stormwater runoff from horses and development on the site. Although, the increase in urban land uses, including fertilizers on landscaping and increases in impervious surfaces would adversely impact the amount of nitrate/nitrite in stormwater runoff, the implementation of BMPs per County SUSMP requirements would reduce potential impacts to less than significant.

Groundwater

The proposed residential development would be constructed adjacent to the San Francisquito Canyon Creek, which infiltrates surface water into the Alluvial Aquifer below. Pollutants from residential activities, including non-point sources such as automotive leaks, pesticides and herbicides, animal waste, and other organic matter would be contained within the surface runoff from the site during storm events. This runoff would flow into the San Francisquito Canyon Creek and would have the potential to seep into the Alluvial Aquifer.

The contribution of chloride to surface water runoff from irrigation activities, and subsequently to groundwater via infiltration, would be minimal due to the relatively small amount of irrigation required relative to the acreage of the site. However, due to the proximity of the proposed development to the San Francisquito Canyon Creek and the nature of the Alluvial Aquifer, potential water quality impacts to groundwater due to site runoff could constitute a significant impact prior to mitigation. With the implementation of the BMPs included in the project design, including a debris basins, desilting inlets, and catch basins, potential impacts to groundwater would be reduced to a level less than significant. These BMPs would be maintained by the Homeowner's Association and the County Flood Control District. Additionally, the prohibition of pesticides and herbicides from the manufactured slopes along the SEA will reduce impacts to stormwater flows, and subsequently to the local groundwater table.

The percolation of surface water into the groundwater basin would not be significantly impacted by the proposed project. The impervious surfaces created by the project design would prevent stormwater from infiltrating within the footprint of the project. However, since the project design releases stormwater from the storm drains into the earth-bottom San Francisquito Canyon Creek, infiltration is only slightly delayed. Runoff from the project site would still fully infiltrate into the ground either within the project's open space, desilting inlets, or within the San Francisquito Canyon Creek bed. Therefore, the development of the proposed project would have no impact on the amount of percolation into the groundwater basin.

4.1.3 Cumulative Impacts

The cumulative analysis for water quality is based on the existing and proposed development within the San Francisquito Canyon Creek Watershed, which is tributary to the Santa Clara River. Development within the watershed along the eastern side of San Francisquito Canyon Creek is much less dense and is largely composed of ranches and Tract 52302, which includes 11 single family homes currently under construction. Substantial development is planned or is under construction along the west side of the San Francisquito Canyon Creek, including the Tesoro del Valle (TM 51644) project and the West Creek project (TTM 52455).

The proposed project, in conjunction with the existing development and planned development, would result in a cumulatively considerable impact to surface water runoff due to construction activities and post-development runoff. However, all construction projects larger than one acre are subject to the NPDES permit requirements for the implementation of BMPs. Additionally standard project BMPs required by Los Angeles County (SUSMP requirements) are included in project designs to ensure long-term operational compliance with water quality goals.

The pollutants generated by the proposed project would be mitigated on-site through the use of debris basins, desilting inlets, and catch basins/fossil filters, as well as the use of BMPs during construction activities as outlined in the SWPPP. Therefore, on a cumulative basis, with the implementation of the project's mitigation measures, the project's contribution to cumulative water quality impacts would not be cumulatively considerable. Based on the requirements of local, state, and federal regulations, the cumulative (planned and under construction) projects would also be required to mitigate potential water quality impacts through the preparation of a SWPPP and implementation of SUSMP requirements.

The proposed project's cumulative impact on the quality of the regional groundwater basin would not be cumulatively considerable due to the installation of the BMPs, which would minimize pollutants in runoff from the project site. Additionally, the project would not contribute to any regional decreases in the amount of water that percolates into the groundwater basin.

4.1.4 Project Design Features and Mitigation Measures

Project Design Features

- The project design includes three debris basins, desilting inlets, and fossil filter catch basins inserts to satisfy the Los Angeles County Department of Public Works SUSMP requirements.

- Energy dissipaters will be installed at stormwater discharge locations to minimize erosion in the San Francisquito Canyon Creek.

- Manufactured slopes shall be landscaped with native, drought tolerant vegetation as soon as practicable after completion of grading to reduce potential erosion and sediment discharges.

Mitigation Measures

MM 4.1-1 Prior to the issuance of a grading permit, the project applicant shall be responsible for filing a Notice of Intent and the appropriate fees to the State Water Quality Control Board in order to obtain coverage under the NPDES General Construction Permit for construction activities. Pursuant to the permit requirements, the project applicant shall develop a Stormwater Pollution Prevention Plan that incorporates Best Management Practices, including sandbags along roadways and temporary desilting basins, for minimizing construction related pollutants in the site runoff.

MM 4.1-2 Prior to issuance of a grading permit, the project applicant shall apply for annexation into the service area of the Los Angeles County Sanitation District No. 36. The proposed project will comply with the Los Angeles County Sanitation District No. 36 requirements that prohibit the installation of self-regenerating water softeners. The Homeowner's Association CC&Rs shall specifically prohibit the use of self-regenerating water softeners.

MM 4.1-3 All storm drain inlets and catch basins with the project area shall be stenciled with prohibitive language (such as: NO DUMPING – DRAINS TO OCEAN) and/or graphical icons to discourage illegal dumping. Signs and prohibitive language shall be posted at public access points along the San Francisquito Canyon Creek within the project area and all signs and stenciled shall be maintained by the Homeowner's Association.

MM 4.1-4 The use of herbicides and pesticides will be prohibited from use on the manufactured slopes adjacent to the rear of Lots 33 through 51 along the SEA. The CC&Rs of the HOA will specifically prohibit the use of such chemicals by the landscape contractors hired by the Homeowner's Association to maintain the common areas on the site.

Level of Significance after Mitigation

Potentially significant water quality impacts would be reduced to levels less than significant with the implementation of the mitigation measures.

4.2 AIR QUALITY

This section addresses the potential short-term (construction-related) and long-term air quality impacts resulting from the proposed project. This section includes a summary of the air quality technical report prepared by JHA Environmental Consultants in September 2004, and the report is included in its entirety in Appendix D.

4.2.1 Existing Conditions

California is divided by the California Air Resources Board (CARB) into air basins which share similar meteorological and topographical features. Los Angeles County is in the South Coast Air Basin (SCAB), a 6,600 square mile area comprised of all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The Basin's climate and topography are highly conducive to the formation and transport of air pollution. Over the last two decades, peak ozone concentrations in the Basin have occurred at the base of the mountains around Azusa and Glendora in Los Angeles County and at the Crestline in the mountain area above the City of San Bernardino. Throughout the 1990's, both peak ozone concentrations and the number of exceedances decreased everywhere in the Basin. Carbon monoxide concentrations have also dropped significantly throughout the Basin as a result of strict new emission controls and reformulated gasoline sold in the winter months.

Regulatory and Planning Requirements

Both the federal, through the USEPA, and state governments (through the CARB) have established ambient air quality standards to protect public health. These standards are presented in Table 4.2-1.

Federal Attainment Status

National ambient air standards are set by the USEPA, as required by the Clean Air Act, which also established deadlines for attainment and penalties for non-attainment by the specified deadlines. The SCAB, which was the nation's only "extreme" O_3 non-attainment area until the EPA recategorized the San Joaquin Valley Air Basin from "severe" to "extreme" in October 2001, has until 2010 to achieve the national one-hour ozone standard. That deadline has been recently superceded by the new deadline of 2017 for achieving the national 8-hour ozone standard. Deadlines for CO and PM_{10} attainment in the SCAB are 2000 and 2005, respectively. The deadline for achieving the 8-hour CO standard was not met in 2000.

Although no CO standard was exceeded anywhere in the Basin in 2001, the 8-hour federal standard was exceeded twice in 2000 in the South Central Los Angeles County Source-Receptor Area. The 2003 Air Quality Management Plan (AQMP) states that all federal CO attainment requirements were met in 2002. EPA regulations specify that an area has attained the CO standard when there are two years of data with no more than one exceedance at any one station. The Basin is currently the only CO non-attainment area in California and was the only area in the nation still designated an NO_2 non-attainment area until 1998 when it was redesignated "attainment" by the EPA.

In 2004, the EPA promulgated a new 8-hour standard for ozone and a new standard for fine particulate matter ($PM_{2.5.}$) On April 15, 2004, the EPA released its list of 8-hour ozone non-attainment areas, together with the deadline for each non-attainment area to attain the standard. Areas with the highest 8-hour concentrations and the greatest number of days exceeding the new standard were given the longest time to reach attainment. The South Coast Air Basin is in the most severely degraded ozone category and was given 17 years, or until 2021, to reach the new 8-hour standard.

The EPA declared on June 29, 2004 that 13 California counties, including all of the South Coast Air Basin, are non-attainment areas for the federal $PM_{2.5}$ standard. The two worst areas, according to the EPA, were the San Joaquin Valley and the greater Los Angeles area. The EPA designations are preliminary and will not become final until the completion of a public comment period. Until the designations are final, the existing national PM_{10} standards are the particulate standards of reference for determining attainment.

State Standards

California standards are established by the CARB, and although they are stricter than national standards, they have no penalty for non-attainment. California and national ambient air standards are shown on Table 4.2-1.

TABLE 4.2-1
AMBIENT AIR QUALITY STANDARDS

Air Pollutant	State Standard	National Standards		Health Effect
		Primary	Secondary	
Ozone (O_3)	0.09 ppm, 1-hr. avg. 0.070 ppm, 8-hr avg. (effective in early 2006)	0.12 ppm, 1-hr. avg. 0.08 ppm, 8-hr. avg.	0.12 ppm, 1-hr. avg. 0.08 ppm, 8-hr. avg.	Aggravation of respiratory and cardiovascular diseases; Impairment of cardiopulmonary function
Carbon Monoxide (CO)	9.0 ppm, 8-hr. avg. 20 ppm. 1-hr. avg.	9 ppm, 8-hr. avg. 35 ppm, 1-hr. avg.	None	Aggravation of respiratory diseases (asthma, emphysema)
Nitrogen Dioxide (NO_2)	0.25 ppm, 1-hr. avg.	0.0534 ppm, annual avg.	0.0534 ppm, annual avg.	Aggravation of respiratory illness
Sulfur Dioxide (SO_2)	0.25 ppm 1-hr. 0.04 ppm, 24-hr. avg.	0.03 ppm, annual avg. 0.14 ppm, 24-hr. avg.	0.50 ppm, 3-hr. avg.	Aggravation of respiratory diseases (asthma, emphysema)
Respirable Particulate Matter (PM_{10})	50 $\mu g/m^3$, 24-hr. avg. 20 $\mu g/m^3$ AGM	150 $\mu g/m^3$, 24-hr. avg. 50 $\mu g/m^3$ AAM	150 $\mu g/m^3$, 24-hr avg.; 50 $\mu g/m^3$ AAM	Increased cough and chest discomfort; Reduced lung function; Aggravation of Respiratory and cardio-respiratory diseases
Fine Particulate Matter ($PM_{2.5}$)	No 24-hr. State std. 12 $\mu g/m^3$ AGM	65 $\mu g/m^3$, 24-hr. avg. 15 $\mu g/m^3$ AAM	65 $\mu g/m^3$, 24-hr.avg. 15 $\mu g/m^3$ AAM	
Sulfates (SO_4)	25 $\mu g/m^3$, 24-hr. avg.	N/A	N/A	Increased morbidity and mortality in conjunction with other pollutants
Lead (Pb)	1.5 $\mu g/m^3$, monthly avg.	1.5 $\mu g/m^3$, calendar quarter	1.5 $\mu g/m^3$	Impaired blood and nerve function; Behavioral and hearing problems in children
Hydrogen Sulfide (H_2S)	0.03 ppm, 1-hr. avg.	N/A	N/A	Toxic at very high concentrations
Vinyl Chloride	0.010 ppm, 24-hr. avg.	N/A	N/A	Carcinogenic
Visibility-Reducing Particles	Sufficient to reduce prevailing visibility to less than 10 miles at relative humidity less than 70%, 1 observation	N/A	N/A	

TABLE 4.2-1 (Continued)
AMBIENT AIR QUALITY STANDARDS

Air Pollutant	State Standard	National Standards		Health Effect
		Primary	Secondary	
Notes: ppm = parts per million by volume $\mu g/m^3$ = micrograms per cubic meter AAM = annual arithmetic mean AGM = annual geometric mean *Source: California Air Resources Board, May 6, 2005*				

Regional Planning to Meet Standards

Regionally, the South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG) prepare the South Coast AQMP, which contains measures to meet state and federal requirements. When approved by CARB and the federal EPA, the AQMP becomes part of the State Implementation Plan (SIP).

The agencies adopted new plans in 1989 to meet national standards and in 1991 to meet state standards. The SCAQMD revised these attainment plans in 1994 and 1997. As permitted by the federal Clean Air Act for "extreme" ozone non-attainment areas, the 1994 AQMP relied on future technology to project attainment of the national ozone standard by 2010. The EPA approved the 1994 AQMP in 1996 as part of the SIP. The SCAQMD revised the 1997 AQMP in 1999 after the EPA had raised concerns. The revised plan, now known as the 1999 AQMP, was approved by the EPA on May 10, 2000 and replaced the 1994 AQMP as the federally enforceable ozone SIP for the Basin.

The CO portion of the plan was not approved by the EPA and there is currently no approved CO attainment or maintenance SIP for the Basin. The 2003 Revision, adopted by the SCAQMD Governing Board on August 1, 2003, demonstrates that the national CO standards have been attained. The 2003 AQMP will serve as both the CO attainment and maintenance SIP when approved by the EPA.

Existing Air Quality Setting

The SCAQMD, in conjunction with the California Air Resources Board, is responsible for monitoring air quality in the Basin as well as for adopting controls to improve air quality. The SCAQMD has divided the Basin into Source-Receptor Areas (SRAs), based on similar meteorological and topographical features. The proposed project is located in SRA-13, the Santa Clarita Valley.

Overall air quality has improved considerably throughout the Basin during the 1990's, despite the extensive population growth. In 1990, the peak ozone concentration in the Santa Clarita Valley was 0.23 ppm and the state ozone standard was exceeded 115 times. In 2000, the peak ozone concentration was 0.13 ppm and the state standard was exceeded 31 times.

Currently the SCAQMD is monitoring levels of both 8-hour concentrations of ozone and of $PM_{2.5}$. The U.S. EPA has adopted new standards for 8-hour ozone and fine particulates ($PM_{2.5}$); however, neither standard is operational in the basin until the 1-hour ozone standard is completed and the EPA completes its database on existing $PM_{2.5}$ concentrations. Readings for SRA 13 for the past five years, in addition to the applicable state and national standards are show in Table 4.2-2.

TABLE 4.2-2
SUMMARY OF AIR QUALITY DATA – SANTA CLARITA VALLEY (SRA 13)
AIR MONITORING STATION

Pollutant Standards	2000	2001	2002	2003	2004
Ozone (O_3)					
State standard (1-hr. avg. 0.09 ppm)					
National standard (1-hr avg. 0.12 ppm)					
National standard (8-hr avg. 0.08 ppm)					
Maximum 1-hr concentration (in ppm)	0.13	0.18	0.17	0.19	0.16
Maximum 8-hr concentration (in ppm)	0.11	0.13	0.145	0.15	0.13
Number of days state (1-hr) standard exceeded	31	49	81	89	69
Number of days national 1-hr standard exceeded	1	9	32	35	13
Number of days national 8-hr standard exceeded	16	27	56	69	52
Carbon Monoxide (CO)					
State standard (1-hr. avg. 20 ppm)					
National standard (1-hr avg. 35 ppm)					
State standard (8-hr. avg. 9.0 ppm)					
National standard (8-hr avg. 9 ppm)					
Maximum concentration 1-hr period (in ppm)					
Maximum concentration 8-hr period (in ppm)	6	6	3	3	5
Number of days state/nat'l 1-hr standards exceeded	4.9 0	3.14 0	1.9 0	1.7 0	3.7 0
Number of days state/nat'l 8-hr standard exceeded	0	0	0	0	0
Nitrogen Dioxide (NO_2)					
State standard (1-hr avg. 0.25 ppm)					
National standard (0.0534 AAM in ppm)					
Annual arithmetic mean (in ppm)	0.0246	0.0239	0.0200	0.0221	0.0204
Percent national standard exceeded	0	0	0	0	0
Maximum 1-hr concentration	0.10	0.10	0.10	0.12	0.09
Number of days state 1-hr standard exceeded	0	0	0	0	0
Fine Particulates (PM_{10})					
State standard (24-hr. avg. 50 $\mu g/m^3$)					
National standard (24-hr avg. 150 $\mu g/m^3$)					
Maximum 24-hr concentration	64	62	61	72	54
Percent samples exceeding state standard	7	7	11.7	16.4	3.3
Percent samples exceeding national standard	0	0	0	0	0
Respirable Particulates ($PM_{2.5}$)					
National standard (24-hr avg. 65 $\mu g/m^3$)					
Maximum 24-hr concentration	NM	NM	NM	NM	NM
Percent samples exceeding national standard					

ppm = parts per million
$\mu g/m^3$ = micrograms per cubic meter
NM = Not Monitored

Source: SCAQMD Air Quality Data--2000 through 2004

4.2.2 Project Impacts

Thresholds of Significance

The County relies on significance thresholds recommended by the SCAQMD in its California Environmental Air Quality Act (*CEQA) Air Quality Handbook*, as revised in November 1993 and approved by the SCAQMD's Board of Directors. The SCAQMD is currently in the process of preparing a new Air Quality Handbook, to be titled the "AQMD Air Quality Analysis Guidance Handbook." Chapters 2, 3 and 4 related to air quality background information and the roles of regulatory agencies are available on the SCAQMD's web page at www.aqmd.gov. Other chapters will be posted on the web page as they become available. Revisions at the time this analysis was prepared do not include new significance thresholds or analysis methodologies. However, the SCAQMD in October 2003 issued guidance requesting that EIR preparers not use

the emission factors, screening tables, and certain models listed in the 1993 Handbook because they are now obsolete. The guidance specified web pages where updated information is available. The SCAQMD's emission thresholds apply to all federally regulated air pollutants except lead, which is not exceeded in the Basin. Construction and operational emissions are considered by the SCAQMD to be significant if they exceed the thresholds shown in Table 4.2-3.

TABLE 4.2-3
EMISSION THRESHOLDS OF SIGNIFICANCE

Pollutant	Construction		Operations
	Pounds/day	Tons/quarter	Pounds/day
Carbon Monoxide (CO)	550	24.75	550
Sulfur Oxides (SO_x)	150	6.75	150
Particulate Matter (PM_{10})	150	6.75	150
Nitrogen Oxides (NO_x)	100	2.5	55
Volatile organic compounds (ROC)	75	2.5	55
Source: South Coast Air Quality Handbook, 1993			

Carbon monoxide concentrations in an area that already exceeds national or state CO standards are also considered significant if the increase exceeds one part per million (ppm) averaged over one hour or 0.45 ppm averaged over eight hours. In addition, the SCAQMD considers potential air quality impacts identified by the CEQA Guidelines to also be significant if the project would:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including release in emissions which exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

Ambient air standards are established to protect the average person from health effects associated with air pollution. The standards include an "adequate margin of safety." However, some people are particularly sensitive to some pollutants. These sensitive people include persons with respiratory illnesses or impaired lung function because of other illnesses, the elderly, and children. Facilities and structures where these sensitive people live or spend considerable amounts of time are known as sensitive receptors. Chapter 4 of the SCAQMD's new Air Quality Analysis Guidance Handbook defines land uses considered to be sensitive receptors as long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, child care centers and athletic facilities.

Impacts Analysis

Air quality impacts of a project may occur during construction and operation on both a regional and local scale. Construction impacts include airborne dust from grading, demolition and dirt hauling and gaseous emissions form heavy equipment, delivery and dirt hauling trucks, employee vehicles, and paints and coatings. Operational impacts occur from utility usage and vehicles traveling to and from the completed site. These impacts may affect regional pollutants, such as ozone, or localized pollutants, such as carbon monoxide, where the impacts occur very close to the source.

Short-term Construction Related Impacts

Construction impacts were assessed in accordance with procedures contained in the SCAQMD *CEQA Air Quality Handbook* (1993), updated with current California Air Resource Board emission factors. Both construction and operation emissions were analyzed with the URBEMIS 2002 model. Construction of the proposed project would begin in the fourth quarter of 2005. Default assumptions were used to assess truck and worker emissions in the peak period. Peak day and peak quarter emissions are shown in Table 4.2-4 and Table 4.2-5, respectively.

TABLE 4.2-4
PEAK DAY CONSTRUCTION EMISSIONS PRIOR TO MITIGATION

Source Category	Pollutant (pounds per day)				
	Carbon Monoxide (CO)	Volatile Organic Compounds (VOC)	Oxides of Nitrogen (NOx)	Oxides of Sulfur (SOx)	Particulate Matter (PM_{10})
Earthmoving/ Grading (Fugitive Dust)	0	0	0	0	1,184
Diesel-Powered Equipment	174	22	149	0	7
Worker Trips	4	0	0	0	0
PEAK DAY CONSTRUCTION EMISSIONS	178	22	149	0	1,191
SCAQMD Significance Thresholds for Construction	550	75	100	150	150
Significant?	**NO**	**NO**	**YES**	**NO**	**YES**

Source: California Air Resources Board Model: URBEMIS 2002

TABLE 4.2-5
PEAK QUARTER CONSTRUCTION EMISSIONS PRIOR TO MITIGATION

Source Category	Pollutant (tons per quarter)				
	Carbon Monoxide (CO)	Volatile Organic Compounds (VOC)	Oxides of Nitrogen (NOx)	Oxides of Sulfur (SOx)	Particulate Matter (PM_{10})
Earthmoving/ Grading (Fugitive Dust)	0	0	0	0	39.07
Diesel-Powered Equipment	5.74	0.73	4.92	0	0.23
Worker Trips	0.13	0.01	0.01	0	0

TABLE 4.2-5 (Continued)
PEAK QUARTER CONSTRUCTION EMISSIONS PRIOR TO MITIGATION

PEAK QUARTER CONSTRUCTION EMISSIONS	5.87	0.74	4.93	0	39.30
SCAQMD Significance Thresholds for Construction	24.75	2.5	2.5	6.75	6.75
Significant?	**NO**	**NO**	**YES**	**NO**	**YES**
Source: California Air Resources Board Model: URBEMIS 2002					

Grading/Excavation – Soil may be disturbed during grading and excavation or while storing project-related equipment. The grading and excavation phase is anticipated to take approximately 93 working days, beginning in 2006. The analysis assumes that the 37 acres that would be developed on the project site would be disturbed during grading on the peak day and throughout the peak quarter. The project would require 246,000 cubic yards (cy) of raw excavation, 600,000 cy of alluvium removal and re-engineering for fill, and 86,000 cy for grading along the edge of the Significant Ecological Area. The total 932,000 cy of cut and fill would be balanced on site; therefore, the transport of cut-and-fill material off-site will not be required Table A9-9 of the SCAQMD CEQA Handbook states that there would be 26.4 pounds of PM_{10} for each acre of graded surface.

Exhaust Emissions From Construction Equipment – The grading equipment will include one water truck, one dozer, one compactor, and four to five scrapers. The analysis assumes that five scrapers would be operating during the peak day and peak quarter. The water truck is assumed to operate four hours each day; the other equipment is assumed to operate seven hours each day of the 66-day peak quarter. As illustrated by Table 4.2-4 and Table 4.2-5, construction equipment would generate 7.0 pounds per day of PM_{10} on the peak day and 0.23 tons of PM_{10} in the peak quarter, prior to mitigation.

Architectural Coatings – The peak period for VOC emissions would occur during building construction. The amount of these emissions would depend on the painting schedule and duration, in addition to the season in which painting occurs. Because architectural coatings will not occur during the peak construction period, which is the grading phase, they are not shown on Table 4.2-4 and Table 4.2-5. All coatings must be in compliance with SCAQMD regulations.

Odors – There are no known sources of odors on-site that would be released during construction. Although diesel equipment would emit some odors in their exhaust, these odors would not be sufficient to create a significant adverse impact. The project does not propose development of any uses that would generate adverse odors.

Particulate Emissions

Particulate emissions during construction in the South Coast Air Basin are regulated by SCAQMD Rule 403, which was most recently amended on April 2, 2004. The SCAQMD's Rule 403 Implementation Handbook assists project applicants comply with the rule. Specific requirements are contained on pages 2-26 and 2-27. At a minimum, persons conducting active operations within the boundaries of the South Coast Air Basin shall utilize one or more of the applicable best available control measures to minimize fugitive dust emissions from each fugitive dust source type that is part of the active operation. A person conducting such operations shall not cause or allow PM_{10} levels to exceed 50 micrograms per cubic meter as determined by calculating the difference between simultaneous upwind and downwind samples

collected on high volume particulate matter samplers or by other EPA-approved methods for sampling.

Large operators, those with an exposed area exceeding 50 acres, are required to file a Large Operation Notification Form (Form 403N) with the SCAQMD prior to initiating grading. Since the proposed project totals more than 50 acres, it qualifies as a Large Operation under the rule, and would have to file a Form 403N. Under any classification, sufficient mitigation identified in the Handbook measures must be followed to insure that there are no visible dust emissions beyond the project boundaries.

A number of mitigation measures were assumed by the URBEMIS model to be applicable to the proposed project, as discussed in the Mitigation Measures in Section 4.2.4. Peak daily and quarterly construction emissions after mitigation are presented in Table 4.2-6 and Table 4.2-7, respectively.

The model estimates the mitigation measures would reduce PM_{10} fugitive dust emissions by more than 90 percent. However, NO_X emissions would remain significant in both the peak day and in the peak quarter after mitigation. All other emissions would be less than significant.

TABLE 4.2-6
PEAK DAILY CONSTRUCTION EMISSIONS AFTER MITIGATION

Source Category	Pollutant (lbs per day)				
	Carbon Monoxide (CO)	**Volatile Organic Compounds (VOC)**	**Oxides of Nitrogen (NO_X)**	**Oxides of Sulfur (SO_X)**	**Particulate Matter (PM_{10})**
Total Daily Emissions (Before Mitigation)	178	22	149	0	1,191
Earthmoving/Grading (Emissions After Mitigation)	0	0	0	0	105
Diesel-Powered Equipment (Emissions After Mitigation)	160	20	134	0	6
Vehicle Emissions (Emissions After Mitigation)	4	0	0	0	0
MAXIMUM DAILY CONSTRUCTION EMISSIONS	164	20	134	0	111
SCAQMD Significance Thresholds for Construction	550	75	100	150	150
Significant?	**NO**	**NO**	**YES**	**NO**	**NO**

TABLE 4.2-7
PEAK QUARTER CONSTRUCTION EMISSION AFTER MITIGATION

Source Category	Pollutant (lbs per day)				
	Carbon Monoxide (CO)	Volatile Organic Compounds (VOC)	Oxides of Nitrogen (NO_X)	Oxides of Sulfur (SO_X)	Particulate Matter (PM_{10})
Total Peak Quarter Emissions (Before Mitigation)	5.87	0.74	4.93	0	39.30
Earthmoving/Grading (Emissions After Mitigation)	0	0	0	0	3.47
Diesel-Powered Equipment (Emissions After Mitigation)	5.16	0.66	4.43	0	0.21
Vehicle Emissions (Emissions After Mitigation)	0.13	0.01	0.01	0	0
MAXIMUM QUARTERLY CONSTRUCTION EMISSIONS	5.29	0.67	4.44	0	3.68
SCAQMD Significance Thresholds for Construction	24.75	2.5	2.5	6.75	6.75
Significant?	**NO**	**NO**	**YES**	**NO**	**NO**

Operational Impacts

The proposed project site would eventually be developed into 60 single-family residential units. The primary source of operational emissions would be vehicle travel to and from the project site. The proposed project was evaluated with the URBEMIS 2002 model for both summer and winter conditions in 2006. The model analyzes both traffic emissions and area source emissions. No emissions were included for wood stoves or fireplaces. Where concentrations differ slightly between seasons, the higher concentration is shown on Table 4.2-8 below.

TABLE 4.2-8
OPERATIONAL EMISSIONS

Source Category	Pollutant (lbs per day)				
	Carbon Monoxide (CO)	Volatile Organic Compounds (VOC)	Oxides of Nitrogen (NO_X)	Sulfur Dioxide (SO_2)	Particulate Matter (PM_{10})
Traffic Emissions	73	6	9	0	6
Area Source Emissions	0	3	1	0	0
TOTAL PROJECT EMISSIONS	73	9	10	0	6
SCAQMD Significance Thresholds for Operation	550	55	55	150	150
Significant?	**NO**	**NO**	**NO**	**NO**	**NO**
Source: Emissions calculated with CARB model, URBEMIS 2002.					

The project would result in daily operational emissions of CO (73 pounds per day), VOC (nine pounds per day), NO_x (10 pounds per day), SO_2 (zero pounds per day) and PM_{10} (six pounds per day). There are some odors, such as from cooking and gardening, associated with residential uses, but these are not considered significant on a regional or local scale.

Based on the significance thresholds for operations established by the SCAQMD, operation of the project would not result in significant emissions of any pollutant on a regional scale. The project is consistent with the regional AQMP and therefore would not have a significant adverse impact on regional air quality.

The Traffic Consultant for the project estimates there would be a daily total of 574 trips. These trips would be distributed throughout the day. Carbon monoxide concentrations in the vicinity are very low; therefore, the very small increment of trips generated at any intersection would not be sufficient to cause an exceedance of any state or federal CO standard, even when background conditions are added to project-induced concentrations. Although the EPA has not reclassified the SCAB as an attainment area for all CO standards, the SCAB has met requirements for re-designation and is project to maintain this status in the future. The proposed project would not have a significant impact on local air quality.

4.2.3 Cumulative Impacts

Fugitive dust emissions during construction, which would be reduced to less than significant with mitigation, could be worsened at the local level and be cumulatively considerable in the short-term if there are projects under construction simultaneously in the immediate vicinity. The Tesoro del Valle project, which is located south, west, and north of the project site, would likely be under construction at the same time as the proposed project. According to the EIR for the Tesoro del Valle project, Planning Areas A, B, and C are proposed to be constructed sequentially during a six-year period. Planning Area D would either be constructed concurrently with Planning Areas B or C, or sequentially following completion of Planning Area C, which would extend the completion of the project build-out to an eight-year period.

The Tesoro del Valle EIR concluded that short-term construction emissions for NO_X, ROC, and PM_{10} would be above the SCAQMD thresholds and would result in significant and unavoidable impacts both on a project-specific and a cumulative basis. It also determined that SO_X would be cumulatively significant.

As previously discussed, the proposed project's NO_X construction emissions would be significant on a project-basis; NO_X emissions would also be cumulatively significant given the likely simultaneous construction with the Tesoro del Valle project. Although PM_{10} emissions are not significant for the proposed project in the peak day or quarter, the estimated construction PM_{10} emissions for Tesoro del Valle are far above the SCAQMD thresholds for the peak day (1,121 lbs/day compared to the threshold of 150 lbs/day for Planning Area A). The contribution of PM_{10} from construction activities on the proposed project site could cumulatively contribute to significant fugitive dust emission during construction, if the two projects were to be underway simultaneously. However, grading for the Tesoro del Valle project Area A is completed and there are no plans to begin grading of Areas B through D over the next two years. Therefore, the proposed project will not cumulatively contribute to significant fugitive dust emissions.

At the regional level, operational emissions from new growth in the subregion have been modeled by the SCAG and the results are incorporated into the 2003 AQMP, adopted on August 1, 2003. SCAG considers that any project which is within the population and employment growth projections for the year 2015 for the subregion is mitigated by the AQMP at the regional level. The project would contribute incrementally to regional air pollution through operational emissions from additional vehicles; however, emissions from the completed project would not add cumulatively considerable emissions to the region or the subregion. Therefore, the proposed project would not result in cumulative regional air quality impacts. There would be no significant cumulative impacts from operation of the project at a local level. Emissions from background conditions were included in the project analysis and no significant impacts would result.

4.2.4 Project Design Features and Mitigation Measures

Project Design Features

None.

Mitigation Measures

MM 4.2-1 Per the SCAQMD Rule 403 Implementation Handbook, the project applicant shall implement the following BMPs to minimize fugitive dust emissions. This requirement shall be included in the construction plans and verified by the County Engineer.

- Visible roadway dust tracked from the project site to public paved roadways as the result of active operations shall be removed at the conclusion of each workday.
- Gravel or a comparable substance shall be placed at the entrance to the project site to remove excess dust and debris from the tires of construction vehicles.
- Bulk material tracked onto paved public roadways should either be prevented or removed within one hour.

MM 4.2-2 The project applicant will require that all coatings are SCAQMD-compliant and will use pre-coated materials to the extent feasible.

MM 4.2-3 The following mitigation measures used in the URBEMIS 2002 model will reduce PM_{10} fugitive dust emissions and equipment gaseous emissions.

- Apply soil stabilizers to inactive areas.
- Replace ground cover in disturbed areas quickly.
- Water exposed surfaces three times daily.
- Cover all stockpiles with tarps.
- Water all haul roads three times daily.
- Reduce speed on unpaved roads to 15 miles per hour.
- Turn off equipment when not in use for longer than 5 minutes.

Level of Significance after Mitigation

After mitigation, emissions of NO_x during construction activities would remain significant for the peak day and the quarter, but emissions of PM_{10} would be less than significant. Significant cumulative impacts are not anticipated for NO_X and PM_{10}. Operational impacts would be less than significant.

4.3 BIOTA

This section describes the potential impacts to biota associated with implementation of VTTM 53189. The analysis presented in this section is based on the results of a Biota Report conducted by BonTerra Consulting in March 2004 and updated in 2005, located in Appendix E. The biological resources on this site were previously described in *Biological Constraints Analysis Report San Francisquito Canyon Project – VTTM No. 53189 Los Angeles, California*

prepared by Rincon Consultants, Inc. and dated March 2000 and is incorporated into the BonTerra Consulting report by reference. A *Delineation of Jurisdictional Waters Outside of the Significant Ecological Area and Update of the Preliminary Biological Constraints Map San Francisquito Canyon Property* prepared by Rincon Consultants, Inc. (January 2000), as well as a Jurisdictional Delineation of Jurisdictional Waters, prepared by RBF Consulting (November 2005) are also included as an appendix to the Biological Study conducted by BonTerra Consulting.

4.3.1 Existing Conditions

Setting

The project site is located on the Newhall U.S. Geological Survey 7.5 minute quadrangle map at Township 5 North, Range 16 West, in portions of Sections 33 and 34. Site topography ranges from 1,250 feet above mean sea level (msl) within the San Francisquito Creek to 1,480 above msl in the northwestern edge of the property. The majority of the project site can be characterized as being relatively flat and becoming more steeply sloped around the northwestern edges of the site. Land adjacent to the project site to the north and west contains steep slopes and ridges that drain into San Francisquito Canyon Creek.

San Francisquito Canyon runs north to south through the eastern half of the project site and contains an intermittent stream that drains hillside areas in the Angeles National Forest and upper Santa Clarita Valley. With the exception of the landslide area described in Section 3.1 Geotechnical Hazards, and San Francisquito Canyon itself, no unusual or significant landforms or geologic features have been identified on the site.

San Francisquito Canyon is classified as SEA No.19 by the County of Los Angeles. The canyon is part of the San Francisquito Canyon Creek watershed, which possesses two populations of the unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), a state- and federally listed endangered species. The San Francisquito Canyon Creek floodplain is included in SEA No. 19 in order to preserve unarmored threespine stickleback habitats. Until remanded in November 2002, the project site was included within U. S. Fish and Wildlife Service (USFWS) designated Critical Habitat for the California red-legged frog (*Rana aurora draytonii*) and the arroyo toad (*Bufo californicus*).

The project site currently supports the following vegetation types: ruderal, eucalyptus woodland, chamise chaparral, non-native grassland/chamise chaparral, coast live oak woodland, coastal sage scrub, wash, mixed chaparral/holly-leaf cherry woodland, non-native grassland, and alluvial sage scrub. The upland vegetation types in non-developed areas and slopes in the areas around the site are typically similar to those observed on-site before the Copper Fire (described later) and include coastal sage scrub, chamise chaparral, and mixed chaparral occasionally interspersed with non-native grassland. Canyon bottoms and drainages are vegetated with oak woodland, holly-leaf cherry woodland, alluvial sage scrub, and riparian scrub.

The majority of the project site, approximately 149.5 acres or 80 percent, will be preserved as open space. The three open space lots include:

- Lot 61 (approximately 103.5 acres)
- Lot 62 (approximately 29.7 acres)
- Lot 63 (approximately 15.3 acres)

Lot 61 includes the portion of the San Francisquito Canyon SEA No. 19 that traverses the eastern portion of the project site from north to south, which includes parts of the San Francisquito Canyon Creek and its associated floodplain. This lot also will include two equestrian/hiking/biking trails, the Cliffie Stone Trail and the Butterfield Overland Stage Trail. The Cliffie Stone Trail would be located adjacent to San Francisquito Canyon Road and the Butterfield Overland Stage Trail would be located further west, but would not impact SEA No. 19. In the northeast corner of Lot 61, a small portion of the existing dirt road extension of Lady Linda Lane would be paved from San Francisquito Canyon Road. This paved area would be approximately the length of a driveway and would include approximately 3,370 square feet, or 0.08-acre. This small driveway would not impact the SEA No. 19 and would be located over the existing dirt road.

Lot 62 includes property in the southwest portion of the project site that contains holly-leaf cherry woodland, damaged by the "Copper Fire" in June 2002. Lot 63 is located in the northwest corner of the site and includes the steeper hillsides and ridgetops.

Manufactured slopes would be developed on approximately 83,816 square feet in Lot 61, 132,556 square feet in Lot 62, and 67,729 square feet in Lot 63, totaling approximately 284,101 square feet, or approximately 6.5 acres of the project site. The manufactured slopes are designed to transition the graded lots to the natural surrounding environment. Limited grading in the SEA may occur between Lots 35 and 36 to accommodate storm drain infrastructure (i.e., rip-rap). This small impact on the SEA could not be avoided due to the location of the floodbank and the need to convey stormflows from the northernmost drainage to San Francisquito Creek. This would be one of two small impacts on the SEA No. 19 along the western bank of San Francisquito Creek in order to prevent or control possible future erosion of the bank.

A below ground levee has also been incorporated into the proposed project to provide adequate flood protection for the project site. The levee would provide protection for the graded pads in case the San Francisquito Creek was to meander toward the development and erode the supporting soil during a 50-Year Capital Flood event. Because the locations of the graded pads are already significantly above the 50-Year Capital Flood for a bulked and burned flow, the bank stabilization would be located below the graded pads along the existing floodplain boundaries and would extend below ground. The boundaries of the proposed levee system would extend from the northern-most project boundary near Lady Linda Lane southerly to Lot 46.

As a project design feature, levee construction will be conducted outside of the rainy season and will avoid any ponded water potentially present on the project site. Upon completion of the levee construction, the excavation would be entirely backfilled with existing creek soil and only the four horizontal feet of above ground levee "free board" space would be visible. The levee would be constructed with ungrouted rip-rap, which would allow for percolation of water, accumulation of transported soils, and establishment of plant life. The uneven nature of the rip-rap would mimic the natural environment and would not increase the creek flow rates along the levee or facilitate erosion along the levee.

Jurisdictional Waters

The entire project site is located within the boundaries of the San Francisquito Canyon Creek watershed. Watershed boundaries and drainage patterns on the site are described in *Delineation of Jurisdictional Waters Outside of the Significant Ecological Area and Update of the Preliminary Biological Constraints Map San Francisquito Canyon Property* prepared by Rincon Consultants, Inc. (January 2000), and the *Delineation of Jurisdictional Waters* prepared by RBF Consulting (2005), which are provided as an appendix to the Biological Report located in Appendix E.

The investigation to determine the amount and type of jurisdictional "waters of the United States" was conducted based on methods described in the *Corps of Engineers Wetland Delineation Manual (1987)*. A total of six drainage features (A through F) that have the potential to be impacted by the proposed project were identified for delineation purposes. San Francisquito Canyon Creek is not included in this delineation because no jurisdictional areas in the creek would be impacted by the project. These drainage features, as mapped by RBF Consulting in 2005, are presented in Figure 4.3-1. The six drainage features are summarized below:

Drainage A This drainage is located in the northwestern portion of the project site in a valley with upland vegetation. The upland habitats consist primarily of chamise chaparral, non-native grasses, and mixed chaparral/holly-leaf cherry woodland. The drainage flows approximately west to east.

Drainage B This drainage flows parallel to and north of Drainage A. The upland habitat surrounding this drainage is largely mixed chaparral/holly-leaf cherry woodland and non-native grasses.

Drainage C This drainage is southeast of Drainage A in the western portion of the site and flows in a southeasterly direction towards an existing dirt road and the San Francisquito Canyon Creek. The primary vegetation in this drainage consists of mixed chaparral/holy-leaf woodland and non-native grassland.

Drainages D/E These drainages are located in the northwestern portion of the site, east of drainage "B" and adjacent to an existing dirt road. The primary vegetation surrounding this drainage is non-native grassland. These two drainages flow approximately west to east.

Drainage F This drainage is located at the northern boundary of the site and west of the existing dirt road leading southwest into the site. Vegetation in this drainage consists of ruderal species. The drainage flows from west to east towards the roadway.

None of these six drainages concurrently meet the federal jurisdictional criteria (i.e., presence of hydrophytic vegetation, hydric soils, and wetland hydrology) that are required for delineation as an U.S. Army Corps of Engineers (USACE) jurisdictional wetland. However, the on-site drainages are ephemeral, containing water flow during storm events. Approximately 0.93 acres of USACE "waters of the U.S." are located within the boundaries of the project site. In addition to the presence of USACE jurisdictional areas, the on-site drainages/streambeds are considered jurisdictional by the California Department of Fish and Game (CDFG). Because no riparian or hydrophytic vegetation is present on the site, the CDFG jurisdiction also totals approximately 0.93 acres. The current drainage flows from the project site run through these intermittent drainages from the western hillsides towards the east into the San Francisquito Creek, which comprises the eastern portion of the project site.

Significant Ecological Area No. 19

SEAs were established in 1976 by Los Angeles County to designate areas with sensitive environmental conditions and/or resources in order to preserve biological diversity. The County recently re-evaluated the biological conditions of these SEAs in 2000. The update expanded the objective of the original SEAs to include the future sustainability of biological diversity through the application of current practices in conservation planning, primarily by consolidation into larger interconnected SEAs. The 2000 SEA update study has not been adopted by the County. SEA boundaries are general in nature, and broadly outline the biological resources of

concern. The Los Angeles County General Plan allows development in SEAs as long as development is "highly compatible" with the identified resources.

The San Francisquito Canyon SEA No. 19 was identified in 1976 as a regionally significant biological resource for the inherent value of its wetland habitat and associated species, for its function as a regional wildlife corridor and because of the threat of loss of suitable habitat for the unarmored threespine stickleback. The vegetation within SEA No. 19 includes freshwater marsh, alluvial sage scrub, coastal sage scrub, oak woodland, and riparian woodland vegetation types. The broad wash of the creek bed is unlike that found in steeper mountain canyons and similar habitats are increasingly difficult to locate in the Santa Clarita Valley.

Vegetation Types

Site visits to describe the on-site vegetation and evaluate the potential of the habitats to support special status plant and wildlife species were conducted by BonTerra Consulting in 2003, 2004, and 2005. The results of theses analyses are presented in *the Biota Report for Vesting Tentative Tract No. 53189 in San Francisquito Canyon Northern Los Angeles County California* prepared by BonTerra Consulting, dated November 2005 and incorporated herein by reference.

Vegetation types on the site were previously mapped by Rincon Consultants, Inc. during May and early June 1999 and are presented in their constraints report dated March 2000 (located in Attachment B of the Biological Technical Report, Appendix E). During June 2002, the majority of the upland vegetation west of the San Francisquito Canyon drainage was burned during the 20,000-acre Copper Fire. The Copper Fire resulted in a change in the mosaic of the vegetation types currently identifiable on the site when compared to those areas mapped previously by Rincon Consultants, Inc. in the spring of 2000.

BonTerra Consulting mapped ten vegetation types on the project site, including ruderal, ornamental, chamise chaparral, non-native grassland/chamise chaparral, coast live oak woodland, coastal sage scrub, wash, mixed chaparral/holly-leaf cherry woodland, non-native grassland, and alluvial sage scrub. Figure 4.3-2 presents the existing vegetation types on the project site. The various vegetation types found on the project site are described below.

Ruderal (includes Developed)

The ruderal areas consists of areas including graded and paved roads in addition to areas associated with existing development in the project area, particularly along San Francisquito Canyon Road and Lady Linda Lane. Ruderal vegetation was mapped on approximately 15 acres of the site in various soils. The ruderal vegetation contains primarily non-native species or native species that occur in highly disturbed areas.

Ornamental

Ornamental vegetation occurs in the north-central portion of the project site and includes approximately one acre of gum trees (*Eucalyptus sp.*). Gum trees were typically planted in old ranch areas in southern California.

Chamise Chaparral

Patches of chamise chaparral occur on the slopes of the project site comprising approximately four acres. These areas are dominated by chamise (*Adenostoma fasciculatum*) and appear to be associated with Saugus soils on the project site. Other species that occur in this vegetation type include white sage (*Salvia apiana*) and shrub mallow (*Malacothamnus marrubioides*).

Non-native Grassland/Chamise Chaparral

An area of approximately three acres of chamise chaparral ecotone with non-native grassland was observed in the northern portion of the project site. Common non-native grassland species within this vegetation type include brome grasses (*Bromus diandrus, B. hordeaceus*) and wild oat (*Avena fatua*). The chaparral component of this vegetation type, consisting of chamise, would be expected to increase in the absence of further disturbances during natural post-fire recovery.

Coast Live Oak Woodland

Coast live oak woodland occurs in the northeastern portion of the project site, near the junction of San Francisquito Canyon Road and Lady Linda Lane. This vegetation type is dominated by coast live oak trees (*Quercus agrifolia*), and has an understory of non-native grassland species including brome grasses and wild oats. Coast live oak woodland was mapped on approximately three acres of the site. This vegetation type is considered sensitive by the CDFG, and individual oak trees are protected by the County of Los Angeles Ordinance 22.56.2050.

Coastal Sage Scrub

Coastal sage scrub occurs within a portion of the upland terrace of San Francisquito Creek in the southern portion of the project site affected by the Copper Fire. Coastal sage scrub was mapped on approximately two acres of the project site and would be expected to increase in area in the absence of further disturbances during natural post-fire recovery on the project site.

Small patches of coastal sage scrub were also identified within alluvial sage scrub vegetation within the San Francisquito Creek floodplain. These areas were not mapped as coastal sage scrub due to their small size and the prevalence of scalebroom (*Lepidospartum squamatum*). Dominant species in the coastal sage scrub vegetation type include California buckwheat (*Eriogonum fasciculatum*) and deerweed (*Lotus scoparius*). Similarly, bush sunflower (*Encelia californica*) was observed on a non-native grassland slope in the northwestern portion of the project site but was not mapped due to its small size.

Wash

Wash comprises approximately 14 acres within the project site. Vegetation is generally absent from within the wash; however, a sparse, generally open cover of scattered herbs and annual grasses, such as red brome (*Bromus madritensis ssp. rubens*), is present. Small, scattered mule fat (*Baccharis salicifolia*) and subshrubs, such as California buckwheat, were observed within sand bars, banks, and adjacent floodplain. San Francisquito Creek, within the project site, conveys water for a limited amount of time after rain events. During significant periods of inundation, the wash has the potential to meander.

Mixed Chaparral/Holly-Leaf Cherry Woodland

Holly-leaf cherry woodland is described by the presence of holly-leaf cherry (*Prunus ilicifolia*). This vegetation type occurs within a single main drainage on the western side of the project site. Although tree-sized holly-leaf cherries were scattered within the drainage, the Copper Fire burned all of the cherry trees except for a few at the mouth of the drainage. Since the Copper Fire, the damaged cherry trees, as well as other species that are more indicative of mixed chaparral [i.e., bigberry manzanita (*Arctostaphylos glauca*), chaparral nightshade (*Solanum xanti*), and spiny redberry (*Rhamnus crocea*)], have begun to recover or crown sprout. Sprouting of these shrubs was also observed within the remaining interstitial areas covered by non-native grassland forming an early seral mixed chaparral/holly-leaf cherry woodland

ecotone. This ecotone was mapped within approximately ten acres of the project site. The holly-leaf cherry woodland and chaparral vegetation would be expected to increase during natural post-fire recovery on the project site. Holly-leaf cherry woodlands are considered sensitive by the CDFG.

Non-Native Grassland

Non-native grassland is typically the result of disturbances such as grading, discing, off road vehicle use, agricultural practices, or fire. The Copper Fire burned or severely damaged the upland vegetation types west of San Francisquito Creek. Consequently, the dominant upland vegetation type currently remaining on the project site is non-native grassland. Non-native grassland was mapped within approximately 72 acres of the project site.

Common plant species within this vegetation type include brome grasses, wild oat, black mustard (*Brassica nigra*), red-stemmed filaree (*Erodium cicutarium*), doveweed (*Eremocarpus setigerus*), tree tobacco (*Nicotiana glauca*), chaparral nightshade, western ragweed (*Ambrosia psilostachya*), telegraph weed (*Heterotheca grandiflora*), and common fiddleneck (*Amsinckia menziesii*).

Alluvial Sage Scrub

Alluvial sage scrub occurs along the banks and benches of the drainage above the active channel within San Francisquito Canyon. The dominant plant species of this vegetation type is scalebroom. Other plant species occurring at a lower density include thick-leaf yerba santa (*Eriodictyon crassifolium*), chaparral yucca (*Yucca whipplei*), Great Basin sagebrush (*Artemisia tridentata*), and California buckwheat. Non-native grasses have invaded some portions of this vegetation type; however, much of the habitat east of the active channel has not been invaded by non-native grasses and is considered high quality. Alluvial sage scrub was mapped within approximately 65 acres of the project site. Fremont's cottonwood (*Populus fremontii*) also occurs in this vegetation type and on the boundary of this type with non-native grassland.

Fauna

Fish

The herbaceous cover in most creeks and waterways in southern California varies by season from little to no cover during periods of high water flow to high coverage in late summer and fall. Native fish species that potentially inhabit this area, have adapted to living in the naturally fluctuating conditions. However, additional stressors such as alteration of habitat and introduced species have contributed to the decline of native fish populations in southern California. Although the Copper Fire substantially altered vegetation within the project region (i.e., San Francisquito Canyon watershed), the effects on fish species within the watershed were not considered significant further up the watershed in the Angeles National Forest by the U.S. Forest Service.

The project site was dry during site visits and no fish species were observed; however, flood conditions would allow for movement of fish species across the project site. This movement would be important to maintain populations of these species, and severing connectivity between upstream and downstream populations could have a long-term effect on these populations.

Native and non-native fish species are present in San Francisquito Canyon Creek. Non-native fish species that may occasionally occur within San Francisquito Canyon during high water conditions include the mosquito fish (*Gambusia affinis*). The special status native unarmored

threespine stickleback and Santa Ana sucker (*Catostomus santaanae*), and arroyo chub *(Gila orcutti)* also are expected to occur on the project site during flood conditions.

Amphibians

Although most of the project site is dry for much of the year, a number of amphibians species occur or are expected to occur. There are a number of terrestrial species that may or may not require standing water for reproduction. These species are able to survive in dry areas by remaining beneath the soil in burrows or under logs or leaf litter, emerging only when temperatures are appropriate and humidity is high, emerging to breed once the rainy season begins. Soil moisture conditions can remain high throughout the year within some habitat types, depending on factors such as amount of vegetation cover, elevation, and slope aspect.

The project site provides suitable habitat for several common amphibian species including the western toad (*Bufo boreas*) and Pacific treefrog (*Hyla regilla*). Other species that may occur include the black-bellied slender salamander (*Batrachoseps nigriventris*) and California treefrog (*Hyla cadaverina*).

The project site is within the potential range of the arroyo toad (*Bufo californicus*), California red-legged frog (*Rana aurora draytonii*), and western spadefoot (*Spea hammondii*). Western spadefoot toads have been detected on the project site (see Exhibit 4.3-2). Recent general and focused amphibian surveys performed within the general project vicinity have had negative results within or proximal to the project site for the arroyo toad and red-legged frog; nonetheless, these species have been documented within the project region, including Castaic Creek and San Francisquito Canyon.

Reptiles

Reptilian diversity and abundance typically varies with vegetation type and substrate characteristics. Many species occur in only one or two vegetation types; however, most will forage in a variety of habitats. Most species occurring in open areas use rodent burrows or other cavities for cover, protection from predators, and extreme weather conditions. Although the Copper Fire substantially altered vegetation within the project region (i.e., San Francisquito Canyon watershed), the effects on reptile species within the watershed were not considered significant up the watershed in the Angeles National Forest by the U.S. Forest Service. Common reptile species observed or expected to occur in the project site include the western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), western skink (*Eumeces skiltonianus*), southern alligator lizard (*Elgaria multicarinata*), gopher snake (*Pituophis catenifer*), red coachwhip (*Masticophis flagellum*), California whipsnake (*Masticophis lateralis*), western rattlesnake (*Croatalus vidirdis*) and common kingsnake (*Lampropeltis getula*). Other species that may occur include the western blind snake (*Leptotyphlops humilis*), night snake (*Hypsiglena torquata*), and glossy snake (*Arizona elegans*).

Birds

Although the Copper Fire substantially altered vegetation within the project region (i.e., San Francisquito Canyon watershed), the effects on bird species within the watershed were not considered significant up the watershed in the Angeles National Forest by the U.S. Forest Service. Common bird species observed on the project sites during the site visit include common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), California quail (*Callipepla californica*), mourning dove (*Zenaida macroura*), lesser nighthawk (*Chordeiles acutipennis*), western scrub-jay (*Aphelocoma californica*), song sparrow (*Melospiza melodia*), white-crowned sparrow (*Zonotrichia leucophrys*), house finch (*Carpodacus mexicanus*), lesser goldfinch (*Carduelis psaltria*), Costa's hummingbird (*Calypte costae*), northern mockingbird

(*Mimus polyglottos*), spotted towhee (*Pipilo maculatus*), phainopepla (*Phainopepla nitens*), and hooded oriole (*Icterus cucullatus*).

Birds of prey (raptors) observed on the project site during the site visits include turkey vulture (*Cathartes aura*), sharp-shinned hawk (*Accipiter striatus*), Cooper's hawk (*Accipiter cooperii*), red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), barn owl (*Tyto alba*), and great horned owl (*Bubo virginianus*). Others having the potential to occur onsite include the golden eagle (*Aquila chrysaetos*), merlin (*Falco columbarius*), and western screech owl (*Megascops kennicottii*). Large, mature trees such as the scattered Fremont cottonwood trees in San Francisquito Canyon and coast live oaks in the northeastern portion of the site provide potentially suitable nesting habitat for raptors on the project site.

Mammals

Common terrestrial mammal species or evidence of their presence observed during the survey include the desert cottontail (*Sylvilagus audubonii*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), Pacific kangaroo rat (*Dipodomys agilis*), raccoon (*Procyon locator*), Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), coyote (*Canis latrans*), and mule deer (*Odocoileus hemionus*). Several others that may occur as residents or transients include the long-tailed weasel (*Mustela frenata*), bobcat (*Felis rufus*), and mountain lion (*Felis concolor*).

Bats occur throughout southern California and may use any portion of the project site as foraging habitat. Should hollows or cavities occur in some of the older cottonwood or oak trees, particularly within the coast live oak woodland, this could provide roosting habitat for bat species. Most of the bats that potentially occur in the project site are either inactive during the winter (hibernate) or migrate south of the region to warmer climates. Bats potentially foraging in the project site include long-legged myotis (*Myotis volans*), California myotis (*Myotis californicus*), western pipistrelle (*Pipistrellus hesperus*), big brown bat (*Eptesicus fuscus californicus*), long-eared myotis (*Myoits evotis*), fringed myotis (*Myotis thysanodes*), and the Mexican free-tailed bat (*Tadarida brasiliensis*).

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, will not likely persist over time in fragmented or isolated habitat areas because they prohibit the infusion of new individuals and genetic information.

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 that catastrophic events, such as fire or disease, will result in population or local species extinction; and 3) serving as travel routes for individual animals as they move in their home ranges in search of food, water, mates, and other necessary resources.

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 (e.g., foraging for food or water, defending territories, or searching for mates, breeding areas, or cover). A

number of terms such as "wildlife corridor," "travel route," "habitat linkage," and "wildlife crossing" have been used in various wildlife movement studies to refer to areas in which wildlife move from one area to another. Once open space areas become constrained and/or fragmented as a result of urban development, including 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., man-made noise, lighting) that would generally hinder wildlife movement.

The San Francisquito Canyon Creek drainage is a natural conduit for wildlife movement whether in a natural setting or surrounded by development. Where it is surrounded by development, it serves as a wildlife movement corridor in the sense described above. When wildlife movement corridors provide connections between protected open space areas that have no other linkages, then they become locally or even regionally important. The San Francisquito Canyon Creek drainage is recognized as a regionally important wildlife movement corridor because it is provides linkages between upstream areas in the Angeles National Forest and downstream areas in the Santa Clara River.

Special Status Species and Vegetation Types

The following section addresses special status biological resources observed, reported, or having the potential to occur in the proposed project area (e.g., San Francisquito Canyon and the Santa Clarita Valley). These resources include plant and wildlife species that have been afforded special status and/or recognition by federal and 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 limitations of its population size or geographical extent and/or distribution resulting in most cases from habitat loss. 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. These resources have been defined by federal, state, and local government conservation programs.

Special Status Vegetation Types

Three of the vegetation types described earlier are “considered rare and worthy of consideration” by the California Natural Diversity Database (CNDDB). These include the following: holly-leaf cherry woodland, alluvial sage scrub, and wash. These three vegetation types may occur together in a dynamic mosaic with riparian habitats (e.g., southern willow scrub, mule fat scrub, freshwater marsh) and upland habitats (e.g., coastal sage scrub and various chaparral series) in canyon bottoms, floodplains, and streambeds fluctuating with changes in hydrology, fire, and other disturbances over time. Regularly scoured areas (described previously as wash) are generally almost devoid of vegetation. Washes and streams are dynamic systems that create the conditions that result in the mosaic of upland and potential wetland habitats in a natural riparian system in southern California.

In San Francisquito Canyon Creek and other riparian systems in southern California, as the wash meanders within the floodplain, areas through which the wash previously flowed may develop into alluvial sage scrub. These areas may develop into a wetland scrub (such as mule fat scrub or southern willow scrub) if inundation is frequent and/or soil saturation is persistent. If soil saturation or inundation becomes more persistent, then riparian scrubs may develop into riparian woodlands or riparian forests (e.g., southern cottonwood-willow riparian forest). These vegetation types are generally considered a high priority for preservation, due to their growing scarcity throughout southern California and their capacity to support several Threatened, Endangered, or other special status species.

Special Status Plant Species

Several special status plant species are known to occur in the project area. Those plant species listed as Threatened or Endangered that are known to occur in the project area are discussed below and summarized in Table 4.3-1.

TABLE 4.3-1
THREATENED AND ENDANGERED PLANT SPECIES POTENTIALLY OCCURRING IN THE PROJECT AREA

Species	Status[1]			Likelihood of Occurrence
	USFWS	CDFG	CNPS	
Astragalus brauntonii Braunton's milk-vetch	FE	SE	List 1B	Limited potential to occur; not observed on the project site during surveys.
Berberis [Mahonia] nevinii Nevin's barberry	FE	SE	List 1B	Limited potential to occur; not observed on the project site during surveys.
Chorizanthe parryi var. *fernandina* San Fernando Valley spineflower	FC	SE	List 1B	Limited potential to occur; not observed on the project site during surveys.
Dodecahema leptoceras Slender-horned spineflower	FE	SE	List 1B	Limited potential to occur; not observed on the project site during surveys.
Navarretia fossalis Spreading navarretia	FT	—	List 1B	Not observed on project site; no suitable habitat.
Orcuttia californica California Orcutt grass	FE	SE	List 1B	Not observed on project site;; no suitable habitat.

[1] **Status Definitions**

USFWS
FE: Federally Listed As Endangered
FT: Federally Listed As Threatened
FC: Candidate Species for Federal Listing As Threatened or Endangered

CDFG
SR: State-listed As Rare
ST: State-listed As Threatened
SE: State-listed As Endangered

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

Braunton's Milk-vetch (Astragalus brauntonii)

Braunton's milk-vetch is a federally listed Endangered species and a CNPS List 1B species. This perennial milk-vetch typically blooms from March through July. It is often associated with limestone soil or found in down-wash sites associated with chamise, chaparral yucca, Tecate cypress (*Cupressus forbesii*), and chaparral beargrass (*Nolina cismontana*). This species is found from ten to 2,100 feet above msl, and needs fire or other site perturbations for its survival. This species is known from fewer than ten occurrences, with less than 300 total plants in Los Angeles, Orange, and Ventura counties. This species has a limited potential to occur in the project site. Rincon Consultants, Inc. and BonTerra Consulting did not locate this species during the focused surveys. This species is not known to occur within the Liebre Mountains. Braunton's milk-vetch was not observed during the focused surveys performed within the proposed project impact area following the Copper Fire and the species has limited potential to occur elsewhere on the project site.

Nevin's Barberry (Berberis [Mahonia] nevinii)

Nevin's barberry is a federally listed Endangered, state-listed Endangered, and CNPS List 1B species. This species is a large and conspicuous evergreen shrub occurring in sandy and gravelly soils in chaparral cismontane woodland, coastal scrub, and riparian scrub in Los Angeles, Riverside, San Bernardino, and San Diego counties. Its nearest known occurrence is several miles north within U.S. Forest Service land in San Francisquito Canyon proximal to Los Angeles Department of Water and Power (LADWP) Power Plant No. 2 where it occurs on a slope between electric transmission Tower 7A1G and San Francisquito Canyon Road. The Nevin's barberry is readily observable at any time of year, but was not observed by either Rincon Consultants, Inc. or BonTerra Consulting. Nevin's barberry was not observed within the proposed project impact area during the focused survey and the species has a limited potential to occur elsewhere in the project site.

San Fernando Valley Spineflower (Chorizanthe parryi var. fernandina)

San Fernando Valley spineflower is a federal Candidate for listing as Threatened or Endangered, state-listed Endangered, and a CNPS List 1B species. This annual herb blooms from April to June. This species occurs in sandy soils along drainages from 490 to 4,000 feet above msl. This species was historically known from the San Fernando Valley, Newhall, Castaic, and Elizabeth Lake areas but was presumed extinct until it was rediscovered at Ahmanson Ranch in Ventura County. This species is currently known from Newhall Ranch and Ahmanson Ranch. San Fernando Valley spineflower was not observed within the proposed project impact area during the focused surveys and the species has a limited potential to occur elsewhere in the project site.

Slender-horned Spineflower (Dodecahema leptoceras)

Slender-horned spineflower is federally listed Endangered, state-listed Endangered, and a CNPS List 1B species. This low-growing annual species typically flowers from April to June. This species typically occurs in mature alluvial fan sage scrub in sandy to gravelly soil between approximately 655 and 2,495 feet above msl, but is also known to occur in association with chaparral and coastal sage scrub vegetation types. It is generally found in small isolated areas lacking evidence of frequent surface disturbance. This species occurs in Los Angeles, Riverside, and San Bernardino counties including the confluence of Bee Canyon and Soledad Canyon, the San Fernando Valley, the Santa Ana River Wash, the San Jacinto River floodplain near Hemet, and Temescal Canyon near Elsinore. This spineflower was known to historically occur in Mint Canyon and in Newhall in the project region. Focused surveys were conducted for this species on adjacent properties and the species was not located. Slender-horned spineflower was not observed on the project site during the focused surveys and the species has a limited potential to occur in the project site.

Spreading Navarretia (Navarretia fossalis)

Spreading navarretia is a federally listed Threatened species and a CNPS List 1B species. This species typically blooms between April and June. This annual herb occurs in chenopod scrub, assorted shallow freshwater marshes and swamps, playas, and vernal pools from 100 to 4,265 feet above msl. This species occurs in the Liebre Mountains and Sierra Peloma (Cruzan Mesa and Plum Canyon) in Los Angeles County, and in Riverside and San Diego counties. (Boyd 1999). Spreading navarretia was not observed during the focused surveys in the project site and the species is not expected to occur on the project site due to lack of suitable habitat or substrate.

California Orcutt Grass (Orcuttia californica)

California Orcutt grass is a federally listed Endangered species, state Endangered species, and a CNPS List 1B species. This species typically flowers between April and August. This annual herb occurs in vernal pools from 50 to 2,165 feet above msl. This grass species historically occurred in Los Angeles, Riverside, San Diego, and Ventura counties, and in Baja California, Mexico. This species is known to occur in vernal pools on Cruzan Mesa and Plum Canyon in the project region (Boyd 1999). California Orcutt grass was not observed during the focused survey on the project site and the species is not expected to occur on the project site due to lack of suitable habitat or substrate.

Plant species not currently listed as either Threatened or Endangered, but which have the potential to be elevated to a higher status in the future are listed below.

CNPS List 1A Plant Species

A single plant species recorded from the project region is currently designated by the CNPS as List 1A species: the Los Angeles sunflower (*Helianthus nuttallii* ssp. *parishii*). This species is not expected to occur within the project site due to the lack of suitable habitat or substrate.

CNPS List 1B Plant Species

The following plant species are currently designated by the CNPS as List 1B species: Plummer's mariposa lily (*Calochortus plummerae*), slender mariposa lily (*Calochortus clavatus* var. *gracilis*), Greata's aster (*Aster greatae*), mesa horkelia (*Horkelia cuneata* ssp. *puberula*), Davidson's bush mallow (*Malacothamnus davidsonii*), and Robinson's pepper grass (*Lepidium virginicum* var. *robinsonii*). These species all have some potential to occur in the project site due to the presence of suitable habitat or substrate.

CNPS List 2 Plant Species

A single plant species recorded from the project region is currently designated by the CNPS as List 2 species: the rayless ragwort (*Senecio aphanactis*). This species has limited potential to occur on the project site due to the presence of suitable habitat or substrate.

Special Status Wildlife Species

Several special status wildlife species are known to occur in the project region. Those wildlife species listed as Threatened or Endangered are discussed below and summarized in Table 4.3-2.

TABLE 4.3-2
THREATENED AND ENDANGERED WILDLIFE SPECIES POTENTIALLY OCCURRING IN THE PROJECT AREA

Species	Status[1]		Likelihood of Occurrence
	USFWS	CDFG	
Fish			
Catostomus santaanae Santa Ana sucker	FT	CSC	Expected to occur when water is flowing in San Francisquito Creek, but suitable habitat is not likely to persist within project site.
Gasterosteus aculeatus williamsoni unarmored threespine stickleback	FE	SE/FP	Expected to occur when water is flowing in San Francisquito Creek, but suitable habitat is not likely to persist within project site.

TABLE 4.3-2 (Continued)
THREATENED AND ENDANGERED WILDLIFE SPECIES POTENTIALLY OCCURRING IN THE PROJECT AREA

Amphibians			
Bufo californicus arroyo toad	FE	CSC	Limited potential to occur; potentially suitable foraging habitat, but no breeding habitat.
Rana aurora draytonii California red-legged frog	FT	CSC	Not expected to occur; no suitable habitat.
Spea hammondii Western spadefoot	SOC	CSC/P	Observed; suitable habitat.
Birds			
Buteo swainsoni Swainson's hawk	SOC	ST	Observed on project site in 1999. This and other reports from area considered to have been migrants. Limited potentially suitable foraging and breeding habitat, but the Swainson's hawk occurs in region only as rare migrant and is not expected to breed on project site.
Coccyzus americanus occidentalis western yellow-billed cuckoo	FC	SE	Not expected to occur; no suitable habitat.
Empidonax traillii extimus southwestern willow flycatcher	FE	SE [2]	Not expected to occur; no suitable habitat.
Vireo bellii pusillus least Bell's vireo	FE	SE	Not expected to occur; no suitable habitat.
Polioptila californica californcia coastal California gnatcatcher	FT	CSC	Limited potential to occur; not observed during 2004 focused surveys.

[1] **Status Definitions**

USFWS

FE: Federally Listed as Endangered
FT: Federally Listed as Threatened
FC: Candidate Species for Listing as Threatened or Endangered
SOC: Species of Concern

CDFG

SE: State-listed as Endangered
ST: State-listed as Threatened
FP: Fully Protected
P: Protected
SA: Special Animal
CSC: Species of Special Concern

[2] The state listing included all subspecies of willow flycatcher that breed in California.

Fish

Santa Ana Sucker (*Catostomus santaannae*)

Santa Ana sucker is a federally listed Threatened species (outside of the Santa Clara River watershed) and is a California Species of Special Concern. The Santa Ana sucker prefers clear, cool, rocky, and gravelly streams where it feeds on algae, diatoms, detritus, and small insect larvae. The historic range of this species includes low-elevation streams in the Los Angeles, San Gabriel, and Santa Ana river systems. Extant native populations appear to be concentrated within the east, north, and west forks of the San Gabriel River, and Big Tujunga Creek. Introduced populations of the Santa Ana sucker are present in the Santa Clara River, Sespe Creek, Piru Creek, and San Francisquito Creek. It has a patchy distribution along the Santa Clara River. Persistent surface water was not observed during project surveys. The morphology of the wash indicates that inundation within San Francisquito Canyon consists of relatively rapid flows of relatively short duration. The Santa Ana sucker is expected to occur when water is flowing in San Francisquito Creek.

Unarmored Threespine Stickleback (*Gasterosteus aculeatus williamsoni*)

Unarmored threespine stickleback is a federally listed Endangered, state-listed Endangered, and a CDFG Fully Protected species. The stickleback occurs in weedy permanent pools or backwaters, and in slow moving water along the margins of the stream. It primarily occurs in cool and clear water with mud or sand substrates. The unarmored threespine stickleback was once abundant throughout the Los Angeles Basin and is now only known in the upper Santa Clara River system and in San Antonio Creek in northern Santa Barbara County. In the Santa Clara River in Los Angeles County, this species is found from Soledad Canyon downstream to about a mile upstream of the confluence with Piru Creek in Ventura County, whenever there is surface flow. It is also known from Bouquet Creek. In addition, the species is a periodic seasonal resident of San Francisquito Creek, a tributary to the Santa Clara River, particularly upstream from the project site near the confluence with Clearwater Canyon Creek. The morphology of the wash indicates that inundation within San Francisquito Canyon consists of relatively rapid flows of relatively short duration. The unarmored threespine stickleback is expected to occur when water is flowing in San Francisquito Creek.

Amphibians

Arroyo Toad (Bufo californicus)

Arroyo toad is a federally listed Endangered species and a California Species of Special Concern. This toad only occurs in streams of southwestern California and northwestern Baja California, Mexico. In California, it primarily occurs along the Coast Ranges from San Luis Obispo County south to San Diego County, but also occurs at a few locations on the western edge of the desert. The arroyo toad is generally found in semi-arid regions near washes or intermittent streams. This species has highly specialized habitat requirements. It requires breeding pools within 330 feet of juvenile and adult habitat, which consists of shoreline with stable, sandy terraces.

The arroyo toad is known to be present along Castaic Creek, both above and below the dam at Castaic Lake, on LADWP land, and in the Angeles National Forest. In 1994, this species was observed in the Santa Clara River, approximately 750 to 1,000 feet east of I-5 and in 2003 two adult male arroyo toads were observed in the Santa Clara River at its confluence with San Francisquito Creek. These records are the nearest known occurrences of arroyo toad to the project site and both are located several miles south of the project site. An arroyo toad habitat assessment at the adjacent Tesoro del Valle site and adjacent areas (including the proposed project site) in 2000 determined the best potential arroyo toad habitat within San Francisquito Creek occurs upstream near LADWP Power Plant No. 1, however, the whole wash all the way down through the project site is potential habitat. This species has a limited potential to occur on the project site due to the presence of potentially suitable foraging habitat, but is not expected to breed on the project site due to the absence of potential breeding habitat.

California Red-legged Frog (*Rana aurora draytonii*)

California red-legged frog is a federally listed Threatened and a California Species of Special Concern. This species requires riparian areas with deep ponds, or slow-moving waters that support dense stands of emergent vegetation such as cattails at the edge of the banks. Adults feed primarily on aquatic and terrestrial invertebrates. The nearest extant population of this species is located upstream within San Francisquito Canyon between the LADWP Power Plant No. 2 and the historic location of the Saint Francis Dam. Robert Fisher reported this population numbered approximately 200 during surveys performed in the Summer of 2002 (after the Copper Fire). Other historic records for this species occur in the Santa Clara River watersheds

Soledad and Placerita canyons. The California red-legged frog has not been observed in the Santa Clara River since the 1970s, despite recent survey efforts in support of permitting and permit compliance under the Natural River Management Plan. Focused surveys performed by San Marino Environmental Associates included the proposed project site; however, neither tadpoles nor adult red-legged frogs were located. The project site does not provide habitat with potential to support the California red-legged frog; therefore, the species is not expected to occur.

Western Spadefoot Toad *(Spea [Scaphiopus] hammondii)*

Western spadefoot is a federal Species of Concern and a California Species of Special Concern. This species occurs in the Great Valley and bordering foothills, in the Coast Ranges from Monterey Bay south to Baja California, Mexico . From the Santa Clara River valley in Los Angeles and Ventura Counties southward, an estimated 80 percent of the habitat for this species has been lost. This species inhabits grassland, coastal sage scrub, and other habitats with open sandy, gravelly soils. The western spadefoot is primarily a species of the lowlands, frequenting washes, floodplains of rivers, alluvial fans, and alkali flats. The western spadefoot breeds in quiet streams, vernal pools, and temporary ponds. This species is rarely seen outside of the breeding season and is known to be in the San Francisquito Creek. The study area provides suitable habitat for this species and it was observed on the project site.

Birds

Swainson's Hawk (*Buteo swainsoni*)

Swainson's hawk is a federally listed Species of Concern and a state-listed Threatened species. There are recent observations of this raptor from the Santa Clara Valley and from the project site in 1999. These birds are all considered to have been transients or migrants passing through the region. The Swainson's hawk formerly bred along the coast in southern California, but breeding is now mostly limited to the Sacramento and San Joaquin valleys, extreme northeast California, and Mono and Inyo counties. There are recent breeding records for this raptor from the Antelope Valley. Typical breeding habitat consists of open habitat such as grasslands and agricultural fields with scattered groves of trees. Prey consists of small mammals and reptiles in early summer and large insects at other seasons. The project site provides a limited amount of suitable foraging habitat; and the project site is outside of the known breeding range and is not expected to breed on the project site. The Swainson's hawk is not likely to occur as a breeding resident on the project site, but has limited potential to occur while foraging.

Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*)

Western yellow-billed cuckoo is a federal Candidate for listing as Threatened or Endangered and a state-listed Endangered species. California's population was once estimated to be over 15,000 pairs, but in less than a hundred years it has declined to less than 30 pairs. Along the coast, breeding cuckoos persist along the Santa Ana River in Riverside County, and perhaps the San Luis Rey River in San Diego County. This species formerly nested in the Santa Clara River until the 1970s and it has not been a documented breeder here since that time. Two yellow-billed cuckoos observed in the Santa Clara River near the McBean Parkway bridge in 1998 may have been breeders, although the observer considered them to be migrants. The western yellow-billed cuckoo requires broad areas of old-growth riparian habitats dominated by willows and cottonwoods with dense understory vegetation. The project site lacks suitable breeding habitat for this species and the western yellow-billed cuckoo is not expected to occur.

Southwestern Willow Flycatcher (*Empidonax traillii extimus*)

Southwestern willow flycatcher is a federally listed and state-listed Endangered species. This flycatcher's breeding range includes southern California, Arizona, New Mexico, western Texas and extreme southern parts of Nevada and Utah. Although formerly considered to be a common summer resident, it was almost eliminated as a breeder in southern California by the early 1980s. This species breeds in riparian habitats along rivers, streams, or other wetlands where dense growths of willows, mule fat, or even tamarisk are present, often with a scattered overstory of cottonwood trees. A pair reportedly nested in the Santa Clara River near Valencia in 1995; however, CDFG and USACE reports that all observations in that area since then have been non-breed transients and migrants. The project site lacks suitable breeding habitat for this species and the southwestern willow flycatcher is not expected to occur.

Least Bell's Vireo (*Vireo bellii pusillus*)

Least Bell's vireo is a federally listed and state-listed Endangered species. This vireo was formerly considered to be a common breeder in riparian habitats throughout the Central Valley and other low elevation river systems in California and Baja California, Mexico. It is now considered to be a rare and local summer resident, although there have been some regional population increases. Individual least Bell's vireo have been observed in the Santa Clara River between its confluence with Castaic Creek and I-5 and at least one pair nested in the Santa Clara River in the project region in 1996. The least Bell's vireo breeds primarily in riparian habitats dominated by willows with dense understory vegetation. A dense shrub layer two to ten feet above ground is the most important habitat characteristic for this species. The project site lacks suitable breeding habitat for this species; therefore, the least Bell's vireo is not expected to occur.

Coastal California Gnatcatcher (*Polioptila californica californica*)

The coastal California gnatcatcher is a federally listed Threatened and a California Species of Special Concern. This species is considered to be an uncommon and local year-round resident from the coastal slopes of the San Gabriel Mountains and western Riverside County south through San Diego County. The current range is generally within the counties of San Diego, Orange, Los Angeles, and western Riverside; however, there are recent records from the northern and western parts of its historical range: Moorpark, Ventura County and Santa Clarita and Plum Canyon in Los Angeles County. The coastal California gnatcatcher is an obligate resident of Diegan, Riversidian, and Venturan sub-associations of coastal sage scrub. It typically occurs at elevations below 820 feet along the coast and below 1,800 feet inland. The Copper Fire in 2002 burned much of the upland sage scrub vegetation on the project site, but the alluvial sage scrub habitats remained intact. Results of the February 24, 2004 survey conducted by BonTerra Consulting indicated that potential for the coastal California gnatcatcher was primarily limited on the project site to the alluvial sage scrub habitats in San Francisquito wash. Focused surveys conducted on the project site by BonTerra Consulting in Summer/Fall 2004 and in Spring/Summer 2005 did not detect the coastal California gnatcatcher.

4.3.2 Project Impacts

Thresholds of Significance

The following thresholds were determined to indicate that potential impacts to biota could be significant for the proposed project.

- Located within a Significant Ecological Area (SEA), SEA buffer, or coastal Sensitive Environmental Resources, or located in a relatively undisturbed and natural area.

- Grading, fire clearance, and/or flood related improvements would remove substantial natural habitat areas.

- A major drainage course, as identified on USGS quad sheets by a blue, dashed line, is located on the project site.

- Contain a major riparian or other sensitive habitat (e.g. coastal sage scrub, oak woodland, sycamore riparian woodland, wetland, etc.).

- Contain oak or other unique native trees.

- Provides habitat for any known sensitive species (federal- or state-listed endangered, etc.).

- Site is part of or contributes to a regional habitat linkage or wildlife corridor.

As presented in the Initial Study Questionnaire for Land Use in Appendix A, it was determined that the following issue would be appropriately discussed within the Biota Factor section of the EIR. The following threshold was determined to indicate that potential impacts to land use could be significant for the proposed project.

- Inconsistent with the SEA Conformance Criteria.

Impacts Analysis

The impact section is divided into two sections: Proposed Development Footprint; and potential future San Francisquito Canyon Road expansion and Cliffie Stone Trail/Butterfield Overland Stage Trail construction. The proposed development and alignment of the potential future San Francisquito Canyon Road expansion and the two equestrian trails are illustrated in Figure 4.3-2.

The following sections discuss the direct and indirect impacts associated with project construction in the proposed development footprint and then the direct and indirect impacts for the potential road and trail alignments (see Figure 4.3-2).

Proposed Development Footprint

Direct Impacts

The direct impacts for the proposed development include the impacts from the construction of the graded pads and roadways, as well as all future fuel modification zones. All fuel modification is considered a direct impact to biological resources.

Vegetation and Special Status Vegetation Types

The estimated project-related impacts to vegetation types that occur on the project site, including SEA No. 19, are presented in Table 4.3-3. Implementation of the proposed project will impact a total of 57.2 acres that consists of ten different vegetation types. Three of these vegetation types are special status vegetation types: coastal sage scrub, mixed chaparral/ holly-leaf cherry woodland, and alluvial sage scrub. The proposed project would impact coastal sage scrub (2.0 acres), mixed chaparral/holly-leaf cherry woodland (0.8 acres), and alluvial sage scrub (4.7 acres). These impacts would be considered significant because these vegetation types are reduced within their range and/or have potential to support special status plant and wildlife species.

In addition to the impacts listed in Table 4.3-4, there is the potential for additional temporary impacts to vegetation within the cherry woodland associated with the re-abandonment of an old oil well, as discussed in Section 6.1, Environmental Safety. It is impossible to know how much vegetation would be impacted through this abandonment process, but any impacts would be significant prior to mitigation. The impacts discussed above and presented in Table 4.3-4 would be reduced to less than significant with implementation of the Mitigation Program.

TABLE 4.3-3
PROJECT IMPACTS ON VEGETATION TYPES

Vegetation Type	Existing Vegetation (acres)	Total Impact (acres)
Ruderal	15.2	0.4
Ornamental	1.0	0.8
Chamise Chaparral	4.2	0.0
Non-Native Grassland/Chamise Chaparral	3.3	1.0
Coast Live Oak Woodland[1]	3.2	0.0
Coastal Sage Scrub	2.0	2.0
Wash	14.2	0.0
Mixed Chaparral/ Holly-Leaf Cherry Woodland	10.0	0.8
Non-Native Grassland	72.0	47.7[2]
Alluvial Sage Scrub	65.9	4.7
Total	**191.0**	**57.4**

[1] Individual oak trees may be impacted by project implementation.
[2] [0.05] acre of this impact is in SEA No. 19, which includes permanent impacts from the levee and from the drainage structure.

Project implementation would also impact approximately 0.17 acre of non-wetland intermittent drainage under the jurisdiction of the USACE and the CDFG. This loss of any USACE or CDFG jurisdiction would represent a potentially significant impact. This impact would be reduced to less than significant with implementation of the Mitigation Program.

Figure 4.3-3 presents the jurisdictional drainage features with an overlap of the proposed project footprint. The amount of jurisdictional area that would be impacted by the proposed project is approximately 0.17 acres. Table 4.3-4 presents a summary of the required approvals for the project site based on biological impacts.

TABLE 4.3-4
REQUIRED APPROVALS AND PERMITS

DISCRETIONARY APPROVAL OR PERMIT	AGENCY	STATUS
Vesting Tract Map	County of Los Angeles	Lead Agency
Conditional Use Permit (Hillside Management, SEA, Density Controlled, Highway Realignment)	County of Los Angeles	Lead Agency
Oak Tree Permit	County of Los Angeles	Lead Agency
Section 404 Permit	U.S. Army Corps of Engineers	Responsible Agency
Streambed Alteration Agreement (1603)	California Dept. of Fish and Game	Responsible Agency
Section 401 Water Quality Certification	State Water Resources Control Board	Responsible Agency

Regarding the flood control levee, the 15-foot maintenance road and four horizontal feet of above ground "free board" area would be the only visible portions of the structure. This area is considered to be a permanent impact to the SEA No. 19 because vegetation and wildlife along this strip would be permanently altered; permanent impacts to SEA No. 19 due to levee construction would total 0.02-acre of non-native grassland, which is included in Table 4.3-3 and shown on Figure 4.3-3. Permanent impacts to the SEA No. 19 would total 0.05-acre, which includes impacts from the levee and from the drainage structure.

The majority of the levee system would be below ground and would not be visible or permanently impact vegetation or wildlife. Therefore, the approximately 91 horizontal feet of underground levee and backcut excavation impacts are considered temporary impacts. Temporary impacts to SEA No. 19 due to levee construction would total 2.22 acres (of which 2.08 acres is non-native grassland), and temporary impacts outside the SEA due to levee construction would total 0.16-acre. Upon completion of the levee system, the excavated soil would be filled into the trench and returned to existing elevations and the impacted area would be reseeded with native plant material appropriate for the area.

Though a formal tree survey was not performed, the coast live oak woodland (located in the northeastern portion of the site) and the remnant individual Fremont cottonwood trees (located in the southwestern portion of San Francisquito Canyon) within proposed open space Lot 61 are likely to support ordinance-sized oak trees and large cottonwood trees. No significant direct (e.g., removal or trimming) or indirect (e.g., soil compaction) impacts are anticipated to occur as a result of project development, with the exception of the potential expansion of the San Francisquito Canyon Road and/or the Cliffie Stone Trail, as discussed below.

Special Status Plant Species

The following state- or federally listed Threatened and/or Endangered plant species: Nevin's barberry, San Fernando Valley spineflower, slender-horned spineflower, spreading navarettia, and California orcutt grass would not be impacted by implementation of the proposed project because these species are not expected to occur within the project impact area either due to lack of suitable habitat or because they were absent during focused surveys (see Table 4.3-1). There would be no impact on these species and no mitigation would be required. Braunton's milk-vetch was not observed during focused surveys. However, Braunton's milk-vetch is a plant that germinates following soil disturbance or fire. Therefore, it has a limited potential to occur on the project site. Any impacts on this species would be considered significant. This impact would be reduced to less than significant with implementation of the Mitigation Program.

Slender Mariposa Lily (*Calochortus clavatus* var. *gracilis*)

Slender mariposa lily is a CNPS List 1B species. Slender mariposa lily is known to hybridize with a more common subspecies, club-haired mariposa lily (*Calochortus clavatus* var. *clavatus*). The lilies observed on the project site had characteristics of both slender mariposa lily and club-haired mariposa lily, and were likely intermediate between these two varieties. Representative voucher specimens were collected and will be deposited at Rancho Santa Ana Botanical Garden Herbarium. A total of approximately 317 individuals were observed on the project site during 2005 surveys. Attachment A, Exhibits 4 and 6, show the locations of the slender mariposa lilies observed on the project site during 2005 surveys, some of which are located within the project impact area. Any impact on this species would be considered significant. This impact would be reduced to less than significant with implementation of Mitigation Measure Bio-4.

The following CNPS-listed plant species: Greata's aster, Plummer's mariposa lily, Los Angeles sunflower, mesa horkelia, Southern California black walnut, Davidson's bush mallow, short-joint

beavertail, and rayless ragwort would not be impacted by implementation of the proposed project because these species are not expected to occur within the project impact area either due to lack of suitable habitat or because they were absent during focused surveys. There would be no impact on these species and no mitigation would be required (see Table 1).

The following CNPS List 3 or CNPS List 4 plant species: Peirson's morning glory, Palmer's grapplinghook, and vernal barley would have some potential to be impacted by implementation of the proposed project because these species occur or have limited potential to occur within the proposed impact area (see Table 1). Impacts to these species would be adverse, but would not be considered significant because these species are relatively common in the region and due to the limited amount of habitat impacted by the project relative to the amount of habitat available in the project region.

Special Status Wildlife Species

The following state- or federally listed Threatened and/or Endangered wildlife species: Santa Ana sucker, unarmored threespine stickleback, arroyo toad, California red-legged frog, Swainson's hawk, coastal California gnatcatcher, western yellow-billed cuckoo, southwestern willow flycatcher, and least Bell's vireo would not be impacted by implementation of the proposed project because these species are not expected to breed within the project impact area due to lack of suitable habitat or lack of observation during focused surveys (see Table 4.3-2).

The Santa Ana sucker, unarmored threespine stickleback, and arroyo toad may occur on the project site during or after heavy rainfall events. The morphology of the San Francisquito Canyon wash is not conducive to supporting reproduction or foraging of the Santa Ana sucker or the unarmored threespine stickleback on the site. These species have potential to occur as transients on the site during periods of inundation, but otherwise would not be likely to occur within the on-site portion of San Francisquito Canyon. The same can be said for the arroyo toad, which would also not be likely to occur within San Francisquito Canyon due to the absence of potential breeding habitat and the distance from known breeding populations in the project region. The indirect impacts on these three species are addressed above under urban pollutants and the impact reduced by implementation of the Mitigation Program. Assuming project design features avoid impacts on the creek, no mitigation would be required.

The western spadefoot, a federally listed Species of Concern and a California Species of Special Concern, was observed at two localities on the project site during 2005 spring surveys. Two pond locations were identified and were confirmed to have tadpoles. Each of the pond locations would be located within or adjacent to the graded footprint for the project (see Figure 4.3-2). Impacts to the western spadefoot would be significant prior to mitigation. Mitigation for impacts to the western spadefoot is presented in the Mitigation Program.

Impacts on other special status wildlife species that would result from implementation of the proposed project are considered adverse, but less than significant for the following species: silvery legless lizard, northern harrier, sharp-shinned hawk, Cooper's hawk, ferruginous hawk, golden eagle, merlin, prairie falcon, burrowing owl, California horned lark, southern California rufous-crowned sparrow, grasshopper sparrow, Bell's sage sparrow, pallid bat, pale big-eared bat, spotted bat, California mastiff bat, San Diego black-tailed jackrabbit, southern grasshopper mouse, and San Diego desert woodrat. However, impacts on the coast horned lizard, coastal western whiptail, ringneck snake, coast patch-nosed snake, and loggerhead shrike would be considered potentially significant. These impacts would be reduced to less than significant with implementation of the Mitigation Program.

Indirect Impacts

Landscaping

The proposed project includes landscaping adjacent to the proposed residential development. The landscaping would potentially include planting ornamental species that are known to be particularly invasive (e.g., Japanese honeysuckle [*Lonicera japonica*], fan palm [*Washingtonia* spp.], Peruvian pepper tree [*Schinus molle*], etc.). Seeds from invasive species would potentially escape to natural areas and degrade the adjacent native vegetation in Zone C and beyond. This impact would be considered potentially significant since the project is adjacent to natural open space. This impact would be reduced to less than significant with implementation of the Mitigation Program.

In addition, if brush management or landscape activities occur during the breeding season, they have potential to impact nesting bird species. This impact would be considered potentially significant because native nesting birds are protected by the Migratory Bird Treaty Act. This impact would be reduced to less than significant with implementation of the Mitigation Program.

Noise

Noise levels in the study area would increase substantially over present levels during construction of the proposed project. During construction, temporary noise impacts have the potential to disrupt foraging, nesting, roosting, and denning activities for a variety of wildlife species. These impacts are considered adverse, but not significant for most wildlife species, because the proposed project would not impact a substantial population of these species. However, nesting raptors would potentially incur temporary impacts from construction noise if present in the vicinity of the proposed project, and would potentially be temporarily displaced due to these disturbances. These impacts would be reduced to less than significant with implementation of the Mitigation Program.

Noise would also increase over present levels with implementation of the proposed project. Therefore, habitat remaining in the study area would be subject to increased disturbance. Wildlife stressed by noise would potentially be extirpated, leaving only wildlife tolerant of human activity. The chronic (i.e., permanent) noise increase would be considered adverse but less than significant because habitat within SEA 19 has been avoided and because landscaping buffers have been incorporated into the project design.

Urban Pollutants

Impacts on biological resources in the area would potentially occur as a result of changes in water quality. Improper disposal of petroleum and chemical products from construction equipment (temporary) could adversely affect water quality and, in turn, affect populations of species in San Francisquito Creek and other downstream areas. Water quality would also be adversely affected by runoff of pollutants from landscape features of the proposed project or infrastructure areas (e.g. fertilizers, pesticides, household chemicals, etc) (permanent). These indirect impacts are considered potentially significant since the project would potentially incrementally contribute to a reduction in water quality in the project region. This impact would be reduced to less than significant with implementation of the Mitigation Program.

Night Lighting

Lighting of the homes and yards in the proposed development would potentially result in an impact on the behavioral patterns of nocturnal and crepuscular (i.e., active at dawn and dusk) wildlife adjacent to the lighted areas. Of greatest concern is the effect on small-ground-dwelling animals that use the darkness to hide from predators, and on owls, which are specialized night

foragers. Because the proposed project impact area is adjacent to SEA No. 19, indirect impacts due to lighting during the evening are of particular concern. Indirect impacts as a result of the proposed project are considered potentially significant. This impact would be reduced to less than significant with implementation of the Mitigation Program.

Human Activity

Recreational or transitory use of the project site after buildout under the proposed plan will be more controlled than at present; however, not all uses can be controlled. Unauthorized uses can have various impacts, including:

- Loss of wildlife habitat from destruction of vegetation
- Loss of individuals from being run over or from destruction of nesting sites
- Disturbance to or destruction of special status habitat types
- Soil compaction and erosion resulting in a loss of vegetative productivity
- Destruction of food, cover, and breeding habitats

Wildlife would potentially be killed by vehicles, cats, dogs, or humans residing within the proposed project after completion. The Mitigation Program mandates the construction of permanent fencing along the backyards of each lot in order to protect the open space areas, including the SEA, from disturbance or destruction.

Potential Future San Francisquito Canyon Road Realignment and Equestrian Trails

Although it is not part of the proposed project, this potential future expansion of the San Francisquito Canyon Road, by the County of Los Angeles, has been accommodated at the request of the County in the project design. The estimated impacts to vegetation types that would potentially occur as a result of the potential future expansion of San Francisquito Canyon Road are summarized in Table 4.3-5. The County will determine when (or if) this future road expansion will occur.

TABLE 4.3-5
VEGETATION TYPE IMPACTS ASSOCIATED WITH THE POTENTIAL EXPANSION OF SAN FRANCISQUITO CANYON ROAD AND CLIFFIE STONE TRAIL

Vegetation Type	Right-of-Way	Road Expansion	Cliffie Stone Trail	Permanent Impacts (acre)
Ruderal	0.6	3.6	0.5	4.7
Ornamental	0.0	0.0	0.0	0.0
Chamise Chaparral	0.0	0.0	0.0	0.0
Non-Native Grassland/ Chamise Chaparral	0.0	0.1	0.0	0.1
Coast Live Oak Woodland	0.0	0.0	0.1	0.1
Coastal Sage Scrub	0.0	0.0	0.0	0.0
Wash	0.0	0.0	0.0	0.0
Mixed Chaparral/Holly-Leaf Cherry Woodland	0.0	0.0	0.0	0.0
Non-Native Grassland	0.3	0.5	0.0	0.8
Alluvial Sage Scrub	0.1	0.1	0.1	0.3
TOTAL	**1.0**	**4.3**	**0.7**	**6.0**

The potential expansion of San Francisquito Canyon Road within the existing right-of-way (ROW) would permanently impact approximately 4.3 acres of vegetation, including 0.1 acre of alluvial sage scrub. Impacts on alluvial sage scrub would be considered significant because this vegetation type is reduced within its range and has the potential to support special status plant and wildlife species. This impact would be reduced to less than significant with implementation of the Mitigation Program. Potential temporary construction impacts of up to 50 feet on either side of the proposed roadway expansion would impact up to 3.3 acres of vegetation on either side of the roadway.

The adjacent Tesoro del Valle project includes development of the Cliffie Stone Trail along its planned alignment through the proposed project site, parallel to San Francisquito Canyon Road and adjacent to the eastern edge of SEA No. 19. This trail has been accommodated in the project design at the request of the County. It is expected that most users of the existing trails on the project site would use the designated trail rather than traverse through the SEA No. 19, as is currently the case. Construction of the trail would impact 0.1 acre of coast live oak woodland, 0.1 acre of alluvial sage scrub, and 0.5 acre of ruderal vegetation. The impact on coast live oak woodland and alluvial sage scrub would be significant prior to mitigation. These impacts would be reduced to less than significant with implementation of the Mitigation Program.

Butterfield Overland Stage Trail

In addition to the Cliffie Stone Trail, the existing Butterfield Overland Stage Trail widened to 12 feet. This trail is located between San Francisquito Canyon Road and the eastern boundary of the SEA. Currently, a portion of this trail crosses the SEA boundary; however, the Butterfield Overland Stage Trail would redirect the trail to avoid all impacts to the SEA. Impacts associated with the implementation of the Butterfield trail are summarized below in Table 4.3-6. A total of 0.757 acres would be impacted by the trail. Impacts to the Riversidean alluvial fan sage scrub would be considered significant, prior to mitigation. With implementation of the mitigation program, impacts would be reduced to less than significant.

TABLE 4.3-6
VEGETATION IMPACTS OF THE BUTTERFIELD OVERLAND STAGE TRAIL

Vegetation Type	Summary of Impacts (Acres)
Floodway	0.091
Alluvial Sage Scrub	0.617
Ruderal	0.049
TOTAL	**0.757**

Special Status Plant and Wildlife Species

Direct impacts on special status plant and wildlife species for the proposed road expansion and trail construction have not been determined. This is a potentially significant impact that would be reduced to less than significant with implementation of the Mitigation Program, which requires pre-construction special status plant and wildlife surveys.

Indirect impacts resulting from proposed roadway construction and trail construction would be similar to those described for the proposed project, and share some of the same mitigation. These indirect impacts are described below.

Landscaping

The proposed roadway expansion would potentially include adjacent landscaping that could include ornamental species known to be particularly invasive (e.g., Japanese honeysuckle, fan palm, Peruvian pepper tree, etc.). Seeds from invasive species may escape to natural areas and degrade native vegetation. This impact would be considered potentially significant but would be reduced to less than significant with implementation of the Mitigation Program.

Noise

Noise levels in the study area would increase substantially over present levels during construction of the proposed roadway expansion. During construction, temporary noise impacts have the potential to disrupt foraging, nesting, roosting, and denning activities for a variety of wildlife species. These impacts are considered adverse, but not significant for most wildlife species, because the proposed project would not impact a substantial population of these species. However, nesting raptors would potentially incur temporary short-term impacts from construction noise if present in the vicinity of the proposed project, and would potentially be temporarily displaced due to these disturbances. This impact would be reduced to less than significant with implementation of the Mitigation Program.

Noise would not be expected to substantially increase over present levels with implementation of the proposed roadway expansion because indirect traffic noise is already present along this road. Therefore, the chronic (i.e., permanent) noise increase would be considered adverse but less than significant and no mitigation would be required.

Urban Pollutants

Impacts on biological resources in the area could occur as a result of changes in water quality. Improper disposal of petroleum and chemical products from construction equipment (temporary) could adversely affect water quality and, in turn, affect populations of species in San Francisquito Creek and other downstream areas. Water quality could also be adversely affected by runoff from the proposed roadway expansion (i.e., vehicles, improper disposal of chemicals) (permanent). These indirect impacts are considered potentially significant since the project could incrementally contribute to a reduction in water quality in the project region. This impact would be reduced to less than significant with implementation of the Mitigation Program.

Night Lighting

Should the County require the installation of lighting along the proposed roadway expansion of San Francisquito Canyon Road, the associated illumination onto the adjacent SEA No. 19 could result in an indirect impact on the behavioral patterns of nocturnal and crepuscular (i.e., active at dawn and dusk) wildlife adjacent to the lighted areas. Of greatest concern is the effect on small-ground-dwelling animals that use the darkness to hide from predators, and on owls that prey on them, which are specialized night foragers. Indirect impacts as a result of the proposed project are considered potentially significant. This impact would be reduced to less than significant with implementation of the Mitigation Program.

4.3.3 Cumulative Impacts

The proposed project will eventually be surrounded to the north, west, and south by the Tesoro del Valle residential development, and to the east by existing ranchland. Without the proposed project, existing and proposed development would impair the movement of most wildlife, with the exception of the SEA No. 19, which would be maintained in order to protect the unarmored threespine stickleback. With existing or approved development cutting off the project site from

much of the surrounding open space areas, wildlife movement to and from the site would continue to be hindered and decline. An analysis of the cumulative impacts to vegetation, wildlife, and wildlife corridors, is provided below.

USACE/CDFG Jurisdiction

Water quality, riparian habitats, and wetlands have significantly declined in southern California. Any impacts to waters of the United States on the project site would be cumulatively significant prior to mitigation. However, compliance with USACE and CDFG requirements would mitigate these impacts to a level less than significant.

Coastal Sage Scrub

Coastal sage scrub, which has been significantly reduced in southern California, has the potential to provide habitat that would support the coastal California gnatcatcher. This habitat has largely been converted to agricultural, industrial, and residential land uses and much of the remaining habitat is adjacent to urbanized areas. Therefore, prior to mitigation, any loss of coastal sage scrub would be significant. However, with the implementation of the Mitigation Program, the proposed project would not result in the regional loss of coastal sage scrub and cumulative impacts would be less than significant.

Holly-leaf Cherry Woodland

Construction related impacts to the holly-leaf cherry woodland on the project site would be avoided through the project design; however, direct impacts related to Zone B brush management and the 50-foot encroachment would be potentially significant. This habitat is considered to be sensitive and worthy of special consideration by the CDFG. Therefore, prior to mitigation, the loss of holly-leaf cherry woodland would be significant, as would the prevention of its recovery. However, with the implementation of the Mitigation Program, the proposed project would not result in the regional loss of holly-leaf cherry woodland and cumulative impacts would be less than significant.

Alluvial Sage Scrub

Alluvial sage scrub has also been significantly reduced in southern California and also has the potential to provide habitat that would support the coastal California gnatcatcher. This habitat has also been converted to other uses through agricultural, industrial, and residential development. Without mitigation, any loss of alluvial sage scrub would be significant. However, with the implementation of the Mitigation Program, the proposed project would not result in the regional loss of alluvial sage scrub and cumulative impacts would be less than significant.

Special Status Plant Species

Several special status plant species have the potential to occur on the project site. Focused surveys were conducted in 2004 and 2005. The results of these surveys will be used to either avoid the species through project design or mitigate for the loss of the species through a Mitigation Program consistent with the terms and conditions of Section 7 consultation with the USACE. Mitigation may include, but may not be limited to, the collection/salvage of existing plants and/or the preservation and rebroadcast of occupied topsoil within proposed open-space areas within San Francisquito Canyon.

These mitigation measures would ensure that no net loss of special status plant species would occur. Additionally, the project design features, including backyard fencing and preservation of

the SEA and other open space parcels, would ensure adequate open space for on-site mitigation, if necessary. Therefore, cumulative impacts would be less than significant.

Special Status Wildlife Species

The western spadefoot was identified on the project site on April 14, 2005 in two separate pond locations. The ponds would fall within the development footprint and impacts to the toads would be significant prior to mitigation. Implementation of the mitigation program, which includes the development of a relocation program subject to the approval of the California Department of Fish and Game and the County of Los Angeles, would reduce these impacts to less than significant. Another special status species with a likelihood of being located on the project site is the loggerhead shrike, which was likely impacted by the recent Copper fire due to loss of habitat. Since it is expected that project development would impact potential forage (but not potential breeding) habitat for this species, impacts would be less than significant. However, the reduction in forage habitat could result in a cumulative impact for the loggerhead shrike.

The Santa Ana sucker, unarmored threespine stickleback, and arroyo toad may occur on the project site during or after heavy rainfall events. The morphology of the San Francisquito Canyon wash is not conducive to supporting reproduction or foraging of the Santa Ana sucker or the unarmored threespine stickleback on the site. These species have potential to occur as transients on the site during periods of inundation, but otherwise would not be likely to occur within the on-site portion of San Francisquito Canyon. Impacts on the coast horned lizard, coastal western whiptail, ringneck snake, coast patch-nosed snake, and loggerhead shrike would be considered potentially significant. These impacts would be reduced to less than significant with implementation of the Mitigation Program.

With time and the implementation of the Mitigation Program, which includes the opportunity for the recovery of appropriate habitat in the preserved open spaces on the site, habitat with the potential to support special status wildlife species would be expected to develop. Therefore, cumulative impacts would be less than significant.

Wildlife Corridors

The project site is expected to ultimately be surrounded by residential areas and ranchland on all sides. This situation would impair the movement of wildlife regardless of the implementation of the proposed project. Nevertheless, the proposed project design includes the preservation of approximately 80 percent of the site as open space, including the entire SEA corridor within the project boundaries. The SEA would be maintained as a wildlife corridor that could provide continued access to the Angeles National Forest, which would remain as open space in perpetuity. The Mitigation Program would ensure the continued protection of the SEA as a wildlife corridor and potential cumulative impacts would be less than significant.

4.3.4 Project Design Features and Mitigation Measures

Project Design Features

- As a standard condition of approval for the project, the three open space parcels (Nos. 61, 62, and 63) will be shown on the proposed Tentative Tract Map as open space and will be granted to the County of Los Angeles and will remain as open space in perpetuity.

- As a standard condition of approval for the project, levee construction will be conducted outside of the rainy season and will avoid any ponded water potentially present on the project site.

Mitigation Measures

MM 4.3-1 The loss of coastal sage scrub, holly-leaf cherry woodland, and alluvial sage scrub (i.e., proposed roadway expansion) within the impact area is considered a significant impact prior to mitigation. These vegetation types will be restored onsite or, if appropriate, offsite at a ratio of not less than 1:1, as agreed to by the County of Los Angeles Department of Regional Planning and the Project Applicant. A revegetation program will be implemented in accordance with a County-approved landscape palette on all graded areas not utilized for improvements or structures. The revegetation program will be submitted to the County of Los Angeles Department of Regional Planning for review and approval by a qualified biologist prior to issuance of grading permits. Restoration will consist of seeding and container planting of appropriate species. Impacts are considered less than significant after implementation of the following measures:

A detailed restoration program will be developed prior to map recordation and implemented and will contain the following items:

a. *Responsibilities and qualifications of the personnel to implement and supervise the plan*. The responsibilities of the landowner, specialists, and maintenance personnel that will supervise and implement the plan will be specified.

b. Site selection. The site(s) for mitigation will be determined in coordination with the project applicant and the Los Angeles Department of Regional Planning. The site will be located in a dedicated open space area and will be contiguous with other natural open space areas.

c. Site preparation and planting implementation. The site preparation will include: 1) protection of existing native species, 2) trash and weed removal, 3) native species salvage and reuse (i.e., duff), 4) soil treatments (i.e., imprinting, decompacting), 5) erosion control measures (i.e., rice or willow wattles), and 6) seed mix application.

d. Schedule. Establishment of restoration/revegetation sites will be conducted between October 1st and January 30th. Seeding and planting of container plants will take place immediately after preparation of the restoration sites.

e. Maintenance plan/guidelines. The maintenance plan will include: 1) weed control, 2) herbivory control, 3) trash removal, 4) irrigation system maintenance, 5) maintenance training, and 6) replacement planting.

f. Monitoring Plan. 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 three to five years.

The monitoring will be conducted for three to five years, depending upon the performance of the mitigation site.

g. Long-term preservation. 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.

h. Performance standards will be identified and will apply for the revegetation of sage scrub. Revegetation 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.

In addition, 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 of the construction boundary.

MM 4.3-2 Upon completion of construction activities, impacts to approximately 0.17 acre of non-wetland USACE and CDFG jurisdictional waters will be mitigated within the project boundaries through the creation of 0.17 acre of non-wetland jurisdictional waters. In addition to this assurance of "no net loss" of USACE and CDFG jurisdictional area within the project boundaries, another 0.17 acre of non-wetland jurisdictional area will be restored or enhanced on the project site for a total of 2:1 replacement. Acquisition of a Section 404 "dredge and fill" permit from the USACE (possibly through the use of Nationwide Permit No. 39), a Section 1602 "streambed alteration" permit from the CDFG, and a Section 401 water quality certification or waiver will be obtained from the Regional Water Quality Control Board.

Prior to the final submittal of an application for an USACE permit or CDFG agreement, the Project Applicant will develop a mitigation plan for the USACE, CDFG, and Los Angeles Department of Regional Planning. The objective of the mitigation is to ensure no net loss of habitat values as a result of the project. The detailed restoration program will contain the following items:

a. *Responsibilities and qualifications of the personnel to implement and supervise the plan*. The responsibilities of the landowner, specialists and maintenance personnel that would supervise and implement the plan will be specified.

b. *Site selection*. The site(s) for the mitigation will be determined in coordination with the project applicant and resource agencies. The site will be located in a dedicated open space area and will be contiguous with other natural open space.

c. *Site preparation and planting implementation.* The site preparation will include: 1) protection of existing native species, 2) trash and weed removal, 3) native species salvage and reuse (i.e. duff), 4) soil treatments (i.e., imprinting, decompacting), 5) temporary irrigation installation, 6) erosion control measures (i.e., rice or willow wattles), 7) native seed mix application, and 8) native container species.

d. *Schedule.* A schedule will be developed which includes planting to occur in late fall and early winter, between October 1st and January 30th.

e. *Maintenance plan/guidelines.* The maintenance plan will include: 1) weed control, 2) herbivory control, 3) trash removal, 4) irrigation system maintenance, 5) maintenance training, and 6) replacement planting.

f. *Monitoring Plan.* 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 resource agencies, 4) monthly reports for the first year and bimonthly reports thereafter, and 5) annual reports which will be submitted to the resource agencies for three to five years. The site will be monitored and maintained for five years to ensure successful establishment of riparian habitat within the restored and created areas; however, if there is successful coverage prior to five years, the Project Applicant may request from USACE and CDFG to be released from monitoring requirements.

g. *Long-Term Preservation.* 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.

h. Performance standards will be identified and will apply for the restoration of riparian habitat. Revegetation 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 and restored and/or created habitat areas.

This revegetation/enhancement plan may be combined with the revegetation plan required by Mitigation Measure 4.3-1, if appropriate.

MM 4.3-3 Braunton's milk-vetch was not detected during the special status plant surveys. Prior to issuance of a grading permit, a follow-up survey for this species will be conducted in any area partially disturbed for surveyor access or geotechnical studies, or areas that may have recently burned in a wildfire. If Braunton's milk vetch is found in the study area during follow-up surveys, the applicant will be required to consult with the USFWS and CDFG to obtain a permit under Section 7 or 10(a) of the federal Endangered Species Act and a Section 2081 concurrence from CDFG under the state Endangered Species Act to impact this species. The consultation process will include preparation of a mitigation plan to

avoid, relocate, or minimize impacts on this species. This plan will be submitted to and approved by the USFWS and CDFG.

MM 4.3-4 Slender mariposa lilies (Calochortus clavatus ssp. gracilis), possibly hybridized with club-haired mariposa lilies (Calochortus clavatus ssp. clavatus), have been observed during special status plant surveys on the site. Impacts on the slender mariposa lily population are considered significant under the CEQA, but can be mitigated to a level less than significant by the following measures.

a. Preparation and Submittal of Mitigation Plan: A Mitigation Plan will be prepared by a qualified biologist. The plan will include: 1) a summary of mitigation area conditions; 2) a discussion of the mitigation program and anticipated success; 3) guidelines for mitigation area preparation; 4) guidelines for bulb collection; 5) guidelines for transporting and replanting salvaged bulbs; 6) guidelines for long-term site maintenance and performance monitoring, 7) site status documentation; and 8) a discussion of site performance standards such as survival rate.

b. Collection and Transplantation of Bulbs: Prior to any ground-disturbing activities, the slender mariposa lily population located within the project impact area will be transplanted to an onsite mitigation area. The mitigation area is located in Open Space Lot 62 and is outside of the proposed grading footprint and fuel modification areas. The bulbs will be transplanted directly into the mitigation area on the same day they are collected by a landscape contractor experienced in native habitat maintenance, and the plants will be protected from herbivores by the installation of wire cages.

c. Supervision and Documentation of Transplantation: Bulb trans-plantation efforts will be documented by a biological monitor, who will keep field notes including the number and condition of bulbs transplanted.

d. Establishment of Maintenance and Monitoring Plan: Performance criteria and remediation measures will be reviewed and approved by the County. Program monitoring will occur over a five-year period, including qualitative monitoring visits during the first season after transplant, monthly visits during the first lily blooming season (February – June 2006) to assess establishment success, non-native species coverage, and general site conditions, and additional monitoring visits to assess site conditions that may affect future success of lily establishment. Remedial measures, such as invasive species control or soil amendments, will be recommended as needed in a timely manner to facilitate compliance with required performance standards. Any necessary contingency planting would be performed using seeds collected from adjacent lily populations located on the site, outside the project impact area.

MM 4.3-5 A relocation program for the western spadefoot will be conducted during the spring prior to construction at the height of the breeding season for this species (February through May as determined by a qualified biologist monitoring a known location of this species). A detailed methodology for

this effort will be submitted and approved by CDFG prior to implementation of the relocation program. Results of the relocation program will be provided to CDFG and the County of Los Angeles.

The intent of the relocation plan will be to capture and relocate as many western spadefoots as possible. Western spadefoots will be relocated to an area of suitable habitat that takes into consideration habitat requirements for all life stages of the toad, as approved by CDFG. The site will be granted to the County of Los Angeles and will be located in an area of preserved open space protected from future development. The relocation breeding pool will be no smaller in size, and similar or better in quality, as the habitat within the project impact area where the western spadefoots are captured.

MM 4.3-6 A qualified biologist, approved by the County, will install pit-fall traps and arrays beginning at least one week prior to the commencement of vegetation removal. The qualified biologist will be present to monitor the traps during vegetation removal and will also opportunistically salvage and relocate the coastal western whiptail as well as other special status amphibians and reptiles to similar habitat within proposed open space in San Francisquito Canyon.

MM 4.3-7 Trimming of some native plants and clearing of non-native invasive species for fuel modification will be monitored by a qualified biologist if it occurs during the peak bird nesting season. If possible, dependent upon the growth cycle of targeted annuals and the requirements of the Fire Department, brush management will be conducted outside of the peak bird nesting season (March 15 to September 15) to ensure that potential impacts to nesting birds are avoided.

MM 4.3-8 Prior to the issuance of a grading permit, a Landscape Plan, prepared by HRP LanDesign, will be submitted and approved by the Los Angeles County Department of Regional Planning. The Landscape Plan requires the planting of native, drought tolerant plant species. Implementation of the Landscape Plan and brush management requirements will be coordinated with the project biologist and approved by the Los Angeles Department of Regional Planning.

MM 4.3-9 Seven days prior to the start of construction activities, a qualified biologist will conduct a survey to determine if any raptors are nesting in or adjacent to the impact area. If nesting is not occurring, construction work can proceed. If an active nest is present, construction work will be prohibited within 500 feet of the nest (or as otherwise determined by the project biologist) until fledglings have left the nest. Results of the surveys will be provided to CDFG and the County.

MM 4.3-10 Prior to the issuance of a grading permit, the Project Applicant will apply for coverage under the State Water Resources Control Board's General Permit for Storm Water Discharge Associated with Construction Activity (Construction Activities General NPDES Permit) and will comply with all the provisions of the permit, including the development of a Storm Water Pollution Prevention Plan, which includes provisions for the implementation of Best Management Practices and erosion control measures. Best Management Practices will include both structural and

non-structural measures. The purpose of this mitigation measure is to insure that site runoff does not adversely affect SEA No. 19 and downstream biological resources.

MM 4.3-11 The Codes, Covenants and Restrictions (CC&Rs) of the Homeowner's Association (HOA) shall require that all backyard lighting in Lot S33 through Lot 51, which are adjacent to the SEA No. 19, must not be directed into the SEA. For these lots, all backyard lighting must be mounted to the home structure and may not be freestanding or placed on backyard fences.

MM 4.3-12 The portion of SEA No. 19 located within the proposed project site will be recorded as Open Space Lot No. 61 with approval of the Tentative Tract Map. Backyard fencing will be constructed behind all lots to protect open space areas, including the SEA No. 19 upon completion of site preparation and grading. This fencing would be required in order to prevent intrusion by future residents of the development and their pets. The fencing will discourage people and pets from entering the SEA. The fence will include permeable materials (i.e., wrought iron) in order to maintain view from the properties. Signs will be evenly spaced along the western edge of the SEA near Lots 33 through 51 indicating that areas on the other side of the signs contain sensitive biological resources. The signs will be installed and maintained throughout the life of the project by the HOA. The CC&Rs of the HOA shall disclose the existence of the SEA and the responsibility each homeowner has for ensuring its protection.

MM 4.3-13 Should lighting be required by the County to illuminate San Francisquito Canyon Road upon widening of the roadway, a lighting plan will be submitted to the County for review prior to approval of the roadway project. The lighting plan shall demonstrate that illumination from the proposed road expansion will be directed away from natural open space areas on and adjacent to the project impact area. If the County determines that the proposed lighting plan would potentially indirectly impact adjacent biological resources, the lighting plan will be redesigned or additional mitigation consistent with Mitigation Measure 4.3-15 will be required.

MM 4.3-14 Prior to the County's initiation of the San Francisquito Road expansion and/or the Cliffie Stone Trail construction, a tree survey will be conducted within the area of the proposed roadway expansion and trail area. All trees meeting the County Tree Ordinance requirements will be tagged, mapped, and evaluated to determine the approximate number of trees that would be impacted. Project design will be altered to avoid and minimize impacts on oak trees to the extent practicable, particularly if a heritage tree would be impacted. The heritage trees on the project site are adjacent to the proposed road alignment.

Upon approval of the final design plans for the proposed roadway and trail alignment, the Project Applicant will develop a detailed oak woodland mitigation plan and submit the plan to the County for review and approval. The objective of the mitigation plan is to ensure no net loss of habitat values as a result of the project implementation. Required replacement trees shall be in the ratio of at least 2:1, consistent with the Los Angeles

County Oak Tree Ordinances (Ord. 88-0157, adopted September 13, 1988). The mitigation plan shall require that a biological monitor be present during project grading to record the exact number of native trees impacted.

MM 4.3-15 Prior to issuance of a grading permit for construction of the San Francisquito Road expansion and/or the Cliffie Stone Trail, special status plant and wildlife surveys will be conducted. The results of these surveys and associated mitigation will be submitted to Los Angeles County Regional Planning Department for approval.

MM 4.3-16 Upon completion of the levee construction, the excavation area shall be entirely backfilled with existing San Francisquito Creek soil and only the four horizontal feet of above ground levee "free board" space would be visible. The impacted area shall be restored onsite with alluvial sage scrub habitat in accordance with the requirements of the County of Los Angeles Department of Regional Planning approved revegetation program. The levee shall be constructed with ungrouted rip-rap, which would allow for percolation of water, accumulation of transported soils, and establishment of plant life.

VII. SEA DESIGN COMPATIBILITY CRITERIA

1. The residential units, new roads, and grading have been designed to avoid encroaching into SEA No. 19, to avoid special status biological resources and to provide open space and movement corridors for biological resources to the maximum extent practicable. The Significant Ecological Area Technical Advisory Committee (SEATAC) recommends altering the design of the tract map to eliminate all impacts to the SEA No. 19. The current tract map design would result in approximately 0.05 acre of permanent impact to the SEA No. 19. Considerations for why the tract map should not be adjusted include the following: (1) the alignment of A Street has been designed according to County Department of Public Works requirements for roadway connections to adjacent properties; (2) moving the alignment of A Street further west to avoid all SEA impacts would require more hillside grading impacts; and (3) the tract map was previously redesigned to substantially reduce SEA impacts. Based on the 0.05 acre of impact to the SEA No. 19, the proposed project is not considered compatible with this criteria.

2. Proposed new development has been designed to avoid impacting the hydrology of San Francisquito Canyon Creek in SEA No. 19. The levee system is required to ensure that the graded pads would be protected in case the Creek changes course in the future. The construction of the project, including the levee system, would not alter the boundaries of the existing natural water course. SEATAC has stated that the "ungrouted rip-rap" would affect creek flow rates, although they believe this impact would be small. The levee system would be designed to minimize impacts to creek flows to the greatest extent feasible by allowing for the percolation of water, accumulation of transported soils, and establishment of plant life. However, because the rip-rap has the potential to slightly impact the creek flow, the proposed project is not considered compatible with this criteria.

3. The wildlife corridor through SEA No. 19 could be impacted by the construction of the underground levee because 0.05-acre of permanent SEA impacts would occur due to implementation of the proposed project. The large majority of

wildlife movement in the SEA would be undisturbed, indirect impacts would be minimized, and SEA No. 19 would be placed within a dedicated open space parcel.

4. The proposed project development footprint would retain approximately 80 percent of the site in open space parcels.

5. Development will be set back from the SEA No. 19 boundary through backyard fencing and landscaping buffers.

6. No new roads or utilities would occur within SEA No. 19 in order to avoid impacts on special status biological resources and wildlife movement in San Francisquito Canyon.

VIII. RECOMMENDED MONITORING PROGRAM

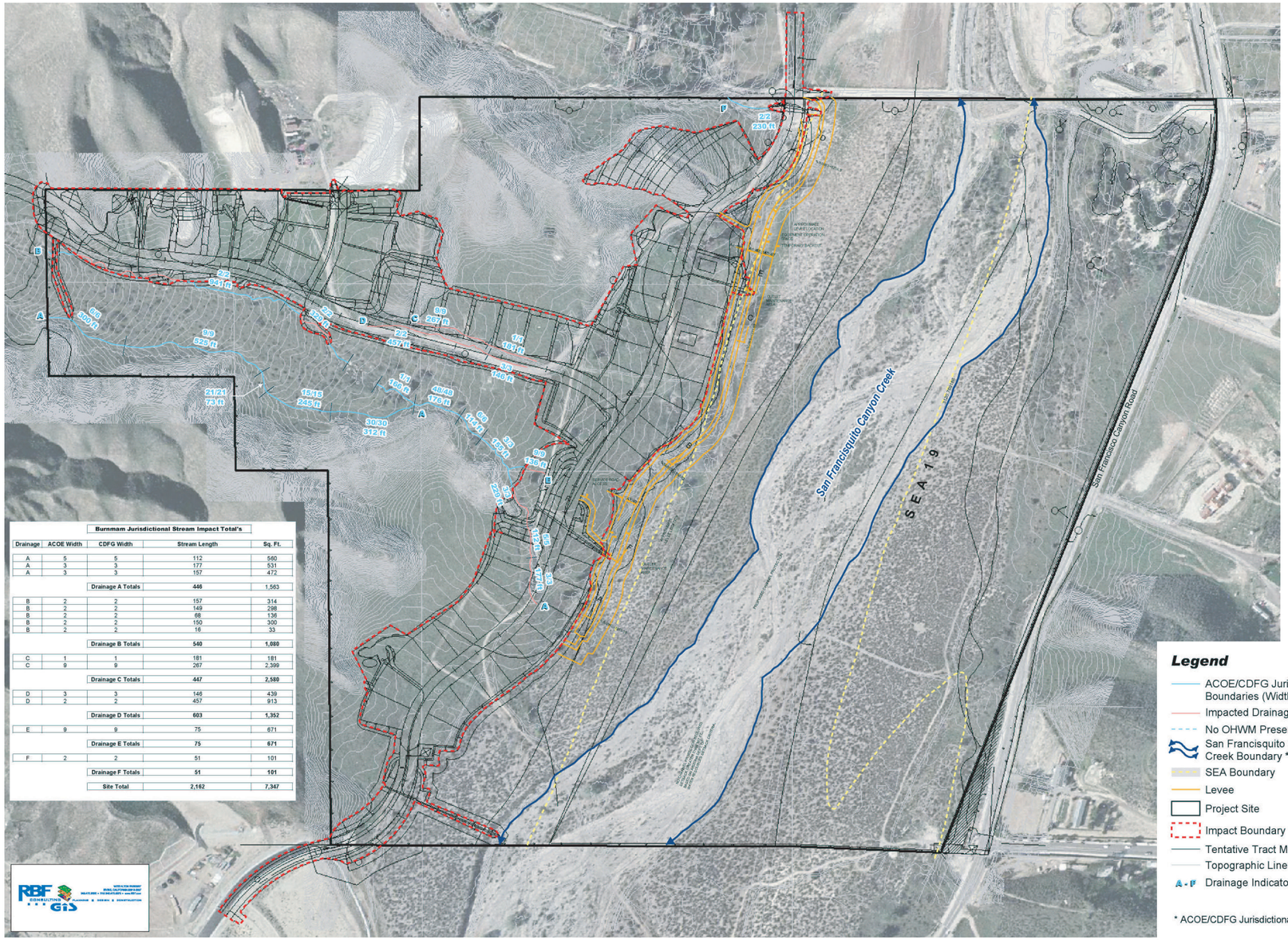
The boundaries of SEA No. 19 will be noted and flagged in the field prior to the initiation of construction activities. The project proponent will provide a qualified biological monitor during grubbing and grading activities to ensure that unapproved encroachment into the SEA does not occur.

The three proposed open space parcels (Nos. 61, 62, and 63) will be shown on the proposed Tentative Tract Map for dedication as open space upon its approval by Los Angeles County. Backyard fencing will be constructed at the rear of each lot at the conclusion of site preparation and grading. Signs will be placed at adequate intervals on the fencing adjacent to the SEA informing those reading that the area is biologically sensitive and to be avoided. The backyard fencing will be maintained by the homeowners and the signs will be installed and maintained throughout the life of the project by the HOA.

Revegetation or enhancement (according to Mitigation Measure 4.3-1) of coastal sage scrub, holly-leaf cherry woodland, or alluvial sage scrub vegetation, within or adjacent to areas where it previously occurred, in proposed open space parcels would commence upon completion of site preparation and grading as soon as possible. Monitoring would occur quarterly during the first year, and twice a year thereafter until success of the mitigation can be demonstrated by a qualified biologist. Success criteria would include the rehabilitation or expansion of an additional of coastal sage scrub and of holly-leaf cherry woodland which have become established and self sustaining. The amount of coastal sage scrub rehabilitation or expansion would be subject to change depending upon the determination of the area of potential effect for the potential future expansion of San Francisquito Canyon Road. This would be the responsibility of the County.

Level of Significance After Mitigation

Potentially significant biological impacts would be reduced to levels less than significant with the implementation of the mitigation measures.



Burnmam Jurisdictional Stream Impact Total's

Drainage	ACOE Width	CDFG Width	Stream Length	Sq. Ft.
A	5	5	112	560
A	3	3	177	531
A	3	3	157	472
		Drainage A Totals	446	1,563
B	2	2	157	314
B	2	2	149	298
B	2	2	68	136
B	2	2	150	300
B	2	2	16	33
		Drainage B Totals	540	1,080
C	1	1	181	181
C	9	9	267	2,399
		Drainage C Totals	447	2,580
D	3	3	146	439
D	2	2	457	913
		Drainage D Totals	603	1,352
E	9	9	75	671
		Drainage E Totals	75	671
F	2	2	51	101
		Drainage F Totals	51	101
		Site Total	2,162	7,347

Legend

- ACOE/CDFG Jurisdictional Boundaries (Width in Feet)
- Impacted Drainage
- No OHWM Present
- San Francisquito Canyon Creek Boundary *
- SEA Boundary
- Levee
- Project Site
- Impact Boundary
- Tentative Tract Map
- Topographic Lines
- A - F Drainage Indicator

* ACOE/CDFG Jurisdictional Boundary

Jurisdictional Delineation and Impacts

Exhibit 4.3-1

VTTM 53189

N W E S

Source: RBF Consulting, November 2005

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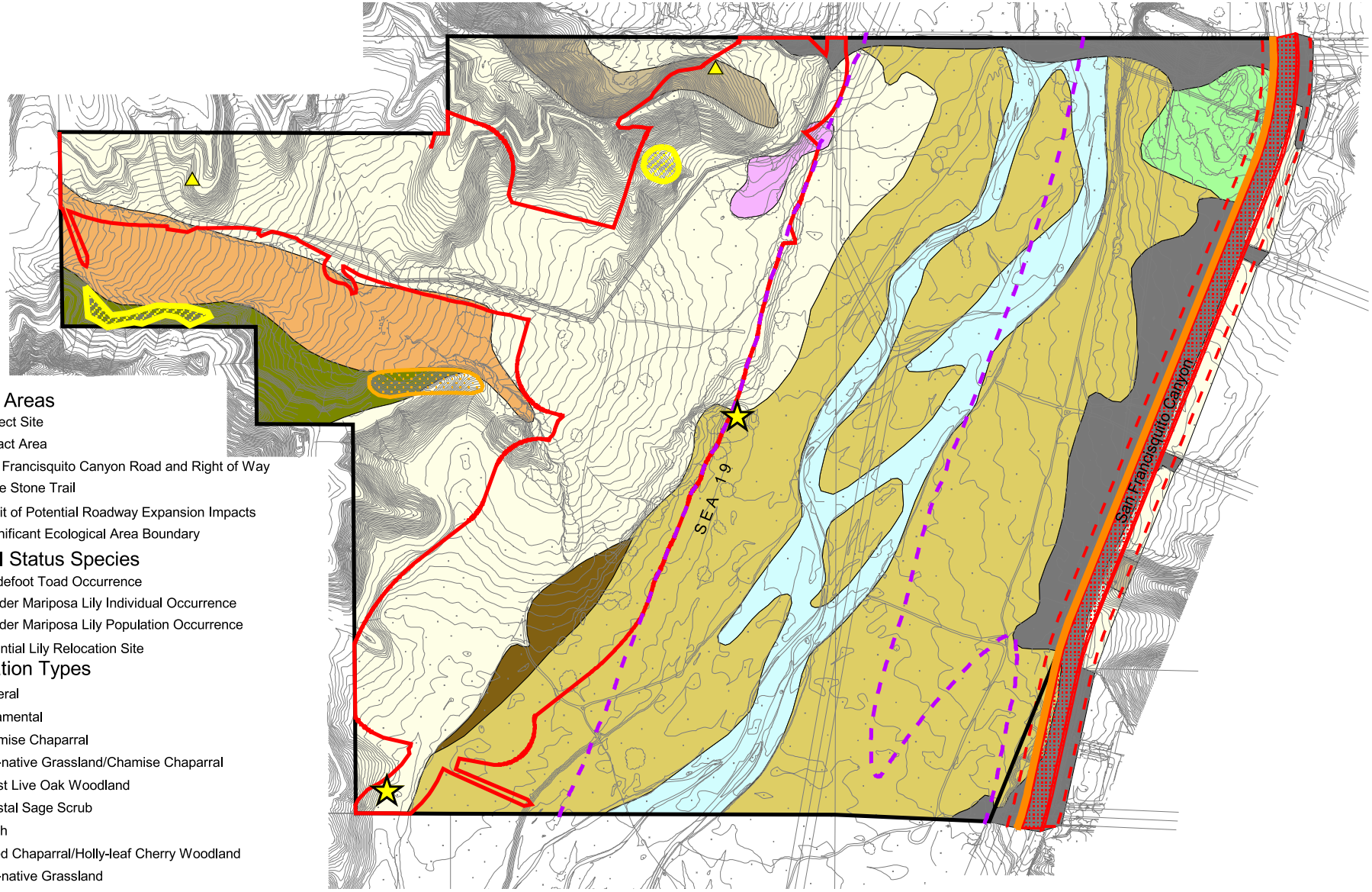

Biological Impacts

Figure 4.3-2

VTTM 53189

BonTerra CONSULTING

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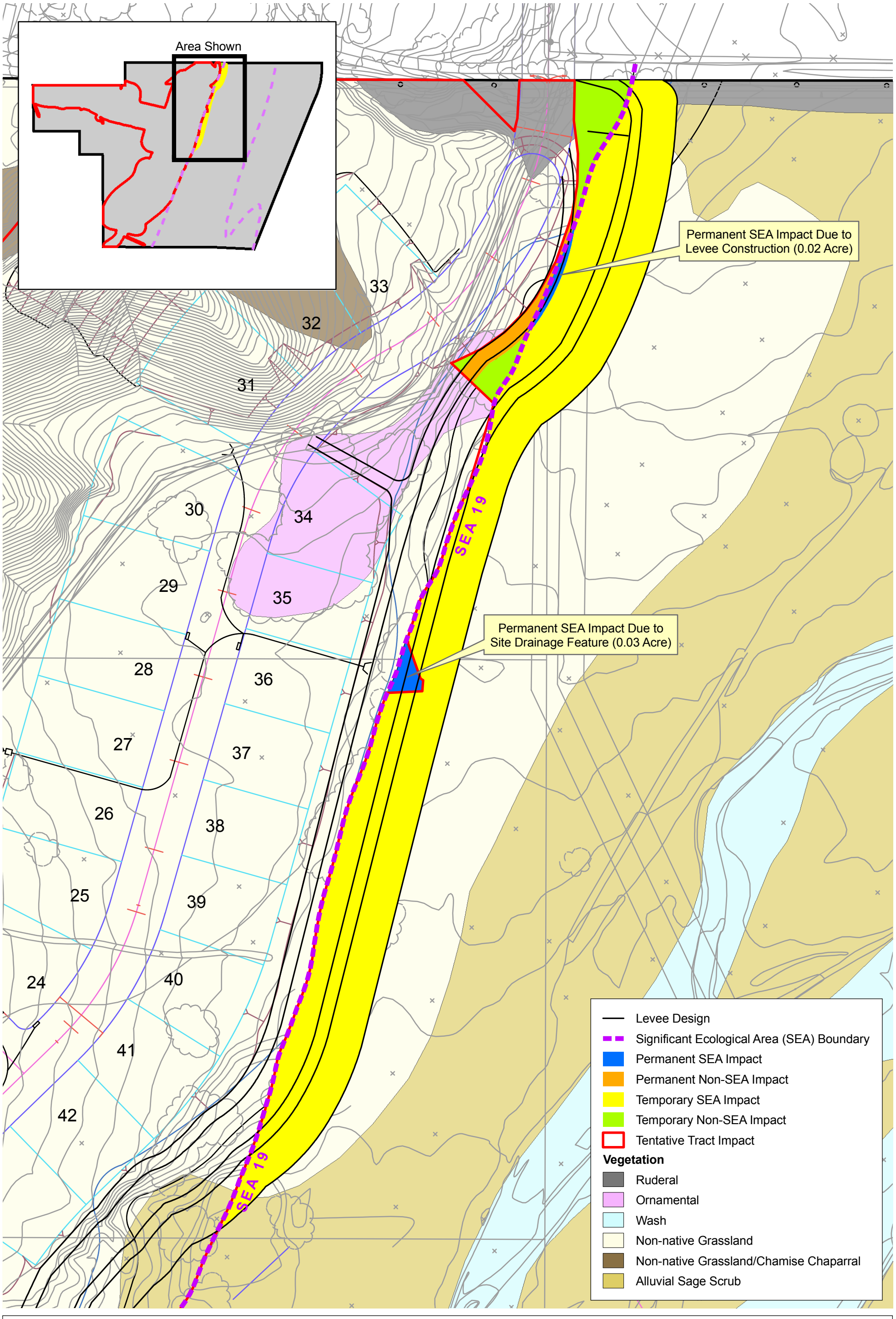

SEA and Levee Construction Impacts

Figure 4.3-3

VTTM 53189

BonTerra CONSULTING

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4.4 CULTURAL RESOURCES

This section describes the potential impacts to cultural resources associated with implementation of VTTM 53189. The analysis presented in this section is based on the results of a Phase II Cultural Resource Evaluation conducted by BonTerra Consulting in October 2003. The full report is located in Appendix F.

A Phase I Archaeological Study, located in Appendix F, was performed for the project site by the Larwin Company in December 1999. This study identified two oil well loci on the site, recorded as CA-LAN-1445-H. The objectives of the Phase II report were as follows: 1) to update the cultural resources records search data for the project area and vicinity (including Native American consultation); 2) to evaluate the significance of CA-LAN-1445H as a potential historical resource; and 3) to prepare a paleontological resources assessment of the project area.

4.4.1 Existing Conditions

With the exception of a few dirt roads and some scattered structural remnants, the proposed project site is undeveloped land. The project site includes a portion of the San Francisquito Canyon/Soledad basin area, which is underlain by the non-marine Saugus Formation of the Pleistocene age. No prehistoric resources have been identified on or within one mile of the project site.

Cultural Resources Records Search

A cultural resources records search for VTTM 53189 was conducted by staff at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton on October 7, 2003. The SCCIC is the state-designated repository for records concerning archaeological and historical resources in Los Angeles County. The records search provided information on known resources and on previous studies within one mile of the project boundaries.

On July 24, 2000, the Native American Heritage Commission (NAHC) in Sacramento commented on a Notice of Preparation (NOP) previously issued for VTTM 53189. Accordingly, BonTerra Consulting contacted the NAHC regarding the following: 1) special Native American sites or properties that may be present in or near the project area; and 2) a list of local Native Americans who could be contacted about the project. Because no Native American sites or properties were identified in the vicinity of VTTM 53189, no further Native American consultation was undertaken.

Cultural Records Search Results

The SCCIC reported that five non-Native American cultural resources were recorded within one mile of VTTM 53189 (see Table 4.4-1).

The project is less than 0.25 miles from the Angeles National Forest, which is California Historical Landmark No. 717. Other than the National Forest, only a historic ranch complex (on the Tesoro del Valle project site) associated with film star Harry Carey (CA-LAN-2071-H) is a property located within one mile of the project site, which is eligible for listing with the National Register of Historic Places. The NAHC search of the Sacred Lands File did not reveal any Native American sites or properties in the vicinity of VTTM 53189. No further Native American consultation was undertaken because no prehistoric sites were identified in the project area.

TABLE 4.4-1
CULTURAL RESOURCES RECORDED WITHIN ONE MILE OF THE PROJECT

SCCIC Designation	Date(s) Recorded	Built-Environment Description	Mean Date
CA-LAN-1432H	1979	Historic refuse deposit, ca. 1920s-1930s	1929.5
CA-LAN-1445H	1988, 1999	Historic oil well features, ca. 1925-1928	1926.5
CA-LAN-1448H	1988	Historic cemetery, graves 1880 to 1964	1922
CA-LAN-2070H	1992	Historic adobe residence, ca. 1920s	1924.5
CA-LAN-2071H	1992	Historic ranch complex, ca. 1920	1920

Archaeological Resource Evaluation

Two oil wells (circa 1925-1928) are located on the project site approximately 1,100 feet apart and are designated as CA-LAN-1445H, Locus A and Locus B. A photograph of the remains of these oil wells is presented in Figure 4.4-1. The structural remains, consisting of generic concrete footings for oil derricks, were determined not to have enough structural remains to warrant an architectural evaluation.

Archival research was conducted at the Los Angeles County Assessor Archives, City of Los Angeles Bureau of Engineering, California State University, Northridge Map Library, and University of California, Riverside Science Library in order to augment the archaeological work on the site. Additionally, historical data was obtained from Environmental Data Resources, Inc. (EDR), which maintains an extensive database on historical and environmental factors applicable to specific properties. EDR conducted a data search using a one-mile radius of the property.

Mechanically excavated trenches were dug in order to uncover any subsurface features and/or expose additional data about archaeological resources on the site. Trenches were excavated in three locations: Locus A; a small concrete slab in an area between Locus A and Locus B; and an area roughly 250 feet northeast of Locus A. Locus B was not tested because it is located in an area that would not be directly impacted by the proposed project. Trenches were excavated to varying lengths, but were all four feet deep by 20 inches wide. Figure 4.4-2 presents the location of the excavations.

Archaeological Test Results

All of the features associated with CA-LAN-1445H, including the two oil wells and two concrete slabs and a pit feature of unknown purpose, were related to oil drilling activities that occurred between 1925 and 1928. No significant archaeological deposits were identified in any of the trenching locations performed on the site.

Trench 1 (aligned east-west) encountered topsoils hardened with congealed petroleum and spilled plaster, but no additional cultural evidence was found below the surface. Trench 2 (aligned north-south) encountered topsoils of a similar character and revealed a buried feature consisting of a small but immoveable concrete slab or cap. The feature was interpreted as a cap or seal for a drill shaft and was left in place. No other subsurface materials were encountered in Locus A. Locus B was not tested because it is located in an area that would remain as open space under the proposed VTTM 53189.

Three trenches (3, 4, and 5) were excavated around the concrete slab between Locus A and Locus B. No surface artifacts were found after manually scraping the surface of the ground. Trenches were then excavated parallel to the east, south, and west sides of the slab. These

trenches produced no cultural evidence, except for a water line that likely led to an outside faucet or spigot and not an inside structure. Due to the small size of the slab and the lack of refuse, it was determined that the slab was probably a shed with an outdoor faucet.

Trench 6 was excavated 250 feet northeast of Locus A near some fragmented bricks that were visible from the surface. Metal items such as steel cable were also scattered about. A large concentration of fragmented bricks was encountered immediately below the surface and extended approximately three feet deep. Many were burned and/or coated with hardened petroleum. A short mortared alignment was found at the base of the deposit, indicating that a structural feature had been present at one time. This brick feature was interpreted as a small "still", which is an apparatus used in the on-site refining of crude oil to remove dire and other impurities with intense heat. However, the small size and the use of three different brick manufacturers (or salvaged bricks) suggest that it would have been experimental in nature and not very well planned. This site was designated as Locus C.

Archival Research Results

Previous research has stated that the dates that CA-LAN-1445H was in operation (1925-1928) indicate that the site would have been abandoned just before the St. Francis Dam collapsed in the spring of 1928. Using these dates, the property was owned by Joseph D. Perea, who held on to the property for 54 years.

Historic and recent USGS quadrangles showing VTTM 53189 were examined for indications of constructed features in the area. No buildings or structures are illustrated in or adjacent to the site area until the 1969 photo revised edition of the 1952 7.5 Newhall Quadrangle map. Therefore, the small concrete slab between Locus A and Locus B was therefore not present prior to 1969 and is not associated with the oil wells.

Paleontological Records Search

A paleontological resources records search was conducted for VTTM 53189 at the Los Angeles County Museum of Natural History (LACMNH), on September 26, 2003. The LACMNH is the central repository for fossil collections and associated records in Los Angeles County. The records search was performed by Samuel A. McLeod, Ph.D., of the Vertebrate Paleontology Division at the LACMNH. Dr. McLeod is a qualified paleontologist with extensive experience in Los Angeles County. The records search provided information on the geological formations underlying the project area and surrounding vicinity, the range of known fossil localities and fossil types in the vicinity, and the capacity of underlying formations to contain significant nonrenewable fossil resources. No field survey was undertaken for this assessment.

Paleontological Records Search Results

The NHMLAC determined that no fossil localities are known within the project area and that the Quaternary alluvium and gravels of the low-lying areas are unlikely to contain significant vertebrate fossil remains. The elevated portions of the project area are composed of fossil-bearing Saugus Formation that has yielded fossil remains of horse, dog, camel, gopher, and lizard in the surrounding vicinity. In the northwestern reaches of the tract, the fossil-bearing Castaic Formation has produced fossil remains of camel and a rare specimen of tapir.

4.4.2 Project Impacts

Thresholds of Significance

The following thresholds were determined to indicate that potential impacts to archaeological/historical/ paleontological could be significant for the proposed project:

- Location of 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 (San Francisquito Canyon Creek).

- Presence on the project site of known historic structures or sites (Oil well loci CA-LAN-1455-H).

'Historical resources" are defined as buildings, structures, districts, sites, or objects that are eligible for the California Register of Historic Resources (CRHR) (CEQA Guidelines 15064.5.a.3). An eligible resource is one that meets at least one of the following criteria for significance:

Criterion A - Associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

Criterion B - Associated with the lives of persons important in our past;

Criterion C - Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value;

Criterion D - Has yielded, or may be likely to yield, information important in prehistory or history (referring to sites that have the potential to yield data relevant to important research topics).

Impacts Analysis

Archaeological and Historical Resources

In order to determine whether a site would yield, or may be likely to yield, information important in prehistory or history (Criterion D), three evaluation tools are used. If a site has the potential to yield significant data about individuals of important social, economic, and/or ethnic status, relationships between the site and communities/events, and/or sites of industrial or economic importance, then the archaeological site would be eligible for the California Register.

CA-LAN-1445H does not meet any of the criteria stated in the thresholds for significance. Criterion A is not met because there was no significant discovery of oil; therefore, the endeavor was not directly associated with any local history or heritage. Criterion B was not met because neither Joseph Perea or the International Oil Developers/International Industrial Corporation (builders and/or architects) are identified in the literature of historic oil and gas exploration and development in southern California or on the Newhall Ranch.

Criterion C was not met because the structural elements of the two wells do not exhibit any distinctive characteristics or artistic value and were strictly functional for supporting standard oil derricks of which there are numerous existing examples in the Newhall area. Criterion D was not met because neither the surface elements nor the subsurface deposits were found to contain important historical information and are unlikely to yield any new information that would

be historically important. The remains of a small brick still in Locus C for testing the quality of crude indicated that a small quantity of oil was found, but its size showed that it was not intended for processing large amounts and was likely used for testing purposes only. Data derived from Los Angeles County Assessor archival records and the environmental search by EDR, as well as dates documented for bricks impressed with a crescent symbol by the Los Angeles Brick Company at Alberhill, indicate that the site was operated between 1933 and 1935, rather than between 1925 and 1928 as suggested in an earlier study.

Using archaeological methods and archival research, it has been determined that the CA-LAN-1445H historic site is not a significant resource. Therefore, the proposed project would not have an adverse effect on a historical or archaeological resource as defined by CEQA and no further study would be required to proceed with the implementation of VTTM 53189.

Paleontological Resources

The NHMLAC concluded that surficial geological layers in the low-lying areas of VTTM 53189 are unlikely to contain significant fossil resources. Only deep grading/excavations in these areas pose a potential for fossils to be encountered. Deep excavations would be categorized as activities that would go below the Quaternary (late) alluvium and gravels and into underlying older (Tertiary) alluvium and the Saugus and Castaic Formations below. The Saugus and Castaic Formations of the hillsides and ridges along the western and northern reaches of the tract have the potential for significant fossil resources. Because the project will involve development of some hillside areas near Lots 1 through 5 and Lots 30 through 32, as well as the over-excavation and re-engineered fill of alluvial soils in the project footprint, the project has the potential to significantly impact paleontological resources prior to mitigation. A qualified paleontological monitor should monitor earthmoving activities on the site, including grading, cutting, and trenching (below eight feet) in low-lying areas and all grading and cutting in hillsides and ridges. Because the Saugus Formation is known to contain tiny microfossils, the paleontologist should periodically screen sediment samples in order to identify these resources.

4.4.3 Cumulative Impacts

The area of consideration for the discussion of cumulative impacts includes a one-mile radius from the project site. No Native American sites, properties, or sacred lands were identified in the vicinity of VTTM 53189. The SCCIC reported five cultural resources (including the two oil wells on VTTM 53189) that have been recorded within one mile of VTTM 53189, all of which were non-Native American. One of the five resources is the Harry Carey ranch complex property (on the Tesoro del Valle site), which is eligible for listing on the National Register of Historic Places. The other resources include a refuse deposit, a cemetery, and an adobe residence. Lastly, the Angeles National Forest is less than 0.25 mile from the project site and is listed as a California Historic Landmark.

Off-site historic resources would not be affected by the project. The two oil wells on the project site are not related in use, origin, or significance to the historic resources located outside of the project site. Because CA-LAN-1445H does not constitute a historical resource and does not contribute to the context of off-site historic or archaeological resources, the development of the project would not represent a cumulatively considerable impact. Potential impacts to any archaeological or paleontological resources that may be discovered during grading for the project would be mitigated to a level of less than significant through archaeological and paleontological evaluation.

4.4.4 Project Design Features and Mitigation Measures

Project Design Features

None

Mitigation Measures

MM 4.4-1 In accordance with PRC 5097.94, if human remains are found, construction activity in the area of the find must halt and the Los Angeles County coroner must be notified within 24 hours of the discovery. If the coroner determines that the remains are not recent, the coroner will notify the Native American Heritage Commission for consultation.

MM 4.4-2 The applicant shall agree to suspend construction in the vicinity of an archaeological resource encountered during ground-disturbing activities at the site and leave the resource in place until a qualified archaeologist can examine them and determine appropriate mitigation measures.

MM 4.4-3 A qualified paleontologist shall be retained to attend pre-grade meetings and to monitor earthmoving activities, including grading and trenching below a depth of eight feet in lower alluvial areas of the site and all grading and cutting in elevated hilly areas of the site. If fossil resources are uncovered, a subsurface evaluation may be needed to assess the discovery. In the event that fossils are exposed, the paleontologist shall be allowed to temporarily divert or re-direct grading in the area of the exposure to recover potentially significant fossils. Because the Saugus Formation is known to contain tiny microfossils, the paleontologist shall periodically screen sediment samples in order to identify these resources. Excavated significant fossil finds shall be offered, on a first right-of-refusal basis, to a repository with a retrievable collection system and an educational and research interest in the materials such as the Natural History Museum of Los Angeles County.

Level of Significance after Mitigation

With the implementation of the mitigation measures listed above, potential impacts to archaeological and paleontological resources would be reduced to a level less than significant.

Oil Wells- Locus A and Locus B — Figure 4.4-1

VTTM 53189

BonTerra CONSULTING

Source: BonTerra Consulting 2003

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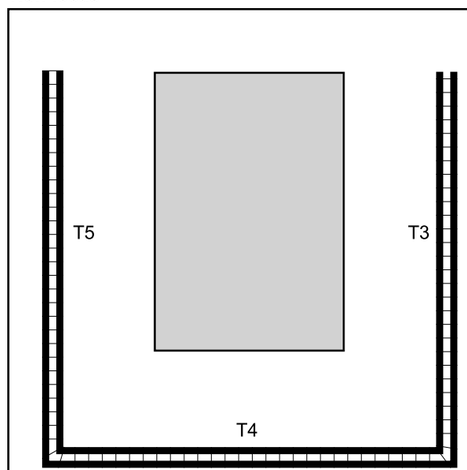
Trench (T) Locations

Concrete Features

Eucalyptus Row

Locus B
(No trenches)

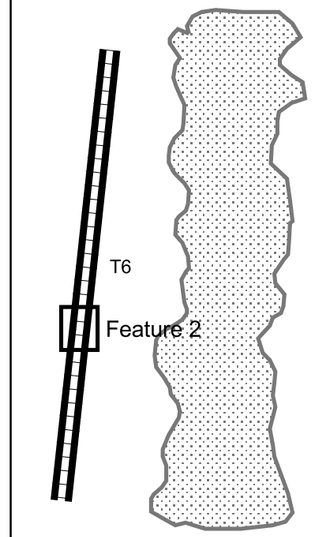
Non-locus



1 inch equals approximately 13 feet

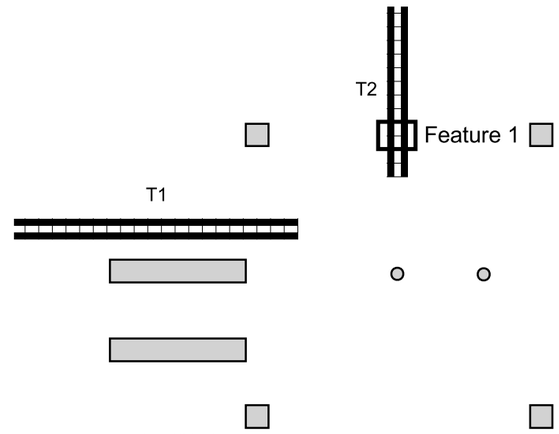
San Francisquito Canyon Road

Locus C



1 inch equals approximately 13 feet

Locus A



1 inch equals approximately 13 feet

Archaeological Trench Locations in CA-LAN-1445H

Figure 4.4-2

VTTM 53189

N W E S

200 0 200 400 Feet

Source: BonTerra Consulting 2003

BonTerra CONSULTING

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4.5 VISUAL QUALITIES

This section describes the aesthetic character and landform features of the proposed project site and immediate vicinity and discusses potential visual impacts that could result from implementation of VTTM 53189. The evaluation of aesthetics and visual resources is based upon the VTTM 53189 presented in Figure 2.2-1, site reconnaissance, and review of aerial photographs of the project site. Various viewsheds have been identified and photographs from the adjacent areas, as well as from within the project site, are included as exhibits to depict the current features of the site.

4.5.1 Existing Conditions

Landform/Topography

An aerial of the proposed project site is provided in Figure 4.5-1. The elevation of the project site ranges in elevation from approximately 1,250 feet above mean sea level (amsl) in the southern portion of the San Francisquito Canyon Creek to approximately 1,454 feet amsl in the northwestern hillside slopes and ridges of the project site. The majority of the project site is relatively flat. The central portion of the project site is characterized by the flat scrubland of the San Francisquito Canyon Creek which contains the intermittent San Francisquito Canyon Creek that drains the surrounding hillsides and the Angeles National Forest.

The landscape rises in elevation westward from San Francisquito Canyon Creek towards the surrounding hillsides. The northern and western edges of the project site contain some areas of moderately to steeply sloping hillsides. Several graded roads traverse through the project site and the shallow portions of the hillsides. The San Francisquito Canyon Road generally comprises the eastern border of the project site.

Existing Aesthetic Features

The prominent aesthetic features of the project site are based in the natural landscape, including the undeveloped hillsides in the western and northern reaches of the project site as well as the flat scrubland of the San Francisquito Canyon Creek. There are no exceptional or unique aesthetic features present within the boundaries of the project site. Non-native grasses are dominant in the flat and broad areas adjacent to the dirt roads in the western portion of the site. Riversidean sage scrub habitat is located adjacent to the 100-year flood zone of the San Francisquito Canyon Creek. Chamise chaparral is located along the steeper slopes found in the western half of the site. The dominant character of the vegetation on the site is low lying shrubs and grasses and sporadic and sparse stands of trees.

Eucalyptus trees are located just south of Lady Linda Lane along the main dirt road and holly-leaf cherry woodland is located in the northwest portion of the site. Many of these trees were destroyed or damaged in a recent wildfire. A grove of mature live oak trees is located in the northeastern corner of the site near the intersection of Lady Linda Lane and San Francisquito Canyon Road. The hillsides within the project site are undeveloped, except for some dirt roads that traverse the property. Because any alterations to the aesthetics of the project site would be most prominent to the surrounding land uses, an analysis of the project impacts on surrounding viewsheds is appropriate.

The project site is visible from the surrounding hillsides and from properties along San Francisquito Canyon Road in the vicinity of the project site. Views of the property from distant vantage points are not prominent due to the rolling topography of the area that obstructs views. A description of viewsheds into the project site from the surrounding areas is discussed below. The location of origin for the various photograph exhibits of the project site were

documented via Global Positioning System (GPS) technology. The location of each photograph site is illustrated on Figure 4.5-1, as well as arrows depicting the direction of the photograph.

Views from the North

Development north of the project site is minimal and consists of a few residential properties adjacent to the northern boundary of the site and a few homes/ranches in the northern reaches of San Francisquito Canyon Creek. Figure 4.5-2 (Location A) depicts the view of the project site from the intersection of Las Tunas and Quail Haven Trail, north of the project site. The northern boundary of the project site is just beyond the white wooden fence located on the right side of the photograph. As evidenced by this photograph, the view of the project site from the homes is obscured by the topography, as well as by the trees and distance from the project site.

The first photograph in Figure 4.5-3 (Location B) was taken from atop a graded hill within the project site and it illustrates the view to the north and east. As demonstrated by this photograph, the edge of the graded hill is approximately 50 feet higher in elevation than the residential properties located to the north behind the white fence near the intersection of Las Tunas and Quail Haven Trail. The view of the hillside portion of the project site from these homes located to the north is largely obscured by the presence of this ridgeline.

The second photo in Figure 4.5-3 (Location B) is a southerly continuation of the view depicted in the previous panoramic photograph. This view illustrates the flat scrubland of the San Francisquito Canyon Creek, the hillsides on the western portion of the project site, and the graded roads that traverse the area. The relatively sparse development of the hillsides to the east of the project site is also depicted in this photograph.

Views from the East

The majority of the developed land surrounding the project site is located to the east of San Francisquito Canyon Road. The first photograph in Figure 4.5-4 (Location C) was taken on Shawnee Court looking westward into the project site. The second photograph in Figure 4.5-4 (Location D) was taken on Piute Court looking westward into the project site. Both of these exhibits illustrate the open view of the project site available to the properties along San Francisquito Canyon Road. In the left corner of the second photograph, the grading and construction activities associated with the first phase of the Tesoro del Valle development are apparent.

The first photograph in Figure 4.5-5 (Location E) was taken from the intersection of Lowridge Place and Silkwood within the Hidden Ranch development looking westward into the project site. From this location, the project site is clearly visible from several of the homes located along these two streets. However, further east along Lowridge Place, views of the project site become obscured by the hilly topography and new home construction.

Views from the South

Development to the south of the project site is sparse. The second photograph in Figure *4.5-5* (Location F) depicts the project site from the southeastern corner of the property. The closest development is located approximately 1,400 feet further south along San Francisquito Canyon Road from the southern boundary of the property, followed by a single-family residential community located another 1,100 feet south of the project site.

Figure 4.5-6 (Location G) includes two panoramic photographs that were taken from the southwestern corner of the project site looking north to east and from east to south, respectively. Location G is at the corner of the Tesoro del Valle where Stoney Creek Road is proposed to connect and provide access to the project site. The single-family development located along San Francisquito Canyon Road is located in the distance on the right side of the second photograph in Figure 4.5-6. These photographs illustrate the sparse development surrounding the project site and the long distances to the existing development. As indicated by the photo location aerial Figure 4.5-1, the Tesoro del Valle project is located to the south and west of the project site and is currently under construction.

Views from the West

Only one structure is located near the western portion of the project site; a residential structure located in the hillside. The majority of the property to the west of the project site is located within the Tesoro del Valle residential development which has begun its first phase of development and has yet to begin grading west of the project site.

The first photograph in Figure 4.5-7 (Location H) was taken from within the project site looking westward toward the hillsides. The second photograph in Figure 4.5-7 (Location I) was taken further west along the graded road and includes the one residential development located northwest of the project site. These two exhibits illustrate the topography of the area, the lack of development west of the project site, and the areas currently altered by grading activities.

Recreational Views

The project site contains several dirt roads and trails that traverse through the SEA as well as upland areas. During the site reconnaissance, it was apparent that many of these roads and trails were being used for equestrian recreation, although there are no County-maintained regional riding or hiking trails within the project site. Users of these non-designated trails on-site currently have views of the existing undeveloped area. The photo location aerial Figure 4.5-1 depicts the roads and trails that traverse the project site that are currently being used for equestrian activity. Several equestrian centers and ranches are located along the eastern side of San Francisquito Canyon Road and horse crossing signs are located along the roadway, indicating heavy equestrian activity in the area.

The Tesoro del Valle residential project located to the south and west of the project site has incorporated a seven-mile equestrian trail, named the Cliffie Stone Trail, into the project design. The Tesoro del Valle equestrian trial map is provided in Figure 4.5-8. The Cliffie Stone Trail is depicted in orange and crosses the SEA from the Tesoro site, south of Area D as depicted in Figure 4.5-8, to San Francisquito Canyon Road. This regional trail system will be continued through the project site. In addition to the construction of the Cliffie Stone Trail, the Butterfield Overland Stage Trail will be constructed over an existing non-designated trail just east of the boundary of the SEA No. 19. The exact alignment of the connection of the trails in the project site to the trails in the Tesoro del Valle project has not been determined and will be finalized by the County Department of Parks and Recreation. Therefore, although part of the same trail system, the Cliffie Stone Trail will have no direct connections from the project site and the Tesoro del Valle project at the time of project completion.

4.5.2 Project Impacts

Thresholds of Significance

The following threshold was determined to indicate that impacts to visual qualities could be significant for the proposed project.

- Project visibility from or obstruction of views from a regional riding or hiking trail
- Location of the project site in an undeveloped or undisturbed area, which contains unique aesthetic features.
- Other factors affecting visual resources (approximately 932,000 cubic yards of grading).

Impacts to Landform/Topography

The proposed project would involve the construction of 60 single-family homes and would require approximately 246,000 cubic yards of raw grading balanced on-site (932,000 cy of total grading, including alluvium removal). The entire project site consists of 185.8 acres. The single-family development would be arranged in a sideways "T" shape along the western edge of the San Francisquito Canyon Creek and would extend westward into a large (un-named) canyon. The residential lots would range in size from 39,336 square feet to 10,075 square feet, or 0.90 to 0.23 acres respectively. Three large lots on the site would be preserved as open space, including:

- Lot 61 (approximately 103.76 acres)
- Lot 62 (approximately 29.45 acres)
- Lot 63 (approximately 16.26 acres)

Approximately 80.5 percent of the project site would be preserved within these three lots as open space. The large majority of this area will be preserved in its natural state, although some portions of these lots will include manufactured slopes vegetated with native plants. These three open space lots contain the majority of the hillside areas on the project site; therefore, preservation of these areas results in the preservation of many of the hillside features on the site. Lots 62 and 63 would preserve the majority of the steeply sloping hillside area, thereby minimizing the need for grading activities. Lot 61 would preserve the entire portion of San Francisquito Canyon Creek that is within the project boundaries. The residential homes would not be located on top of the prominent ridgelines; therefore, grading activities and changes to the topography are minimized by the location of the lots on the more level parts of the project site.

Figure 4.5-9 depicts a "key map" of the project site. This map has five location points to depict graphic representations of various perspectives on the post-construction project site. Figure *4.5-10* through Figure 4.5-14 help to illustrate what the post-construction project site will look like from five different vantage points.

Location 1

Lots 1 through 5 are located on the hilliest portion of the project site, with Lots 1 and 4 requiring the most hillside grading activity. As illustrated on Figure 2.3-1 in the Project Description, this portion of the site is in the Hillside Management area. Natural elevations on Lot 1 range from 1,420 to 1,480 amsl and the graded pad would be constructed at an elevation of 1,448 amsl. Lot 4 elevations range from 1,410 amsl to 1,450 amsl and the graded pad would be constructed

at 1,405 amsl. Graded pad elevations of these six lots steadily decrease from west to east. Lot 13 is adjacent to the large manufactured slope area and has an elevation range of 1,290 amsl to 1,350 amsl. The graded pad would be developed at 1,300 amsl. As previously stated, the majority of the remaining lots are located on relatively flat land that avoids the hillside area.

Figure 4.5-10 depicts the southerly view of the project site from the off-site property north of "C" Street near Lots 6 through 11. The difference in elevation between "B" Street on the project site and the property to the north is evident in this figure, as well as the "stair stepping" down in elevation for the lots along "C" Street.

Location 2 and 3

Figure 4.5-11 depicts a graphic representation of this northern portion of the project site. This figure illustrates the manufactured slopes that would border the eastern portion of the roadway and lots adjacent to the SEA. Additionally, this figure shows the proposed 3:1 grading of the hillside behind Lots 31, 32, and 33 (which will be contoured to reflect the natural topography to the greatest extent feasible), as well as the small landslide area behind Lots 27 and 28. The manufactured slope and landslide removal area is depicted from a location within the SEA area in Figure 4.5-12. A large portion of the hillside area would remain unaffected by the proposed project since development occurs largely along the foothill area. However, the development of the manufactured slope would present a significant visual impact to this hillside prior to mitigation.

Manufactured slopes would be developed on 314,128 square feet (7.2 acres) of the project site. The slopes would be constructed according to County of Los Angeles Public Works standards and would have a maximum slope of 2:1, with the exception of the manufactured slope site behind Lots 31, 32, and 33, which would be graded at a 3:1 slope. The majority of the slopes would be small and spread out across the site adjacent to the residential lot boundaries. Manufactured slopes would be revegetated with native, drought-tolerant plants that are consistent with the existing native vegetation on the project site.

Location 4

Figure 4.5-13 depicts the project site from the SEA, westward down "B" Street. This perspective illustrates the gradual rise in elevation from the intersection of "A" Street and "B" Street towards the junction with Tesoro del Valle. The required grading and manufactured slope between Lots 22 and 52, as well as the grading in the hillside areas for Lots 1 through 12, are depicted in the figure. Even though the graded pad development would be located in the foothill areas and not on the hilltops, the grading in the hillside areas would alter the character of the hillsides. This would be considered a significant impact, prior to mitigation.

Location 5

Figure 4.5-14 depicts a view of the project site from between Lots 43 and 44, looking northward at the corner of "A" Street and "B" Street. This perspective illustrates how the majority of the lots are developed on a gently sloping grade and are clustered in the flatter portions of the project site to avoid hillside development as much as possible, as well as to avoid sensitive biological habitats and vegetation.

The proposed project would result in changes in the existing topography of the project site. The majority of the landform and topography changes would not substantially alter the character of the site and there would not be any engineered fill slopes that would obstruct views. However, the grading hillside areas would necessitate a variety of manufactured slope areas that would

reduce/alter the ridgetops of the surrounding hills. Therefore, impacts to landform and topography due to grading activities would be considered significant prior to mitigation.

Impacts to Existing Aesthetic Features

Although the project site is currently undeveloped, vacant land, the project site does not contain any unique aesthetic features that would be impacted by the proposed project. However, the visual impacts of the proposed project include both the objective visual change created by the project and the subjective viewer response to that change. Distance from the project site, frequency of view, length of view, viewer activity, viewer perception, and viewing conditions contribute to the assessment of a visual impact. The physical changes in a viewshed as a result of a project are objective, while the viewer's perception is not. Sensitivity to a change in the physical condition is largely determined by how much the viewer has at stake in the viewshed. Typically, people who own property in an area are more sensitive to change than those just passing through.

Views from the North

The implementation of the proposed project would be visible from the residential properties north of the project boundary on the streets of Las Tunas and Quail Haven Trail, although it would be largely obscured by the tall trees and differences in elevation. A small portion of the ridgeline near these existing homes north of the project site is proposed to be altered to accommodate a manufactured slope that would be adjacent to the backyards of Lots 31, 32, and 33. The rest of this prominent ridgeline would be preserved as open space in a portion of Lot 63. The large hillside and manufactured slope behind Lots 31, 32, and 33 would serve to largely obscure the view of these three houses from these existing homes. Other views from the north of the proposed residential development would be largely obstructed by the hillside topography and the tall trees. The distance between the project site and other properties to the north of the project site would be too great to present an impact to the visual aesthetics of their viewshed.

Views from the East

The implementation of the proposed project would be the most visible from homes and ranches along the eastern side of the project site. These properties have a direct view of the land proposed for development because there are very few trees and no hills to obstruct the view over San Francisquito Canyon Creek. The views from the eastern side of San Francisquito Canyon Road toward the project site are illustrated by Figure 4.5-4 and Figure 4.5-5.

Although the proposed project development would be visible from property east of the project site, the distance to the proposed project site is approximately 2,000 feet, or 0.38 miles. This distance minimizes the visual impact of the proposed development. Additionally, the considerable amount of land that would be preserved as open space would serve to maintain the natural aesthetic of the project site, further minimizing the visual impact of the homes. With the exception of a road, the prominent ridgeline visible from the east would not be disturbed.

Views from the South

The distance between the southernmost houses proposed for the project site and the nearest ranch is approximately 2,000 feet. The nearest developed residential community is approximately 3,000 feet south of the project site, or 0.58 miles.

Therefore, the proposed project would have a minimal visual impact on these properties. The Tesoro del Valle development is located to the south and west of the project site and only the first phase is currently constructed. Therefore, the proposed project would have no visual impacts on the future residents of this property, as it would be perceived as a continuation of that development project.

Views from the West

One residential property is located on the northwest edge of the project site. This property would be located approximately 100 feet from northern the boundary of the project site and the viewshed from this property would be impacted by the implementation of the proposed project. This home is located at slightly higher elevations than the proposed project; therefore the viewshed would not be obscured by the project development. There are no other developments west of the project site and the Tesoro del Valle development is not directly visible from this one residential property.

The visual and aesthetic impact to the home located northwest of the project site is not considered a significant impact. The proposed project is a residential development surrounded by considerable amounts of open space. The hillsides surrounding the property would obscure views of a majority of the proposed development and the most prominent ridgeline to the south would be part of open space Lot 62.

The implementation of the proposed project would alter the aesthetics of the project site. Sixty single-family homes would be constructed on land that is currently undeveloped. However, the project design preserves 80 percent of the project site as open space through preservation in Lots 61, 62, and 63. Approximately 63.2 acres of vegetation would be impacted by either development or by fuel modification (which does occur in open space areas), resulting in a total of 122.6 acres, or 66 percent of the project site, remaining as undisturbed open space. The single-family residential development is clustered away from the ridgelines to minimize impacts to the aesthetic and biological resources on the project site. Therefore, much of the current aesthetic quality of the project site, including the San Francisquito Canyon Creek and the surrounding hillside ridgelines, would remain. Additionally, the distance between the project site and the majority of the neighboring residences contributes to the minimization of impacts to aesthetics. Impacts to aesthetic features are therefore less than significant.

Recreational Views

The development of the project site could change the current equestrian usage patterns on the site and subsequently impact the views of the current users. In general, because a County-maintained regional riding or hiking trail does not currently exist on the project site, the change in aesthetic features to currently unauthorized recreational users would not be significant.

Nevertheless, in order to accommodate for the continued recreational use and visual experience of equestrian users, the proposed project design includes the extension of the Cliffie Stone Trail into the project site where no dedicated trail currently exists, as well as the construction of the Butterfield Overland Stage Trail. These trails are located within Lot 61 and depicted on the tract map in Figure 2.2-1 and would be dedicated to the County of Los Angeles along with all of the open space lots. The trails will be maintained by the Department of Parks and Recreation (DPR). The creation of dedicated equestrian and hiking/biking trails would allow users to continue enjoying the visual aesthetics of the surrounding area.

As previously discussed, the change in the aesthetic features of the project site and surrounding area are not considered significant. Additionally, the extension of the Cliffie Stone Trail and Butterfield Overland Stage Trail would prevent the physical degradation of the San Francisquito

Canyon Creek by directing the equestrian activities into an easily maintained and designated trail area. The ultimate decision to restrict or allow access to the existing non-designated trails in the SEA No. 19 would be left to the discretion of the County of Los Angeles. Lot 61, which contains the sensitive SEA No. 19 habitat, will be preserved as open space in order to protect the sensitive habitat from a biological as well as aesthetic standpoint.

The construction of the underground levee system would be largely hidden, with the exception of approximately four feet of horizontal levee (two feet of vertical levee) that would be located above ground. The levee system would be located adjacent to the graded pads of the project site and would not be readily visible from the two equestrian/hiking trails. Visual impacts of the levee system would be less than significant.

4.5.3 Cumulative Impacts

The area under consideration for this cumulative impacts analysis includes residential development within one mile of the project site. General descriptions are provided in Section 2.6 for these neighboring projects. The Tesoro del Valle project is a large development (1,795 acres) currently in the first phase of construction. Upon completion, this project will have developed open spaces to the north, west, and south of the project site and will be visible from development along the eastern side of San Francisquito Canyon Creek.

The West Creek project is located just south of Tesoro and would also develop a large amount of currently open spaces along the western side of San Francisquito Canyon Creek. Completion of these two projects would significantly alter the character and aesthetics of the area on the west side of the San Francisquito Canyon Creek and would be visible from numerous vantage points and properties in the area.

Development along the eastern side of San Francisquito Canyon Creek is much less dense and is largely composed of ranches and Tract 52302, which includes 11 single family homes currently under construction. The adjacent Tract 46564, a subdivision of 318 single family homes built in the late 1990s, is further to the east and is not within the viewshed of the project site.

Upon completion of the surrounding projects, (including those that are planned and under construction), the implementation of VTTM 53189 would not result cumulatively considerable visual impacts. The visual changes in the area associated with the implementation of the Tesoro and West Creek projects would be considerable and would not be made more substantial by the development of VTTM 53189.

The proposed project would maintain considerable amounts of open space on the property, thereby resulting in a development that is complementary to the existing development to the east. VTTM 53189 would also provide a visual transition to the denser development planned and under construction for Tesoro del Valle and West Creek.

The proposed project would not significantly alter the views of the surrounding hillsides or topography of the area and would remain in the lower, flatter portion of the project site; therefore, the project design would maintain the character of the open space in the surrounding areas. Prominent ridgelines would not be developed by VTTM 53189 and the San Francisquito Canyon Creek would be preserved in its entirety, further emphasizing the project's conformity to the natural features of the site. The Santa Clarita Valley is growing at a rapid rate and residential development is underway or planned for much of the area surrounding the project site. The visual impacts of the proposed project would be negligible in the context of the surrounding planned development and development currently under construction.

4.5.4 Project Design Features and Mitigation Measures

Project Design Features

- Approximately 80 percent of the project site is preserved as open space in Lots 61, 62, and 63. Approximately 122.6 acres, or 66 percent of the project site, would remaining as undisturbed open space not impacted by fuel modification, in order to maintain the natural and aesthetic features of the project site.

- The final configuration of the Cliffie Stone Trail and the Butterfield Overland Stage Trail will be determined by the County of Los Angeles Parks and Recreation Department. The trails will not traverse the SEA and it is the intent of the applicant that the trails shall avoid oak tree impacts.

Mitigation Measures

MM 4.5-1 At the completion of construction activities, all manufactured slope areas shall be landscaped. Landscaping plans for the project site would use native vegetation (i.e., oaks, coastal sage scrub) on manufactured slopes that are adjacent to naturally vegetated areas to minimize the potential visual impacts of development. The plan materials, placement, and maintenance of the native revegetation would be approved by the Fire Department, Department of Regional Planning, and by the project biologist. The manufactured slope behind Lots 31, 32, and 33 would be constructed at a 3:1 grade to ensure slope stability and to minimize potential erosion along the hillside area. This manufactured slope shall be contoured to reflect the natural topography to the greatest extent feasible in order to enhance the aesthetic qualities of the slope area.

Level of Significance after Mitigation

With the incorporation of the mitigation measures listed above, the visual and aesthetic impacts associated with the implementation of the project would be less than significant.

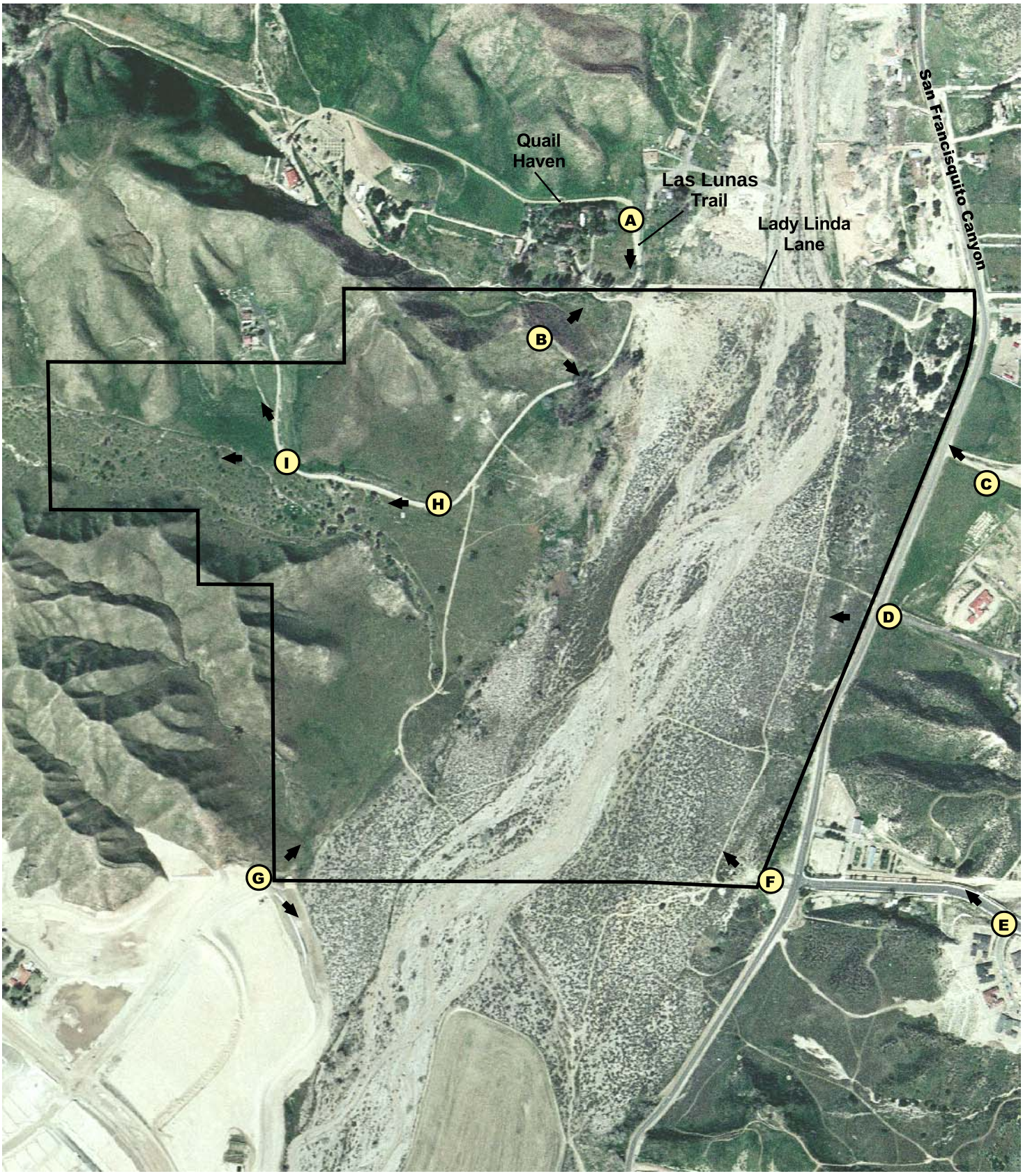

Photo Locations

Figure 4.5-1

VTTM 53189

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BonTerra CONSULTING

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Location A (facing South)

Site Photo - Location A

Figure 4.5-2

VTTM 53189

BonTerra CONSULTING

Source: BonTerra Consulting 2003

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Location B (facing North to East)

Location B (facing East to South)

Site Photos - Location B

Figure 4.5-3

VTTM 53189

BonTerra CONSULTING

Source: BonTerra Consulting 2003

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Location C (facing West)

Location D (facing Southwest to Northwest)

Site Photos – Locations C and D

Figure 4.5-4

VTTM 53189

BonTerra CONSULTING

Source: BonTerra Consulting 2003

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Location E (facing West)

Location F(facingWest to North)

Site Photos – Locations E and F

Figure 4.5-5

VTTM 53189

BonTerra CONSULTING

Source: BonTerra Consulting 2003

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Location G (facing North to East)

Location G (facing East to South)

Site Photos - Location G

Figure 4.5-6

VTTM 53189

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Source: BonTerra Consulting 2003

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Location H (facing West)

Location I (facing Southwest to Northwest)

Site Photos - Locations H and I

Figure 4.5-7

VTTM 53189

BonTerra CONSULTING

Source: BonTerra Consulting 2003

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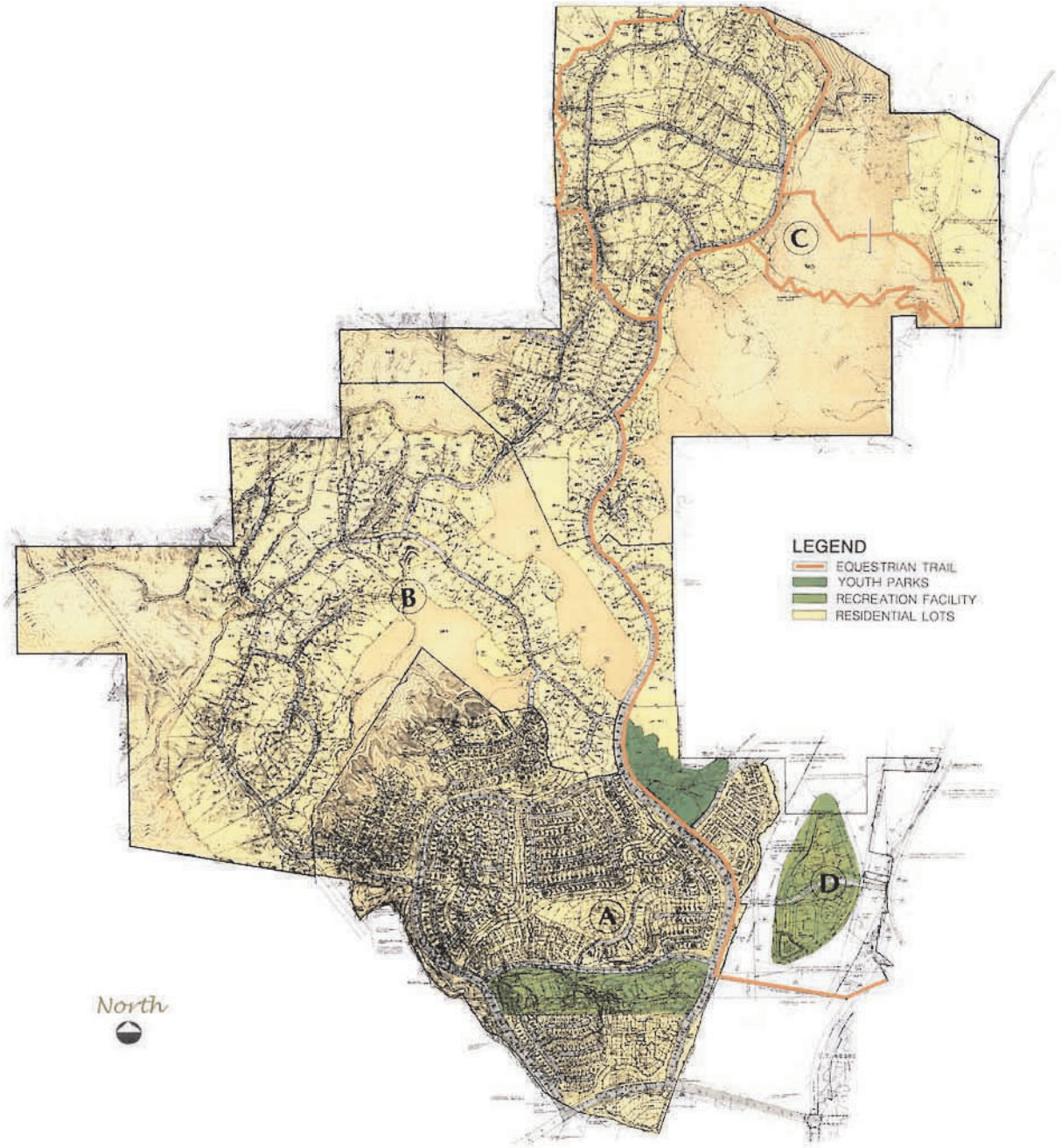
TESORO del Valle

Equestrian Trail Map



Tesoro del Valle Equestrian Trail Map — Figure 4.5-8

VTTM 53189

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BonTerra CONSULTING

Source: www.tesorodelvalle.com

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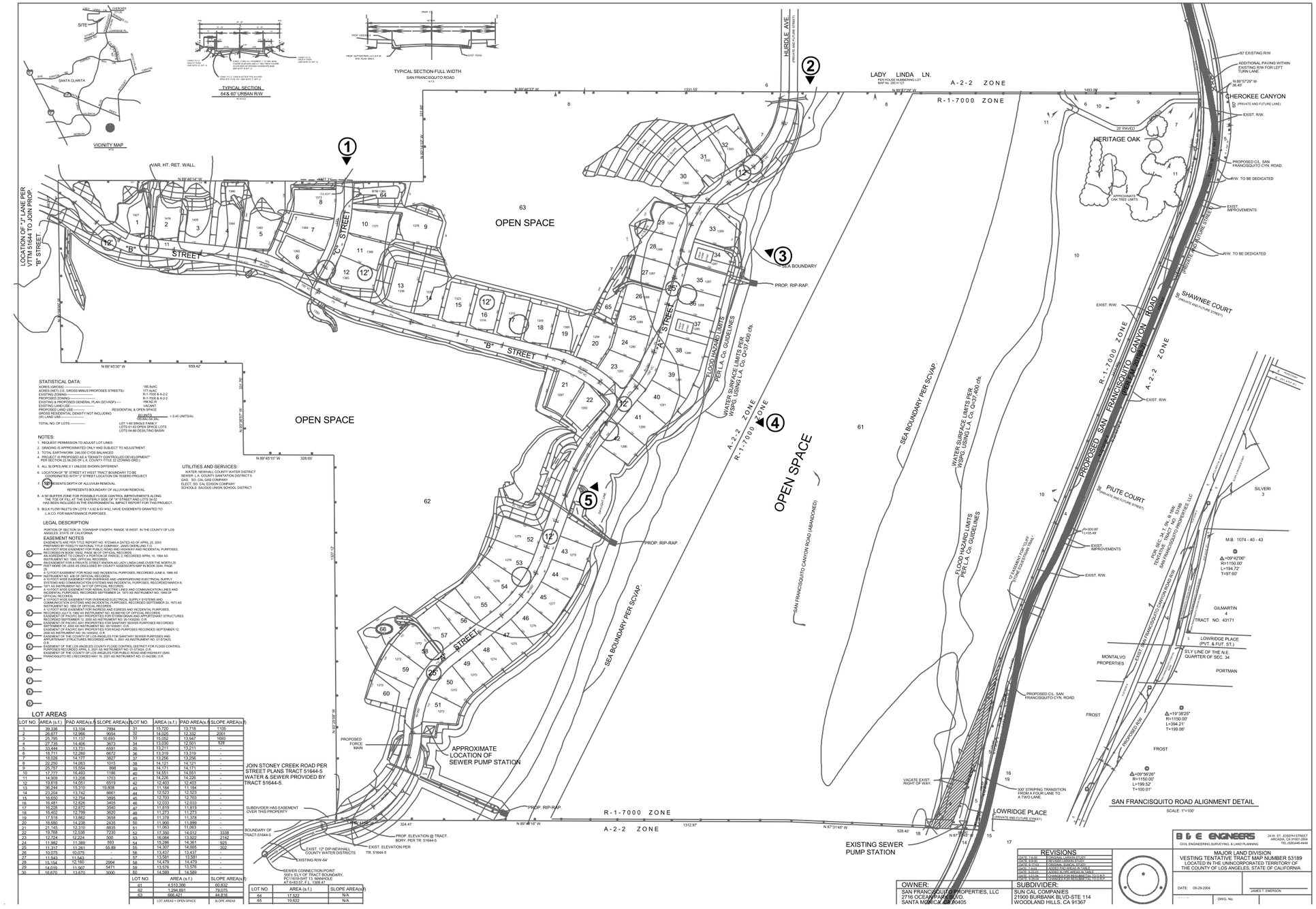

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Location Key Tentative Tract Map

VTTM 53189

Figure 4.5-9

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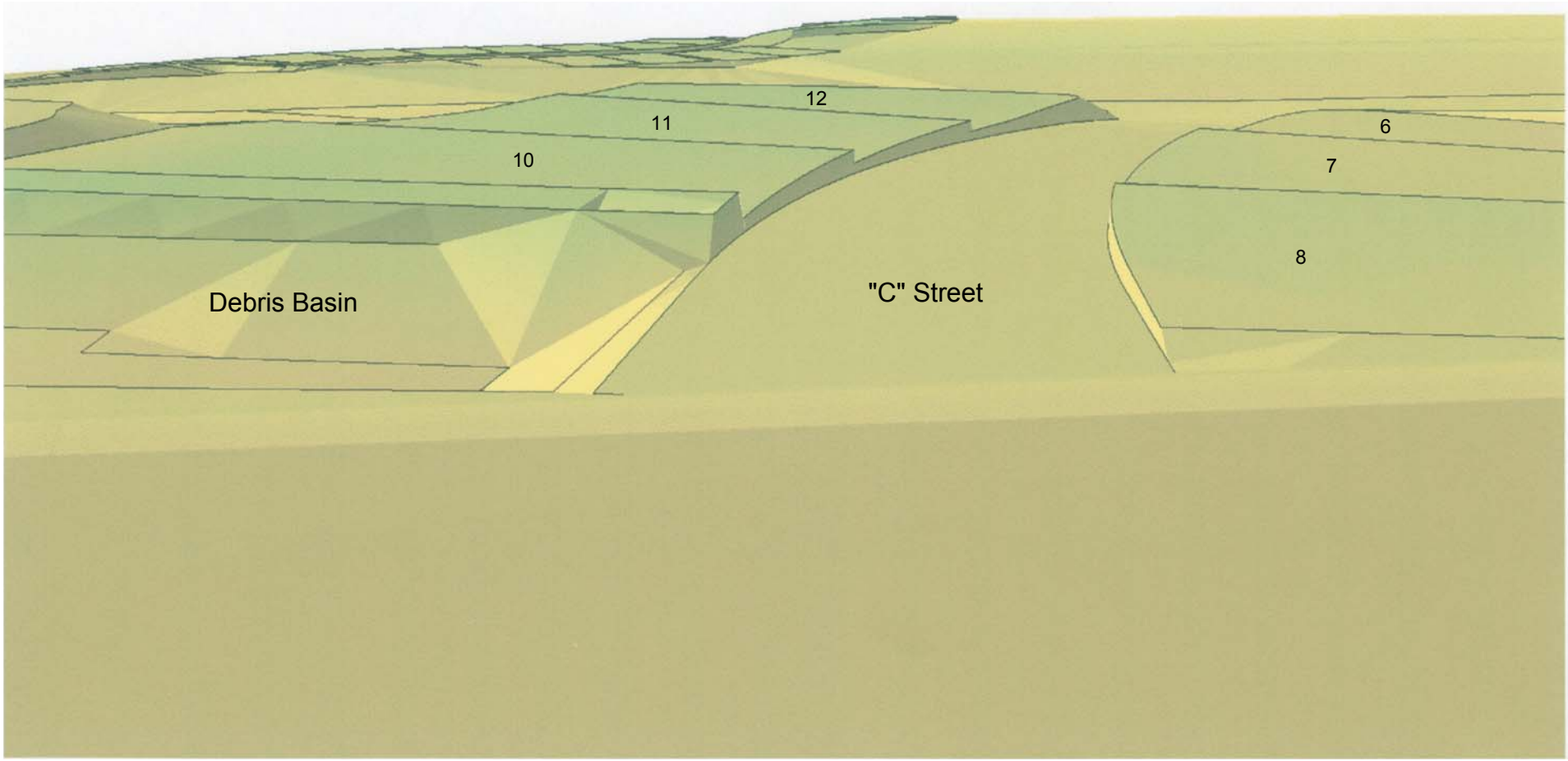

Graphic Representation of Lots (Location 1)

Figure 4.5-10

VTTM 53189

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BonTerra CONSULTING

Source: B & E Engineers, 2004

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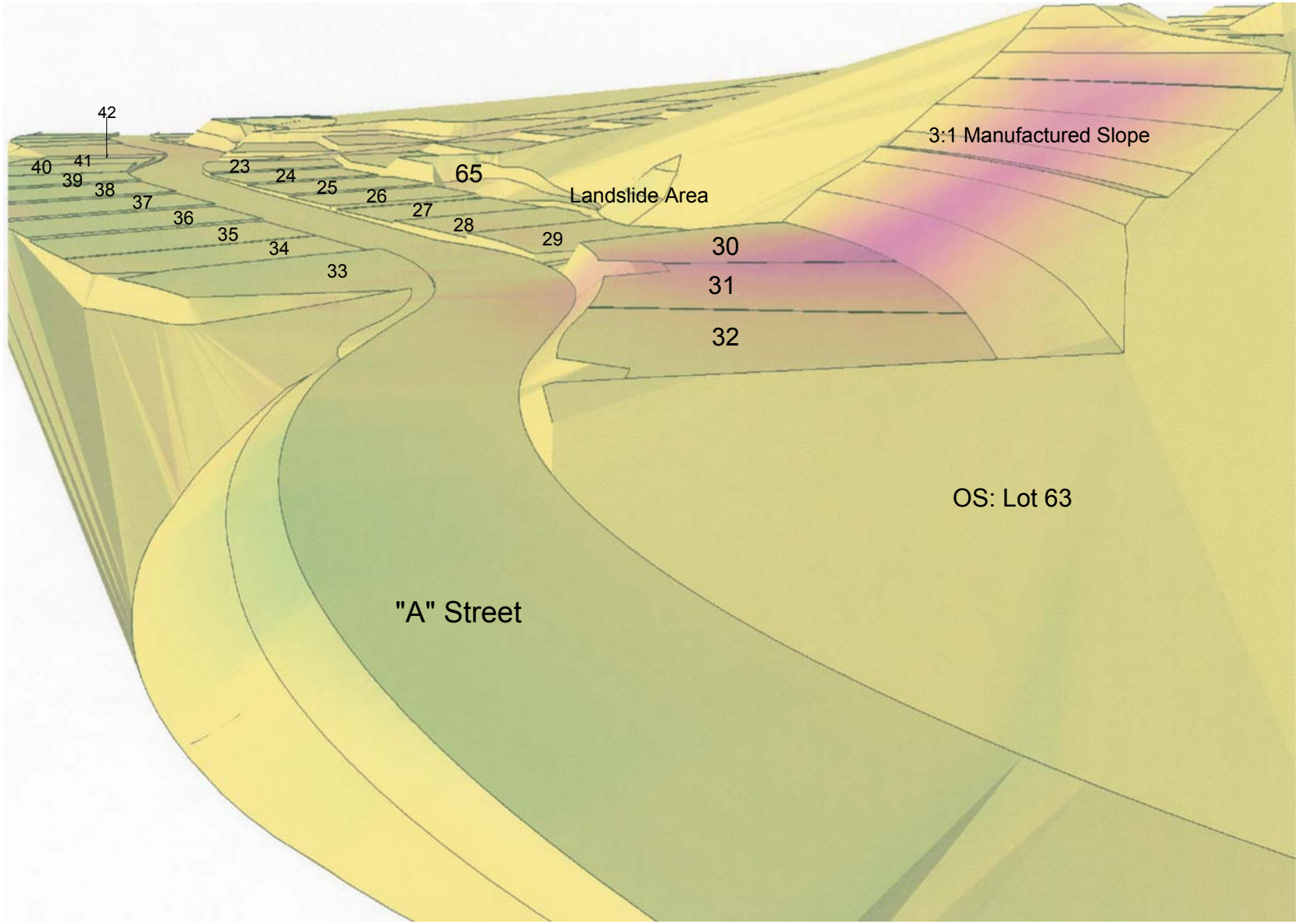

Graphic Representation of Lots (Location 2)

Figure 4.5-11

VTTM 53189

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Source: B & E Engineers, 2004

BonTerra CONSULTING

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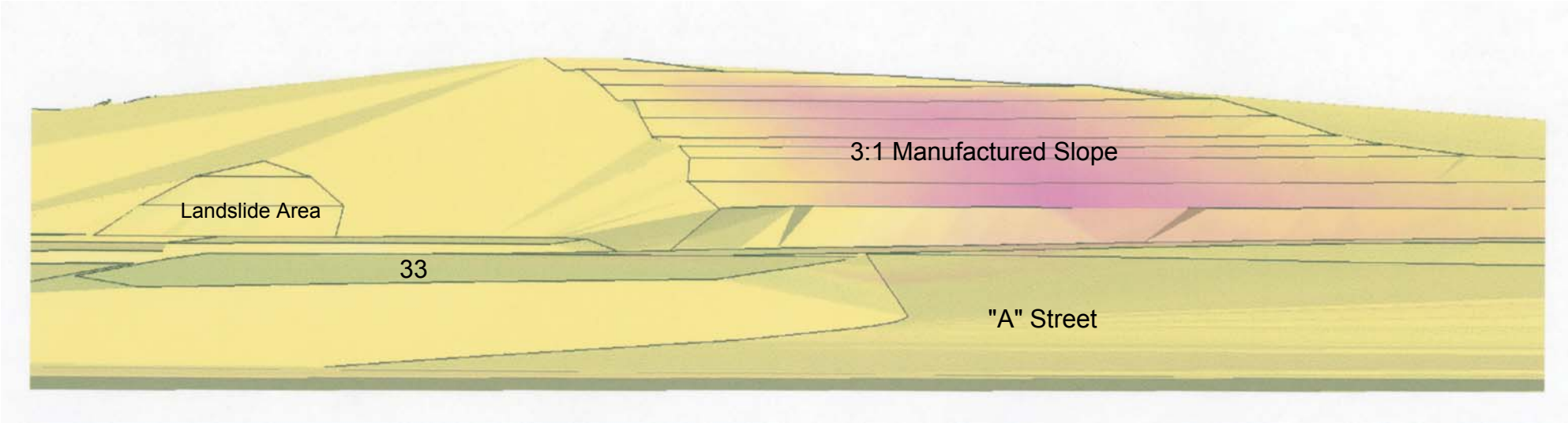

Graphic Representation of Lots (Location 3)

Figure 4.5-12

VTTM 53189

Source: B & E Engineers, 2004

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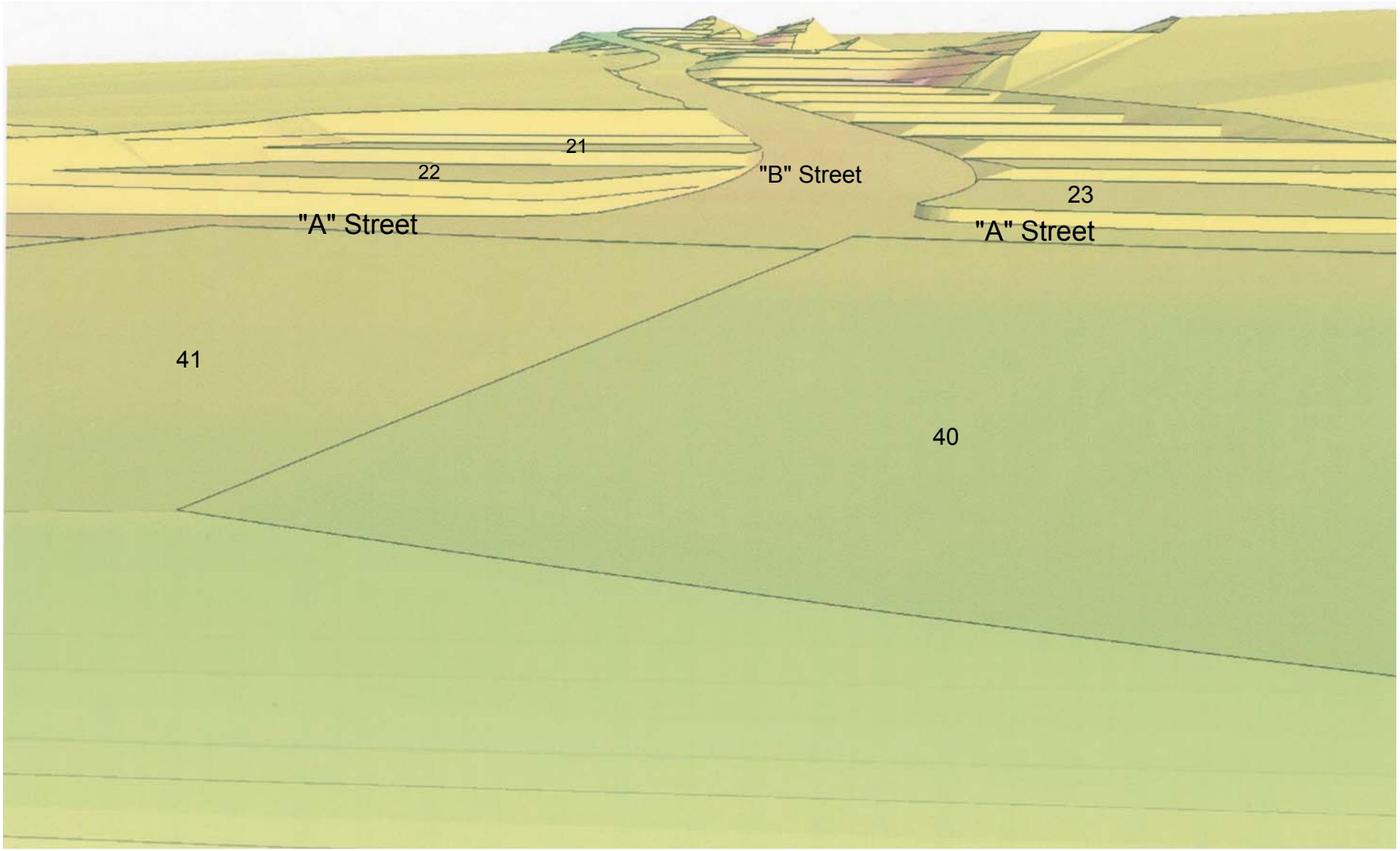

Graphic Representation of Lots (Location 4)

Figure 4.5-13

VTTM 53189

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BonTerra CONSULTING

Source: B & E Engineers, 2004

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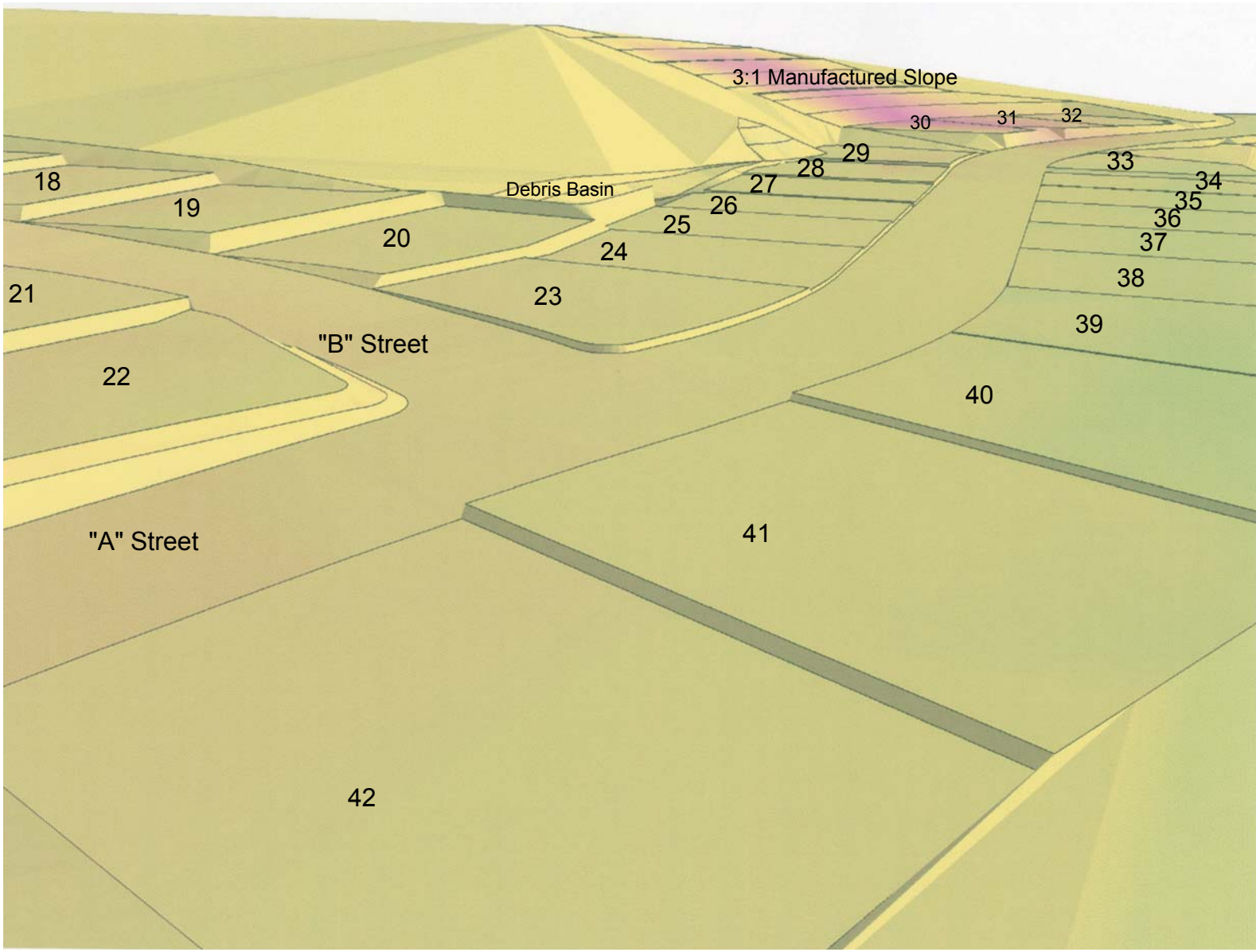

Graphic Representation of Lots (Location 5)

Figure 4.5-14

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Source: B & E Engineers, 2004

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SECTION 5.0 SERVICES ANALYSIS

5.1 TRAFFIC/ACCESS

A traffic study was prepared for this project by Linscott, Law & Greenspan Engineers in October 2003. The traffic study identifies and evaluates the potential impacts that traffic generated by the proposed development of VTTM 53189 will have on the local and regional roadway network. The study was prepared in accordance with the County of Los Angeles and City of Santa Clarita traffic study guidelines. The traffic study is summarized below and the study is included in its entirety in Appendix G of this EIR.

5.1.1 Existing Conditions

The proposed project site is located north of Copper Hill Drive in unincorporated Los Angeles County and is bordered by San Francisquito Canyon Road to the east, Lady Linda Lane to the north, and open space within the approved Tesoro del Valle project to the south and west. Regional access to the project area is provided by the Interstate 5 freeway and the State Route 14 freeway. A description of important roadways within the study area is provided below:

- ***Golden State (I-5) Freeway*** is a major north-south freeway that connects Santa Clarita Valley with the City of Los Angeles and the Central Valley. The I-5 provides four lanes of travel in each direction in the project vicinity. Local access to the freeway is available from Magic Mountain Parkway or The Old Road/Rye Canyon Road.

- ***Antelope Valley (SR-14) Freeway*** is a major north-south freeway connecting the eastern portion of the Santa Clarita Valley with the City of Los Angeles and the Antelope Valley. In the project vicinity, the SR-14 provides four to five lanes of travel in each direction. Local access to the freeway is available from the Via Princessa interchange.

- ***Copper Hill Drive*** is a primary east-west roadway, approximately following the northern Santa Clarita border. At Avenida Rancho Tesoro, Copper Hill Drive provides three lanes of traffic in each direction, but it ranges from one to three lanes at other locations. On-street parking is generally not permitted. The posted speed limit on Copper Hill Drive in the project vicinity is 55 miles per hour (MPH).

- ***Avenida Rancho Tesoro*** is a north-south roadway through the City of Santa Clarita which provides immediate access to the project site. It currently provides one lane of travel in each direction and has been recently paved.

- ***McBean Parkway*** is a primary north-south roadway (east-west in the southern end) through the City of Santa Clarita, generally providing three lanes of travel in each direction. On-street parking is generally not permitted in the project vicinity. The posted speed limit on McBean Parkway is 50 MPH. McBean currently ends at Copper Hill Drive, but it is proposed to be extended so that it intersects San Francisquito Canyon Road.

- ***Seco Canyon Road*** is a primary north-south roadway through the City of Santa Clarita that provides two lanes of travel in each direction south of Copper Hill and one lane north of Copper Hill. Parking is generally not permitted on Seco Canyon Road, south of Copper Hill Drive, but is permitted north of Copper Hill Drive. The posted speed limit on Seco Canyon Road is 35 MPH north of Copper Hill Drive and 45 MPH south of Copper Hill Drive.

Study Area

Potential traffic-related impacts associated with the implementation of the proposed project were evaluated at three key intersections in the vicinity of the project site. The project site is located within the unincorporated County; however, one of the three study intersections is located within the City of Santa Clarita. The three key intersections are listed below.

1. Avenida Rancho Tesoro and Copper Hill Drive (County)
2. McBean Parkway and Copper Hill Drive (County)
3. Seco Canyon Road and Copper Hill Drive (City)

These intersections were determined by Los Angeles County Department of Public Works Traffic and Lighting Division staff and the City of Santa Clarita Transportation and Engineering Services staff. Intersection No. 1 is currently stop-controlled, and will be signalized as part of the Tesoro del Valle project; the other two intersections are signalized.

Existing Traffic Volumes

Manual traffic counts were conducted at the three study intersections from 7:00 to 9:00 AM to determine the morning commuter peak hour and from 4:00 to 6:00 PM to determine the afternoon peak hour. Traffic volumes at these intersections reflected the same typical peak periods generally associated with peak commuter hours. Construction related traffic to and from Avenida Rancho Tesoro at Copper Hill Drive was not included in the existing traffic count because the construction traffic is temporary. Table 5-1 identifies the existing traffic volumes at the study intersections during the AM and PM peak hours.

TABLE 5-1
EXISTING TRAFFIC VOLUMES

No.	Intersection	Date	Direction	AM Peak Hour Volume		PM Peak Hour Volume	
				Began	Volume	Began	Volume
1	Avenida Rancho Tesoro and Copper Hill Drive	9-23-03	NB SB EB WB	7:00	0 41 583 1,875	4:45	0 28 1,227 353
2	McBean Parkway and Copper Hill Drive	9-18-03	NB SB EB WB	7:00	464 0 367 2,207	5:00	938 0 1,273 684
3	Seco Canyon Road and Copper Hill Drive	9-18-03	NB SB EB WB	7:00	595 794 613 1,197	5:00	638 449 1,460 665

Level of Service Methodology

The County of Los Angeles and City of Santa Clarita evaluate Level of Service (LOS) using their respective Intersection Capacity Utilization (ICU) methodology. LOS can vary from LOS A (free flow) to LOS F (jammed condition). LOS D is generally recognized as the minimum acceptable LOS in urban areas. Volume-to-Capacity (V/C) ratios and LOS values during AM and PM peak hours were calculated for all three intersections. The three study intersections are currently

operating at acceptable Levels of Service (LOS D or better) during the AM and PM peak hours. The existing peak hour AM and PM data for 2003 for the three intersections are summarized below.

- Avenida Rancho Tesoro and Copper Hill Drive

  AM: V/C 0.506 (LOS A) PM: V/C 0.361 (LOS A)

- McBean Parkway and Copper Hill Drive

  AM: V/C 0.654 (LOS B) PM: V/C 0.807 (LOS D)

- Seco Canyon Road and Copper Hill Drive

  AM: V/C 0.695 (LOS B) PM: V/C 0.591 (LOS A)

5.1.2 Project Impacts

Thresholds of Significance

The following thresholds were determined to indicate that impacts to traffic/access could be significant for the proposed project:

- Development of more than 25 dwelling units and located in an area with known congestion problems (roadway or intersections).

- Exceedance of the congestion management program (CMP) Transportation Impact Analysis threshold 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.

Thresholds of significance for the two County of Los Angeles intersections were identified using the traffic impact analysis guidelines set forth in the County of Los Angeles Department of Public Works' *Traffic Impact Analysis Report Guidelines*, January, 1997. According to the County's published guidelines, the impact is considered significant if the project-related increase in the V/C ratio equals or exceeds the following threshold:

Pre-Project V/C	LOS	Project Related Increase in V/C
>0.700-0.800	C	equal to or greater than 0.04
>0.800-0.900	D	equal to or greater than 0.02
>0.900	E-F	equal to or greater than 0.01

Per the County's *Traffic Impact Analysis Report Guidelines*, the ICU calculations utilize a lane capacity of 1,600 vehicles per hour (vph) per lane and 2,880 vph for dual left-turn and right-turn lanes. Additionally, a clearance factor of 0.10 is utilized.

For the City of Santa Clarita intersection, the thresholds of significance were identified using the City of Santa Clarita's *Traffic Impact Report Guidelines*. According to these guidelines, a significant transportation impact is determined based on the following sliding scale criteria:

Final V/C	LOS	Project Related Increase in V/C
0.00-0.79	A-C	equal to or greater than 0.04

0.80-0.89	D	equal to or greater than 0.02
0.90 or more	E-F	equal to or greater than 0.01

Per the City's *Traffic Impact Report Guidelines*, the ICU calculations utilize a capacity of 1,750 vph for left-turn, through, and right-turn lanes. Additionally, clearance factors of 0.05 for two phases, 0.07 for three/five phases and 0.10 for six phases or more are utilized.

Impacts Analysis

Trip Generation

The 6th Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE), 1997, was used to determine the traffic volumes generated by the proposed project on an average weekday based upon the number of dwelling units. Weekday AM peak hour trips generated by the proposed project are expected to be 45 (11 inbound trips and 34 outbound trips). Weekday PM peak hour trips generated by the proposed project are expected to be 61 (39 inbound trips and 22 outbound trips). A total of 574 trips are expected to be generated over a 24-hour period on a typical workday, including 287 inbound trips and 287 outbound trips. The distribution of these vehicle trips for the AM peak hour and the PM peak hour are presented in Figure 5.1-1 and Figure 5.1-2, respectively.

Trip Distribution

The traffic generated by the proposed project was assigned to the local roadway system based on the land use, existing traffic movements, characteristics of the surrounding roadway systems, and nearby regional population and employment centers. The project traffic volume distribution percentages within the three study intersections are illustrated in Figure 5.1-3.

Ambient Growth

Growth in traffic due to the combined effects of continuing development, intensification of existing development, and other factors, were conservatively assumed to be 6.6 percent per year through 2005. This ambient growth incrementally increases the V/C ratios at all of the study intersections. The fourth columns of Table 5-2 and Table 5-3 show that the three intersections are expected to continue operating at acceptable Levels of Service (LOS D or better) during AM and PM hours in 2005.

TABLE 5-2
SUMMARY OF VOLUME TO CAPACITY RATIOS AND
LEVELS OF SERVICE COUNTY OF LOS ANGELES STUDY INTERSECTIONS
AM and PM Peak Hours

No.	Peak Hour	2003 Existing Condition		2005 With Ambient Growth		2005 With Proposed Project		Change in V/C	Significant Impact?	2005 With Related Projects		2005 With Regional Mitigation	
		V/C	LOS	V/C	LOS	V/C	LOS			V/C	LOS	V/C	LOS
1	AM	0.506	A	0.560	A	0.572	A	0.012	No	0.879	D	0.879	D
	PM	0.361	A	0.395	A	0.400	A	0.005	No	0.728	C	0.728	C
2	AM	0.654	B	0.727	C	0.729	C	0.002	No	0.938	E	0.869	D
	PM	0.807	D	0.900	D	0.903	E	0.003	No	1.174	F	0.882	D

Source: Tentative Tract 53189 Traffic Impact Study; Linscott, Law & Greenspan Engineers
*No. 1 represents the intersection of Avenida Rancho Tesoro and Copper Hill Drive
No. 2 represents the intersection of McBean Parkway and Copper Hill Drive

TABLE 5-3
SUMMARY OF VOLUME TO CAPACITY RATIOS AND LEVELS OF SERVICE
CITY OF SANTA CLARITA STUDY INTERSECTIONS
AM and PM Peak Hours

No.	Peak Hour	2003 Existing Condition		2005 With Ambient Growth		2005 With Proposed Project		2005 With Related Projects		Change in V/C	Significant Impact?
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS		
3	AM	0.695	B	0.777	C	0.873	D	0.874	D	0.001	No
3	PM	0.591	A	0.660	B	0.811	D	0.812	D	0.001	No

Source: Tentative Tract 53189 Traffic Impact Study; Linscott, Law & Greenspan Engineers
*No. 3 represents the intersection of Seco Canyon Road and Copper Hill Drive

Related Projects

Information regarding the potential impact of the proposed project must be considered within the context of other nearby related and/or ongoing development. Files at the County of Los Angeles Department of Regional Planning and the City of Santa Clarita provided information on other known development projects in the area. This information was used to illustrate the impact of the proposed project relative to other projects in the area in order to determine the cumulative impact. A list of all related projects is included in the Traffic Impact Study in Appendix G.

The City of Santa Clarita requires that traffic from related projects are analyzed prior to consideration of traffic due to the proposed project. The fifth column of Table 5-3 illustrates that the LOS at the Seco Canyon Road and Copper Hill Drive intersection is incrementally increased by the addition of traffic generated by the related projects. Table 5-3 also shows that the study intersection in the City of Santa Clarita is expected to operate at an acceptable LOS during both the AM and PM peak hours. A thorough analysis of the cumulative impact of the proposed project is provided in Section 5.1.3 below.

Proposed Project

Table 5-2 and Table 5-3 indicate that none of the study intersections are expected to be significantly impacted by the proposed project during the AM and PM peak hours. Therefore, no project-related traffic mitigation measures are required.

The Congestion Management Program (CMP) is a state-mandated program that was enacted by the State Legislature with the passage of Proposition 111 in 1990 that is intended to address the impact of local growth on the regional transportation system. The CMP for the County of Los Angeles requires a review of designated monitoring locations on the CMP highway system for potential impact analysis. However, there are no CMP arterial monitoring intersections or freeway monitoring locations in the vicinity of the project area.

The proposed project would not add 50 or more trips during either the weekday AM or PM peak hours (of adjacent street traffic) at any CMP monitoring intersections, or 150 or more trips (in either direction) during the weekday AM or PM peak hours at any CMP mainline freeway monitoring locations. Hence, no CMP traffic assessment is required for the proposed project. The project traffic engineer indicates that the project is expected to add less than 10 trips per hour to the I-5 Freeway during the AM and PM peak hours, which would not result in a significant impact to operations along the freeway in the project vicinity.

Transit Impact Review

The closest transit route in the project vicinity is the Santa Clarita Transit Route 7 which travels on McBean Parkway (south of Copper Hill Drive) and Copper Hill Drive (east of McBean Parkway). Per the CMP guidelines, the proposed project is expected to generate a demand for two transit trips during the weekday AM peak hour and three transit trips during the weekday PM peak hour. Over a 24-hour period, the proposed project is forecasted to generate a demand for 28 daily transit trips. Given the relatively few generated transit trips, the proposed project would not create any impacts on future transit service.

5.1.3 Cumulative Impacts

The area of consideration for cumulative impacts includes the greater Santa Clarita Valley, including the related projects described in the Traffic Impact Study in Appendix G. Table 5-4 below lists all the related projects in the County of Los Angeles and the City of Santa Clarita that may result in a cumulative traffic impact.

TABLE 5-4
CUMULATIVE PROJECTS FOR TRAFFIC ANALYSIS

FIGURE 2.6-1 NO.	PROJECT NUMBER	LOCATION	LAND USE	SIZE	STATUS
County of Los Angeles					
1	98170	Curtis Development Copper Hill Drive and Haskell Canyon Road	Single-Family Housing Condominium Commercial	421 DU 115 DU 39,200 SF (est.)	Approved Not Defined
2	88280	Seco Canyon Development North terminus of Boxwood Lane and Raintree Lane	Single-Family Housing	303 DU	Built
3	02-341	Davidon Homes North of Copper Hill drive and east of Hidden Hills Drive	Single-Family Housing	6 DU	Denial Recommended
4	88321	Valencia Company Northerly extension of McBean Parkway between Westerly extension Decoro Drive and San Francisquito Canyon Road	Single-Family Housing Condominium	701 DU 730 DU	Recorded
5	95075	Valencia Company North of Decoro Drive and east of Copper Hill Drive	Single-Family Housing Condominium	190 DU 268 DU	Built
6	97088	Lincoln Property Company North of Copper Hill Drive between San Francisquito Canyon Drive and extension of Raintree Lane	Single-Family Housing	11 DU	Approved
7	98016	The Newhall Land and Farming Company East side of McBean Parkway, between Copper Hill Drive and Northpark Drive	Apartment	330 DU	Recorded
8	99155	Valencia Company Copper Hill Drive approximately 500 feet east of Smyth Drive and Boskovich Drive	Light Industrial	83,334 SF	Approved
9	92074	Montalvo Properties - Tesoro De Valle West of San Francisquito Canyon Road and north of Copper Hill Drive	Single-Family Housing Condominium Commercial	1,601 DU 901 DU 75,000 SF	Area A Under Construction

TABLE 5-4 (Continued)
CUMULATIVE PROJECTS FOR TRAFFIC ANALYSIS

FIGURE 2.6-1 NO.	PROJECT NUMBER	LOCATION	LAND USE	SIZE	STATUS
10	98008	Valencia Company – West Creek West side of San Francisquito Canyon Creek	Single-Family Housing Condominium/Apt. Commercial	1,248 DU 1,297 DU 180,000 SF	Approved
11	88422	Maybell Bishop Copper Hill Drive, 1500 ft of Seco Canyon Road	Single-Family Housing	419 DU	Approved
12	94021	Cucamonga Development Company North of Copper Hill Drive 1300 ft west of Haskell Canyon Road	Single-Family Housing	194 DU	Approved
13	88044	Davidon Homes NWC of Copper Hill Drive and Haskell Canyon Road	Single-Family Housing	213 DU	Approved
14	88596	Seco Canyon Development #4 Northerly extension of Seco Canyon Road between Haskell Canyon Road and San Francisquito Canyon Road	Single-Family Housing	594 DU	Approved
15	88082	CJB Development Inc. North terminus of Haskell Canyon Road northeast of Copper Hill Drive	Single-Family Housing Condominium	421 DU 99 DU	Approved
16	93179	The Newhall Land and Farming Company West of McBean Parkway between Decoro Drive and Copper Hill Drive	Single-Family Housing Condominium	146 DU 244 DU	Approved
City of Santa Clarita					
17	03-154	Smyth Drive and Dickason Drive	Church	55,000 SF	Preliminary Review
18	03-170	NEC of Alta Vista and Constellation (Copper Hill Drive between Smyth Drive and Decoro Drive)	Industrial	132,000 SF	Approved
19	02-193	North Valencia II - Hidden Creek SWC of McBean Parkway and Copper Hill Drive	Senior Housing	275 DU	Approved
20	02-251	Greystone: North Valencia II - Alta Vista Copper Hill Drive and Alta Vista Drive, west of Valencia High School	Single-Family	160 DU	Approved
21	02-251	Standard Pacific: North Valencia II - Alta Vista Copper Hill Drive and Alta Vista Drive, west of Valencia High School	Single-Family Multi-Family	79 DU 90 DU	Approved
22	02-292	Warmington Homes: North Valencia II - The Willows SWC McBean Parkway and Decoro Drive	Single-Family	205 DU	Approved
23	02-335	Fountain Glen: North Valencia II Decoro Drive and Sunny Creek	Single-Family	226 DU	Proposed
24	02-442	William Lyons Homes: North Valencia II - Andora SWC of McBean Parkway and Cottonwood	Single-Family	141 DU	Proposed
25		KB Homes: North Valencia II West of McBean Parkway, South of Decoro Drive	Single-Family	155 DU	Proposed
26		Olsen Company: North Valencia II West of McBean Parkway, South of Decoro Drive	Single-Family	168 DU	Proposed

The analysis of cumulative impacts takes into consideration the following planned improvements:

- New traffic lane configurations as depicted in the *Traffic Impact Study* for Tesoro del Valle prepared by Darnell & Associates, Inc. 1998. (Figure 5.1-4)

- Northerly extension of McBean Parkway from Copper Hill Drive to San Francisquito Canyon Road (resulting in traffic shifts to McBean Parkway)

The County of Los Angeles analysis procedures require that traffic from related projects be considered in the future cumulative conditions, after consideration of traffic due to the proposed project and project mitigation. Future improvements include future lane configurations for each study intersection and the northerly extension of McBean Parkway from Copper Hill Drive to San Francisquito Canyon Road, which will result in a number of traffic shifts.

Table 5-2 shows that the Avenida Rancho Tesoro and Copper Hill Drive intersection is expected to operate at an acceptable LOS during both the AM and PM peak hours under the "With Related Projects" scenario. However, the County of Los Angeles Department of Public Works considers the increase in V/C and LOS to indicate that a cumulative significant traffic impact is anticipated with the addition of cumulative traffic growth (i.e. project and related projects traffic) at the Avenida Rancho Tesoro/Copper Hill Drive. The McBean Parkway and Copper Hill Drive intersection is expected to operate at LOS E during the AM peak hour an LOS F during the PM peak hour. Therefore, this intersection is anticipated to be significantly impacted due to cumulative traffic growth during the AM and PM peak hours prior to mitigation. Figure 5.1-4 and Figure 5.1-5 illustrate the future cumulative (existing, ambient growth, project, and related projects) traffic volumes for the AM and PM peak hours, respectively.

The implementation of traffic mitigation measures would reduce this impact to a level less than significant. The currently recommended traffic mitigation program developed for the cumulative growth associated with the Tesoro del Valle project would need to be altered for the impacted intersection in order to accommodate the growth associated with the proposed project. The proposed mitigation measures for the intersection of McBean Parkway and Copper Hill Drive include the restriping activities detailed in Table 5-5 below. The implementation of these mitigation measures would be the responsibility of the County Engineer, with individual projects paying their fair share contribution. No alterations to the constructed roadway system would be required.

TABLE 5-5
PROPOSED CUMULATIVE IMPACT MITIGATION

Direction	Current Mitigation (Tesoro del Valle)	Proposed Mitigation
McBean Parkway Northbound to Copper Hill Drive	2 left-turn lanes 2 through lanes 1 right-turn lane	2 left-turn lanes 1 through lane 2 right-turn lanes
McBean Parkway Southbound to Copper Hill Drive	1 left-turn lane 2 through lanes 1 right-turn lane	1 left-turn lane 1 through lanes 1 shared through/right-turn lane 1 right-turn lanes

As illustrated in the last two columns of Table 5-2, the proposed mitigation would improve the V/C ratio from 0.938 (LOS E) to 0.869 (LOS D) during the AM peak hour and from 1.174 (LOS F) to 0.882 (LOS D) during the PM peak hour. With the incorporation of the

proposed mitigation, the intersection would operate at an acceptable level and no additional mitigation measures would be required.

The proposed project's "fair share" percentage for the study intersections that require cumulative improvement measures is 1.3 percent. This amount is based on the average of the weekday AM and PM peak hour project generated traffic volumes on the approaches to each affected study intersection divided by the project plus other development (related) projects' traffic volumes on those same approaches. Neither the existing traffic volumes nor the ambient growth traffic volumes are included in these calculations.

5.1.4 Project Design Features and Mitigation Measures

Project Design Features

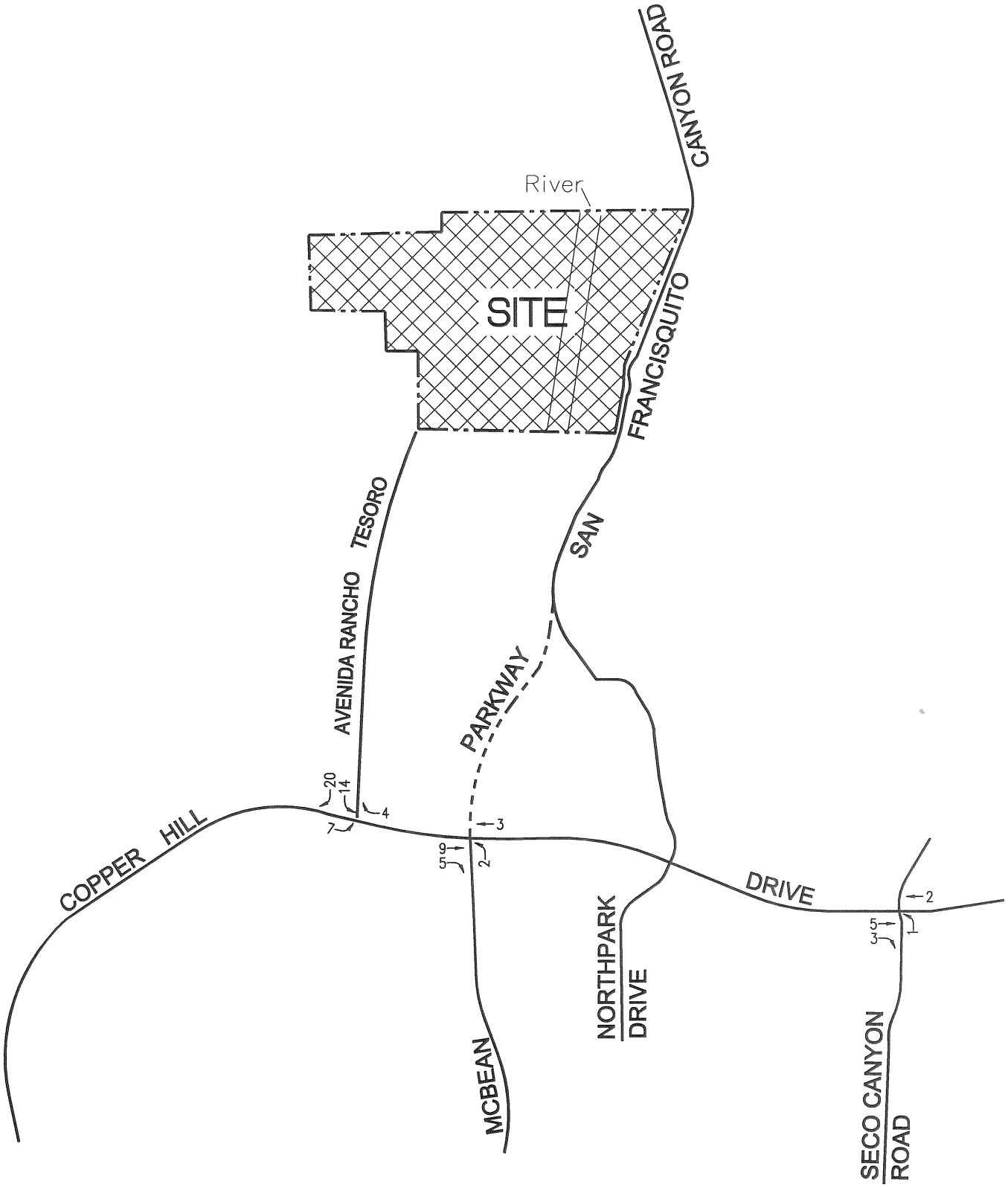
None.

Mitigation Measures

MM 5.1-1 Prior to issuance of occupancy permits, the project applicant will contribute its pro-rata fair share (1.3 percent) of the costs of restriping the McBean Parkway and Copper Hill Drive intersection.

Level of Significance after Mitigation

With the implementation of the mitigation measure listed above, project-related and cumulative traffic impacts would be less than significant. Project specific impacts would be less than significant.



AM Peak Hour Vehicle Trip Distribution

Figure 5.1-1

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BonTerra CONSULTING

Source: Linscott, Law & Greenspan Engineers 2003

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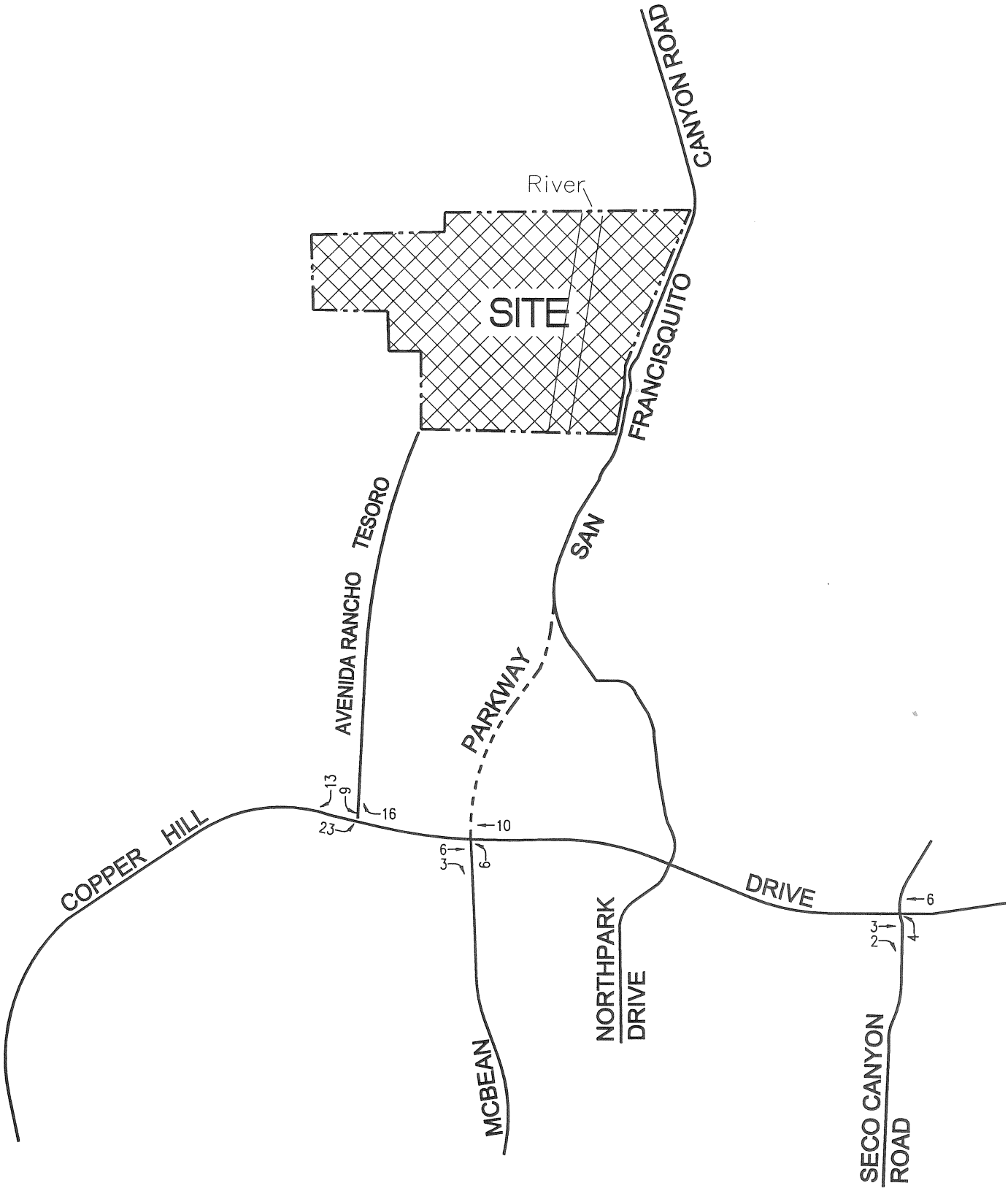

PM Peak Hour Vehicle Trip Distribution — Figure 5.1-2

VTTM 53189

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Source: Linscott, Law & Greenspan Engineers 2003

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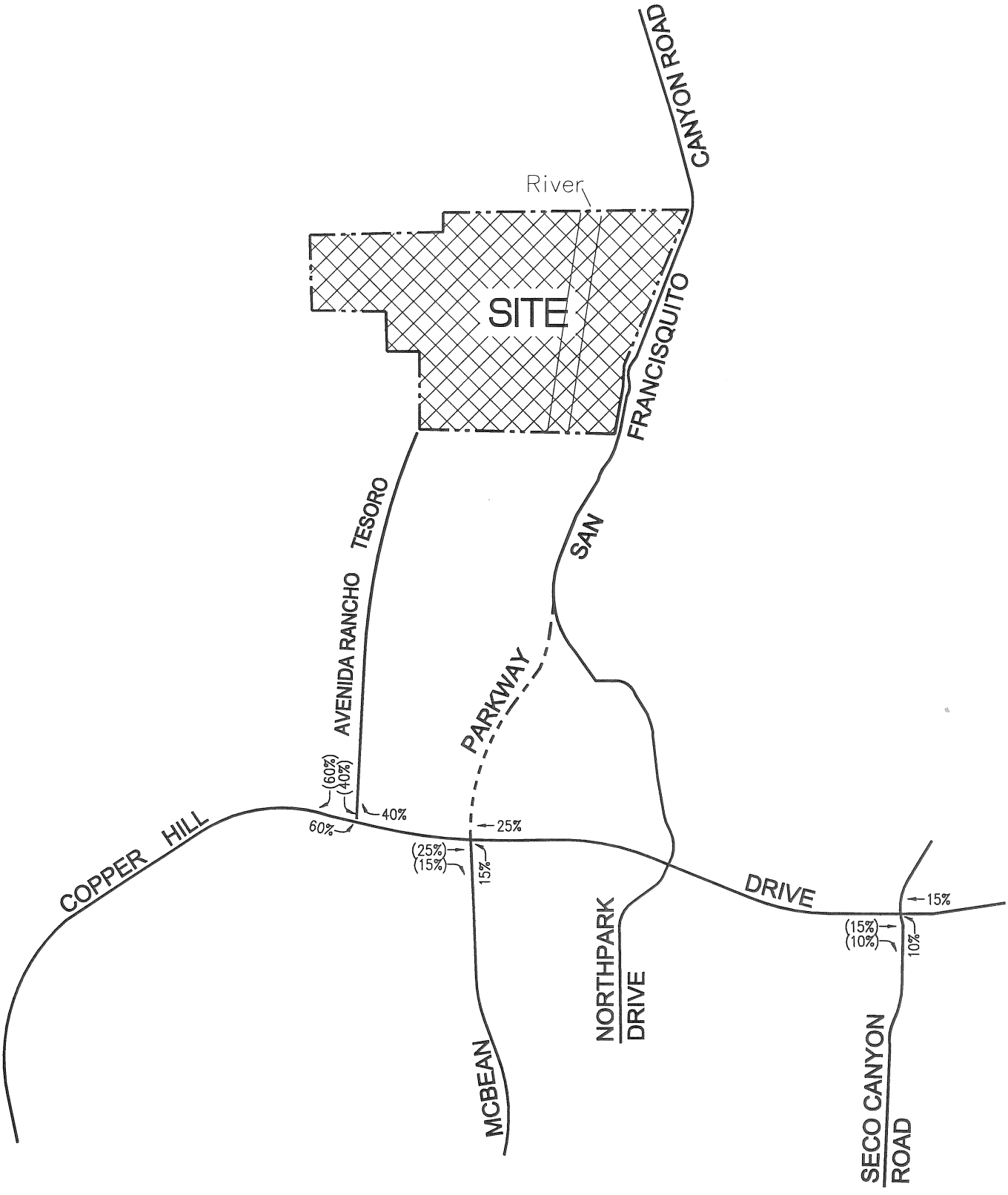

Project Traffic Volume Distribution Percentages — Figure 5.1-3

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BonTerra CONSULTING

Source: Linscott, Law & Greenspan Engineers 2003

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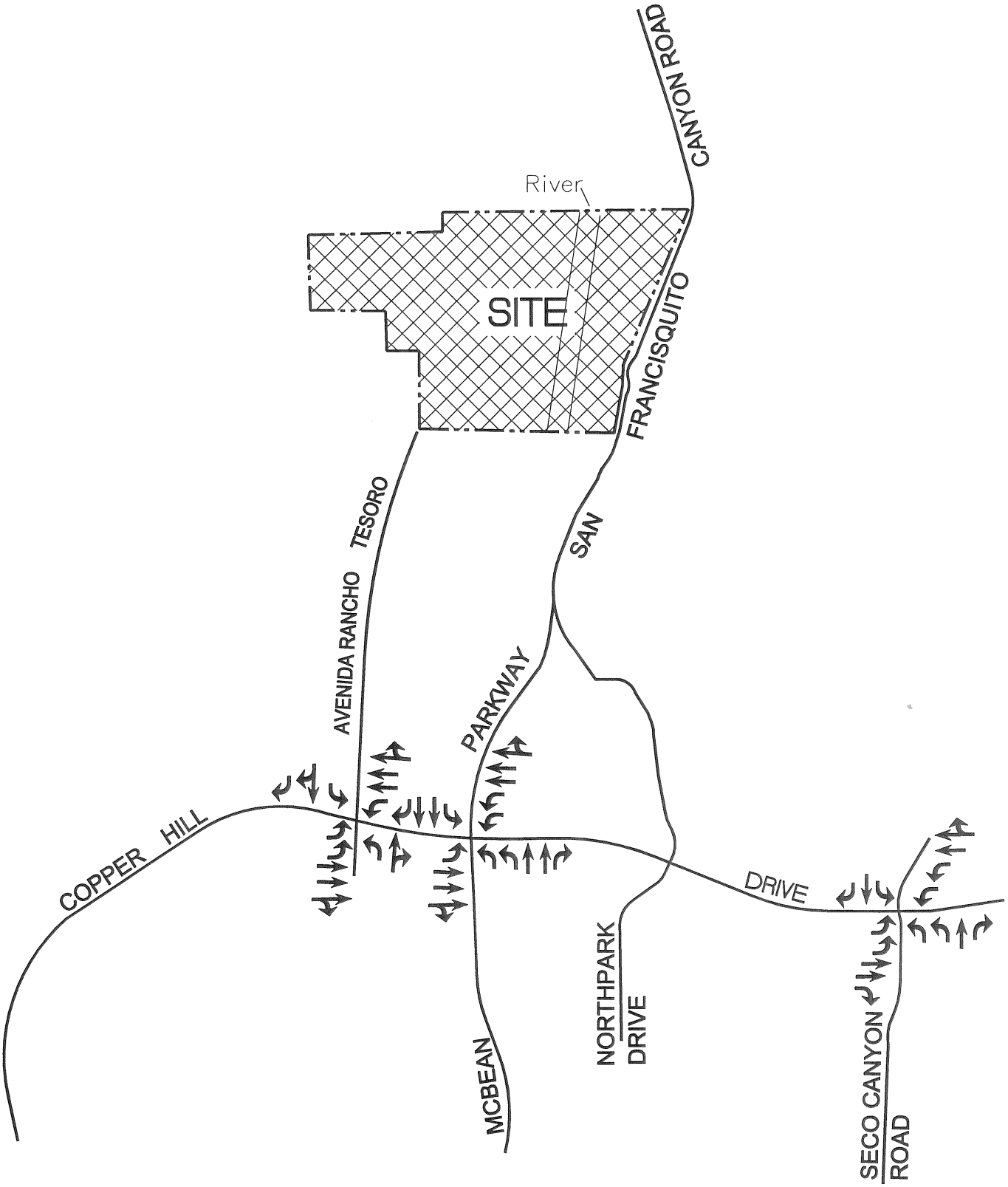

Planned Traffic Improvements for Tesoro del Valle — Figure 5.1-4

VTTM 53189

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Source: Linscott, Law & Greenspan Engineers 2003

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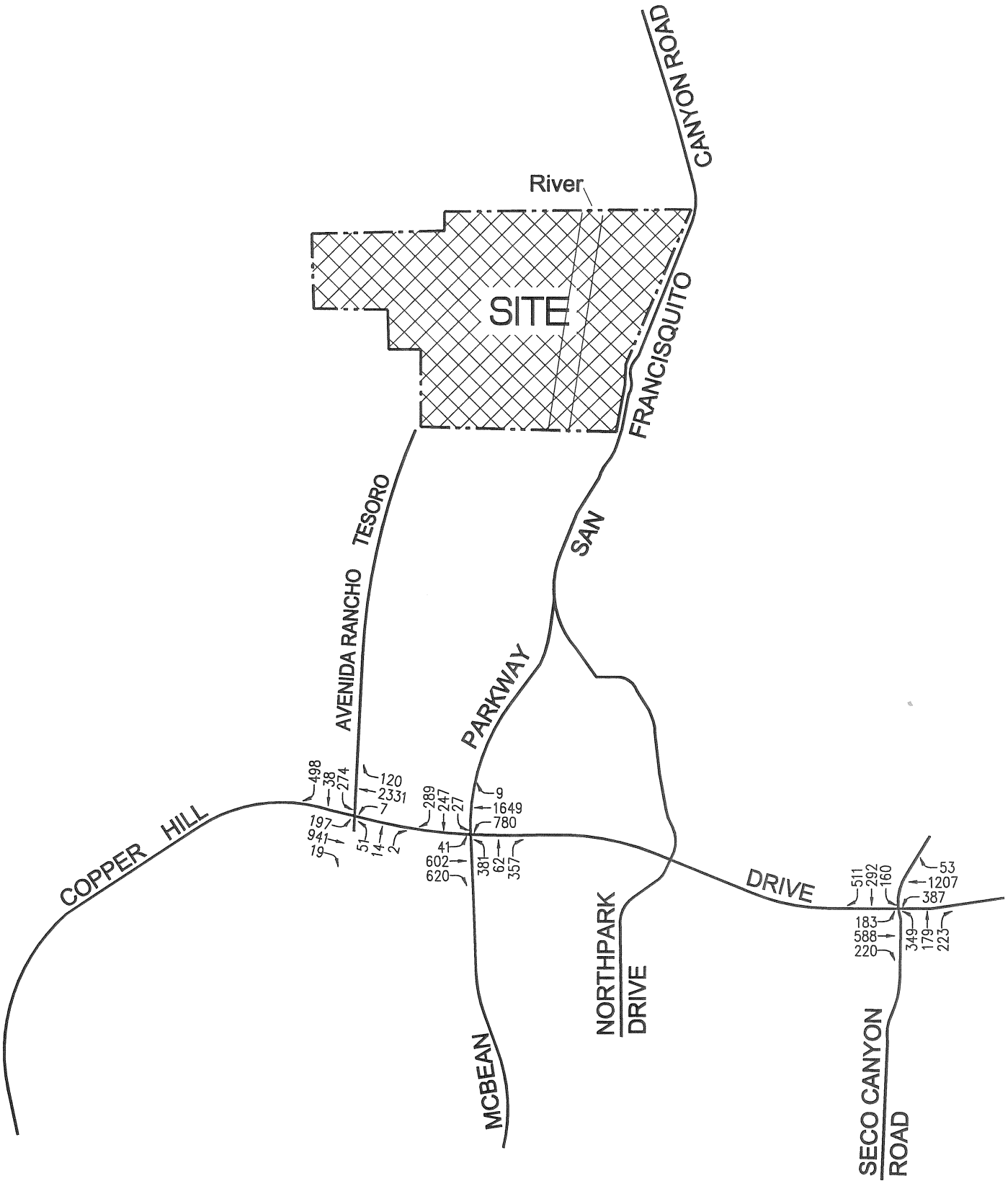

AM Peak Hour Future Cumulative Traffic — Figure 5.1-5

VTTM 53189

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Source: Linscott, Law & Greenspan Engineers 2003

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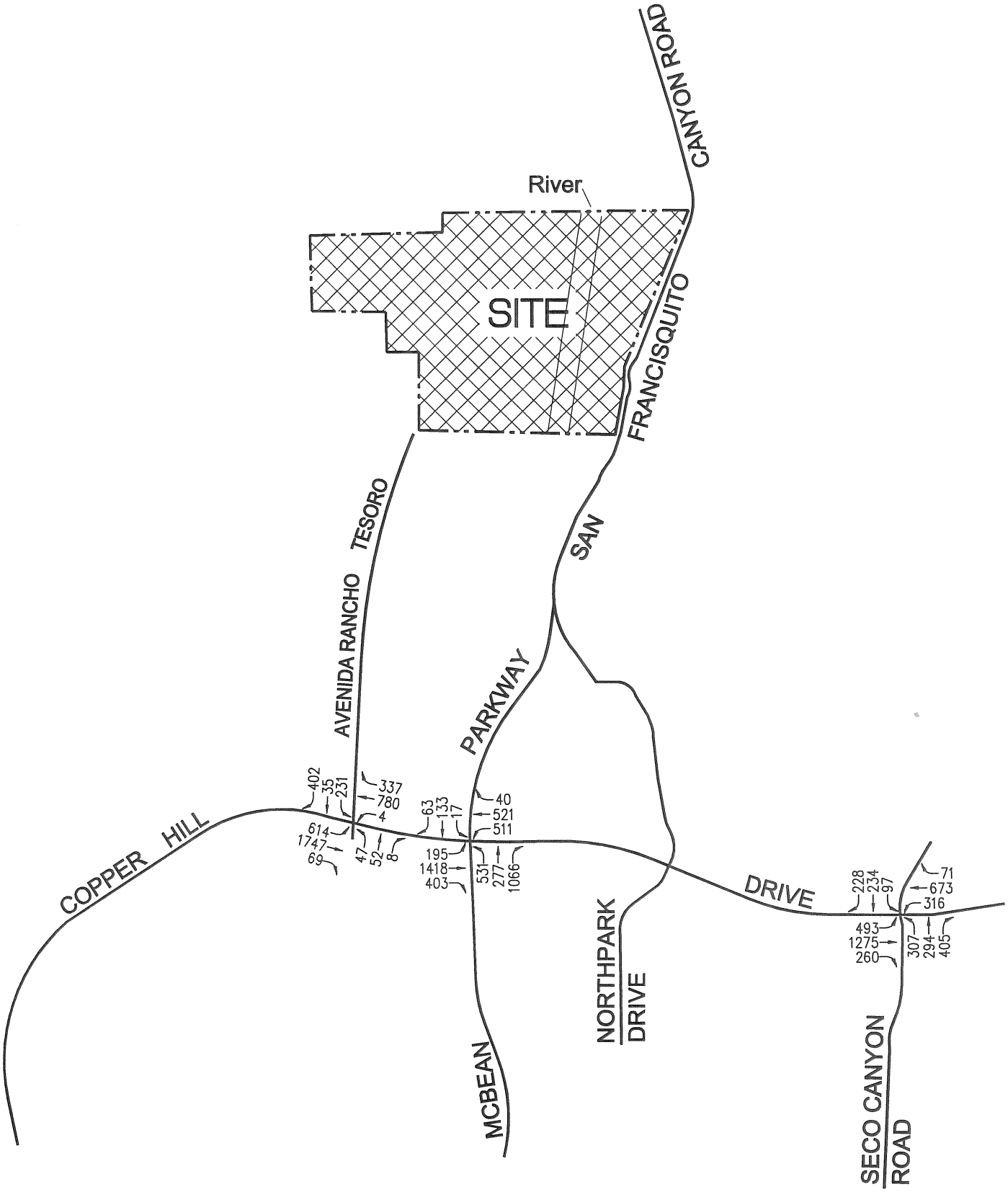

PM Peak Hour Future Cumulative Traffic

Figure 5.1-6

VTTM 53189

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BonTerra CONSULTING

Source: Linscott, Law & Greenspan Engineers 2003

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5.2 SEWAGE DISPOSAL

Information regarding wastewater/sewer service is based on written and verbal correspondence with the County Sanitation Districts of Los Angeles County, as well as information provided on the County's website. The County Sanitation Districts' response to our request for information on sewer facilities is located in Appendix H.

5.2.1 Existing Conditions

The County Sanitation Districts of Los Angeles County are a confederation of 25 independent special districts that work cooperatively under a Joint Administration Agreement to provide wastewater treatment and solid waste services to 78 cities and all of the unincorporated areas within the County of Los Angeles. Seventeen of the Sanitation Districts are signatory to a Joint Outfall Agreement, which provides for a regional approach to wastewater treatment. The Joint Outfall System is comprised of an interconnected organization of trunk sewers and pumping plants that allows excess flow at one facility to be transferred and treated at another facility.

The project area is currently outside the jurisdictional boundaries of the Sanitation Districts and would have to be annexed into District No. 32 before sewerage service could be provided to the proposed project. The wastewater generated by the proposed project would be discharged into a newly constructed sewer system that would connect to sewer lines in the Tesoro del Valle development for conveyance to the Sanitation Districts' Rye Canyon trunk sewer. This 10-inch diameter trunk sewer has a design capacity of 2.4 million gallons per day (mgd) and conveyed a peak flow of 0.9 mgd when last measured in 2003.

Wastewater generated by the project site would be treated at the Saugus and Valencia Water Reclamation Plants. These interconnected facilities form the Santa Clarita Valley Joint Sewerage System (SCVJSS), which has a permitted treatment capacity of 19.1 mgd. In order to provide service based on regional growth forecasts adopted by the Southern California Association of Governments (SCAG), a two phase expansion of the Valencia Water Reclamation Plant has been approved that will increase the treatment capacity of the SCVJSS by 15 mgd. The first phase involves a 9 mgd expansion, which is expected to meet the Regional Growth Management Plan forecasted demand through 2010. The second phase, scheduled to be completed in early 2010, will consist of an additional 6 mgd expansion and will increase the SCVJSS treatment capacity to 34.1 mgd, which will be sufficient to meet the demand until 2015. The SCVJSS currently processes an average flow of 18.4 mgd.

5.2.2 Project Impacts

Thresholds of Significance

The following threshold was determined to indicate that potential impacts to sewer disposal could be significant for the proposed project.

- Creation of capacity problems at the treatment plant serving the proposed project.
- Creation of capacity problems in the sewer lines serving the project site.

Impacts Analysis

According to the Sanitation Districts' Table of Generation Factors, the wastewater generation rate for a single-family home is 260 gallons per day. The proposed project (60 units), would therefore produce an estimated total of 15,600 gallons per day (gpd) or 0.0156 mgd of wastewater.

Currently, the permitted treatment capacity of SCVJSS is 19.1 mgd and it processes an average flow of 18.4 mgd. Therefore, the plant has the capacity to treat an additional 0.8 mgd of wastewater prior to the planned expansion. Considering that the proposed project would only be contributing 0.0156 mgd of wastewater and that expansions of the SCVJSS are already underway, the implementation of the project would not result in a significant impact to the capacities of treatment plant(s).

The Rye Canyon Trunk Sewer has a capacity of 2.4 mgd and a conveyed peak flow of 1.5 mgd; hence, its available capacity is 0.9 mgd. As calculated, the project would generate 0.0156 mgd of wastewater, well within the available capacity of the trunk sewer. Therefore, the implementation of the proposed project would not result in a significant impact to the trunk sewer line serving the project area.

The California Health and Safety Code enables the Sanitation Districts to charge a fee for connecting to the Sanitation Districts' sewer system. This connection fee is levied to mitigate for the incremental expansion of the sewer system to accommodate new projects. The proposed project would be subject to this fee in order to mitigate for impacts associated with the proposed project. The connection fee for District No. 32 is $2,330.00 per single-family unit. Because this project proposes to build 60 units, the total sewer connection fee would be $139,800.00.

As mentioned previously, the proposed project site would need to be annexed into District No. 32 before sewerage service could be provided to the development. Upon submittal of the application for annexation to the County Sanitation District of Los Angeles County, the Districts' staff will calculate the acreage involved and will provide the applicant with a quote of the annexation fees to be paid. The annexation fee consists of three processing fees which are paid to the County Sanitation District of Los Angeles County, Local Agency Formation Commission (LAFCO), and the State Board of Equalization (SBE).

5.2.3 Cumulative Impacts

The area of consideration for cumulative wastewater impacts includes the service area of the Saugus and Valencia Water Reclamation Plants. All proposed projects in the area, other than those reliant upon septic tanks, would need to connect to the SCVJSS Treatment Plant system. All projects connecting with this system would be required to pay a connection fee, thereby mitigating the impacts of the development. The annexation fee mitigates for the costs associated with establishing an expanded service area.

The proposed project would not contribute to any cumulative impacts to wastewater services because its impacts are mitigated by the payment of fees, as are the impacts of other projects in the area. Additionally, both the SCVJSS Treatment Plant system and the Rye Canyon trunk sewer have sufficient capacity to transport and treat the proposed project's wastewater with the current infrastructure, prior to any facility expansions.

5.2.4 Project Design Features and Mitigation Measures

Project Design Features

None.

Mitigation Measures

MM 5.2-1 Prior to the issuance of connection permits and building permits, the project applicant shall complete the annexation process into County

Sanitation District No. 32 and pay all applicable annexation fees to the County Sanitation Districts of Los Angeles County.

MM 5.2-2 After approval of the annexation by the Board of Directors of County Sanitation District No. 32 of Los Angeles County and prior to the issuance of occupancy permits, the project applicant shall pay connection fees to the County Sanitation Districts of Los Angeles County.

Level of Significance after Mitigation

After implementation of the mitigation measures, no significant impacts to wastewater facilities would result from the proposed project.

5.3 EDUCATION

5.3.1 Existing Conditions

This analysis of impacts to school facilities is based on written and verbal correspondence with the Saugus Union School District and the William S. Hart Union High School District. The analysis of impacts to libraries is based on written and verbal correspondence with the County of Los Angeles Public Library as well as the Public Library website. The Saugus Union School District and the William S. Hart Union High School District's response to our request for information on school facilities are located in Appendix H.

Elementary Education

The Saugus Union School District (SUSD) currently contains fourteen elementary schools and is operating at capacity. The growth in the Santa Clarita Valley is outpacing the development of new schools. The SUSD is working towards the construction of two new elementary schools: Tesoro del Valle Elementary and Bouquet Canyon Elementary. The boundaries for these planned new schools, as well as the boundaries for the existing schools, are currently under consideration by the Boundary Committee. In September and October 2003, the Boundary Committee voted on specific recommendations and is planning on presenting these recommendations to the Board of Trustees.

The new students generated by the proposed project would likely be served by the Tesoro del Valle Elementary School, which was constructed in 2003-04 and is scheduled to open on August 17, 2005. This school is designed with 27 permanent classrooms and will be able to be expanded to accommodate eight to ten additional classrooms. The Tesoro del Valle Elementary School will have a capacity for 720 students and will accommodate students being generated by the Tesoro master planned development.

Middle and High School Education

The William S. Hart Union High School District (WHSD) provides junior high and high school education services within the Santa Clarita Valley area. WHSD school facilities are currently operating beyond capacity and are not able to accommodate additional students.

The students generated by the proposed project would likely attend the Rio Norte Junior High School for grades 7 through 8 and by the Valencia High School for grades 9 through 12. The permanent capacity of Rio Norte is 1,026 students and is provided by 25 permanent classrooms and 12 built-in-place "permanent" portable classrooms. Temporary classroom capacity for an additional 368 students is provided by 20 portable classrooms, resulting in a total classroom

capacity of 1,394 students at the school. WHSD does not have plans to expand the permanent size of this school.

The Valencia High School has a permanent capacity of 1,924 students, which is provided by 48 permanent classrooms and 26 built-in-place "permanent" portable classrooms. Temporary classroom capacity for 840 students is provided by 32 portable classrooms, which results in a total classroom capacity for 2,764 students. WHSD does not have plans to expand the permanent size of this school.

Libraries

Library services for the unincorporated County of Los Angeles are provided by the County of Los Angeles Public Library. The proposed project is located in an area of the County that is served principally by the Santa Clarita Valley Bookmobile rather than a permanent library facility. The Bookmobile travels to rural and remote areas that do not have permanent libraries to provide them with library services. A weekly schedule identifies the days and hours the Bookmobile will in a particular location, including the communities of Acton, Newhall, Cal Verde, Castaic, and Agua Dulce. The closest location to the proposed project site would be at 27700 Parker Road in Castaic on Tuesday from 9:30 a.m. to noon. The Bookmobile's collection consists of approximately 10,940 books, 1,442 audio recordings, 1,964 video recordings, and 9 magazines; no computer services are offered. The County does not have any plans to expand the collection of the Bookmobile.

There are three libraries in the Santa Clarita Valley that could potentially serve the residents of the proposed development. The first is the Valencia Library located on West Valencia Boulevard in Valencia, approximately 5 miles from the project site. The second is the Newhall Library located on West 9th Street in Newhall, approximately 7.5 miles from the project site. The third is the Canyon Country Jo Anne Darcy Library located on Soledad Canyon Road in Canyon Country, approximately nine miles from the project site.

Because of the proposed development of several new residential projects in the vicinity of the project site, the County of Los Angeles Public Library has plans to construct new facilities in the area in order to more adequately serve the area's library needs. However, the plans are in their earliest stages and no further information is currently available.

5.3.2 Project Impacts

Thresholds of Significance

The following threshold was determined to indicate that impacts to education could be significant for the proposed project:

- Creation of capacity problems at the district level by the proposed project.
- Creation of capacity problems at individual schools which serve the project site.
- Creation of substantial library impacts due to increased population and demand.

Elementary Education Impacts Analysis

The SUSD is currently experiencing capacity problems due to the rapid growth within the Santa Clarita Valley. The proposed project would generate additional students who would have to be enrolled into a school system that is already at capacity. Due to the proximity of the

two projects, new students generated by the proposed project would likely be enrolled at Tesoro del Valle Elementary School, which is scheduled to be open in August 2005.

The SUSD uses the generation factor of 0.431 children per single-family home to anticipate the new student enrollment that would be generated by a new residential development. Using this generation factor, the proposed project would result in the addition of 25.86 new elementary students for the SUSD.

With approval of Proposition 1A by voters on November 13, 1998, the school fee provisions of Senate Bill (SB) 50 became effective, which placed statutory caps on developer fees and stated that local governments cannot deny a project based on the adequacy of school facilities. SB 50 also permits additional developer fees to be levied in amounts up to approximately 50 percent of the cost of constructing school facilities and for land acquisition and site development (Level 2 Fees). The State is responsible for contributing the other 50 percent of the cost of construction, site acquisition a development by providing per-pupil; grants based upon the school district's funding eligibility as determined by a one-time assessment of existing capacity and unhoused students, and thereafter, on a school facility needs analysis to be conducted by the district.

If, in the future, the State ceases to make apportionment of funds to school districts, then the SUSD may levy additional amounts representing approximately 100 percent of the cost of constructing school facilities and site acquisition (Level 3 Fee).

The SUSD has completed its needs analysis and documentation of eligibility for the State Funding Program by the State Allocation Board relative to SB50. Unless the developer enters into a mitigation agreement with the school district regarding the payment of fees for the construction of new school facilities, it must pay the Statutory School Fees established by SB 50. These fees would mitigate for any impacts associated with the implementation of the proposed project. The applicable fees vary in amount depending on the level of Statutory School Fee that is in effect at the time the developer obtains building permits for the dwelling units within the project. Table 5-6 shows the various levels of Statutory School Fees that may be applicable at building permit issuance.

TABLE 5-6
STATUTORY SCHOOL FEES

Level of Statutory School Fee	Amount per Square Foot of Development
Level 1	$2.14
Level 2	$2.21
Level 3	$4.41

Middle and High School Education Impacts Analysis

The proposed project would be serviced by the Rio Norte Junior High School for grades 7-8 and by the Valencia High School for grades 9-12. WHSD student generation rate for new residential development is 0.1770 junior high students per single family household and 0.2601 senior high school students per single family household, for a total student generation rate of 0.4371. Using these generation rates, the proposed project would result in approximately 10.6 new junior high students and approximately 15.6 senior high school students, for a total of 26.2 new students in the WHSD. The Rio Norte Junior High School and the Valencia High School are both at capacity, and therefore the WHSD cannot currently accommodate students generated by the proposed project.

In order to mitigate for the impacts that would result from the proposed project, the developer would at a minimum have to pay the Statutory School Fees pursuant to Education Code Section 17620 and Government Code Section 65995. Alternatively, the developer could negotiate an agreement with WHSD to pay the "fair share school mitigation payment," which would involve the payment of presumably higher fees to the WHSD than the mandatory Statutory School Fees.

Absent a negotiated agreement between WHSD and the developer, the developer is subject to the payment of the Statutory School Fees. The applicable fees vary in amount depending on the Level of Statutory School Fee (presented in Table 5-6) that is in effect at the time the developer obtains building permits for the dwelling units within the project.

Library Impacts

Currently, the Santa Clarita Valley Bookmobile is not adequately serving the community due to the growth in the demand for library services in the area. According to the Public Library, any increase in population would result in the need for additional facility space and library items. The County of Los Angeles Public Library uses the following planning guidelines to assess the amount and type of services needed:

- 2.75 library items (books, periodicals, videos, etc) per capita
- 0.5 square foot per capita
- 1.0 computer per 1,000 persons served.

The Library assumes 3.09 average persons per household. Using this figure, the project's 60 homes would generate 185.4 people in need of library services. This translates to a need for approximately 510 library items, 93 square feet of space, and 0.2 computers. In order to mitigate for the costs associated with facility expansions, the Public Library has a Facilities Mitigation Fee Program applicable to new residential development in the unincorporated area of Los Angeles County served by the Public Library.

The proposed project would be subject to these fees. The current fee is $665.00 per dwelling unit, which would result in a total fee of $39,900 for the construction of the 60 homes proposed in the project. The Public Library intends to use these fees to fund the construction of new library facilities that would serve residents of the project site. Impacts to library services are considered less than significant because the mitigation fee would compensate for the increase in demand for library services and facilities resulting from the implementation of the project.

5.3.3 Cumulative Impacts

The area of consideration for cumulative impacts to school facilities includes the Saugus Union School District the William S. Hart School District. Both of these school districts are currently operating beyond capacity and are actively planning for the expansion of school facilities to accommodate new student populations. All development projects within the two school districts are required to pay for potential impacts to the respective districts through the Statutory School Fees pursuant to Senate Bill 50. Therefore, the impacts associated with the regional growth are mitigated incrementally as each development provides payment to the districts. Because the proposed project would also contribute payments to the two affected school districts, no cumulative impacts would result from the implementation of the proposed project.

The same system is established for the mitigation of library impacts. The County of Los Angeles Public Library Facilities Mitigation Fee Program eliminates the impacts associated with new development. Because the proposed project would contribute payments to the County

for library services, as would all other new development in the area, no cumulative impacts would result from the implementation of the proposed project.

5.3.4 Project Design Features and Mitigation Measures

Project Design Features

None.

Mitigation Measures

MM 5.3-1 Prior to the issuance a grading permit, the project applicant shall pay developer fees to the Saugus Union School District pursuant to the requirements established in SB50.

MM 5.3-2 Prior to the issuance a grading permit, the project applicant shall pay developer fees to the William S. Hart School District pursuant to the requirements established in SB50, or shall negotiate a separate agreement with the WHSD for school mitigation.

MM 5.3-3 Prior to the issuance a grading permit, the project applicant shall pay the Facilities Mitigation Fee Program for library services.

Level of Significance after Mitigation

After implementation of the mitigation measures listed above, project related impacts to schools and libraries would be less than significant.

5.4 WATER UTILITIES

This section addresses the proposed project's impacts to water supply and water supply infrastructure.

5.4.1 Existing Conditions

Castaic Lake Water Agency

The project is within the CLWA service area. CLWA is a public water agency that serves an area of 195 square miles in Los Angeles and Ventura counties. CLWA is a water wholesaler that provides about half of the water used by Santa Clarita households and businesses. CLWA treats and delivers water to the local water retailers, including the Santa Clarita Water Division, Los Angeles County Water District #36, Newhall County Water District (NCWD), and Valencia Water Company. CLWA operates two potable water treatment plants, storage facilities, and over 17 miles of transmission pipelines. Historically, groundwater has been the primary source of water in the Santa Clarita Valley. Since 1980, local groundwater supplies have been supplemented with imported water from the State Water Project (SWP). CLWA also delivers highly treated recycled water from one of the two water reclamation plants in the Santa Clarita Valley, owned by the Sanitation Districts of Los Angeles County, in order to meet the non-potable water demands (golf course and landscape irrigation, etc.).

Newhall County Water District

More specifically, the project is located within the purview of the NCWD (see Figure 5.1-1). The NCWD service area lies in three distinct geographical areas of the Santa Clarita Valley: Newhall, Pinetree, and Castaic. NCWD has approximately 9,010 service connections, which are spread over a 34-square-mile area (CLWA et al. 2005c). The NCWD supplies water from

both groundwater wells and CLWA-imported water. In 2004, water demand for the NCWD was 11,217 acre-feet (AF), or 13 percent of the total CLWA 2004 demand, with 5,896 AF supplied by SWP water and the balance provided by local groundwater (CLWA et al. 2005c).

Because NCWD has been identified as the public water system that may supply water to the project site, recent relevant actions by the NCWD are discussed here. The approval by the NCWD of Resolution No. 2004-3, Resolution of the Board of Directors of Newhall County Water District (Board) Regarding Water Supply and Demand (Resolution), adopted by the Board on January 29, 2004 and amended in July of 2004, was an attempt to correct inaccuracies (according to the Board) in the assessment of current water supply in CLWA's 2000 UWMP, and concluded that there is not sufficient current supply of water to meet all current and future demands. The Resolution identified two categories of water supply, i.e., "Current and Finalized Future Supply" and "Unfinalized Additional Supply" and concluded that certain supplies are not currently available. The NCWD's "Unfinalized Additional Supply" category included water that is, according to NCWD, only in the conceptual planning stages and may be, therefore, limited. Included in the "Unfinalized Additional Supply" is perchlorate contaminated groundwater. Perchlorate issues are discussed in more detail below.

Since the adoption of Resolution 2004-3, the NCWD subsequently adopted a report prepared by Stetson Engineers Inc. (Stetson Report) which analyzed the existing water supplies in the Santa Clarita Valley to determine if currently available and reasonably feasible future water supply sources would be sufficient to meet future water demands resulting from near-term anticipated growth. The Stetson Report concluded that CLWA (including NCWD) will have sufficient water supplies to meet future water demands. On April 14, 2005, Newhall County Water District rescinded Resolution 2004-3 and indicated that it will use the Stetson Report as the basis for pending and future water supply assessments and verifications.

Historic Water Supplies

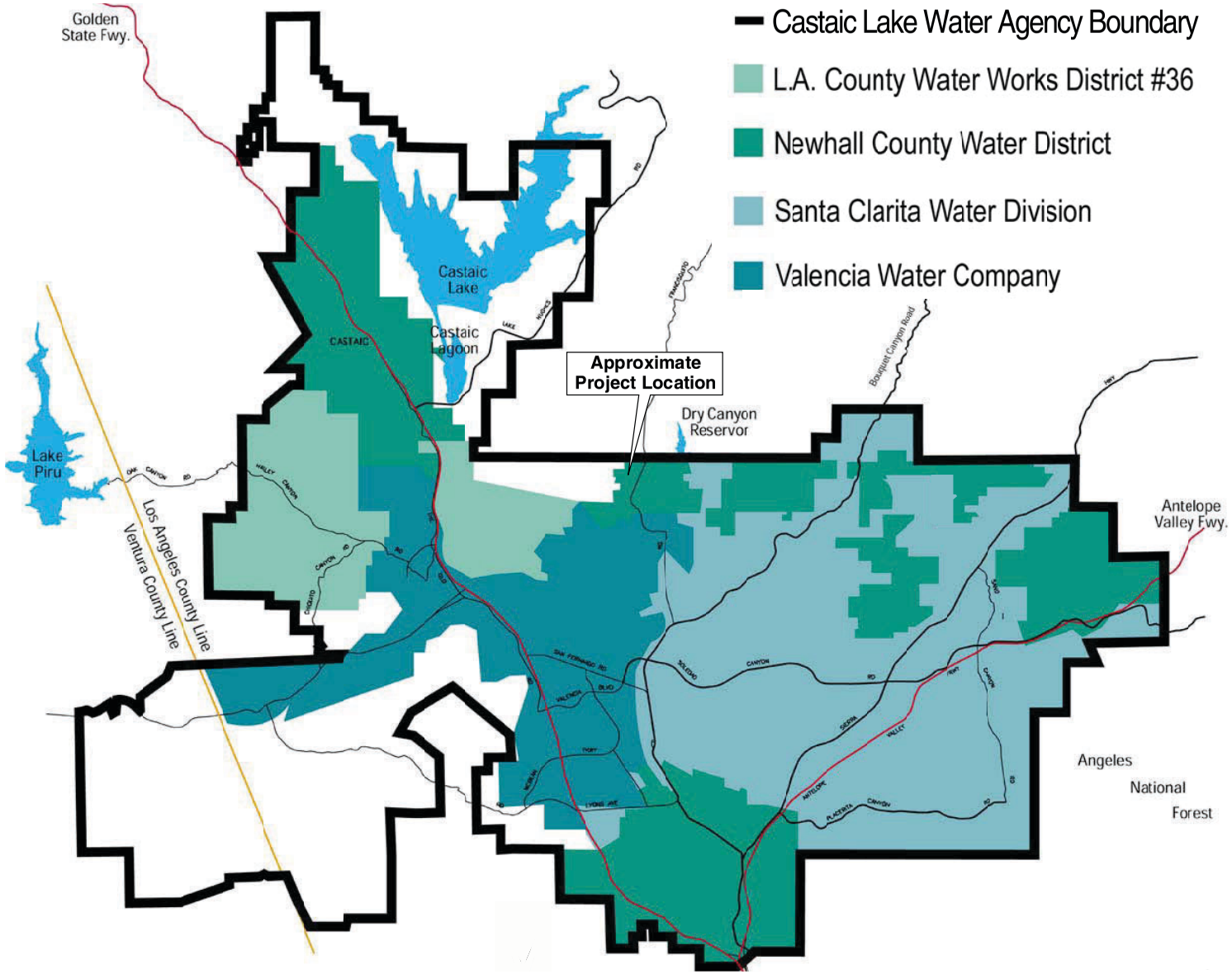
Groundwater Supplies

The Santa Clarita Valley has historically depended for its water supply on an underground water basin, or aquifer, divided into upper and lower levels. Overall the groundwater basin covers about 84 square miles and includes a shallow upper basin, the Alluvial Aquifer, and a deeper layer called the Saugus Formation.

Saugus Formation

The Saugus Formation contains much greater quantities of groundwater than the Alluvial Aquifer. Recent information on the thickness of the alluvium and the degree of potential draw down interference between adjacent Saugus Formation and Alluvial Aquifer wells has supported a calculation of groundwater in storage in the Saugus Formation of approximately 1.65 million AF (Slade, 2002).

The Saugus Formation has supplied about 7,500 to 15,000 AFY in normal weather years (CLWA et al. 2005). Planned dry-year pumping ranges between 15,000 and 25,000 AFY during a drought year and can increase to between 21,000 and 25,000 AFY if SWP deliveries are reduced for two consecutive years, and between 21,000 and 35,000 AFY if SWP deliveries are reduced for three consecutive years (CLWA et al. 2005). No long-term continuous or permanent decline in either water levels or the amount of groundwater in storage has occurred under the historical range of pumping (Slade 2002). However, high pumping would be followed by periods of reduced (average-year) pumping, at rates between 7,500 and 15,000 AFY, to further enhance the effectiveness of natural recharge processes that would recover water levels and groundwater storage volumes after the higher pumping during dry years (CLWA et al. 2005).



Newhall County Water District Service Area

Exhibit 5.4-1

VTTM 53189

N W E S

Scale

0 5.0

Miles

Source: Luhdorff & Scalmanini Consulting Engineers

BonTerra CONSULTING

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Total pumpage from the Saugus Formation in 2004 was 6,500 AF, up from approximately 4,200 in the preceding year (CLWA, 2004). Groundwater pumpage from the Saugus peaked in the early 1990s and then declined steadily; pumpage has remained stable, at an average of about 4,800 AFY, since 2000 (CLWA et al. 2004). On a long-term average basis since the importation of SWP water, total pumpage from the Saugus Formation has ranged from a low of about 3,700 AFY (in 1999) to a high of nearly 15,000 AFY (in 1991); average pumpage from 1980 to present has been about 7,000 AFY (CLWA et al. 2004). These numbers are at the lower end of the estimated range of the operational yield of the Saugus Formation.

Alluvial Aquifer

Although the Alluvial Aquifer is the smaller of the two-aquifer system as measured by storage capacity, most water wells within the CLWA service area are drilled into this aquifer. Slade (1986) estimated the practical or perennial yield of the Alluvial Aquifer to be from 31,600 AFY to 32,600 AFY. However, the total annual groundwater production from the Alluvial Aquifer over the last 10 years has averaged approximately 35,000 AFY, about 10 percent higher than the "practical or perennial yield", without any evidence of undesirable conditions that might be an indication of aquifer overdraft.

The operational yield of the Alluvial Aquifer is estimated to be about 30,000 to 40,000 AFY in normal weather years, and 30,000 to 35,000 AFY in dry years. Total pumpage from the Alluvial Aquifer in 2004 was approximately 33,800 AF, an increase of about 200 AF from the preceding year (CLWA et al. 2004). Groundwater pumping from the Alluvial Aquifer has averaged approximately 36,500 AFY since 2000 (CLWA et al. 2004). Over the last two decades, since the inception of SWP deliveries in 1980, total pumpage from the Alluvium has ranged from a low of about 20,000 AFY (in 1983) to slightly more than 43,000 AFY (in 1999) (CLWA et al. 2004).

The use of one well in the Alluvial Aquifer has been suspended due to the detection of perchlorate (discussed below).

Perchlorate Issues

The subject of perchlorate contamination and its impact on groundwater supplies has been extensively discussed in the 2005 UWMP. As discussed in the 2005 UWMP, perchlorate was detected in four Saugus Formation production wells near the former Whittaker-Bermite site in 1997. As a result, these wells (SCWD's Wells Saugus 1 and Saugus 2, NCWD's Well NC-11, and VWC's Well V-157) have been removed form service. In 2002, perchlorate was detected in the SCWD Stadium well located directly adjacent to the Whittaker-Bermite site. This Alluvial well has also been removed from service. Since the detection of perchlorate and resultant inactivation of impacted wells, the purveyors have been conducting regular monitoring of active wells near the Whittaker-Bermite site. In April of 2005, the presence of perchlorate was detected in VWC's Well Q2, an Alluvial well located immediately northwest of the confluence of Bouquet Creek and the Santa Clara River. VWC removed the well from active service. Significant progress has been made toward characterizing the extent of perchlorate contamination and implementing the necessary measures for on-site clean-up and off-site groundwater containment and treatment. Restoration of all impacted capacity is anticipated in 2006 (CLWA et al. 2005) Imported Water

SWP deliveries to CLWA from 1990 through 2004 are shown in Table 5-7. SWP supplies supplement local water sources.

TABLE 5-7
SUMMARY OF ANNUAL SWP AND LOCAL GROUNDWATER USE WITHIN THE CLWA SERVICE AREA, 1990 TO 2002

Year	SWP Table A[1] Amount (AF)	SWP Allocation[2] (Percent)	SWP Deliveries (AF)	Local Groundwater Deliveries[3] (AF)	Agriculture and Miscellaneous Uses[4] (AF)	Total (AF)
1990	41,500	100	21,600	21,500	11,280	54,380
1991	54,200	30	7,970	31,800	10,280	50,050
1992	54,200	45	14,900	27,300	12,150	54,350
1993	54,200	100	13,840	30,000	11,220	55,060
1994	54,200	53	14,700	31,600	13,870	60,170
1995	54,200	100	17,000	28,700	14,350	60,050
1996	54,200	100	18,870	32,100	15,350	66,320
1997	54,200	100	23,220	32,000	16,390	71,610
1998	54,200	100	20,270	28,600	13,610	62,480
1999	54,200	100	27,300	30,000	17,140	74,440
2000	95,200	100	32,580	28,400	15,320	76,300
2001	95,200	39	35,370	25,320	16,090	76,780
2002	95,200	70	41,770	26,460	16,810	85,040
2003	95,200	90	44,420	22,980	14,810	82,910
2004	95,200	65	47,200	24,670	15,590	87,910

[1] *"Table A" is a term used in the SWP Water Supply Contracts. The "Table A Amount" is the annual maximum amount of water to which an SWP Contractor is contractually entitled, and is specified in Table A to each Contractor's Water Supply Contract. (The Table A Amount was previously referred to as "entitlement.") However, the amount of water actually available for delivery in any year may be an amount less than the Contractor's Table A Amount due to hydrology and a number of other factors.*

[2] *SWP allocation (i.e. the percent of Table A Amount that each Contractor could have received based on that year's supply availability and Contractor requests), as determined by DWR for the year. The values shown are M&I Table A allocation percentages. In 1991, the Devil's Den Water District permanently transferred 12,700 AF of agricultural Table A Amount to CLWA. For years prior to implementation of the Monterey Amendment in 1996, agricultural Table A allocations were as follows: 0 percent in 1991; 45 percent in 1992; 100 percent in 1993; 53 percent in 1994; and 100 percent in 1995.*

[3] *Groundwater deliveries by municipal water purveyors within the CLWA service area.*

[4] *Includes groundwater pumped by, and SWP water delivered to, agricultural and miscellaneous uses within the CLWA service area. SWP deliveries to agricultural and miscellaneous uses within the CLWA service area occurred from 1992 to 2000, with a maximum of approximately 1,070 AF delivered in 1997.*

Source: SCVWP 2003.

Table 5-7 also shows total water delivered by CLWA. Total water deliveries within the CLWA service area include deliveries by the four municipal water purveyors, along with groundwater pumped by agriculture and miscellaneous uses. Agriculture and miscellaneous uses include irrigated agriculture, landscape irrigation, golf course irrigation, and other miscellaneous uses within the service area.

DWR Forecasted Deliveries

In May 2003, the California Department of Water Resources (DWR) completed its State Water Project Delivery Reliability Report. The report provides current information on the ability of the SWP to deliver water under existing and future levels of development, assuming historical levels of precipitation. On May 25, 2005, DWR informed the SWP Contractors that it is in the process of updating the Reliability Report and provided a recommended set of analyses to be used for preparing 2005 UWMPs (DWR 2005). These updated analyses indicate that the SWP could deliver up to 77 percent of the total Table A Amounts on a long-term average basis. Assuming SWP reliability of 77 percent, CLWA's average/normal water year deliveries would be approximately 73,300 AFY (CLWA's Table A entitlement is 95,200 AFY). The single dry year deliveries, according to the DWR are forecasted to be approximately five percent of CLWA's Table A, or 4,800 AFY and the multiple dry year deliveries could be approximately 33 percent, or 31,400 AFY. These forecasts would vary slightly over the 2005 UWMP planning period.

Recycled Water

Wastewater that has been highly treated and disinfected can be reused for landscape irrigation and other non-potable purposes. In 1993, CLWA completed a *Draft Reclaimed Water System Master Plan* to use recycled water as a reliable water source to meet some non-potable demand within its service area. In 2002 a Draft Recycled Water Master Plan update was completed. Since 2003, CLWA's local water supplies have been augmented by the initiation of deliveries from CLWA's recycled water program. CLWA currently has rights to use 1,700 AFY of recycled water. The total annual recycled water demand is estimated to be approximately 17,400 AFY (CLWA et al. 2005b). CLWA anticipates that full implementation of the recycled water system would occur over the next 25 years.

Water Supply and Demand Assessment

Table 5-8 below provides a summary of the current and planned water supplies and banking programs as identified by CLWA. Table 5-9 provides CLWA's projected average/normal water year water supplies and demands, and
Table 5-10 and Table 5-11 provide the projected single and multiple dry year water supplies and demands. The analysis provided in the 2005 UWMP takes into account the available water supplies and water demands for CLWA's service area to assess the region's ability to satisfy demands through the year 2030. Diversity of supply allows CLWA and the purveyors the option of drawing on multiple sources of supply in response to changing conditions, such as varying climatic conditions (average/normal years, single dry years, multiple dry years), natural disasters, and contamination, such as perchlorate.

TABLE 5-8
EXISTING AND PLANNED WATER SUPPLIES THROUGH 2030
(ACRE-FEET)

Type of Supply	2005	2010	2015	2020	2025	2030
Existing Supplies						
Wholesale (Imported)						
SWP Table A Supply [2]	65,700	67,600	69,500	71,400	73,300	73,300
Flexible Storage Account [3]	4,680	4,680	4,680	4,680	4,680	4,680
Flexible Storage Account [3,4] (Ventura County)	0	1,380	1,380	0	0	0
Local Supplies						
Alluvial Aquifer	35,000	35,000	35,000	35,000	35,000	35,000
Saugus Formation	5,000	11,000	11,000	11,000	11,000	11,000
Recycled Water	1,700	1,700	1,700	1,700	1,700	1,700
Total Existing Supplies	**112,080**	**121,360**	**123,260**	**123,780**	**125,680**	**125,680**
Existing Banking Programs[3]						
Semitropic Water Bank[5]	50,870	50,870	0	0	0	0
Total Banking Programs	**50,870**	**50,870**	**0**	**0**	**0**	**0**
Planned Supplies						
Local Supplies						
Groundwater	0	10,000	10,000	20,000	20,000	20,000
Restored Wells (Saugus Formation)	*0*	*10,000*	*10,000*	*10,000*	*10,000*	*10,000*
New Wells (Saugus Formation)	*0*	*0*	*0*	*10,000*	*10,000*	*10,000*

TABLE 5-8 (Continued)
EXISTING AND PLANNED WATER SUPPLIES THROUGH 2030
(ACRE-FEET)

Type of Supply	2005	2010	2015	2020	2025	2030
Recycled Water[6]	0	0	1,600	6,300	11,000	15,700
Transfers						
Buena Vista-Rosedale [7]	0	11,000	11,000	11,000	11,000	11,000
Total Supplies	**0**	**21,000**	**22,600**	**37,300**	**42,000**	**46,700**
Planned Banking Programs [3]						
Rosedale-Rio Bravo	0	20,000	20,000	20,000	20,000	20,000
Additional Planned Banking	0	0	20,000	20,000	20,000	20,000
Total Banking Programs	**0**	**20,000**	**40,000**	**40,000**	**40,000**	**40,000**

Notes:

1. *The values shown under "Existing Supplies" and "Planned Supplies" are supplies projected to be available in average/normal years. The values shown under "Existing Banking Programs" and "Planned Banking Programs" are either total amounts currently in storage, or the maximum capacity of program withdrawals.*
2. *SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 AF by percentages of average deliveries projected to be available, taken from Table 6-5 of DWR's "Excerpts from Working Draft of 2005 State Water Project Delivery Reliability Report" (May 2005).*
3. *Supplies shown are total amounts that can be withdrawn, and would typically be used only during dry years.*
4. *Initial term of the Ventura County entities' flexible storage account is ten years (from 2006 to 2015).*
5. *Supplies shown are the total amount currently in storage, and would typically be used only during dry years. Once the current storage amount is withdrawn, this supply would no longer be available and in any event, is not available after 2013.*
6. *Recycled water supplies based on projections provided in Chapter 4, Recycled Water of the 2005 UWMP.*
7. *CLWA is in the process of acquiring this supply, primarily to meet 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 7,000 AFY 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.*

Source: CLWA et al. 2005b. Table 3-1.

TABLE 5-9
PROJECTED AVERAGE/NORMAL YEAR SUPPLIES AND DEMANDS

Type of Supply	2010	2015	2020	2025	2030
Existing Supplies					
Wholesale (Imported)					
SWP Table A Supply [1]	67,600	69,500	71,400	73,300	73,300
Flexible Storage Account [2]	0	0	0	0	0
Flexible Storage Account (Ventura County)[2]	0	0	0	0	0
Local Supplies					
Alluvial Aquifer	35,000	35,000	35,000	35,000	35,000
Saugus Formation	11,000	11,000	11,000	11,000	11,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
Total Supplies	**115,300**	**117,200**	**119,100**	**121,000**	**121,000**
Existing Banking Programs					
Semitropic Water Bank[2]	0	0	0	0	0
Total Banking Programs	**0**	**0**	**0**	**0**	**0**
Planned Supplies					
Local Supplies					
Groundwater	0	0	0	0	0

TABLE 5-9 (Continued)
PROJECTED AVERAGE/NORMAL YEAR SUPPLIES AND DEMANDS

Type of Supply	2010	2015	2020	2025	2030
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
Transfers					
Buena Vista-Rosedale [4]	11,000	11,000	11,000	11,000	11,000
Total Supplies	**11,000**	**12,600**	**17,300**	**22,000**	**26,700**
Planned Banking Programs [3]					
Rosedale-Rio Bravo[2]	0	0	0	0	0
Additional Planned Banking[2]	0	0	0	0	0
Total Banking Programs	**0**	**0**	**0**	**0**	**0**
Total Existing and Planned Supplies and Banking	126,300	129,800	136,400	143,000	147,700
Total Estimated Demand (w/o conservation)	100,050	109.400	117,150	128,400	138,300
Conservation[6]	(8,600)	(9,700)	(10,700)	(11,900)	(12,900)
Total Adjusted Demand	91,450	99,700	106,450	116,500	125,400

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 of the 2005 UWMP.*
4. *CLWA is in the process of acquiring this supply, primarily to meet 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 7,000 AFY 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 (see Footnote 4).*
6. *Assumes 10 percent reduction on urban portion of total demand resulting from conservation best management practices, as discussed in Chapter 7 of the 2005 UWMP.*

Source: CLWA et al. 2005b. Table 6-2.

TABLE 5-10
PROJECTED SINGLE DRY YEAR SUPPLIES AND DEMANDS

Type of Supply	2010	2015	2020	2025	2030
Existing Supplies					
Wholesale (Imported)					
SWP Table A Supply [1]	3,800	3,800	3,800	4,800	4,800
Flexible Storage Account	4,680	4,680	4,680	4,680	4,680
Flexible Storage Account (Ventura County)[2]	1,380	1,380	0	0	0
Local Supplies					
Alluvial Aquifer	32,500	32,500	32,500	32,500	32,500
Saugus Formation	15,000	15,000	15,000	15,000	15,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
Total Supplies	**59,060**	**59,060**	**57,680**	**58,680**	**58,680**

TABLE 5-10 (Continued)
PROJECTED SINGLE DRY YEAR SUPPLIES AND DEMANDS

Type of Supply	2010	2015	2020	2025	2030
Existing Banking Programs					
Semitropic Water Bank[3]	17,000	0	0	0	0
Total Banking Programs	**17,000**	**0**	**0**	**0**	**0**
Planned Supplies					
Local Supplies					
Groundwater	10,000	10,000	20,000	20,000	20,000
Restored Wells (Saugus Formation)	*10,000*	*10,000*	*10,000*	*10,000*	*10,000*
New Wells (Saugus Formation)	*0*	*0*	*10,000*	*10,000*	*10,000*
Recycled Water[4]	0	1,600	6,300	11,000	15,700
Transfers					
Buena Vista-Rosedale [5]	11,000	11,000	11,000	11,000	11,000
Total Supplies	**21,000**	**22,600**	**37,300**	**42,000**	**46,700**
Planned Banking Programs [3]					
Rosedale-Rio Bravo	20,000	20,000	20,000	20,000	20,000
Additional Banking Programs[7]	0	20,000	20,000	20,000	20,000
Total Banking Programs	**20,000**	**40,000**	**40,000**	**40,000**	**40,000**
Total Existing and Planned Supplies and Banking	**117,060**	**121,660**	**134,980**	**140,680**	**145,380**
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)**
Total Adjusted Demand	**100,600**	**109,600**	**117,200**	**128,100**	**137,900**

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 of up to this amount are potentially available in a dry year, but given possible competition for withdrawal capacity with other Semitropic banking partners in extremely dry years, it is assumed here that about one third of the total amount stored could be withdrawn.*
4. *Recycled water supplies based on projections provided in Chapter 4, Recycled Water of the 2005 UWMP.*
5. *CLWA is in the process of acquiring this supply, primarily to meet 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 7,000 AFY 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 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 (see Footnote 5).*
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), as discussed in Chapter 7 of the 2005 UWMP.*

Source: CLWA et al. 2005b Table 6-3.

TABLE 5-11
PROJECTED MULTIPLE DRY YEAR SUPPLIES AND DEMANDS[1]

Type of Supply	2010	2015	2020	2025	2030
Existing Supplies					
Wholesale (Imported)					
SWP Table A Supply [2]	30,500	31,400	31,400	31,400	31,400
Flexible Storage Account	1,170	1,170	1,170	1,170	1,170
Flexible Storage Account (Ventura County)[3]	340	340	0	0	0
Local Supplies					
Alluvial Aquifer	32,500	32,500	32,500	32,500	32,500
Saugus Formation	15,000	15,000	15,000	15,000	15,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
Total Supplies	**81,210**	**82,110**	**81,770**	**81,770**	**81,770**
Existing Banking Programs					
Semitropic Water Bank[3]	12,700	0	0	0	0
Total Banking Programs	**12,700**	**0**	**0**	**0**	**0**
Planned Supplies					
Local Supplies					
Groundwater	6,500	6,500	6,500	6,500	6,500
Restored Wells (Saugus Formation)[4]	*6,500*	*6,500*	*5,000*	*5,000*	*5,000*
New Wells (Saugus Formation)[4]	*0*	*0*	*1,500*	*1,500*	*1,500*
Recycled Water[5]	0	1,600	6,300	11,000	15,700
Transfers					
Buena Vista-Rosedale [6]	11,000	11,000	11,000	11,000	11,000
Total Supplies	**17,500**	**19,100**	**23,800**	**28,500**	**33,200**
Planned Banking Programs					
Rosedale-Rio Bravo[8]	5,000	15,000	15,000	15,000	15,000
Additional Banking Programs[8,9]	0	5,000	15,000	15,000	15,000
Total Banking Programs	5,000	20,000	30,000	30,000	30,000
Total Existing and Planned Supplies and Banking	116,410	121,210	135,570	140,270	144,970
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)
Total Adjusted Demand	100,600	106,900	117,200	128,100	137,900

TABLE 5-11 (Continued)
PROJECTED MULTIPLE DRY YEAR SUPPLIES AND DEMANDS[1]

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 4 (4-year dry period). Initial term of the Ventura County entities' flexible storage account is ten years (from 2006 to 2015).*
4. *Total Saugus pumping is the average annual amount that would be pumped under the groundwater operating plan, as summarized in Table 3-6 of the 2005 UWMP ([11,000 + 15,000 + 25,000 + 35,000]/4).*
5. *Recycled water supplies based on projections provided in Chapter 4, Recycled Water of the 2005 UWMP.*
6. *CLWA is in the process of acquiring this supply, primarily to meet 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 7,000 AFY 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, assuming CEQA complete and 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 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 (see Footnote 6).*
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), as discussed in Chapter 7 of the 2005 UWMP.*

Source: CLWA et al. 2005b. Table 6-4.Source: CLWA et al. 2005b. Table 6-4.

CLWA's demands vary from year to year depending on local hydrologic and meteorologic conditions, with demands generally increasing in years of below-average local precipitation and decreasing in years of above-average local precipitation. According to the 2005 Draft UWMP (and shown in Table 5-9), CLWA's 2010 average year demand (without conservation) is estimated to be 100,050 AF and 138,300 AF by 2030 (without conservation) (CLWA et al. 2005).

In 2001, CLWA signed the Memorandum of Understanding Regarding Urban Water Conservation in California (MOU). By signing the MOU, CLWA became a member of the California Urban Water Conservation Council (CUWCC) and pledged to implement all cost-effective Best Management Practices (BMPs) for water conservation. CLWA has estimated that conservation measures within the service area can reduce total water demands by about 10 percent of the urban potion of total demand. As shown in the tables and stated in the 2005 UWMP, based on conservative water supply and demand assumptions over the next 25 years in combination with conservation of non-essential demand during certain dry years, CLWA and the retail water purveyors will be able to deliver a reliable water supply to its customers.

As shown in Table 5-8, in 2002 CLWA stored 24,000 AF of its Table A Amount in an account in the Semitropic Water Storage District's Groundwater Storage Program in Kern County[1] and in 2004, CLWA stored 32,522 AF of available 2003 Table A Amount water in a second Semitropic account.[2] In accordance with the terms of CLWA's storage agreements with Semitropic,

[1] The Negative Declaration prepared by CLWA was challenged in California Water Network v. Castaic Lake Water Agency (Ventura County Superior Court Case Number CIV 215327), which held in favor of CLWA. That case is presently on appeal in the Second District Court of Appeal, Sixth Division, Case Number B177978 (CLWA et al. 2005b).

[2] No legal challenge was made to CLWA's approval of this project or of the Negative Declaration for this project (CLWA et al. 2005b).

90 percent of the banked amount, or a total of 50,870 AF (see Table 5-8), is recoverable through 2013 to meet CLWA water demands when needed. Each account has a term of ten years for the water to be withdrawn and delivered to CLWA.[3] Current operational planning includes use of the water stored in Semitropic for dry year supply.

Also shown in Table 5-8 is CLWA's planned participation in an additional banking program (the Rosedale-Rio Bravo Water Banking Program). The initial offering from the Rosedale-Rio Bravo project, a water banking and exchange program, is for storage and pumpback capacity of 20,000 AFY, with up to 100,000 AF of storage capacity. As discussed above, other planned supply programs include the Buena Vista Water Storage District/Rosedale-Rio Bravo Water Storage District Water Storage and Recovery Program. The initial offering from the Buena Vista-Rosedale program is up to 11,000 AFY of firm supply. This water supply would primarily meet the potential demands of future annexations to the CLWA service area and, currently, proposed annexations have a demand for about 4,000 AFY of this supply (CLWA 2005) and include the proposed project.

Of CLWA's 95,200 AF of annual Table A Amount discussed in the tables above, 41,000 AFY was permanently transferred to CLWA in 1999 by Wheeler Ridge-Maricopa Water Storage District, a member unit of the Kern County Water Agency. With regard to availability, the 2005 UWMP provides a discussion of the appropriateness of relying on the 41,000 AFY, which includes: 1) the transfer was completed in 1999 and the Department of Water Resources has allocated and annually delivered water in accordance with the completed transfer; (2) the revised EIR for the transfer corrects the sole defect identified by the Court of Appeal (i.e., tiering off the Monterey Agreement EIR)[4]; (3) the Monterey Amendments settlement agreement expressly authorizes the operation of the SWP in accordance with the Monterey Amendments, which authorize the transfer; (4) the Court of Appeal refused to enjoin the transfer, and instead required preparation of a revised EIR; and (5) the transfer contract remains in full force and effect, and no court has ever questioned their validity or enjoined the use of this portion of CLWA's Table A amount.

5.4.2 Impact Analysis

Thresholds of Significance

Significance Criteria

The proposed project would have a significant impact on water supply if it would:

- have insufficient water supplies available to serve the project from existing and planned entitlements; or
- have insufficient water supply infrastructure available to serve the project

Water Supply

The proposed project's projected water demand would be approximately 54 AFY, as shown in Table 5-12. The timing of the project places it well within the timeframe for calculating "planned

[3] Thereafter, the remaining amount of project water in the account is forfeited (CLWA et al. 2005b).

[4] CLWA's EIR prepared in connection with the 41,000 AFY water transfer 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 EIR tiered off the Monterey Agreement EIR that was later decertified, CLWA would also have to decertify its EIR and prepare a revised EIR. CLWA approved the revised EIR in December 2004. Friends was dismissed permanently in February 2005. In January 2005, two new challenges to CLWA's EIR were filed.

future uses" within the 2030 water supply projection included in the 2005 UWMP (project build-out is expected to be before 2030). Sufficient water supplies, including groundwater supplies, are available to serve the project from existing and planned entitlements and resources without substantially depleting groundwater supplies.

TABLE 5-12
WATER USE ESTIMATE

Land Use Categories	Water Use Factor[1]		Proposed Project	Estimated Water Use (AFY)
	AFY	per		
Single Family Residential	0.90	unit	60	54
Total (rounded)				54
[1] *Factor provided by NCWD.*				

As with all of the CLWA purveyors, annual allocation from CLWA to the NCWD is dependent on demand and supply within the district. Therefore, the proposed project demand would not exceed the current available water supply to either NCWD or the Santa Clarita Valley as a whole. Based on this analysis, NCWD can adequately serve the project without adversely affecting existing customers within the service area. Moreover, NCWD has confirmed that they can adequately serve the project without any additional facilities or entitlements (the Newhall County Water District's response to the project's request for information on water supply and facilities is located in Appendix H). Therefore, impacts would be less than significant.

Water Supply Infrastructure

The project's infrastructure would be constructed to the specifications of the NCWD, the pipeline would provide sufficient capacity to serve the project and the proposed project would have adequate domestic and fire flow storage. According to the NCWD, the increased demand generated by the proposed project would not adversely affect service capabilities or facilities in the project area, and the addition of 60 residential units would not require the expansion of the existing facilities. Impacts related to water supply infrastructure would be less than significant.

The NCWD does not currently have development fees for this service area, although they are studying a connection fee structure that would be applicable in the future to the Tesoro area. This future connection fee may or may not be applicable to the proposed project, depending on the timing of the fee implementation and the project construction. At the time of connection, the project applicant will pay any appropriate development fees. Mitigation measures are provided to ensure the applicant provides all necessary documentation and easements related to water supply infrastructure to NCWD. Impacts are considered less than significant; however, mitigation measures for otherwise standard conditions and requirements are recommended.

5.4.3 Cumulative Impacts

Based on the demand projections through the year 2020 included in the 2000 UWMP, the water supply would be adequate if the proposed project were developed in addition to existing and other planned future uses. Thus, cumulative impacts to water supply, including groundwater supply, would be less than significant since all projected demand through 2020 can be met with the planned water supply.

5.4.4 Project Design Features and Mitigation Measures

Project Design Features

None.

Mitigation Measures

The following mitigation measures are provided to document standard procedures:

MM 5.1-1 Prior to issuance of a grading permit, the developer shall submit to the NCWD all plans, designs, and fire department requirements for the development in order that the NCWD may design the necessary water system facilities required for the development in accordance with the NCWD's Rules and Regulations; or, at the NCWD's option, the water system may be designed by the developer, subject to the NCWD's review and approval.

MM 5.1-2 Prior to issuance of a grading permit, the developer shall grant the NCWD any and all easements required for water service, together with a policy of title insurance, satisfactory to the NCWD, guaranteeing the NCWD's title to such easements.

MM 5.1-3 Prior to issuance of a grading permit, the developer shall, in accordance with the NCWD'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, and if NCWD elects to design the water system all costs and expenses of design.

Level of Significance after Mitigation

With the incorporation of mitigation measures listed above, impacts to water utilities associated with the proposed project would be less than significant.

SECTION 6.0 OTHER ANALYSES

6.1 ENVIRONMENTAL SAFETY

This section summarizes information contained in the Phase I Environmental Assessment Report performed by Waterstone Environmental, Inc. (Waterstone) in May of 1999. The technical report is included in Appendix I of this DEIR. The Phase I report was conducted for a 176-acre parcel located within the current 185.8 project site. It was determined that the conclusions of this report were still applicable to the proposed project, even though the current project site includes an additional 10 acres.

6.1.1 Existing Conditions

The project site consists of a 185.8 acre parcel of undeveloped land located in the Santa Clarita Valley, which is surrounded by the Angeles and Los Padres National Forests, San Gabriel Mountains, and Piru Mountains. There are no known active faults on the project site and the San Andreas Fault is located approximately 20 miles to the northeast. The Santa Clara River is located approximately four miles south of the project site. The intermittent San Francisquito Canyon Creek, a tributary of the Santa Clara River, runs in a north-south direction in the eastern portion of the project site.

Waterstone conducted the Phase I Assessment by performing several tasks, including:

- Researching past activities that occurred on the site to identify any former operations that may have impacted the site with hazardous materials.
- Inspecting the site for areas of potential hazardous materials
- Identifying neighboring sites that have the potential to impact the site with hazardous materials
- Contacting the appropriate regulatory agencies for information regarding hazardous materials use, storage, and/or releases
- Reviewing published governmental agency lists to identify properties within one mile of the site with a reported release of hazardous materials.

A regulatory agency database review of the proposed project site and the neighboring area was conducted to search for properties that may have the potential for existing or future site contamination, environmental liabilities, or potential for contamination migration to surrounding areas. The federal databases searched and the results of the records search are summarized below.

- National Priorities List (NPL) of the Environmental Protection Agency (EPA): Identifies sites under the Superfund program. No NPL sites were identified within a one-mile radius.
- Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS): Identifies properties suspected of having adversely impacted the environment. No CERCLIS sites were identified within a one-half mile radius.
- Resources Conservation and Recovery Act (RCRA): Identifies hazardous waste taken from the point of generation to the point of disposal. No RCRA generator sites were identified within one-quarter mile radius; no treatment, storage, and disposal facilities were identified within one-quarter mile radius; and no violations or enforcement actions sites were identified within one-quarter mile radius.

- CORRACTS: Identifies RCRA facilities that are undergoing corrective action. No CORRACTS facilities were identified within the one-mile radius.
- Emergency Response Notification System (ERNS): Identifies reported releases of oil or hazardous substances. No ERNS incidents have occurred within a one-eighth mile radius.

The state databases searched and the results of the search are summarized below.

- State Priority Lists Sites (SPL): No SPL sites were identified within a one-mile radius.
- State Hazardous Waste Sites (SCL): No state hazardous waste sites were identified within a one-mile radius.
- Registered Underground Storage Tanks (UST): No UST sites were identified within a one-quarter mile radius.
- Leaking Underground Storage Tank Incident Report (LUST): No LUST sites were identified within a one-half mile radius.
- Solid Waste Facility Information System List: No sites were identified within a one-half mile radius.
- Toxic Release Inventory System List: No TRIS sites were identified within a one-quarter mile radius.

The California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) records were reviewed for the project site to identify oil field activities located within the project site. Two abandoned oil wells were identified within the project boundaries.

The research also involved site reconnaissance. No evidence of underground or aboveground storage tanks were observed on the project site. Because the proposed project site is undeveloped, there is no evidence or concerns of asbestos contamination, lead-based paint, urea-formaldehyde foam insulation, or equipment that could possibly contain polychlorinated Biphenyls (PCBs). There was not evidence of chemical use, storage, or illegal dumping.

6.1.2 Project Impacts

Thresholds of Significance

The following threshold was determined to indicate that impacts to environmental safety could be significant for the proposed project.

- Previous uses on the site that indicate residual soil toxicity.

Impacts Analysis

According to the DOGGR, two abandoned oil wells are located on the project site. Figure 4.4-1 contains two photographs of the wells, one located in the central portion of the project site (#301) and one located in the western portion near the Hollyleaf Cherry tree grove (#302). The wells were developed by International Oil Developers, Inc. in the mid-1930s. Neither well was successful and they were both abandoned shortly after drilling in 1935.

If oil wells are not properly abandoned with adequate filling and plugging of the wells, groundwater contamination could result. The abandonment report for one of the wells indicates that it was abandoned at 358 feet below ground surface (bgs) with a wooden plug and 25 sacks of cement on top to create a barrier from approximately 318 to 358 feet bgs. A metal cap was

then welded to the surface casing. The abandonment procedure for well #301 was not provided in the DOG files. The abandoned oil wells on-site may pose a hazard to future development if it is determined that the abandonment procedures were not adequate.

It was common for former drilling activities to create mud pits near wells for the disposal of waste drilling mud and cuttings from the drilling of the well and it is likely that mud pits exist near the abandoned wells on the project site. If mud pits are present on the site, they may contain oil and grease that was used as a lubricant in the drilling operations.

The Phase I Assessment concluded that the levels of oil and grease would not result in a significant impact due to the length of time since the drilling. Natural bacteria in the soil have most likely digested much of the oil and grease. Metals may be at higher level than surrounding levels; however, the report determined that the vast majority of mud pits do not contain a hazardous condition. This conclusion is supported by the lack of productivity at the wells and the depth of the wells.

6.1.3 Cumulative Impacts

The presence of the two abandoned oil wells would be mitigated through the re-abandonment procedures specified by the DOGGR and reduce the potential hazards associated with those wells to less than significant levels. The mitigation of this hazard would reduce impacts to less than significant. No cumulatively considerable hazards are present on the project site.

6.1.4 Project Design Features and Mitigation Measures

Project Design Features

None.

Mitigation Measures

MM 6.1-1 Prior to issuance of a grading permit, the two abandoned oil wells on the project site will be re-abandoned according to current California Department of Conservation, Division of Oil, Gas, and Geothermal Resources standards. Vegetation temporarily impacted by the re-abandonment process will be reseeded with native plant material mix.

Level of Significance after Mitigation

With the incorporation of the mitigation measure described above, potential impacts would be less than significant.

SECTION 7.0 EFFECTS FOUND NOT TO BE SIGNIFICANT

This section presents a summary of the environmental factors that were determined to have no impact or have a less than significant impact as presented in the County's Initial Study Checklist dated July 22, 2003. The Initial Study Checklist is provided in Appendix A.

7.1 NOISE

The County has determined that the project site is not located near a high noise source, such as an airport, railroad, freeway, or industrial land use. The residential land use is not considered to be "sensitive" or in proximity to other sensitive uses, such as schools, hospitals, or senior citizens facilities. The residential land use proposed for the project site is compatible with neighboring land uses and would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity. Therefore, potential noise impacts were determined to be less than significant.

7.2 MINERAL RESOURCES

According to the Special Management Areas map in the County General Plan, no known mineral resources are located in the vicinity of the project site. The nearest area indicated as having mineral resources is approximately four miles southwest of the project site. The project is not located within and would not result in the loss of availability of a known mineral resources that would be of value to the region and the residents of the state. The project would not 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. Therefore, potential mineral resources impacts were determined to be less than significant.

7.3 AGRICULTURE RESOURCES

The County has determined that the proposed project would not 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. The project is consistent with the current zoning and General Plan land use designation and would not conflict with a Williamson Act contract. The project would not involve other changes in the existing environment which could result in conversion of farmland to non-agricultural use. Therefore, potential agriculture resources impacts were determined to be less than significant.

7.4 FIRE/SHERIFF

The project site would be within the jurisdiction of the Santa Clarita Valley Sheriff Station located at 23740 Magic Mountain Parkway in Valencia. The station is located approximately 4-5 miles from the project site. The County of Los Angeles Sheriff's Department anticipates that non-emergency response time to a request for service to the project site would be approximately 20-30 minutes. The priority response time would be approximately 7-12 minutes and the response time under emergency circumstances would be approximately 4-7 minutes. All response times are approximations only and would be dependent upon both the employment of area radio cars and traffic conditions.

This station serves an area of 656 square miles with a population of approximately 200,000 residents. The ideal officer to population ratio is one deputy per 1,000 residents and with the current staffing of 171 sworn deputies currently assigned, their ratio is less than ideal at one deputy for every 1,169 residents. Assuming a residential density of 3.01 persons per

dwelling unit, the proposed project will generate a population increase of 180. Based on this population increase, the project would not require additional deputes to the station and impacts to Sheriff services would be less than significant.

The Sheriff's Department is concerned about their ability to provide an adequate level of service to all policed areas due to the rapidly expanding population of the Santa Clarita Valley area. There is no developer "fee" mechanism in place to contribute to the Sheriff's Department that would offset any impacts, and the Sheriff's Department has a budget set by the Board of Supervisors. Therefore, there is no mechanism in place to reduce impacts of the project to zero. With the proposed project, the creation of more lots would result in an increase in property tax revenue for the County, although the increase in property taxes may not cover the increase in all services to be provided by the County. Nevertheless, impacts to the Sheriff's Department are less than significant.

The County of Los Angeles Fire Department assesses a developer fee for the Santa Clarita Valley for the benefit of the Consolidated Fire Protection District. This includes all of the unincorporated area within the zone of the City of Santa Clarita. The City of Santa Clarita collects developer fees and transfers the revenue to the District upon request. As detailed in Section 3.3 of this EIR, the project applicant will pay all applicable developer fees, which will provide funds for the fire protection facilities that are required by new development.

7.5 GENERAL

The County has determined that the project would not result in an inefficient use of energy resources or result in a major change in the patterns, scale, or character of the general area or community. The proposed project would not reduce the amount of agricultural land. Therefore, general impacts were determined to be less than significant.

7.6 LAND USE

The County has determined that the proposed project is consistent with the existing Santa Clarita Valley Area Plan land use designation for the site. The project is consistent with the hillside management criteria and would not divide an established community. It was determined that potentially significant impacts may result from the analysis of the Significant Ecological Area criteria. The analysis of the proposed project's compatibility with SEA criteria is presented in conjunction with the Biota Factor. Potential land use impacts were determined to be less than significant.

The SCVAP land use designations for the project site include Hillside Management Area (HM), Non-Urban 1 (N-1), and Floodway/Floodplain (W). Figure 2.3-1 presents the land use designations per the SCVAP and the slope densities on the project site. The "W" designation refers to the central portion of the SEA, which accounts for 54.3 acres of the project site and does not allow for residential development. The large majority of the remaining portion of the project site is designated as N-1, which includes 127 acres and requires a maximum of 0.5 dwelling units per acre for slope ranges less than 50 percent (1 du per 20 acres for slopes above 50 percent). The area designated as N-1 could contain approximately 60 residential units, given the various ranges of slope on the site. Approximately 4.6 acres of the project site are included within the HM area, which could contain a total of 1.5 units, based on the range of slopes on the site. Therefore, based on the land use designation in the SCVAP, the project site could contain a total of approximately 61 units. The proposed project contains a total of 60 residential lots, which is in conformance with the SCVAP land use designations.

The Los Angeles County General Plan designates the area as Non-Urban and SEA No. 19. The Non-urban land use designation includes the foothill and high desert areas of the County

that are not planned for urban use or scheduled to receive urban service. A wide variety of land uses are allowed within the Non-urban land use, including residential development, local highway-oriented commercial and industrial uses, as well as local industrial uses. The proposed project site is zoned by the County of Los Angeles as R-1-7,000 (Single-Family Residence Zone) and A-2-2 (Heavy Agricultural Zone).

The R-1-7,000 is applied to the eastern portion of the project site (approximately 75 acres), including the SEA No. 19, and indicates a residential zone with a minimum lot size of 7,000 square feet. In theory, within the land designated R-1-7,000, a total of approximately 460 single family lots could be created within this portion of the project site. The A-2-2 zone (Heavy Agricultural Zone) is applicable to the land west of the SEA No. 19 (approximately 111 acres), and requires a two acre minimum lot size. In theory, within the land designated A-2-2, a total of 55 single family lots could be created within this portion of the project site. Based on the current zoning, a total of approximately 515 dwelling units would be allowable (exclusive of consideration for hillside management or SEA restrictions). The proposed project includes only 60 dwelling units, in conformance with the SCVAP land use designation, which is considerably less dense than what is allowed under the Los Angeles County zoning designation for the site.

7.7 POPULATION/HOUSING/EMPLOYMENT/RECREATION

The proposed project involves the development of single-family residential development. The County has determined that the proposed project would not exceed official regional or local population projections and would not induce substantial direct or indirect growth in an area. The project would not displace existing housing, displace substantial numbers of people, result in a substantial job/housing imbalance, or create a substantial increase in vehicle miles traveled. The project would not require new or expanded recreational facilities for future residents. Therefore, potential population/housing/employment/recreation impacts were determined to be less than significant.

The Los Angeles General Plan states that four acres per thousand population is required to satisfy the demand for local park facilities. The General Plan also states that Santa Clarita Valley requires six acres per thousand population in order to satisfy the regional demand for park facilities. As part of the project, the project applicant will provide the Quimby obligation of $91,917, which is equitable to 0.6 acres of recreational facilities.

7.8 OTHER SERVICES: SOLID WASTE

The County of Los Angeles has recently adopted an ordinance, effective March 6, 2005, that requires all construction projects to recycle at least 50 percent of construction wastes. The ordinance amends Title 20- Utilities of the Los Angeles County Code- by adding Chapter 20.87- Construction and Demolition Debris Recycling and Reuse.

The ordinance states that at least 50 percent of all construction and demolition (C&D) debris, soil, rock, and gravel removed from a project site must be recycled or reused unless a lower percentage is approved by the Director of Public Works. A Recycling and Reuse Plan (RRP) must be submitted to the Department of Public Works, Environmental Programs Division, after an application for a permit has been filed for a project. The RRP must contain a project description and the estimated total weight of the project C&D debris, with separate estimates for (1) soil, rock, and gravel, (2) all other inert materials, and (3) all other project C&D debris. The ordinance also requires that annual progress reports be submitted to the Director for review. Therefore, compliance with the County Ordinance would ensure that construction-related impacts to solid waste would be less than significant.

Waste haulers within the County unincorporated areas are already required to collect recycled materials. The Department of Public Works will make pamphlets available to new residents of proposed project site that explains the benefits of recycling and encourage recycling. Therefore, long-term operational solid waste generated by the residential homes would be less than significant due to the availability of recycling services.

SECTION 8.0 ALTERNATIVES ANALYSIS

Section 15126.6 of the State CEQA Guidelines addresses the discussion of alternatives in EIRs. Key provisions of the Guidelines are identified throughout this section to explain the basis for the alternatives evaluated in this EIR. Section 15126.6 states the following:

> "An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible."

In accordance with CEQA Guidelines, the discussion of alternatives in this Section of the EIR focuses on a reasonable range of alternatives. Scenarios considered and eliminated during the design process are discussed and include the following:

1. Alternative Site Scenario
2. Large Lot Scenario

Project alternatives which are under consideration in this EIR include the following:

1. Alternative 1: No Project
2. Alternative 2: Small Lot Alternative
3. Alternative 3: 30 Large Lot Alternative
4. Alternative 4: 52 Lot Alternative

8.1 ALTERNATIVES CONSIDERED AND ELIMINATED

Section 15126.6(c) specifies that an EIR should identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (1) failure to meet most of the basic project objectives, (2) infeasibility, or (3) inability to avoid significant environmental impacts.

8.1.1 Alternative Site Scenario

Section 15126.6(f)(2) of the CEQA Guidelines requires an analysis of an alternative location(s) to the proposed project site and notes that "only locations that would avoid or substantially lessen any of the significant effects of the project need to be considered for inclusion in the EIR." CEQA further states that "an EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative."

The proposed project involves the implementation of a residential project on approximately 186 acres. The objectives of the proposed project are presented in Section 2.5 of the Project

Description. In order to develop the proposed project in an alternative location, several requirements would need to be satisfied including the following:

1. Comparable size lot (approximately 186 acres);

2. Located within the Santa Clarita Valley; and

3. Accessible by existing roadways.

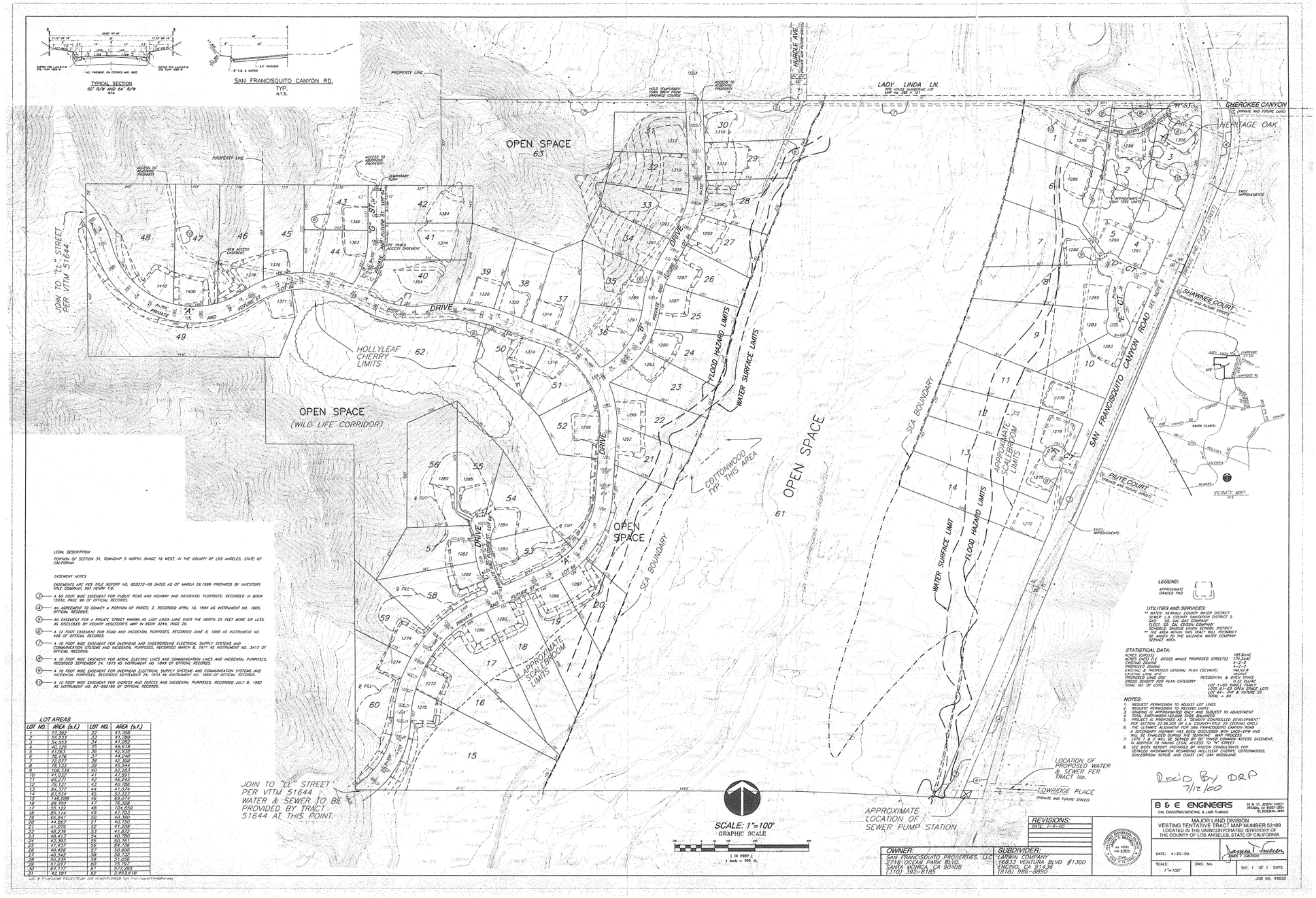
Based on a preliminary search for property in the surrounding area, it was determined that there are no locations that satisfy these criteria. The large majority of the property in the local area is either developed or entitled to be developed by another property owner, such as the currently vacant and undeveloped property within the Tesoro del Valle and the West Creek project areas. The Bouquet Canyon projects (4 tentative tract maps) at the intersection of Vasquez Canyon Road and Bouquet Canyon Road are not available for consideration as an alternative site for the Burnam project site because these projects have been submitted to the County for Tract Map approval; a CEQA review process has been started and partially completed. Recent discussions with the landowner indicate that the projects have been redesigned and will be submitted to the County within the next two months to restart the entitlement and CEQA processes. Additionally, the developable land in the vicinity of the project site is constrained by the presence of the Angeles National Forest to the north. It was determined that an alternative location would be infeasible and was therefore eliminated as an alternative under consideration.

8.1.2 Large Lot Scenario

In 2000, the Larwin Company applied to the County of Los Angeles to develop the VTTM 53189 site with residential homes. The previously proposed project design is included as Figure 8.1-1. The project included 60 single-family homes on lots of at least two acres in size. Lots 1 through 14 would have been located along the western side of San Francisquito Canyon Road, which would have provided access to the homes; these lots extended into SEA No. 19. Lots 15 through 60 were distributed along two streets that ran perpendicular to each other and would have been accessed via the Tesoro del Valle project in the same manner as the currently proposed project for VTTM 53189.

This scenario was eliminated for various reasons through the development review process with the County of Los Angeles Department of Regional Planning. The lots along San Francisquito Canyon Road were considered to be too close to the SEA No. 19. Certain habitats, such as the oak woodlands and the riversidian alluvial fan sage scrub, would have been significantly impacted by the development of the lots (1-14) along the eastern side of the SEA. A large amount of hillside area within Lots 31 through 35 would have required substantial manufactured slopes. Additionally, the project would have required approximately 912,000 cubic yards of grading balanced on-site, which included 750,000 cubic yards of alluvial removal and replacement for compaction.

In contrast, the proposed project does not include development within the SEA No. 19 and does not include residential homes along San Francisquito Canyon Road. Development would be more compact and the footprint of the proposed project would be significantly reduced. Grading activities would reduce earthwork to approximately 246,000 cubic yards balanced on-site. Therefore, the “Large Lot Scenario” was eliminated in favor of the proposed project, which was designed in accordance with the guidance of the County of Los Angeles Department of Regional Planning.



Large Lot Scenario

Figure 8.1-1

VTTM 53189

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Source: B & E Engineers 2003

BonTerra CONSULTING

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8.2 ALTERNATIVES TO THE PROPOSED PROJECT

The analysis for each of the project alternatives identified below includes the following:

- Description of the alternative
- Analysis of the environmental impacts and comparison to the proposed project
- Analysis of the alternative's ability to meet the project objectives

8.2.1 Alternative 1: No Project/No Development

Under the No Project Alternative, the proposed project would not occur and the environmental effects from the proposed project would be avoided. The only land uses that would be allowed to continue would be the existing land uses. Therefore, the project site would remain in an undeveloped condition.

Comparison of Environmental Impacts

Because this alternative does not propose any development on the land and all of the existing conditions would remain intact, all environmental impacts associated with the proposed project would be eliminated.

Ability to Meet the Project Objectives

This scenario does not achieve any of the current project objectives.

Alternative 1 Analysis Conclusion

This alternative would be the environmentally superior alternative because all of the existing natural open space and vegetation would be preserved and there would be no construction or operation related environmental impacts. However, this alternative would result in non-residential use of land. The project site is anticipated for residential development by the SCVAP. Additionally, this alternative does not achieve any of the project objectives stated in Section 2.5 of this EIR, with the exception of Objective 6, which states that the natural drainage features of the San Francisquito Canyon SEA No. 19 should be preserved.

Section 15126.6(2) of the CEQA Guidelines states that "if the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives."

8.2.2 Alternative 2: Small Lot Alternative

In this alternative, as depicted in Figure 8.2-1, lot sizes would be smaller in size, similar to the adjacent Tesoro del Valle project site. Lots within Tesoro del Valle generally range from approximately 4,200 to 7,000 square feet. A reasonable alternative lot size for comparison to the proposed project was therefore assumed to be 6,000 to 7,000 square feet. Under this alternative, a total of 60 single-family residential lots with the same internal roadway system would be developed on the project site. Lot sizes in the proposed project average approximately 13,000 square feet; this alternative would result in lot sizes approximately 40 to 50 percent smaller. Reduced lot sizes would allow for a more compact development and would allow for a redistribution of the lots to less environmentally-sensitive areas. For example, the majority of the lots could be reduced in length along the eastern side of "A" Street near the boundary of SEA No. 19, yielding a broader development buffer along the SEA. Additionally,

lots could be eliminated from the hillside areas of the project site. The internal roadway system ("A", "B", and "C" Streets) would remain as currently depicted in the tract map in order to satisfy County requirements for multiple points of access to the site and for connection to the adjacent Tesoro del Valle development.

Comparison of Environmental Impacts

Geotechnical The movement of lots out of hillside areas would substantially reduce grading impacts. Additionally, the general reduction in the lot sizes would result in a reduced need for overall grading activities. Under this alternative, the amount of hillside grading would be substantially lessened as a result of the reduced footprint of the project site. The amount of manufactured slope area required for the project would be reduced because development would be further pulled away from the hillside areas, including the hillside areas behind Lots 1-8 as well as Lots 30-32 on the proposed Tract Map 53189.

However, a substantial amount of remedial grading for the alluvial soils under the central portion of the developed footprint would still be required. The roadways would still need to be constructed "at-grade" to connect with the Tesoro del Valle project site and the property to the north of the project, which would still impact hillside areas and require substantial grading. It is possible that this alternative would result in an imbalance of cut-to-fill resulting from the reduction in the amount of hillside grading activities. An imbalance may require fill material to be brought into the project site from off-site areas. Nevertheless, grading would be reduced overall under this scenario. Although geotechnical impacts were determined to be less than significant with the currently proposed project design, this alternative would further minimize geotechnical impacts.

Flood The amount of impervious cover on these lots would not necessarily be reduced under this alternative because smaller lot sizes may or may not equate to smaller homes. Therefore, it is unknown whether this scenario would result in a decrease in impervious area and a corresponding increase in surface water percolation. However, a reduced project footprint would likely reduce impacts to the hydrology of the site due to decreased disturbance to natural areas. A reduction in the length of the lots along the eastern side of Street "A" adjacent to the SEA would create more distance between the lots and the San Francisquito Creek floodplain. Although flood impacts were determined to be less than significant with the currently proposed project design, this alternative would further minimize potential flood impacts.

Fire This alternative would reduce the amount of open space areas that would be subject to fuel modification. However, the number of lots (and number of residents) on the project site would remain unchanged and fuel modification pursuant to the County requirements for development within a VHFHSZ would still be required.

Water Quality This alternative may not necessarily reduce the amount of impervious cover on the site, although the overall disturbed area would be reduced due to the smaller lot sizes. The size of the house pads would not necessarily be dictated by the size of the lots. Additionally, the internal roadway system would remain consistent with the currently proposed project design.

The amount of vehicles using the internal roadway system would not be reduced; therefore, the amount of pollutants in stormwater runoff associated with vehicle use, such as hydrocarbon pollutants and heavy metals, would not be reduced under this alternative.

However, the reduction in lot size would likely reduce the amount of water needed for lawn irrigation as well as the amount of pesticides/herbicides used for lawn and garden maintenance. Therefore, some water quality improvements may be realized with this alternative, while other water quality impacts would remain the same. Although water quality impacts were determined to be less than significant with the currently proposed project design, this alternative would further minimize some water quality impacts.

Air Quality

The reduction in grading activities associated with this alternative would translate to a corresponding reduction in construction emissions. As noted in Section 4.2, construction related PM_{10} would be significant on the peak day and peak quarter prior to mitigation and NO_X emissions would be significant on the peak day and in the peak quarter in the proposed project design even after mitigation. The construction related NO_X emissions have to be reduced by at least half in order to not be significant in the peak quarter.

It is highly unlikely that the reduction in lot size would translate to a 50 percent reduction in PM_{10} or NO_X emissions due to the amount of grading and alluvium removal and compaction that would still be required and the construction of the roadway connections to the Tesoro del Valle project. However, these emissions would be reduced under this alternative. There would be no changes in the internal roadway system, and therefore no reduction in emissions associated grading for the roadway design. Although construction-related air quality impacts for NO_X emissions were determined to be significant with the currently proposed project design and this alternative would reduce these emissions somewhat, it is highly unlikely that this alternative could reduce construction-related air quality impacts to a level less than significant. However, air quality impacts would be less than those from the proposed project.

Biota

The reduced lot sizes, locating homes away from the hillsides and the SEA, and reduced fuel modification zones would reduce impacts to biota. Although biota impacts were determined to be less than significant with the currently proposed project design, this alternative would reduce overall biota impacts.

Cultural Res.

This alternative would reduce potential impacts to archaeological and paleontological resources through the reduction of the grading activities.

Visual Qualities

The aesthetics of the project site would be altered by the redesign of the project footprint to a more compact form. The homes would be located much closer together and would give the appearance of a more urban residential design rather than the more rural design currently proposed in the tract map. The amount of manufactured slopes would be reduced and there would be an increase in the amount of open space on the site. Otherwise, the location of the internal roadway system, and therefore the general location of the lots on the property, would remain unchanged.

Impacts to visual qualities were determined to be less than significant with the currently proposed project design. This alternative design would alter the aesthetics of the project by creating a more urban and compact development that would be less compatible with the large lot ranchland to the east of the project site. Because of the surrounding community's standard for larger-lot rural properties, adverse visual character impacts would be increased under this scenario, although it would be similar in appearance to the Tesoro del Valle project.

Traffic/Access This alternative would not change the analysis of traffic/access impacts performed for the currently proposed project design because the number of units would not change.

Sewage Disposal This alternative would not change the analysis of sewage impacts performed for the currently proposed project design because the number of units would not change.

Education This alternative would not change the analysis of education impacts performed for the currently proposed project design because the number of units would not change.

Utilities This alternative would not change the analysis of utilities impacts performed for the currently proposed project design because the number of units would not change.

Environ. Safety This alternative would not change the analysis of environmental safety impacts performed for the currently proposed project design.

Ability to Meet the Project Objectives

The project objectives as listed in Section 2.5, as well as an analysis of the alternative's ability to meet the project objectives, are presented below.

Project Applicant Objectives:

1. Provide single-family housing within the Santa Clarita Valley that contributes to the local diversity of housing and lot sizes for existing and future residents and that is consistent with the type and size of housing satisfying the market demands in this area.

   This alternative is partially consistent with this objective. The majority of the housing within the Area A of the Tesoro del Valle project is constructed on lots that are approximately 4,200 to 7,000 square feet in size. This size of housing is in high demand, as the available homes in the development are being sold rapidly. However, the current market for housing in this area can accommodate variations in housing size and affordability. The lot sizes in this Alternative do not contribute to the diversity of housing and lot sizes for existing and future residents since they would reflect the housing size provided by the larger Tesoro del Valle project. The larger lots included in VTTM 53189 would provide the housing market in the immediate area with more diversity and would satisfy the potential homeowners who seek a more rural atmosphere and spacious property.

2. Provide high-quality housing that will help to meet the existing and future demand and help alleviate the housing shortage in the Santa Clarita Valley.

This alternative is consistent with this objective. The number of homes on the project site is the same as the proposed project, which would help satisfy some of the local demand for housing and is also consistent with the Santa Clarita Valley Area Plan.

3. Provide a residential development that conforms to the existing Santa Clarita Valley Area Plan land use designation and density requirements.

   This alternative is consistent with this objective. The number of homes on the project site is the same as the proposed project, which is also consistent with the Santa Clarita Valley Area Plan.

4. Incorporate design techniques, such as developing a compact project footprint that avoids sensitive biological resources and hilltop development and preserves open space, in order to create a visually harmonious project.

   This alternative is consistent with this objective. The alternative would achieve a more compact development than the proposed project and would avoid hilltop development by remaining within (and reducing) the proposed grading footprint for the site.

5. To preserve the natural drainage features of the San Francisquito Canyon SEA No.19 that transects the property.

   This alternative is consistent with this objective. The smaller lots would reduce the overall graded footprint of the project site, thereby creating a broader development buffer along the SEA.

Los Angeles County General Plan Objectives:

This alternative is consistent with all of the Los Angeles County General Plan objectives listed in Section 2.5 of this EIR.

Santa Clarita Valley Areawide Plan Objectives:

This alternative is consistent with all of the Santa Clarita Valley Areawide Plan objectives listed in Section 2.5 of this EIR.

Alternative 2 Analysis Conclusion

This alternative would reduce the significant air quality impacts associated with grading of the proposed project, but would likely not reduce them to a level less than significant. Biota and hillside grading impacts would also be reduced under this alternative due to the reduced size of the lots. Additionally, this alternative would provide for an increased buffer between development and the SEA. Some proposed project impacts that were determined to be less than significant would be reduced under this alternative, while others would remain similar.

This alternative would result in a development that would accommodate the same number of homes as the proposed project, but would reduce some impacts. However, this alternative would not completely satisfy all of the project objectives. This Alternative would develop lots and homes that are similar in size to the larger Tesoro del Valle project and would not contribute to the local diversity of housing size options. Additionally, landowners to the northeast and southeast of the project site have expressed concerns about developing small lots on the project site, which would be incompatible with the equestrian nature of the area. Nevertheless, due to the reduction in impacts to air quality, biota, and grading, this alternative would be the environmentally superior alternative under Section 15126.6(2) of the CEQA Guidelines.

8.2.3 Alternative 3: 30 Large Lot Alternative

In this alternative, as depicted in Figure 8.2-2, the development footprint of the project site would remain similar in size. However, instead of developing 60 lots, this alternative would double the size of each lot, resulting in a total of 30 lots on the project site. The internal roadway system ("A", "B", and "C" Streets) would remain as currently depicted in the tract map in order to satisfy County requirements for multiple points of access to the site.

Comparison of Environmental Impacts

Geotechnical Because the development footprint of the project site would remain similar, the geotechnical impacts would remain largely the same as in the proposed project. The amount of earthwork, including remedial grading of alluvial soils, would not be changed. This alternative would not reduce impacts associated with geotechnical hazards.

Flood This alternative would reduce the amount of impervious cover on the site by eliminating half of the homes and their associated amenities (garage, driveway, etc.), thereby decreasing urban runoff and increasing stormwater percolation into the soil. Flood impacts would be slightly reduced under this alternative.

Fire This alternative would not substantially change the analysis of wildland fire-related hazards or impacts. Larger lot sizes do provide more flexibility with the location of the home on the graded pad, which could allow for reductions and/or alterations in the amount of fuel modification required on the site. Nevertheless, all requirements associated with the VHFHSZ would be implemented in this alternative as well as the proposed tract map design.

Water Quality This alternative would reduce the amount of impervious cover on the site, which may contribute to reductions in urban runoff into the storm drain system. However, some of this impervious cover would be replaced by landscaping, which requires more irrigation and lawn care maintenance. Therefore, the increased amount of irrigated lawn and landscaping could increase the amount of fertilizers, herbicides, and pesticides used on the project site and entering the stormwater runoff. The alternative would also allow for more biofiltration of stormwater runoff through the soil and increased percolation due to the decrease of impervious cover.

The amount of vehicles using the internal roadway system would be reduced; therefore, the amount of pollutants in stormwater runoff associated with vehicle use, such as hydrocarbon pollutants and heavy metals, would be proportionately reduced under this alternative. Therefore, some water quality impacts would be reduced under this alternative, while other impacts could be increased.

Air Quality Because grading activities associated with this alternative would remain largely unchanged, there would not be a change in heavy vehicle-related construction emissions. As noted in Section 4.2, construction related PM_{10} would be significant on the peak day and peak quarter prior to mitigation and NO_X emissions would be significant on the peak day and in the peak quarter in the proposed project design even after mitigation. The

construction related NO_X emissions would not be reduced under this Alternative.

The elimination of 30 lots would result in a corresponding reduction in resident-owned vehicle emissions. Although operational air quality impacts are not significant under the proposed project, they would be reduced under this alternative.

Biota Because the grading footprint of the project site would not be changed, the same amount of vegetation would be impacted under this alternative. Therefore, impacts to biota would remain the same as for the proposed project.

Cultural Res. This alternative would not reduce the cultural resources impacts from the currently proposed project design because the grading footprint would not be reduced.

Visual Qualities The aesthetics of the project site would be altered due to the large lot design. The elimination of half of the lots would result in larger "ranch style" lots that would be more compatible with the homes and ranches on the eastern side of San Francisquito Canyon Road. However, the development would be different from the design of the abutting Tesoro del Valle property, which provides vehicular access to the project site. The overall size of the development, including internal roadway system and "footprint" of the project site, as well as the land use, would remain unchanged under this alternative. The larger lot design would be compatible with the preferences of the existing landowners on the east side of the property; therefore, visual impacts would be reduced under this scenario.

Traffic/Access This alternative would reduce the number of vehicle trips per day in proportion to the number of vehicles eliminated under this scenario. Therefore, this alternative would reduce the direct and cumulative impacts associated with traffic from the project site.

Sewage Disposal This alternative would reduce the sewage impacts of the currently proposed project design by eliminating approximately half of the sewage that would need to be treated from the project site. The 60 unit proposed project would generate approximately 15,600 gallons of wastewater per day, while this alternative would generate approximately 7,800 gallons of wastewater per day.

Education This alternative would reduce the number of students enrolled in the local school district in proportion to the reduction in the number of homes on the project site. School enrollment would be reduced from approximately 26 elementary students to approximately 13 students. Junior High enrollment would be reduced from 10.6 to 5.3 students and Senior High enrollment would be reduced from 15.6 students to 7.8 students.

Water Utilities This alternative would reduce the amount of potable water demanded by the development. The NCWD calculates water demand based on an average demand of 0.9 acre-feet per year (af/yr) per dwelling unit. Therefore, this alternative would reduce the amount of potable water for internal home use (not irrigation) by the project site by approximately half. However, the increased size of the lawns would require irrigation and the

amount of potable water saved by eliminating half of the homes could be off-set by increased landscape irrigation; therefore, the reduction in potable water demand would not be reduced by half. Nevertheless, impacts to water utilities would be reduced under this scenario.

Environ. Safety This alternative would not change the analysis of environmental safety impacts performed for the currently proposed project design.

Ability to Meet the Project Objectives

The project objectives as listed in Section 2.5, as well as an analysis of the alternative's ability to meet the project objectives, is presented below.

Project Applicant Objectives:

1. Provide single-family housing within the Santa Clarita Valley that contributes to the local diversity of housing and lot sizes for existing and future residents and that is consistent with the type and size of housing satisfying the market demands in this area.

   This alternative is consistent with this objective. This alternative would cater to an affluent homeowner that could afford to purchase large lots. According to the Southland Association of Realtors, there is a shortage of homes for sale in the Valley that is not able to satisfy the robust demand for housing. The annual median price for a single-family home in the Valley is expected to rise in 2005 to a record high of $501,777. Therefore, although the housing under this scenario would be larger and more expensive than the proposed project, the market demands for housing in the region are high enough to be able to accommodate the higher prices.

2. Provide high-quality housing that will help to meet the existing and future demand and help alleviate the housing shortage in the Santa Clarita Valley.

   This alternative is consistent with this objective, but less consistent than the proposed project. The number of homes in this Alternative is half of what is proposed in VTTM 53189. Therefore, fewer homes would be developed on the site, which would reduce the ability of the project to help satisfy the local demand for housing.

3. Provide a residential development that conforms to the existing Santa Clarita Valley Area Plan land use designation and density requirements.

   This alternative is consistent with this objective. Although this alternative creates a substantially less efficient use of the developed land than the proposed project (the project site is able to accommodate up to 60 lots, per the SCVAP), fewer lots may be developed and still be in compliance with the SCVAP.

4. Incorporate design techniques, such as developing a compact project footprint that avoids sensitive biological resources and hilltop development and preserves open space, in order to create a visually harmonious project.

   This alternative is consistent with this objective and does not have any greater or lesser impacts than the proposed project.

5. To preserve the natural drainage features of the San Francisquito Canyon SEA No.19 that transects the property.

This alternative is consistent with this objective and does not have any greater or lesser impacts than the proposed project.

Los Angeles County General Plan Objectives:

This alternative is consistent with all of the Los Angeles County General Plan objectives listed in Section 2.5 of this EIR.

Santa Clarita Valley Areawide Plan Objectives:

This alternative is consistent with all of the Santa Clarita Valley Areawide Plan objectives listed in Section 2.5 of this EIR.

Alternative 3 Analysis Conclusion

This alternative would not reduce the significant air quality impacts associated with grading of the proposed project. Some proposed project impacts that were determined to be less than significant would be reduced under this alternative, while others would remain similar. Therefore, there would likely be an environmental advantage to this alternative.

However, this alternative would provide fewer homes for the Santa Clarita Valley area, which is rapidly growing in population. Developable land is at a premium in the region and this Alternative would not provide as much housing as the proposed project, VTTM 53189. Therefore, this alternative does not fully satisfy all of the project objectives.

8.2.4 Alternative 4: 52 Lot Alternative

In this alternative, as depicted in Figure 8.2-3, Lots 1-8 would be eliminated from the project design. The project site would be developed in the same footprint as is currently depicted in the tract map, with the exception of the land currently depicted as Lots 1-8, resulting in a total of 52 lots. The internal roadway system ("A", "B", and "C" Streets) would remain as currently depicted in the tract map in order to satisfy County requirements for multiple points of access to the site. This alternative would eliminate a substantial amount of the development in the hillside areas of the site.

Comparison of Environmental Impacts

Geotechnical The footprint of the project site would remain unaltered with the exception of grading associated with the development of Lots 1-8. Under the proposed tract map, this portion of the project site would require considerable grading to develop these lots due to the hillside topography of the area. According to the current tract map, Lots 1-8 are located on the hilliest portion of the project site, with Lots 1 and 4 requiring the most hillside grading activity. Elimination of these lots would lessen the amount of hillside grading activity on the project site.

However, the development of "B" Street and "C" Street would still be required in order to connect with the Tesoro del Valle to the west and the private property to the north, respectively. Additionally, "B" Street is required to provide alternative fire and emergency access to the site. The development of "B" and "C" Streets would require substantial grading activity in that portion of the project site in order to match street grades with the adjacent Tesoro del Valle development. Therefore, although this scenario would reduce grading activities associated with development of

some lots in the foothill areas on the site, this benefit would be diminished since the adjacent roadways would still need to be developed.

Additionally, the elimination of Lots 1-8 may result in an imbalance of cut and fill materials on the site. According to the current tract map, the development of these lots would produce fill material for the rest of the project site. The elimination of these lots from the development footprint would reduce the fill material available for the remainder of the project footprint.

Flood This alternative would reduce the amount of impervious cover on the site by eliminating eight of the homes and their associated amenities (garage, driveway, etc.), thereby slightly decreasing urban runoff and increasing stormwater percolation into the soil. Flood impacts would be slightly reduced under this alternative.

Fire This alternative would eliminate the lots that are closest to the property boundary and which, under the current tract map, would require a fire wall to eliminate the need for off-site fuel modification. Therefore, the elimination of these lots would reduce the amount of fuel modification and the fire wall needed to be in compliance with County VHFHSZ fuel modification requirements.

Water Quality This alternative would slightly reduce the amount of impervious cover and landscaping on the project site, which would contribute to reductions in urban runoff into the storm drain system from parked cars and the use of fertilizers, herbicides, and pesticides. The amount of vehicles using the internal roadway system would be reduced; therefore, the amount of pollutants in stormwater runoff associated with vehicle use, such as hydrocarbon pollutants and heavy metals, would be proportionately reduced under this alternative. Therefore, overall water quality impacts would be reduced under this alternative.

Air Quality Grading activities associated with this alternative would be reduced by the elimination of the eight lots. Therefore, there would be a proportional reduction in heavy vehicle-related construction emissions. As noted in Section 4.2, construction related PM_{10} would be significant on the peak day and peak quarter prior to mitigation and NO_X emissions would be significant on the peak day and in the peak quarter in the proposed project design even after mitigation. NO_X emissions on the peak day would be 152 lbs/day and the SCAQMD threshold is 100 lbs/day; emissions on the peak quarter would be 5.03 lbs/day and the SCAQMD threshold is 2.5 lbs/day. It is highly unlikely that the reduction in the number of lots would translate to an adequate reduction in PM_{10} or NO_X emissions due to the amount of grading and alluvium removal and compaction that would still be required on the site. Therefore, construction related NO_X emissions would be reduced under this alternative, but would not be reduced enough to reduce air quality impacts to less than significant.

Biota The reduction in the grading footprint would slightly reduce impacts on biota. However, this portion of the project site consists entirely of non-native grasslands. According to the biological impacts discussion in Section 4.3, non-native grasslands are not sensitive habitats and impacts to

this vegetation type would not require mitigation. Therefore, the benefits of this alternative to biota would be minimal.

Cultural Res. This alternative would reduce potential impacts to archaeological and paleontological resources through the reduction of the grading impacts associated with Lots 1-8.

Visual Qualities The overall size of the development, including internal roadway system and "footprint" of the project site would be only slightly changed. The aesthetics of the project site would be altered due to the avoidance of some development in the hillside portion of the project site, although "B" and "C" Streets would still be developed. Therefore, the aesthetic benefit from this alternative would be the preservation of a portion of hillside within the project site.

Traffic/Access This alternative would reduce the number of vehicle trips per day in proportion to the number of lots eliminated under this scenario. However, due to the elimination of some hillside grading, it might be necessary to import fill material from off-site locations to compensate for the loss of on-site fill material. This could result in more short-term construction truck traffic to the project site. Although construction-related truck traffic could increase, this alternative would reduce the operational direct and cumulative impacts associated with long-term traffic.

Sewage Disposal This alternative would slightly reduce the sewage impacts of the currently proposed project design by eliminating sewage generated from eight lots. The 60 unit proposed project would generate approximately 15,600 gallons of wastewater per day, while this alternative would generate approximately 13,520 gallons of wastewater per day.

Education This alternative would reduce the number of students enrolled in the local school district in proportion to the reduction in the number of homes on the project site. School enrollment would be reduced from approximately 26 elementary students to approximately 22 students. Junior High enrollment would be reduced from 10.6 to 9.2 students and Senior High enrollment would be reduced from 15.6 students to 13.5 students. Therefore, impacts to education would be reduced under this scenario.

Water Utilities This alternative would slightly reduce the amount of potable water demanded by the development. The NCWD calculates water demand based on an average demand of 0.9 acre-feet per year (af/yr) per dwelling unit. Therefore, this alternative would reduce the amount of potable water demanded in proportion to the reduction in the number of homes on the project site. This alternative would reduce water demand to approximately 46.8 af/yr from 54 af/yr. Therefore, impacts to water utilities would be slightly reduced under this scenario.

Environ. Safety This alternative would not change the analysis of environmental safety impacts performed for the currently proposed project design.

Ability to Meet the Project Objectives

The project objectives as listed in Section 2.5, as well as an analysis of the alternative's ability to meet the project objectives, are presented below.

Project Applicant Objectives:

1. Provide single-family housing within the Santa Clarita Valley that contributes to the local diversity of housing and lot sizes for existing and future residents and that is consistent with the type and size of housing satisfying the market demands in this area.

   This alternative is consistent with this objective. The type and size of housing would not be altered from the proposed project.

2. Provide high-quality housing that will help to meet the existing and future demand and help alleviate the housing shortage in the Santa Clarita Valley.

   This alternative is consistent with this objective, but less consistent than the proposed project. The number of homes in this alternative is slightly reduced from what is proposed in VTTM 53189. Therefore, fewer homes would be developed on the site, which would slightly reduce the ability of the project to help satisfy the local demand for housing.

3. Provide a residential development that conforms to the existing Santa Clarita Valley Area Plan land use designation and density requirements.

   This alternative is consistent with this objective. Although this alternative creates a less efficient use of the developed land than the proposed project (the project site is able to accommodate up to 60 lots, per the SCVAP), fewer lots may be developed and still be in compliance with the SCVAP.

4. Incorporate design techniques, such as developing a compact project footprint that avoids sensitive biological resources and hilltop development and preserves open space, in order to create a visually harmonious project.

   This alternative is consistent with this objective. Grading impacts would be reduced under this alternative for the most prominent hillside area of the site.

5. To the maximum extent practicable, preserve the natural drainage features of the San Francisquito Canyon SEA No.19 that transects the property.

   This alternative is consistent with this objective and would not be different from the proposed project.

Los Angeles County General Plan Objectives:

This alternative is consistent with all of the Los Angeles County General Plan objectives listed in Section 2.5 of this EIR.

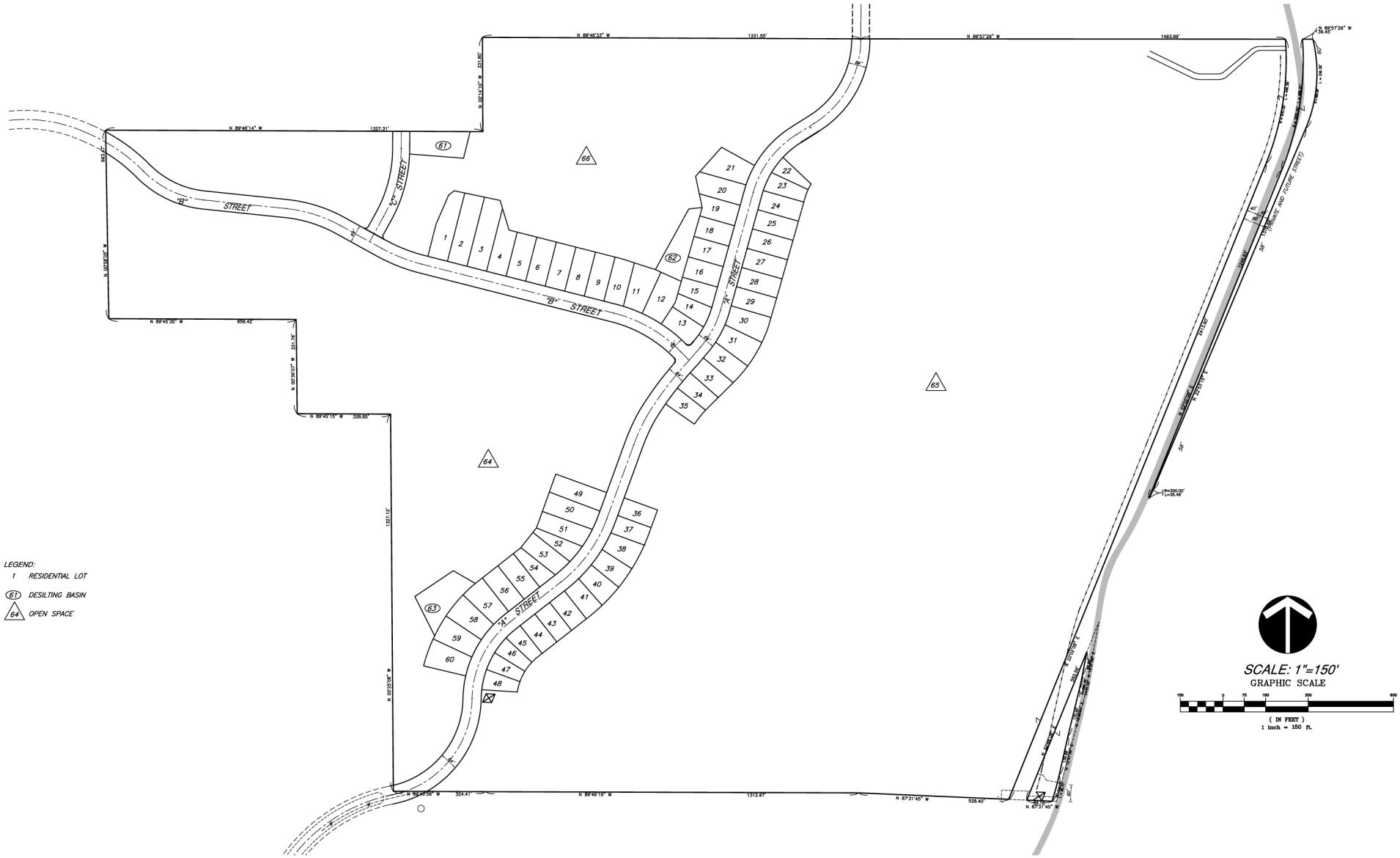
Santa Clarita Valley Areawide Plan Objectives:

This alternative is consistent with all of the Santa Clarita Valley Areawide Plan objectives listed in Section 2.5 of this EIR.

Alternative 4 Analysis Conclusion

This alternative would reduce the significant air quality impacts associated with grading of the proposed project, although it would not be enough to reduce those impacts to a less than significant level. Visual impacts associated with hillside grading would also be reduced under

this alternative and this alternative would be more consistent with the County's Hillside Management criteria for development in slope areas. In summary, some proposed project impacts that were determined to be less than significant would be reduced under this alternative, while others would remain similar to the proposed project. Therefore, there would be an environmental advantage to this alternative. However, this alternative would provide fewer homes for the Santa Clarita Valley area, which is rapidly growing in population. Developable land is at a premium in the region and this Alternative would not provide as much housing as the proposed project, VTTM 53189. Therefore, this alternative does not fully satisfy all of the project objectives.



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Small Lot Alternative

Exhibit 8.2-1

VTTM 53189

N W E S

Source: B&E Engineers, 2005

BonTerra CONSULTING

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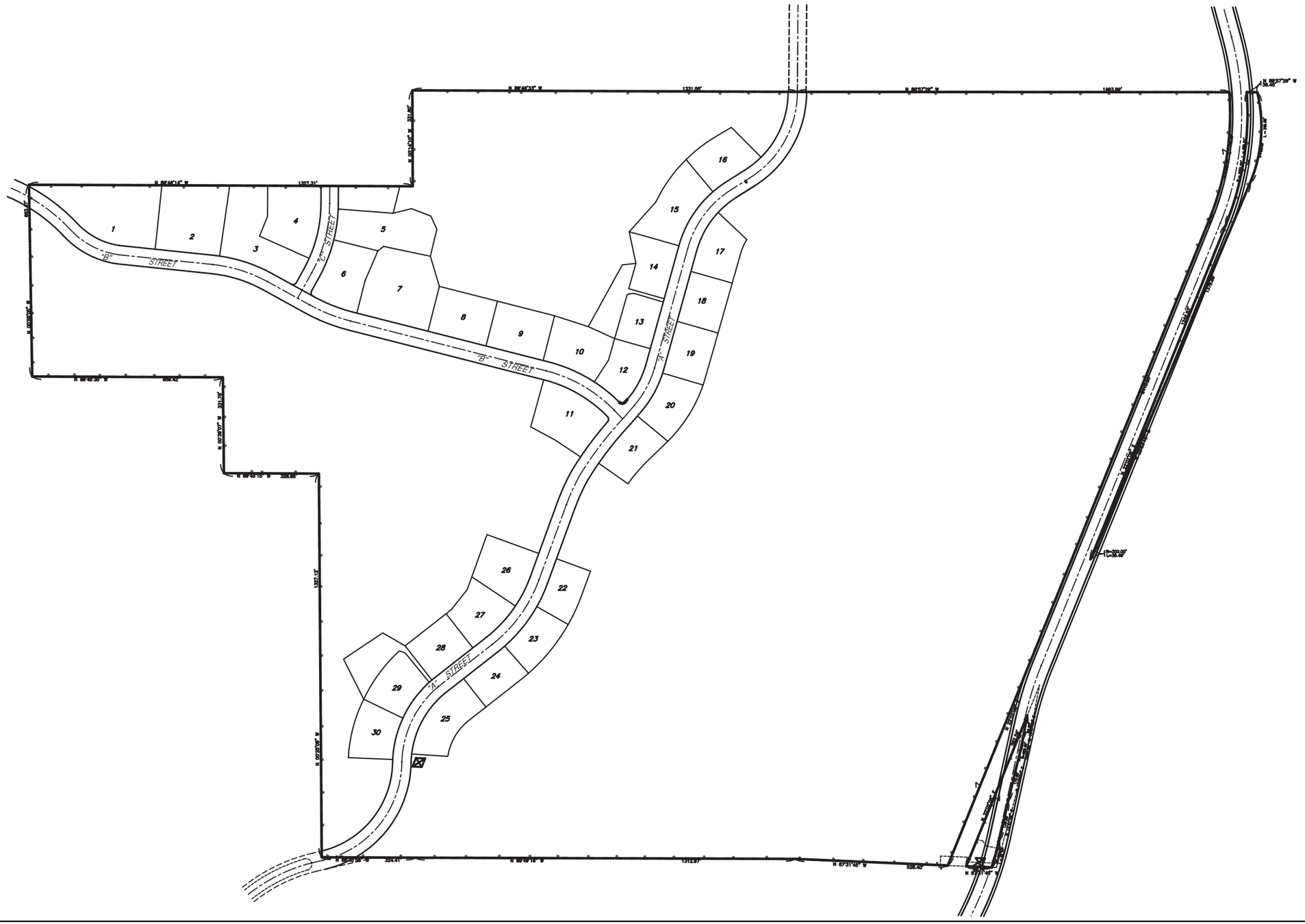

30 Large Lot Alternative

Exhibit 8.2-2

VTTM 53189

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Source: B&E Engineers, 2004

BonTerra CONSULTING

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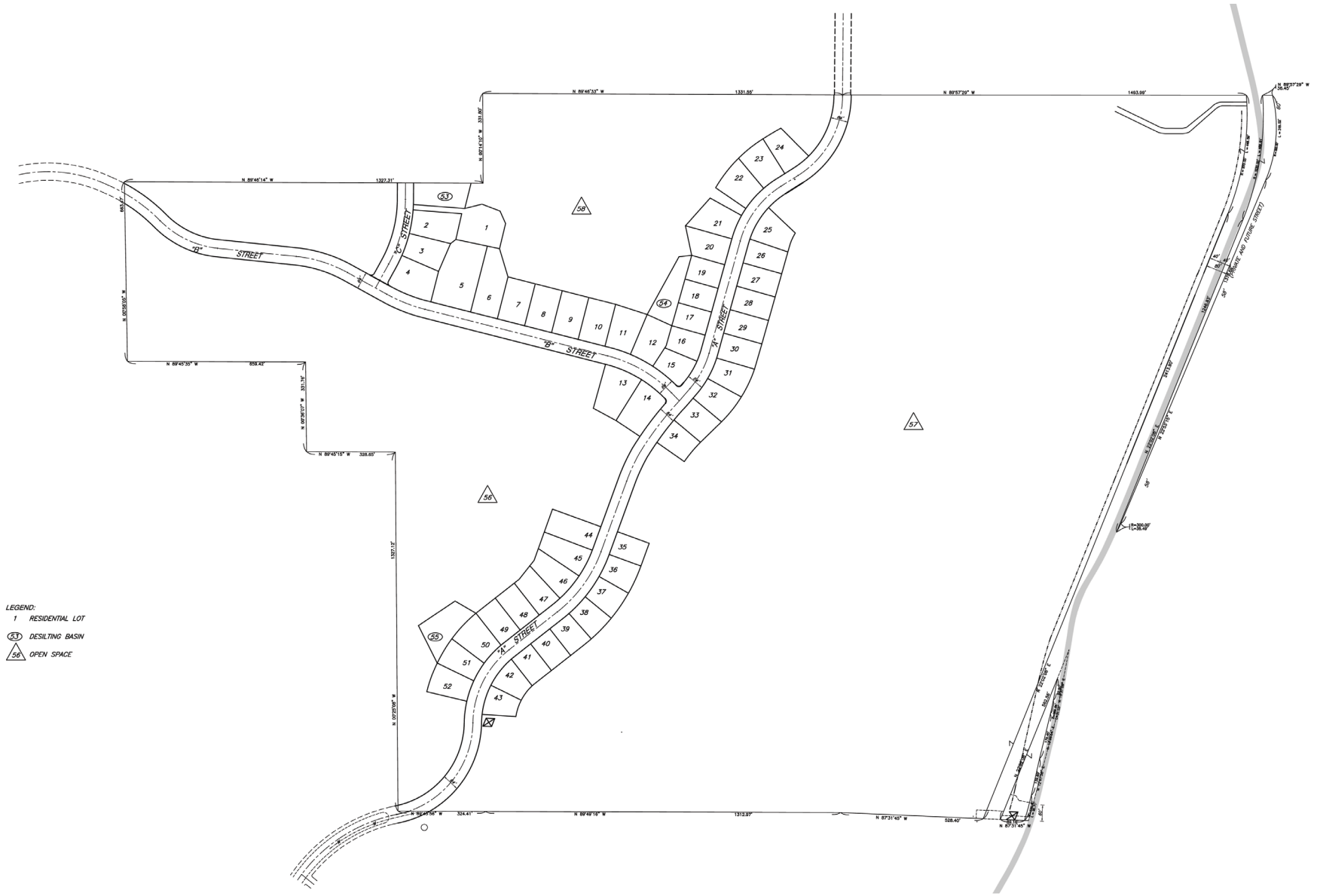

52 Lot Alternative

Exhibit 8.2-3

VTTM 53189

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Source: B&E Engineers, 2005

BonTerra CONSULTING

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SECTION 9.0 LONG-TERM ENVIRONMENTAL EFFECTS

9.1 Growth-Inducing Impacts

In accordance with Section 15126.2(d) of the CEQA Guidelines, the growth-inducing analysis of the proposed project must address two key issues. The first is the potential for the project to foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. The second issue is the potential for the project to encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. Typically, this issue involves the potential for the project to induce further growth by the expansion or extension of existing services, utilities, or infrastructure. By definition, the CEQA Guidelines state that "it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."

As described in detail in Section 2.0, the proposed project involves the development of 60 residential lots on approximately 186 acres within the unincorporated County of Los Angeles, near the City of Santa Clarita. The project would be located adjacent to existing rural residential homes and ranchland to the east, Tesoro del Valle residential development to the south and southwest, and vacant open space entitled for development in Tesoro del Valle to the west and north. The proposed project is consistent with the SCVAP land use designations.

The project site will eventually be surrounded by development on all sides upon the completion of the Tesoro del Valle project, with the exception of property designated as SEA No. 19. Property to the west between the proposed project site and the Tesoro del Valle site may developed in the future; however, the development of these properties would not be facilitated by the proposed project. Los Angeles County is experiencing a shortage of all housing types and the proposed project would be accommodating an existing population and housing demand rather than providing a surplus or inviting more growth. While this project has the potential to foster some economic growth within the County, the development of 60 lots would have a negligible effect on local or regional population growth.

With respect to the second criteria for growth inducement, the proposed project would not extend or expand services, utilities, or infrastructure beyond those areas already planned for by the SCVAP. The proposed project would not facilitate the use of or encourage development along San Francisquito Canyon Road because the road does not provide access to the project site. All other roads associated with the project either tie back into Tesoro del Valle or provide access to existing homes. It is important to note that the extension of utilities would not promote development in other areas because the developable land surrounding the project site is currently entitled for development, with the exception of some property between the proposed project site and Tesoro del Valle. These properties (if developed in the future) would be served through the extension of utilities from Tesoro del Valle; therefore, development of these properties would not be hastened by VTTM 53189. Thus, with regard to the second criterion, the proposed project would not be considered growth-inducing.

9.2 Significant Irreversible Environmental Changes

Pursuant to Section 15126.2(c) of the CEQA Guidelines, this EIR must consider significant irreversible environmental changes which would be caused by the proposed project, should it be implemented. The proposed project would not result in significant irreversible environmental changes.

The proposed project would require the grading of approximately 246,000 cubic yards of property, landform modifications, and alterations to the hydrology on the site. Permanent

changes to the aesthetics of the site would result from the landform modifications and the removal of existing vegetation; however, the impacts of these changes would be minimized by the use of contoured grading techniques that would conform to the natural topography to the greatest extent feasible. Therefore, changes would not be considered significant and would be in conformance with the character and land uses of the surrounding community. Vegetation would be restored, and the restoration monitored under the direction of a qualified biologist. The alterations to hydrology on the site would also be permanent. The Drainage Study mitigates for any potential impacts associated with changes in hydrology. The drainage design would mitigate for impacts; therefore, changes to hydrology would be permanent, but not significant.

The proposed project would impact approximately 64 acres of various vegetation types, including 5.0 acres of ruderal, 2.0 acres of coastal sage scrub, 0.8 acre of mixed chaparral/holly-leaf cherry woodland, 47.6 acres of non-native grassland, 1.1 acres of non-native grassland/chamise chaparral mix, and 5.6 acres of Riversidean alluvial fan sage scrub. Other biological impacts would include possible impacts to some special status plant species, jurisdictional areas, and nesting birds. However, all of these impacts would be fully mitigated through the proposed Mitigation Program. Therefore, no significant long-term or irreversible impacts to sensitive animal or plant species would result from implementation of the proposed project.

Non-renewable resources, such as natural resources and fossil fuels, would be committed to the proposed project, which future generations would be unable to reverse. Natural resources, including lumber, sand and gravel, asphalt, petrochemicals, and other construction materials would be used in the ultimate construction of the homes that would eventually be located on the graded pads. Fossil fuels would be used in the construction phase of the project and would be required to serve the project over the long-term. These incremental commitments of non-renewable resources are neither unusual nor unexpected and must be weighed against the benefits of the proposed project. The primary benefit of the proposed project would be to provide residential opportunities to serve the Santa Clarita community in Los Angeles County. The proposed project's use of non-renewable resources is not considered significant or excessive.

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DRAFT ENVIRONMENTAL IMPACT REPORT
COUNTY OF LOS ANGELES PROJECT NO. 00-81
STATE CLEARING HOUSE NO. 2000071052
VESTING TENTATIVE TRACT MAP NO. 53189

VOLUME II
TECHNICAL APPENDICES

County of Los Angeles
Department of Regional Planning
320 West Temple Street, Suite 1348
Los Angeles, California 90012

February 1, 2006

APPENDICES

2003 INITIAL STUDY

Los Angeles County
Department of Regional Planning

Planning for the Challenges Ahead

James E. Hartl, AICP
Director of Planning

July 22, 2003

RECEIVED
JUL 23 2003
By TES 7/29

Thomas Smith, Jr. AICP
BonTerra Consulting
151 Kalmus Drive, Suite E-200
Costa Mesa, CA 92626

SUBJECT: INITIAL STUDY DETERMINATION LETTER
PROJECT NO. CUP 00-081/ TR53189
State Clearinghouse No. 2000071052

Dear Applicant:

On July 22, 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.**

A Notice of Preparation (NOP) was previously circulated between July 13 and August 11, 2000 for a similar project and the NOP comments have been forwarded to your consultant recently. Thus, you are required to submit two copies of a Screencheck document in the form of a Draft EIR for staff review. 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 additional 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, Section Head
Impact Analysis Section

JEH:DLK:hcc
Attachment(s)

STAFF USE ONLY

PROJECT NUMBER: *00-081*

CASES: *TR 53189*

CUP

****** INITIAL STUDY ******

COUNTY OF LOS ANGELES
DEPARTMENT OF REGIONAL PLANNING

GENERAL INFORMATION

I.A. Map Date: *July 7, 2003* Staff Member: *Hsiao-ching Chen*

Thomas Guide: *4460 F,G1; F,G2* USGS Quad: *Newhall*

Location: *Northwest corner of San Francisquito Canyon Road and Lowridge Place (site is bordered on the east by the San Francisquito Canyon Road and is approximately between Lady Linda Lane and Loweidge Place.)*

Description of Project: *A tract map application to construct 60 units of single family residences (ranging from 0.83 to 0.25 acres) and three open space lots. The application also includes a Conditional Use Permit for density control and for development within Significant Ecological Area (SEA) and hillside management area. Access to the site will be from the southwest and northwest through the Tesoro del Valle property(92-074/TR51644).* Gross Area: *185.8 acres*

Environmental Setting: *Site is located within the County's unincorporated area east of the Golden State Freeway(I-5) and north of the Saugus area of the Santa Clarita Valley. San Francisquito Canyon runs north to south through the eastern half of the project site and maintains riparian woodland. The Canyon possesses two populations of the unarmored threespine stickleback (Gasterosteus aculeatus williamsoni),which is listed as endangered at both the state and federal levels. Site topography is characterized as ranging from 1250 feet MSL in San Francisquito Creek to 1480 MSL above the western canyon of the property. Project site is surrounded by vacant land, large lot sinfle family residences, and residential development under construction to the southwest.*

Zoning: *R-1-7000, A-2-2*

General Plan: *Non-urban, SEA*

Community/Area Wide Plan: *Non-urban 2, Hillside Management, Floodway/Floodplain (SCVAP)*

Major projects in area:

Project Number	Description & Status
92-074/TR51644	*Tesoro Del Valle - 1895 units on 1795 AC (5/18/1999 approved)*
97-088/ TR52302	*11 SF LOTS ON 22.39 AC (9/21/1999 recorded)*
87-194/ PM18717	*2 SF LOTS ON 10 AC (10/11/1989 recorded)*
2510/ TR 43171	*10 SF LOTS ON 98.6 AC (10/1/1986 recorded)*
98-008/TR52455	*West Creek Project - 2545 units on 966 AC (approved and litigated)*

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
- ☒ *Caltrans*

Trustee Agencies

- ☐ None
- ☒ State Fish and Game
- ☒ State Parks
- ☒ *US FWS*
- ☐ _____

Special Reviewing Agencies

- ☐ None
- ☐ Santa Monica Mountains Conservancy
- ☐ National Parks
- ☐ National Forest
- ☐ Edwards Air Force Base
- ☐ Resource Conservation District of the Santa Monica Mtns.
- ☒ *Valencia Water Company*
- ☒ *City of Santa Clarita*
- ☒ *SCOPE*
- ☒ *SCV Historical Society*
- ☒ *William S. Hart SD*
- ☒ *Saugus Union SD*
- ☐ _____

Regional Significance

- ☒ None
- ☐ SCAG Criteria
- ☐ Air Quality
- ☐ Water Resources
- ☐ Santa Monica Mtns Area
- ☐ _____

County Reviewing Agencies

- ☒ Subdivision Committee
- ☒ DPW: *Traffic & Lighting*
- ☐ Health Services: _____
- ☒ *Sanitation Districts*
- ☒ *Parks and Recreation*
- ☒ *Sheriff Dept*

MPACT ANALYSIS MATRIX

CATEGORY	FACTOR	Pg	ANALYSIS SUMMARY (See individual pages for details) Less than Significant Impact/No Impact	Less than Significant Impact with Project Mitigation	Potentially Significant Impact	Potential Concern
HAZARDS	1. Geotechnical	5	☐	☐	☒	*Liquefaction, landslides*
	2. Flood	6	☐	☐	☒	*San Francisquito Creek floodplain*
	3. Fire	7	☐	☐	☒	*Fire Zone 4*
	4. Noise	8	☒	☐	☐	
RESOURCES	1. Water Quality	9	☐	☐	☒	*Urban development adjacent to creek*
	2. Air Quality	10	☐	☐	☒	
	3. Biota	11	☐	☐	☒	*SEA#19, oaks*
	4. Cultural Resources	12	☐	☐	☒	*Drainage course, oak trees, oil well loci*
	5. Mineral Resources	13	☒	☐	☐	
	6. Agriculture Resources	14	☒	☐	☐	
	7. Visual Qualities	15	☐	☐	☒	*San Francisquito Canyon Trail*
SERVICES	1. Traffic/Access	16	☐	☐	☒	*Exceed CMP threshold*
	2. Sewage Disposal	17	☐	☐	☒	*Demonstration of sewer capacity*
	3. Education	18	☐	☐	☒	*School Districts have existing capacity problems*
	4. Fire/Sheriff	19	☒	☐	☐	
	5. Utilities	20	☐	☐	☒	*Demonstration of water availability*
OTHER	1. General	21	☒	☐	☐	
	2. Environmental Safety	22	☐	☐	☒	*Two oil wells within the project boundaries*
	3. Land Use	23	☒	☐	☐	
	4. Pop./Hous./Emp./Rec.	24	☒	☐	☐	
	Mandatory Findings	25	☐	☐	☒	*Biota*

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: _____

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: _____

☐ 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 thatthe 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: *Hsiao-ching Chen* Date: _____

Approved by: *Daryl Koutnik* Date: 22 July 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.	☒	☐	☐	Is the project site located in an active or potentially active fault zone, Seismic Hazards Zone, or Alquist-Priolo Earthquake Fault Zone? *Site contains earthquake-induced landslides (per Seismic Hazard Zones Map Newhall Quad.); San Francisquito Fault is approximatelt 3 miles south of the project site (Earthquake Fault Zone Map Newhall Quad.)*
b.	☒	☐	☐	Is the project site located in an area containing a major landslide(s)? *One small landslide exists in the northerly portion of the site*
c.	☐	☐	☒	Is the project site located in an area having high slope instability? *Site contains alluvial and colluvial deposits*
d.	☐	☒	☐	Is the project site subject to high subsidence, high groundwater level, liquefaction, or hydrocompaction?
e.	☐	☒	☐	Is the proposed project considered a sensitive use (school, hospital, public assembly site) located in close proximity to a significant geotechnical hazard?
f.	☒	☐	☐	Will the project entail substantial grading and/or alteration of topography including slopes of more than 25%? *Approximately 264,000 cubic yards of grading which will be balanced on site.*
g.	☐	☒	☐	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?
h.	☐	☐	☐	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

Comply with all SCM recommendations from Public Works.

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.	☒	☐	☐	Is a major drainage course, as identified on USGS quad sheets by a dashed line, located on the project site?

San Francisquito Creek

b.	☒	☐	☐	Is the project site located within or does it contain a floodway, floodplain, or designated flood hazard zone?

San Francisquito Creek Floodplain and tributary

c.	☐	☒	☐	Is the project site located in or subject to high mudflow conditions?
d.	☐	☒	☐	Could the project contribute or be subject to high erosion and debris deposition from run off?
e.	☐	☐	☒	Would the project substantially alter the existing drainage pattern of the site or area?

San Francisquito tributary to be blocked

f. ☐ ☐ ☐ Other factors (e.g., dam failure)? _____

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

Comply with all SCM recommendations from Public Works.

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.	☒	☐	☐	Is the project site located in a Very High Fire Hazard Severity Zone (Fire Zone 4)? *(Per Los Angeles County General Plan Safety Element - Plate 7)*
b.	☐	☒	☐	Is the project site in a high fire hazard area and served by inadequate access due to lengths, widths, surface materials, turnarounds or grade?
c.	☐	☒	☐	Does the project site have more than 75 dwelling units on a single access in a high fire hazard area?
d.	☐	☒	☐	Is the project site located in an area having inadequate water and pressure to meet fire flow standards?
e.	☐	☒	☐	Is the project site located in close proximity to potential dangerous fire hazard conditions/uses (such as refineries, flammables, explosives manufacturing)?
f.	☐	☒	☐	Does the proposed use constitute a potentially dangerous fire hazard?
g.	☐	☐	☐	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

Comply with all SCM recommendations from Fire Department.

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.	☐	☒	☐	Is the project site located near a high noise source (airports, railroads, freeways, industry)?
b.	☐	☒	☐	Is the proposed use considered sensitive (school, hospital, senior citizen facility) or are there other sensitive uses in close proximity?
c.	☐	☒	☐	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?
d.	☐	☒	☐	Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels without the project?
e.	☐	☐	☐	Other factors?

STANDARD CODE REQUIREMENTS

☐ Noise Ordinance No. 11,778 ☐ Building Ordinance No. 2225--Chapter 35

☐ **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, 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.	☐	☒	☐	Is the project site located in an area having known water quality problems and proposing the use of individual water wells?
b.	☐	☒	☐	Will the proposed project require the use of a private sewage disposal system?
	☐	☐	☐	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?
c.	☒	☐	☐	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? *NPDES permit required; Site is immediately adjacent to drainage course.*
d.	☒	☐	☐	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? *NPDES permit required; Site is immediately adjacent to drainage course.*
e.	☐	☐	☐	Other factors?

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 - 2. Air Quality

SETTING/IMPACTS

	Yes	No	Maybe	
a.	☐	☒	☐	Will the proposed project exceed the State's criteria for regional significance (generally (a) 500 dwelling units for residential uses or (b) 40 gross acres, 650,000 square feet of floor area or 1,000 employees for nonresidential uses)?
b.	☐	☒	☐	Is the proposal considered a sensitive use (schools, hospitals, parks) and located near a freeway or heavy industrial use?
c.	☐	☒	☐	Will the project increase local emissions to a significant extent due to increased traffic congestion or use of a parking structure, or exceed AQMD thresholds of potential significance per Screening Tables of the CEQA Air Quality Handbook?
d.	☐	☒	☐	Will the project generate or is the site in close proximity to sources which create obnoxious odors, dust, and/or hazardous emissions?
e.	☐	☒	☐	Would the project conflict with or obstruct implementation of the applicable air quality plan?
f.	☐	☒	☐	Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?
g.	☐	☒	☐	Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?
h.	☐	☐	☐	Other factors: _____

STANDARD CODE REQUIREMENTS

☐ Health and Safety Code Section 40506

☐ **MITIGATION MEASURES** / ☐ **OTHER CONSIDERATIONS**

☐ Project Design ☐ Air Quality Report

CONCLUSION

Considering the above information, could the project have a significant impact (individually or cumulatively) on, or be impacted by, **air quality?**

☐ Potentially significant ☐ Less than significant with project mitigation ☒ Less than significant/No impact

RESOURCES - 3. Biota

SETTING/IMPACTS

	Yes	No	Maybe	
a.	☒	☐	☐	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?

SEA#19 San Francisquito Canyon

b.	☒	☐	☐	Will grading, fire clearance, or flood related improvements remove substantial natural habitat areas?

Project development will remove some natural habitat areas.

c.	☒	☐	☐	Is a major drainage course, as identified on USGS quad sheets by a blue, dashed line, located on the project site?

San Francisquito Creek runs from north to south through the eastern half of the site

d.	☒	☐	☐	Does the project site contain a major riparian or other sensitive habitat (e.g., coastal sage scrub, oak woodland, sycamore riparian woodland, wetland, etc.)? *Coast Live Oak woodland, Riversidian alluvial fan sage scrub scrub, mulefat. Site previously contain mainland hollyleaf cherry woodland which was destroyed by the recent wildfire.*
e.	☒	☐	☐	Does the project site contain oak or other unique native trees (specify kinds of trees)?

Oak trees, cottonwoods

f.	☒	☐	☐	Is the project site habitat for any known sensitive species (federal or state listed endangered, etc.)? *Red-legged frog, Unarmored three-spined stickleback(Gasterosteus aculeatus williamsoni), arroyo toad, spadefoot toad, Nevin's barbery*
g.	☒	☐	☐	Other factors (e.g., wildlife corridor, adjacent open space linkage)?

Wildlife corridor

☐ **MITIGATION MEASURES** / ☐ **OTHER CONSIDERATIONS**

☐ Lot Size ☐ Project Design ☐ Oak Tree Permit ☒ SEATAC Review

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.	☒	☐	☐	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?
				San Francisquito Creek
b.	☐	☒	☐	Does the project site contain rock formations indicating potential paleontological resources?
c.	☒	☐	☐	Does the project site contain known historic structures or sites?
				Oil well loci (CA-LAN-1455-H)
d.	☐	☒	☐	Would the project cause a substantial adverse change in the significance of a historical or archaeological resource as defined in 15064.5?
e.	☐	☒	☐	Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
f.	☐	☐	☐	Other factors?

☐ **MITIGATION MEASURES** / ☐ **OTHER CONSIDERATIONS**

☐ Lot Size ☐ Project Design ☒ Phase I Archaeology Report of 12/99 on file

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.	☐	☒	☐	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?
b.	☐	☒	☐	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?
c.	☐	☐	☐	Other factors?

☐ **MITIGATION MEASURES** / ☐ **OTHER CONSIDERATIONS**

☐ Lot Size ☐ Project Design

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.	☐	☒	☐	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?
b.	☐	☒	☐	Would the project conflict with existing zoning for agricultural use, or a Willamson Act contract?
c.	☐	☒	☐	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.	☐	☐	☐	Other factors?

☐ **MITIGATION MEASURES** / ☐ **OTHER CONSIDERATIONS**

☐ Lot Size ☐ Project Design

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?
b.	☒	☐	☐	Is the project substantially visible from or will it obstruct views from a regional riding or hiking trail? *San Francisquito Canyon Trail*
c.	☒	☐	☐	Is the project site located in an undeveloped or undisturbed area, which contains unique aesthetic features? *San Francisquito Creek*
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): *Approximately 264,000 cubic yards of grading*

☐ **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.	☐	☐	☒	Does the project contain 25 dwelling units, or more and is it located in an area with known congestion problems (roadway or intersections)?
				Project is proposing 60 units of single family lots
b.	☐	☒	☐	Will the project result in any hazardous traffic conditions?
c.	☐	☒	☐	Will the project result in parking problems with a subsequent impact on traffic conditions?
d.	☐	☒	☐	Will inadequate access during an emergency (other than fire hazards) result in problems for emergency vehicles or residents/employees in the area?
e.	☒	☐	☐	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?
				Project exceeds of CMP threshold for single family residential projects (i.e., 50 units)
f.	☐	☒	☐	Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?
g.	☐	☐	☐	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.	☐	☐	☒	If served by a community sewage system, could the project create capacity problems at the treatment plant?

Site is currently outside of boundaries of the LA Co Sanitation Districts.

b.	☐	☐	☒	Could the project create capacity problems in the sewer lines serving the project site?

Site is currently outside of boundaries of the LA Co Sanitation Districts.

c.	☐	☐	☐	Other factors?

STANDARD CODE REQUIREMENTS

☒ Sanitary Sewers and Industrial Waste Ordinance No. 6130

☒ Plumbing Code Ordinance No. 2269

☐ MITIGATION MEASURES / ☒ OTHER CONSIDERATIONS

Demonstration of sufficient sewer capacity prior to the annexatopm into Districts No. 16 and 32.

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.	☒	☐	☐	Could the project create capacity problems at the district level?

Saugus and William S Hart School Districts have existing capacity problems.

b.	☒	☐	☐	Could the project create capacity problems at individual schools which will serve the project site?

Individual schools at all levels exceed capacity

c.	☐	☒	☐	Could the project create student transportation problems?

d.	☐	☐	☒	Could the project create substantial library impacts due to increased population and demand?

Increased demand

e.	☐	☐	☐	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.	☐	☒	☐	Could the project create staffing or response time problems at the fire station or sheriff's substation serving the project site? *Site is approximately 3.2 miles from the Los Angeles Co Fire Station No. 111; Closest Sheriff Station is located at 23740 Magic Mountain Parkway, Valencia, 91355.*
b.	☐	☒	☐	Are there any special fire or law enforcement problems associated with the project or the general area?
c.	☐	☐	☐	Other factors?

☐ **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.	☐	☒	☐	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?
b.	☐	☒	☐	Is the project site in an area known to have an inadequate water supply and/or pressure to meet fire fighting needs?
c.	☐	☒	☐	Could the project create problems with providing utility services, such as electricity, gas, or propane?
d.	☐	☒	☐	Are there any other known service problem areas (e.g., solid waste)?
e.	☐	☒	☐	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)?
f.	☒	☐	☐	Other factors? *Water availability to be demonstrated. Annexation of property into appropriate water agency's district is necessary.*

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.	☐	☒	☐	Will the project result in an inefficient use of energy resources?
b.	☐	☒	☐	Will the project result in a major change in the patterns, scale, or character of the general area or community?
c.	☐	☒	☐	Will the project result in a significant reduction in the amount of agricultural land?
d.	☐	☐	☐	Other factors?

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.	☐	☒	☐	Are any hazardous materials used, transported, produced, handled, or stored on-site?
b.	☐	☒	☐	Are any pressurized tanks to be used or any hazardous wastes stored on-site?
c.	☐	☒	☐	Are any residential units, schools, or hospitals located within 500 feet and potentially adversely affected?
d.	☒	☐	☐	Have there been previous uses which indicate residual soil toxicity of the site? *Two oil wells within the project boundaries*
e.	☐	☒	☐	Would the project create a significant hazard to the public or the environment involving the accidental release of hazardous materials into the environment?
f.	☐	☒	☐	Would the project emit hazardous emissions or handle hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
g.	☐	☒	☐	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?
h.	☐	☒	☐	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?
i.	☐	☒	☐	Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
j.	☐	☐	☐	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.	☐	☒	☐	Can the project be found to be inconsistent with the plan designation(s) of the subject property?
b.	☐	☒	☐	Can the project be found to be inconsistent with the zoning designation of the subject property?
c.				Can the project be found to be inconsistent with the following applicable land use criteria:
	☐	☒	☐	Hillside Management Criteria?
	☒	☐	☐	SEA Conformance Criteria? *Demonstration of project compatibility with SEA criteria*
	☐	☐	☐	Other?
d.	☐	☒	☐	Would the project physically divide an established community?
e.	☐	☐	☐	Other factors?

☐ **MITIGATION MEASURES** / ☐ **OTHER CONSIDERATIONS**

To be discussed in conjunction with the Biota Factor.

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.	☐	☒	☐	Could the project cumulatively exceed official regional or local population projections?
b.	☐	☒	☐	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)?
c.	☐	☒	☐	Could the project displace existing housing, especially affordable housing?
d.	☐	☒	☐	Could the project result in a substantial job/housing imbalance or substantial increase in Vehicle Miles Traveled (VMT)?
e.	☐	☒	☐	Could the project require new or expanded recreational facilities for future residents?
f.	☐	☒	☐	Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?
g.	☐	☐	☐	Other factors?

☐ **MITIGATION MEASURES** / ☐ **OTHER CONSIDERATIONS**

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.	☒	☐	☐	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?
				SEA#19
b.	☐	☒	☐	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.
c.	☐	☒	☐	Will the environmental effects of the project cause substantial adverse effects on human beings, either directly or indirectly?

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

2000 INITIAL STUDY

Los Angeles County
Department of Regional Planning
Director of Planning James E. Hartl, AICP

June 12, 2000

Mr. Jim Emerson
B & E Engineers
24 W. St. Joseph St.
Arcadia, CA 91107

SUBJECT: INITIAL STUDY DETERMINATION LETTER
PROJECT NO. CUP 00-817/TR 53189

On June 12, 2000, the staff of the Department of Regional Planning completed its review of the Environmental Questionnaire and other data regarding your project and has determined that an Environmental Impact Report (EIR) is required.

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 24 copies of the items on the attached list to accompany the NOP and submit a $5,000.00 processing fee. **NOTE: This should be done within 30 days from the above date or your file will be considered inactivated.** Additional fees may be required and requested later to cover costs exceeding this amount.

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. You or your consultant should contact staff at your earliest convenience in order to assist us in beginning the NOP process.

If you have any questions regarding the above determination or environmental document preparation, please contact Tabitha Lam of the Impact Analysis Section at (213) 974-6461.

Very truly yours,

DEPARTMENT OF REGIONAL PLANNING
James E. Hartl, AICP
Director of Planning

Kerwin Chih, Acting Section Head
Impact Analysis

KC:TL:lg

STAFF USE ONLY

PROJECT NUMBER: *00-81*

CASES: *TR 53189*

CUP

****** INITIAL STUDY ******

COUNTY OF LOS ANGELES
DEPARTMENT OF REGIONAL PLANNING

GENERAL INFORMATION

I.A. Map Date: *4/25/00* Staff Member: *Tabitha Lam*

Thomas Guide: *4460 F, G1; F, G2* USGS Quad: *Newhall*

Location: *northwest corner of San Francisquito Canyon Road and Lowridge Place, Santa Clarita*

Description of Project: *The proposed project is a request for a tentative tract map, and hillside, density-controlled, and Significant Ecological Area (SEA) conditional use permit for the development of 60 single family residential units.*

Gross Area: *185.8 acres*

Environmental Setting: *The subject property, while vacant, includes the San Francisquito Canyon Creek which is part of SEA #19. Site topography is characterized as ranging from 1250 feet above mean sea level (msl) in San Francisquito wash to 1480 msl above the western canyon of the property. Surrounding uses consist of single and multi-family residential, vacant land, a mobile home, and a warehouse.*

Zoning: *R-1-7000 (Single Family Residence), A-2-2 (Heavy Agriculture)*

General Plan: *Non-Urban, Significant Ecological Area*

Community/Areawide Plan: *SCVAP: Non-Urban 2, Floodway/Floodplain, Hillside Mgmt.*

Major projects in area:

Project Number	Description & Status
97088/TR 52302	*22 SF; approved*
87194/PM 18717	*2 SF; recorded*
247/TR 43171	*10 SF; recorded*
92074/TR51644	*1601 SF, 901 MF, commercial, school site; CUP, OT, ZC, SP;*
	Approved and adopted (Tesoro Del Valle)

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
- ☑ *Caltrans* _____

Special Reviewing Agencies

- ☐ None
- ☐ Santa Monica Mountains Conservancy
- ☐ National Parks
- ☑ *City of Santa Clarita*
- ☑ *SCOPE*

Regional Significance

- ☑ None
- ☐ SCAG Criteria
- ☐ Air Quality
- ☐ Water Resources
- ☐ Santa Monica Mtns Area

Trustee Agencies

- ☐ None
- ☑ State Fish and Game
- ☑ State Parks
- ☑ *Fish and Wildlife* _____
- ☐ _____

County Reviewing Agencies

- ☐ Subdivision Committee
- ☑ Public Works _____
- ☑ Health _____
- ☑ Fire _____
- ☐ _____

IMPACT ANALYSIS MATRIX

CATEGORY	FACTOR	Pg	ANALYSIS SUMMARY (See individual pages for details) Less than Significant Impact/No Impact	Less than Significant Impact with Project Mitigation	Potentially Significant Impact	Potential Concern
HAZARDS	1. Geotechnical	5			X	*hillside, liquefaction*
	2. Flood	6			X	*San Francisquito Canyon Creek*
	3. Fire	7			X	*Fire Zone 4, 2nd means of access*
	4. Noise	8	x			
RESOURCES	1. Water Quality	9			X	*potential degradation of water quality*
	2. Air Quality	10	x			
	3. Biota	11			X	*SEA 19, oaks, wildlife corridor*
	4. Cultural Resources	12			X	*oil well loci*
	5. Mineral Resources	13	x			
	6. Agriculture Resources	14	x			
	7. Visual Qualities	15			X	*San Francisquito Canyon trail*
SERVICES	1. Traffic/Access	16			X	*exceeds CMP threshold*
	2. Sewage Disposal	17	x			
	3. Education	18	x			
	4. Fire/Sheriff	19	x			
	5. Utilities	20	x			
OTHER	1. General	21	x			
	2. Environmental Safety	22	x			
	3. Land Use	23	x			
	4. Pop./Hous./Emp./Rec.	24	x			
	Mandatory Findings	25		x		

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: _____

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: _____

☐ 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: _____ Date: 6/12/00

Approved by: _____ Date: 6-12-00

☐ 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.	☐	☑	☐	Is the project site located in an active or potentially active fault zone, Seismic Hazards Zone, or Alquist-Priolo Earthquake Fault Zone?
b.	☐	☑	☐	Is the project site located in an area containing a major landslide(s)?
c.	☐	☐	☑	Is the project site located in an area having high slope instability?
d.	☐	☐	☑	Is the project site subject to high subsidence, high groundwater level, liquefaction, or hydrocompaction? *Liquefaction*
e.	☐	☑	☐	Is the proposed project considered a sensitive use (school, hospital, public assembly site) located in close proximity to a significant geotechnical hazard?
f.	☑	☐	☐	Will the project entail substantial grading and/or alteration of topography including slopes of over 25%? *Hillside; 912,000 c.y. balanced on-site*
g.	☐	☐	☑	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?
h.	☐	☑	☐	Other factors?

STANDARD MITIGATION MEASURES

☐ Building Ordinance No. 2225 — Sections 308B, 309, 310 and 311 and Chapters 29 and 70.

OTHER CONSIDERATIONS/MITIGATIONS

☐ 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

SETTING/IMPACTS

	Yes	No	Maybe	
a.	☑	☐	☐	Is a major drainage course, as identified on USGS quad sheets by a dashed line, located on the project site? *San Francisquito Canyon Creek*
b.	☑	☐	☐	Is the project site located within or does it contain a floodway, floodplain, or designated flood hazard zone?
c.	☐	☑	☐	Is the project site located in or subject to high mudflow conditions?
d.	☐	☑	☐	Could the project contribute or be subject to high erosion and debris deposition from run-off?
e.	☐	☑	☐	Would the project substantially alter the existing drainage pattern of the site or area?
f.	☑	☐	☐	Other factors (e.g., dam failure)?

STANDARD MITIGATION MEASURES

☐ Building Ordinance No. 2225 — Section 308A ☐ Ordinance No. 12,114 (Floodways)

☑ Approval of Drainage Concept by DPW

OTHER CONSIDERATIONS/MITIGATIONS

☐ 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.	☑	☐	☐	Is the project site located in a high fire hazard area (Fire Zone 4)?
b.	☑	☐		Is the project site in a high fire hazard area and served by inadequate access due to lengths, widths, surface materials, turnarounds or grade?
c.	☑	☐		Does the project site have more than 75 dwelling units on a single access in a high fire hazard area?
d.	☑	☐		Is the project site located in an area having inadequate water and pressure to meet fire flow standards?
e.	☑	☐		Is the project site located in close proximity to potential dangerous fire hazard conditions/uses (such as refineries, flammables, explosives manufacturing)?
f.	☑	☐		Does the proposed use constitute a potentially dangerous fire hazard?
g.	☐	☑		Other factors? *Lots 15-62 require 2nd means of access*

STANDARD MITIGATION MEASURES

☑ Water Ordinance No. 7834 ☑ Fire Ordinance No. 2947 ☑ Fire Prevention Guide No. 46

OTHER CONSIDERATIONS/MITIGATIONS

☐ 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.	☐	☑	☐	Is the project site located near a high noise source (airports, railroads, freeways, industry)?
b.	☐	☑	☐	Is the proposed use considered sensitive (school, hospital, senior citizen facility) or are there other sensitive uses in close proximity?
c.	☐	☑	☐	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?
d.	☐	☑	☐	Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels without the project?
e.	☐	☑	☐	Other factors?

STANDARD MITIGATION MEASURES

☐ Noise Ordinance No. 11,778 ☐ Building Ordinance No. 2225--Chapter 35

OTHER CONSIDERATIONS/MITIGATIONS

☐ Lot Size ☐ Project Design ☐ Compatible Use

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.	☐	☑	☐	Is the project site located in an area having known water quality problems and proposing the use of individual water wells?
b.	☐	☑	☐	Will the proposed project require the use of a private sewage disposal system?
	☐	☑	☐	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?
c.	☐	☐	☑	Could the project's associated construction activities significantly impact the quality of groundwater and/or stormwater runoff to the stormwater conveyance system and/or receiving water bodies?
d.	☐	☐	☑	Could the project's post-development activities potentially degrade the quality of stormwater runoff and/or could post-development non-stormwater discharges contribute potential pollutants to the stormwater conveyance system and/or receiving bodies?
e.	☐	☑	☐	Other factors?

STANDARD MITIGATION MEASURES

☐ Industrial Waste Permit ☐ Health Code — Ordinance No. 7583, Chapter 5

☐ Plumbing Code — Ordinance No. 2269 ☑ NPDES Permit CAS614001 Compliance (DPW)

OTHER CONSIDERATIONS/MITIGATIONS

☐ 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 - 2. Air Quality

SETTING/IMPACTS

	Yes	No	Maybe	
a.		☑	☐	Will the proposed project exceed the State's criteria for regional significance (generally (a) 500 dwelling units for residential uses or (b) 40 gross acres, 650,000 square feet of floor area or 1,000 employees for non-residential uses)?
b.		☑	☐	Is the proposal considered a sensitive use (schools, hospitals, parks) and located near a freeway or heavy industrial use?
c.		☑	☐	Will the project increase local emissions to a significant extent due to increased traffic congestion or use of a parking structure or exceed AQMD thresholds of potential significance per Screening Tables of the CEQA Air Quality Handbook?
d.		☑	☐	Will the project generate or is the site in close proximity to sources which create obnoxious odors, dust, and/or hazardous emissions?
e.		☑	☐	Would the project conflict with or obstruct implementation of the applicable air quality plan?
f.		☑	☐	Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?
g.		☑	☐	Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?
h.		☑	☐	Other factors:

STANDARD MITIGATION MEASURES

☐ Health and Safety Code — Section 40506

OTHER CONSIDERATIONS/MITIGATIONS

☐ Project Design ☐ Air Quality Report

CONCLUSION

Considering the above information, could the project have a significant impact (individually or cumulatively) on, or be impacted by, **air quality?**

☐ Potentially significant ☐ Less than significant with project mitigation ☑ Less than significant/No impact

RESOURCES - 3. Biota

SETTING/IMPACTS

	Yes	No	Maybe	
a.	☑	☐	☐	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? *SEA 19*
b.	☑	☐	☑	Will grading, fire clearance, or flood related improvements remove substantial natural habitat areas?
c.	☑	☐	☐	Is a major drainage course, as identified on USGS quad sheets by a blue, dashed line, located on the project site? *San Francisquito Canyon Creek*
d.	☑	☐	☐	Does the project site contain a major riparian or other sensitive habitat (e.g., coastal sage scrub, oak woodland, sycamore riparian woodland, wetland, etc.)? *Coast live oak woodland, riversidian alluvial fan sage scrub, mulefat*
e.	☑	☐	☐	Does the project site contain oak or other unique native trees (specify kinds of trees)? *38 oaks; 3 heritage*
f.	☑	☐	☐	Is the project site habitat for any known sensitive species (federal or state listed endangered, etc.)? *Mainland hollyleaf cherry woodland*
g.	☑	☐	☐	Other factors (e.g., wildlife corridor, adjacent open space linkage)? *Wildlife corridor*

MITIGATION MEASURES/OTHER CONSIDERATIONS

☐ Lot Size ☐ Project Design ☐ Oak Tree Permit ☑ ERB/SEATAC Review

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/Palaeontological

SETTING/IMPACTS

	Yes	No	Maybe	
a.	☑	☐	☐	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? *San Francisquito Canyon Creek, oaks, knoll*
b.	☐	☑	☐	Does the project site contain rock formations indicating potential palaeontological resources?
c.	☑	☐	☐	Does the project site contain known historic structures or sites? *Oil well loci (CA-LAN-1455-H)*
d.	☐	☑	☐	Would the project cause a substantial adverse change in the significance of a historical or archaeological resource as defined in 15064.5?
e.	☑	☐	☐	Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
f.	☑	☐	☐	Other factors?

MITIGATION MEASURES/OTHER CONSIDERATIONS

☐ Lot Size ☐ Project Design ☑ Archaeology Report *(12/99)*

CONCLUSION

Considering the, above information, could the project leave a significant impact (individually or cumulatively) on **archaeological, historical**, or **palaeontological** resources?

☑ Potentially significant ☐ Less than significant with project mitigation ☐ Less than significant/No impact

RESOURCES - 5.Mineral Resources

SETTING/IMPACTS

	Yes	No	Maybe	
a.	☐	☑	☐	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?
b.	☐	☑	☐	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?
c.	☐	☑	☐	Other factors?

MITIGATION MEASURES/OTHER CONSIDERATIONS

☐ Lot Size ☐ Project Design

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.	☐	☑	☐	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?
b.	☐	☑	☐	Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?
c.	☐	☑	☐	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.	☐	☑	☐	Other factors?

MITIGATION MEASURES/OTHER CONSIDERATIONS

☐ Lot Size ☐ Project Design

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?
b.	☑	☐	☐	Is the project substantially visible from or will it obstruct views from a regional riding or hiking trail? *San Francisquito Canyon trail*
c.	☐	☑	☐	Is the project site located in an undeveloped or undisturbed area which contains unique aesthetic features? *San Francisquito Canyon Creek*
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 obstruct unique views from surrounding residential uses?
f.	☑	☐	☐	Is the project likely to create substantial sun shadow, light or glare problems?
g.	☑	☐	☐	Other factors (e.g., grading or landform 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.	☑	☐	☐	Does the project contain 25 dwelling units, or more and is it located in an area with known congestion problems (mid-block or intersections)?
b.	☑	☐	☐	Will the project result in any hazardous traffic conditions?
c.	☑	☐	☐	Will the project result in parking problems with a subsequent impact on traffic conditions?
d.	☑	☐	☐	Will inadequate access during an emergency (other than fire hazards) result in problems for emergency vehicles or residents/employees in the area?
e.	☑	☐	☐	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? *Exceeds CMP threshold*
f.	☑	☐	☐	Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?
g.	☑	☐	☐	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.	☐	☑	☐	If served by a community sewage system, could the project create capacity problems at the treatment plant?
b.	☐	☑	☐	Could the project create capacity problems in the sewer lines serving the project site?
c.	☐	☑	☐	Other factors?

STANDARD MITIGATION MEASURES

☐ Sanitary Sewers and Industrial Waste — Ordinance No. 6130

☐ Plumbing Code — Ordinance No. 2269

OTHER CONSIDERATIONS/MITIGATIONS

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.	☐	☑	☐	Could the project create capacity problems at the district level?
b.	☐	☑	☐	Could the project create capacity problems at individual schools which will serve the project site?
c.	☐	☑	☐	Could the project create student transportation problems?
d.	☐	☑	☐	Could the project create substantial library impacts due to increased population and demand?
e.	☐	☑	☐	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.	☐	☑	☐	Could the project create staffing or response time problems at the fire station or sheriff's substation serving the project site?
b.	☐	☑	☐	Are there any special fire or law enforcement problems associated with the project or the general area?
c.	☐	☑	☐	Other factors?

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.	☐	☑	☐	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?
b.	☐	☑	☐	Is the project site in an area known to have an inadequate water supply and/or pressure to meet fire fighting needs?
c.	☐	☑	☐	Could the project create problems with providing utility services, such as electricity, gas, or propane?
d.	☐	☑	☐	Are there any other known service problem areas (e.g., solid waste)?
e.	☐	☑	☐	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)?
f.	☐	☑	☐	Other factors?

STANDARD MITIGATION MEASURES

☐ Plumbing Code — Ordinance No. 2269 ☐ Water Code — Ordinance No. 7834

OTHER CONSIDERATIONS/MITIGATIONS

☐ 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.	☐	☑	☐	Will the project result in an inefficient use of energy resources?
b.	☐	☑	☐	Will the project result in a major change in the patterns, scale, or character of the general area or community?
c.	☐	☑	☐	Will the project result in a significant reduction in the amount of agricultural land?
d.	☐	☑	☐	Other factors?

STANDARD MITIGATION MEASURES

☐ State Administrative Code, Title 24, Part 5, T-20 (Energy Conservation)

OTHER CONSIDERATIONS/MITIGATIONS

☐ 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.	☒	☑	☐	Are any hazardous materials used, transported, produced, handled, or stored on-site?
b.	☒	☑	☐	Are any pressurized tanks to be used or any hazardous wastes stored on-site?
c.	☒	☑	☐	Are any residential units, schools, or hospitals located within 500 feet and potentially adversely affected?
d.	☒	☑	☐	Have there been previous uses which indicate residual soil toxicity of the site?
e.	☒	☑	☐	Would the project create a significant hazard to the public or the environment involving the accidental release of hazardous materials into the environment?
f.	☒	☑	☐	Would the project emit hazardous emissions or handle hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
g.	☒	☑	☐	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?
h.	☒	☑	☐	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?
i.	☒	☑	☐	Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
j.	☒	☑	☐	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.	☑	☐		Can the project be found to be inconsistent with the plan designation(s) of the subject property?
b.	☑	☐		Can the project be found to be inconsistent with the zoning designation of the subject property?
c.				Can the project be found to be inconsistent with the following applicable land use criteria:
	☑	☐		Hillside Management Criteria?
	☑	☐		SEA Conformance Criteria?
	☑	☐		Other? _____
d.	☑	☐		Would the project physically divide an established community?
e.	☑	☐		Other factors? _____

MITIGATION MEASURES/OTHER CONSIDERATIONS

_____

_____

_____

_____

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

SETTING/IMPACTS

	Yes	No	Maybe	
a.	☐	☑	☐	Could the project cumulatively exceed official regional or local population projections?
b.	☐	☑	☐	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)?
c.	☐	☑	☐	Could the project displace existing housing, especially affordable housing?
d.	☐	☑	☐	Could the project result in substantial job/housing imbalance or substantial increase in Vehicle Miles Traveled (VMT)?
e.	☐	☑	☐	Could the project require new or expanded recreational facilities for future residents?
f.	☐	☑	☐	Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?
g.	☐	☑	☐	Other factors?

MITIGATION MEASURES/OTHER CONSIDERATIONS

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

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 improvements 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 U.S.G.S. 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. *Detailed 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. *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 applicant. Questions should be directed to the Impact Analysis Section at (213) 974-6461.

2000 NOTICE OF PREPARATION RESPONSE LETTERS

September 14, 2000

Ms. Tabitha Lam
Los Angeles County Regional
Planning Department
320 West Temple Street
Los Angeles, California 90012

Burnham/Larwin Project CUP 00-81/VTTM No. 53189
San Francisquito Canyon, Northern Los Angeles County

We apologize for the late response to your NOP within the 30-day period.

We were wondering if the EIR was finished and if there will be an opportunity to address some concerns in the DEIR that are required for this project.

We are concerned about impacts to SEA #19 in the San Francisquito Creek. The area is a proposed critical habitat for both the Arroyo Toad and the Unarmored three-spine stickleback, federally listed endangered species. Please address how this project will affect this habitat and the required permits from the Army Corps of Engineers and if you have to designate in perpetuity any acreage for the endangered fish.

Many ranches exist in this canyon and are concerned regarding trail connections to each other and the long traveled existing trail that runs all the up the canyon (The San Francisquito Trail No. 76). We believe this is the old stagecoach trail and should be preserved as such.

We also believe there is a water supply crisis. Water supply and its affect on groundwater and to the existing water wells that supply the ranches must be addressed in the DEIR. Effects on on surface flows from any proposed on site wells should be addressed.

Please place us your DEIR service list so that we may review this document.

Sherrie Stolarik
and the San Francisquito Ranches

Please send to:

Sherrie Stolarik
25241 W. Carson Way
Stevenson Ranch, CA 91381

Department of Toxic Substances Control

Edwin F. Lowry, Director
1011 N. Grandview Avenue
Glendale, California 91201

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

September 7, 2000

Ms. Tabitha Lam
Los Angeles County Department of Regional Planning
320 West Temple Street
Los Angeles, California 90012

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE SAN FRANCISCO ESTATES (PROJECT), SCH 2000071052

Dear Ms. Lam :

The Department of Toxic Substances Control (DTSC) has received your Notice of Preparation (NOP) of a draft Environmental Impact Report (EIR) for the above mentioned Project.

Based on the review of the document, the DTSC comments are as follows:

1) The draft EIR needs to identify and determine whether current or historic uses at the Project site have resulted in any release of hazardous wastes/substances at the Project area.

2) The draft EIR needs to identify any known or potentially contaminated site within the proposed Project area. For all identified sites, the draft EIR needs to evaluate whether conditions at the site pose a threat to human health or the environment.

3) The draft EIR should identify the mechanism to initiate any required investigation and/or remediation for any site that may require remediation, and which government agency will provide appropriate regulatory oversight.

4) If during construction of the project, soil contamination is suspected, construction in the area should stop and appropriate Health and Safety procedures should be implemented. If it is determined that contaminated soil exists, the draft EIR should identify how any required investigation and/or remediation will be conducted, and which government agency will provide appropriate regulatory oversight.

DTSC provides guidance for Preliminary Endangerment Assessment (PEA) preparation and cleanup oversight through the Voluntary Cleanup Program (VCP). For additional information on the VCP or to meet/discuss this matter further, please contact Bob Krug, Project Manager, at (818) 551-2866 or me at (818) 551-2877.

Sincerely,

Harlan R. Jeche

Harlan R. Jeche
Unit Chief
Southern California Cleanup Operations Branch B

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044

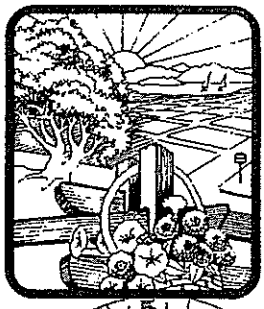
Mr. Guenther W. Moskat, Chief
Planning and Environmental Analysis Section
CEQA Tracking Center
Department of Toxic Substances Control
P.O. Box 806
Sacramento, California 95812-0806

SCOPE

Santa Clarita Organization for Planning the Environment

TO PROMOTE, PROTECT AND PRESERVE THE ENVIRONMENT, ECOLOGY
AND QUALITY OF LIFE IN THE SANTA CLARITA VALLEY

POST OFFICE BOX 1182, CANYON COUNTRY, CA 91386



8-30-00

Tabatha Lam
LA County Regional Planning Dept.
320 W. Temple St.
Los Angeles, Ca. 90012

Re: Burnam/Larwin Project CUP 00-81/TR 53189
San Francisquito Canyon, Northern Los Angeles County

Dear Ms. Lam:

We apologize for not responding to your NOP within the 30 day period. Since the EIR process will take some time, we are sure that there will still be an opportunity to address these concerns in the DEIR that you have required for this project.

We are particularly concerned about impacts on SEA 19, San Francisquito Creek. This area is proposed critical habitat for both the Arroyo Toad and the Unarmored three-spined stickleback, federally listed endangered species. Please address how this project will affect that habitat, the possibility of getting required permits from the Army Corps of Engineers and when a biological consultation with US Fish and Wildlife will be performed.

Many existing ranches in the area are concerned about trails and access to the Forest for recreational purposes. Please address how this project will connect existing trails to regional trails and still provide access to the Forest for horseback riders.

This project appears to be in the floodplain of San Francisquito Creek. Please provide geological reports that show this is NOT a liquefaction area and that future homeowners will be protected from undue structural damage in the likely event of future earthquakes.

Please show how storm water run-off will be managed to ensure pollutants will not affect the public drinking water supply or endangered species.

Please indicate how homes would be protected from flood danger while still complying with the Endangered Species Act.

The Santa Clarita Valley has a water supply crisis. Water supply and its affect on groundwater must be addressed in the DEIR. Please indicate which water company intends to serve this project and what legal and financial framework will be required to achieve this service. Is such service realistically possible? No grading or brushing of the project should be allowed without a verified, legal will serve letter from a water agency. Effects on surface flows from any proposed on site wells should be addressed.

Comments on the DEIR should be sought from Dept. of Fish and Game, US Fish and Wildlife and the Regional Water Board because of the sensitivity of the area. We request that you place us on you DEIR service list, so that we may review that document when it is available.

Sincerely,

Lynne A. Plambeck
1st Vice President

California Regional Water Quality Control Board

Los Angeles Region

Winston H. Hickox
Secretary for Environmental Protection

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640
Internet Address: http://www.swrcb.ca.gov/~rwqcb4

Gray Davis
Governor

August 14, 2000

James E. Hartl, AICP
Department of Regional Planning
Los Angeles County
320 West Temple Street
Los Angeles, CA 90012

RE: RESPONSE TO NOTICE OF PREPARATION OF AN EIR FOR A PROPOSED 60-HOME DEVELOPMENT SAN FRANCISQUITO CANYON IN SANTA CLARITA, CALIFORNIA (SCH #2000071052)

Dear Mr. Hartl:

We appreciate the opportunity to comment on the above project. For your information a list of permitting requirements and Regional Board contacts is attached.

The project site lies in the Santa Clara watershed, which was listed as impaired pursuant to Section 303(d) of the Clean Water Act. Impairments listed in reaches downstream from the proposed project include nutrients and their effects, salts, coliform bacteria and historic pesticides. The Los Angeles Regional Water Quality Control Board will be developing Total Maximum Daily Loads (TMDLs) for the watershed, but the proposed project is expected to proceed before the applicable TMDLs are developed. In the interim, the Regional Board must carefully evaluate the potential impacts of new projects that may discharge to impaired water bodies. Please provide the following additional information for both the construction and operational phases of the project:

- Estimates of concentrations (ppb) and loads (lbs/day) from point and non-point sources of each of the constituents for with the system is impaired (listed above);
- Estimates of the amount of runoff generated by the project during wet and dry seasons;
- Estimates of the amount of increased or decreased percolation due to the project; and
- Estimates of the net change in cubic feet per second of groundwater and surface water contributions under historic drought conditions (as compiled by local water purveyors, the Department of Water Resources, and others), and 10-year, 50-year and 100-year flood conditions.

The Notice of Preparation indicates the construction activities associated with the project could significantly impact the quality of groundwater and/or stormwater runoff to the stormwater conveyance system and/or the receiving water bodies. The NOP also indicates that post-development activities could degrade the quality of stormwater runoff and/or contribute potential pollutants to the stormwater conveyance system and/or receiving water bodies. These potential impacts must be quantified in the EIR. The stated potential for the project to contribute or be subject to high erosion and debris deposition from runoff, and to substantially alter the existing drainage pattern of the site or area, must also be quantified.

Thank you for the opportunity to provide our initial comments during this early stage of the proposed project planning process. We hope that these comments will provide early direction to the preparers of the environmental review documents and ensure an adequate analysis of water quality issues.

Sincerely,

Melinda Merryfield-Becker
TMDL, Unit Chief

Attachment (1)
cc: file
State Clearinghouse

ATTACHMENT A

✓ If the proposed project is subject to a **federal license or permit**, and will result in a **discharge (dredge or fill) into a surface water**, including a dry streambed, the project may require a *Section 401 Water Quality Certification*, or waiver thereof. For further information, please contact:

Alex Fu at (213) 576-6692, or Anthony Klecha at (213) 576-6785, Nonpoint Source Unit

✓ If the project involves **inland disposal of nonhazardous contaminated soils and materials**, the proposed project may be subject to *Waste Discharge Requirements*. For further information, please contact:

Rodney Nelson, Landfills & Cleanup Unit, at (213) 576-6719

✓ If the overall project area is **larger than five acres**, the proposed project may be subject to the State *Board's General Construction Activity Storm Water Permit*. For further information, please contact:

Wayne Chiou, Los Angeles Inland Unit, at (213) 576-6664:
Los Angles County watersheds draining to Long Beach and San Pedro

Carlos Urrunaga, Los Angeles Coastal Unit, at (213) 576-6655:
Los Angeles County watersheds draining to Santa Monica Bay and Palos Verdes Peninsula
Ventura County watersheds draining to Malibu Creek watershed

Mark Pumford, Ventura Coastal Unit, at (213) 576-6657:
Watersheds draining to Ventura County coastline

✓ If the project involves a facility that is proposing to discharge storm water associated with **industrial activity** (e.g., manufacturing, recycling and transportation facilities, etc.), the facility may be subject to the State Board's *General Industrial Activities Storm Water Permit*. For further information, please contact:

Robert Tom, Nonpoint Source Unit, at (213) 576-6789:
Watersheds draining to Los Angeles County coastline

Mark Pumford, Ventura Coastal Unit, at (213) 576-6657:
Watersheds draining to Ventura County coastline

✓ If the proposed project involves any construction and/or groundwater **dewatering to be discharged to surface waters** or storm drains, including dry streambeds, the project may be subject to *NPDES/Waste Discharge Requirements*. For further information, please contact:

Wayne Chiou, Los Angeles Inland Unit, at (213) 576-6664:
Los Angles County watersheds draining to Long Beach and San Pedro

Mazhar Ali, Los Angeles Coastal Unit, at (213) 576-6652:
Los Angeles County watersheds draining to Santa Monica Bay and Palos Verdes Peninsula
Ventura County watersheds draining to Malibu Creek watershed

Mark Pumford, Ventura Coastal Unit, at (213) 576-6657:
Watersheds draining to Ventura County coastline

✓ If the proposed project involves any construction and/or groundwater **dewatering to be discharged to land or groundwater**, the project may be subject to *Waste Discharge Requirements*. For further information, please contact:

Jau Ren Chen, Los Angeles Coastal Unit, at (213) 576-6656:
Watersheds draining to Los Angeles County coastline

Mark Pumford, Ventura Coastal Unit, at (213) 576-6657:
Watersheds draining to Ventura County coastline

✓ The proposed project shall also comply with the local regulations associated with the applicable **Regional Board stormwater permit**:

Los Angeles County and co permittees:
NPDES No. CAS614001
Waste Discharge Requirements Order No. 96-054

Ventura County and co-permittees:
NPDES No. CAS063339
Waste Discharge Requirements Order No. 94-082

State of California THE RESOURCES AGENCY

M E M O R A N D U M

To: Project Coordinator
Resources Agency

Ms. Tabitha Lam
Impact Analysis Section
Department of Regional Planning
Los Angeles County
320 West Temple Street
Los Angeles, CA 90012

Date: August 10, 2000

From: Department of Conservation
Office of Governmental and Environmental Relations

Subject: Notice of Preparation (NOP) for Conditional Use Permit Number 00-81 and Tentative Tract Map number 53189, Los Angeles County
SCH# 2000071052

The Department of Conservation's Division of Oil, Gas, and Geothermal Resources (Division) has reviewed the above referenced project. The Division supervises the drilling, maintenance, and plugging and abandonment of oil, gas, and geothermal wells in California. We offer the following comments for your consideration.

There are two oil wells within the project boundaries. The maps submitted with this document do not contain enough detail for us to comment specifically on the proximity of the wells to the proposed construction. Therefore, maps of sufficient detail and scale must be submitted to the Division's district office in Ventura to allow identification of wells of concern. In some cases, it might be necessary to excavate a well to locate it precisely with respect to structures. The Division will specify any further requirements once the proximity of the wells to structures is determined.

The Division recommends that no building occur over any plugged and abandoned well. If structures are to be located over or in the proximity of a previously plugged and abandoned well, the well may need to be plugged to current Division specifications. The State Oil and Gas Supervisor is authorized to order the reabandonment of previously plugged and abandoned wells when construction over or in the proximity of the well could result in a hazard (Public Resources Code Section 3208.1). If reabandonement is necessary, the cost of operations is the responsibility of the owner of the property upon which the structure will be located.

The possibility for future problems from oil and gas wells that have been plugged and abandoned, or reabandoned, to the Division's current specifications are remote. However, the Division suggests that a diligent effort be made to avoid building over any plugged and abandoned well. If construction over a plugged and abandoned well is unavoidable, an adequate gas venting system should be placed over the well.

The Division also recommends the wells within or in close proximity to project boundaries be accurately plotted on all future maps of this project, and a legible copy of the final project map be submitted to the Division.

Thank you for the opportunity to comment on the NOP. If you have questions on our comments, or require technical assistance or information, please contact Patrick Kinnear at the Ventura district office: 1000 South Hill Road, Suite 116, Ventura, CA 93003-4458; phone (805) 654-4761. You may also contact me at (916) 445-8733.

Keren Yowell
- for

Jason Marshall
Assistant Director

cc: Patrick Kinnear, Division of Oil, Gas, and Geothermal Resources, Ventura.
Linda Campion, Division of Oil, Gas, and Geothermal Resources, Sacramento

STATE OF CALIFORNIA-THE RESOURCES AGENCY GRAY DAVIS, *Governor*
DEPARTMENT OF FISH AND GAME
South Coast Region
4949 Viewridge Avenue
San Diego, California 92123
(858) 467-4201
FAX (858) 467-4239

August 8, 2000

Ms. Tabitha Lam
Los Angeles County Department of Regional Planning
320 West Temple
Los Angeles, CA 90012

Dear Ms. Lam:

Notice of Preparation of an Environmental Impact Report for San Francisco Estates, SCH # 2000071052, Los Angeles County

The Department of Fish and Game (Department) appreciates this opportunity to comment on the above-referenced project, relative to impacts to biological resources. The proposed project consists of the request for a tentative tract map and Conditional Use Permit to authorize the development of 60 single family residential lots on 185.8 acres. The proposed project is located in Significant Ecological Area 19 adjacent to the east and west bank of San Francisquito Creek at the northwest corner of San Francisquito Canyon Road and Lowridge Place, Santa Clarita. The site contains oak woodland, Riversidian alluvial fan sage scrub, mulefat and Mainland hollyleaf cherry woodland.

To enable Department staff to adequately review and comment on the proposed environmental document, we recommend the following information, be evaluated and included in the document:

1. A complete, **recent** assessment of flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened, and locally unique species including but not limited to, Unarmored threespine stickleback (*Gasterosteus aculeatus santaanae*), Arroyo toad (*Bufo microschaphus californicus*), California gnatcatcher (*Polioptila californica*), and sensitive habitats.

   a. A thorough **recent** assessment of rare plants and rare natural communities, following the Department's May 1984 Guidelines for Assessing Impacts to Rare Plants and Rare Natural Communities (Attachment 1).

   b. A complete **recent** assessment of sensitive fish, wildlife, reptile, and amphibian species. Seasonal variations in use of the project area should also be addressed. Recent, focused, species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active

or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with the Department and U.S. Fish and Wildlife Service.

c. Rare, threatened, and endangered species to be addressed should include all those which meet the California Environmental Quality Act (CEQA) definition (see CEQA Guidelines, § 15380). These species include but are not limited to Western spadefoot (*Scaphiopus hammondii*), Coast horned lizard (*Phrynosoma coronatum ssp.*), Coastal western whiptail (*Cnemidophorus tigris multiscutatus*) and plant species listed as 1B or rare by the California Native Plant Society. The EIR should address avoidance and mitigation measures to reduce significant direct and indirect adverse project impacts to sensitive species.

d. The Department's California Natural Diversity Data Base in Sacramento should be contacted at (916) 324-3812 to obtain current information on any previously reported sensitive species and habitats, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code. Also, any Significant Ecological Areas (SEAs) or environmentally Sensitive Habitat Area (ESHAs) that have been identified by the County of Los Angeles or any areas that are considered sensitive by the local jurisdiction that are located in or adjacent to the project area must be addressed.

2. A thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts.

a. CEQA Guidelines, § 15125(a), direct that knowledge of the regional setting is critical to an assessment of environmental impacts and that special emphasis should be placed on resources that are rare or unique to the region.

b. Project impacts should also be analyzed relative to their effects on off-site habitats and populations. Specifically, this should include nearby public lands, open space, adjacent natural habitats, and riparian ecosystems.

c. A cumulative effects analysis should be developed as described under CEQA Guidelines, § 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.

d. 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 all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA).

1. Proposed project activities (including disturbances to vegetation) should take place outside of the breeding bird season (March 1- Aug 31) 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, active nests shall 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, mainland hollyleaf cherry woodland, 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 should emphasize evaluation and selection of alternatives which avoid or otherwise minimize project impacts. Compensation for unavoidable impacts through acquisition and protection of high quality habitat elsewhere should be addressed.

   b. The Department considers Rare Natural Communities as threatened habitats having both regional and local significance. Thus, these communities should be fully avoided and otherwise protected from project-related impacts (Attachment 2).

   c. The Department generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species. Department studies have shown that these efforts are experimental in nature and largely unsuccessful. Please contact Ms. Mary Meyer, Plant Ecologist at (805) 640-8019 to discuss project related impacts to sensitive plant species and communities.

   d. The Department requires all mitigation areas to be excluded from County or City required Fuel Modification Zones (FMZ). Acreage intended to satisfy either habitat buffer or mitigation requirements will not be considered to have value if included in a FMZ or planted with species consistent with FMZ requirements, rather than habitat restoration requirements.

4. A California Endangered Species Act (CESA) Permit must be obtained, if the project has the potential to result in "take" of species of plants or animals listed under CESA, either during construction or over the life of the project. CESA Permits are issued to conserve, protect, enhance, and restore State-listed threatened or endangered species

and their habitats. Early consultation is encouraged, as significant modification to the proposed project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, require that the Department issue a separate CEQA document for the issuance of a CESA permit unless the project CEQA document addresses all project impacts to listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of a CESA permit. For these reasons, the following information is requested:

a. Biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA Permit.

b. A Department-approved Mitigation Agreement and Mitigation Plan are required for plants listed as rare under the Native Plant Protection Act.

5. The Department opposes the elimination of watercourses and/or their channelization or conversion to subsurface drains. All wetlands and watercourses, whether intermittent or perennial, must be retained and provided with substantial setbacks which preserve the riparian and aquatic habitat values and maintain their value to on-site and off-site wildlife populations.

a. The Department requires a streambed agreement, pursuant to Section 1600 et seq. of the Fish and Game Code, with the applicant prior to any direct or indirect impact (including preliminary geotechnical activities) of a lake or stream bed, bank or channel or associated riparian resources. The Department's issuance of a stream bed alteration agreement is considered a project that is subject to CEQA. To facilitate our issuance of the agreement, the Department as a responsible agency under CEQA may consider the local jurisdiction's (lead agency) document for the project. To minimize additional requirements by the Department under CEQA the document should fully identify the potential impacts to any lake, stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the agreement. Early consultation is recommended, since modification of the proposed project may be required to avoid or reduce impacts to fish and wildlife resources. Please contact Ms. Betty Courtney, Environmental Specialists III, at (661) 263-8306 to discuss this further.

Thank you for this opportunity to provide comment. Questions regarding this letter and further coordination on these issues should be directed to Mr. Scott Harris, Associate Wildlife Biologist at (818) 360-8140.

Sincerely,

Ms. Morgan Wehtje
Environmental Scientist IV

Attachments

cc: Mr. Scott Harris
Ms. Mary Meyer
Ms. Ms. Betty Courtney
Department of Fish and Game

Mr. Ray Bransfield
U.S. Fish and Wildlife Service

State Clearinghouse
Sacramento, California

ATTACHMENT 1

State of California
THE RESOURCES AGENCY
Department of Fish and Game
May 4, 1984

GUIDELINES FOR ASSESSING THE EFFECTS OF PROPOSED DEVELOPMENTS ON RARE AND ENDANGERED PLANTS AND PLANT COMMUNITIES

The following recommendations are intended to help those who prepare and review environmental documents determine when a botanical survey is needed, who should be considered qualified to conduct such surveys, how field surveys should be conducted and what information should be contained in the survey report.

1. Botanical surveys that are conducted to determine the environmental effects of a proposed development should be directed to all rare and endangered plants and plant communities. Rare and endangered plants are not necessarily limited to those species which have been "listed" by state and federal agencies but should include any species that, based on all available data, can be shown to be rare and/or endangered under the following definitions.

   A species, subspecies or variety of plant is "endangered" when the prospects of its survival and reproduction are in immediate jeopardy form one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition or disease. A plant is "rare" when, although not presently threatened with extinction, the species, subspecies or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens.

   Rare plant communities are those communities that are of highly limited distribution. These communities may or may not contain rare or endangered species. The most current version of the California Natural Diversity Data Base's Outline of Terrestrial Communities in California may be used as a guide to the names of communities.

2. It is appropriate to conduct a botanical field survey to determine if, or the extent that, rare plants will be affected by a proposed project when:

   a. Based on an initial biological assessment, it appears that the project may damage potential rare plant habitat;

   b. Rare plants have historically been identified on the project site, but adequate information of impact assessment is lacking; or

   c. No initial biological assessment has been conducted and it is unknown whether or not rare plants or their habitat exist on the site.

3. Botanical consultants should be selected on the basis of possession of the following qualifications (in order of importance):

   a. Experience as a botanical field investigator with experience in field sampling design and field methods;

   b. Taxonomic experience and a knowledge of plant ecology;

   c. Familiarity with the plants of the area, including rare species; and

   d. Familiarity with the appropriate state and federal statutes related to rare plants and plant collecting.

4. Field surveys should be conducted in a manner that will locate any rare or endangered species that may be present. Specifically, rare or endangered plant surveys should be:

   a. Conducted at the proper time of year when rare or endangered species are both "evident" and identifiable. Field surveys should be scheduled (1) to coincide with known flowering periods, and/or (2) during periods of

phenological development that are necessary to identify the plant species of concern.

b. Floristic in nature. "Predictive surveys" (which predict the occurrence of rare species based on the occurrence of habitat or other physical features rather than actual field inspection) should be reserved for ecological studies, not for impact assessment. Every species noted in the field should be identified to the extent necessary to determine whether it is rare or endangered.

c. Conducted in a manner that is consistent with conservation ethics. Collection of rare or suspected rare species (voucher specimens) should be made only when such actions would not jeopardize the continued existence of the population and in accordance with applicable state and federal permit regulations. Voucher specimens should be deposited at recognized public herbaria for future reference. Photography should be used to document plant identification and habitat whenever possible, but especially when the population cannot withstand collection of voucher specimens.

d. Conducted using systematic field techniques in all habitats of the site to ensure a reasonably thorough coverage of potential impact areas.

e. Well documented. When a rare or endangered plant (or rare plant community) is located, a California Native Species (or Community) Field Survey Form or equivalent written form should be completed and submitted to the Natural Diversity Data Base.

5. Reports of botanical field surveys should be included in or with environmental assessments, negative declarations, EIR's and EIS's, should contain the following information:

a. Project description, including a detailed map of the project location and study area.

b. A written description of biological setting referencing the community nomenclature used and a vegetation map.

c. Detailed description of survey methodology.

d. Dates of field surveys.

e. Results of survey (including detailed maps).

f. An assessment of potential impacts.

g. Discussion of the importance of rare plant populations with consideration of nearby populations and total species distribution.

h. Recommended mitigation measures to reduce or avoid impacts.

i. List of all species identified.

j. Copies of all California Native Species Field Survey Forms or Natural Community Field Survey Forms.

k. Name of field investigator(s).

l. References cited, persons contacted, herbaria visited, and disposition of voucher specimens.

ATTACHMENT 2

Sensitivity of Top Priority Rare Natural Communities in Southern California*

*Sensitivity rankings are determined by the Department of Fish and Game, alifornia Natural Diversity Data Base and based on either number of known ccurrences (locations) and/or amount of habitat remaining (acreage). The hree rankings used for these top priority rare natural communities are as ollows:

S1.- Less than 6 known locations and/or on less than 2,000 acres of habitat remaining

S2.- Occurs in 6-20 known locations and/or 2,000-10,000 acres of habitat remaining

3.- Occurs in 21-100 known locations and/or 10,000-50,000 acres of habitat remaining

The number to the right of the decimal point after the ranking refers to the degree of threat posed to that natural community regardless of the ranking. For example:

S1.1 = very threatened
S2.2 = threatened
S3.3 = no current threats known

Sensitivity Rankings (February 1992)

Rank	Community Name
S1.1	Mojave Riparian Forest
	Sonoran Cottonwood Willow Riparian Mesquite Bosque
	Elephant Tree Woodland
	Crucifixion Thorn Woodland
	Allthorn Woodland
	Arizonan Woodland
	Southern California Walnut Forest
	Mainland Cherry Forest
	Southern Bishop Pine Forest
	Torrey Pine Forest
	Desert Mountain White Fir Forest
	Southern Dune Scrub
	Southern Coastal Bluff Scrub
	Maritime Succulent Scrub
	Riversidean Alluvial Fan Sage Scrub
	Southern Maritime Chaparral
	Valley Needlegrass Grassland
	Great Basin Grassland
	Mojave Desert Grassland
	Pebble Plains
	Southern Sedge Bog
	Cismontane Alkali Marsh

Sensitivity Rankings (Cont.)

Community Name

1.2 Southern Foredunes
Mono Pumice Flat
Southern Interior Basalt Fl. Vernal Pool

S2.1 Venturan Coastal Sage Scrub
Diegan Coastal Sage Scrub
Riversidean Upland Coastal Sage Scrub
Riversidean Desert Sage Scrub
Sagebrush Steppe
Desert Sink Scrub
Mafic Southern Mixed Chaparrel
San Diego Mesa Hardpan Vernal P.
San Diego Mesa Claypan Vernal P.
Alkali Meadow
Southern Coastal Salt Marsh
Coastal Brackish Marsh
Transmontane Alkali Marsh
Coastal and Valley Freshwater Marsh
S. Arroya Willow Riparian Forest
Southern Willow Scrub
Modoc-G.Bas. Cottonwood Willow Rip.
Modoc-Great Basin Riparian Scrub
Mojave Desert Wash Scrub
Engelmann Oak Woodland
Open Engelmann Oak Woodland
Closed Engelmann Oak Woodland
Island Oak Woodland
California Walnut Woodland
Island Ironwood Forest
Island Cherry Forest
S. Interior Cypress Forest
Bigcone Spruce-Canyon Oak Forest

S2.2 Active Coastal Dunes
Active Desert Dunes
Stab. and Part. Stab. Desert Dunes
Stab. and Part. Stab. Desert Sandfield
Mojave Mixed Steppe
Transmontane Freshwater Marsh
Coulter Pine Forest
S. California Fellfield
White Mountains Fellfield

S2.3 Bristlecone Pine Forest
Limber Pine Forest

STATE OF CALIFORNIA — Gray Davis, *Governor*

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
(916) 657-5390 - Fax

July 24, 2000

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

RE: SCH # 2000071052– Conditional Use Permit 00-81, Tentative Tract Map 53189

Dear Ms. Lam:

The Native American Heritage Commission has reviewed the above mentioned NOP. To adequately assess the project-related impact on archaeological resources, the Commission recommends the following action be required:

1. Contact the appropriate Information Center for a records search. The record search will determine:
   - Whether a part or all of the project area has been previously surveyed for cultural resources.
   - Whether any known cultural resources have already been recorded on or adjacent to the project area.
   - Whether the probability is low, moderate, or high that cultural resources are located within the project area.
   - Whether a survey is required to determine whether previously unrecorded cultural resources are present.

2. The final stage of the archaeological inventory survey is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
   - Required the report containing site significance and mitigation be submitted immediately to the planning department.
   - Required site forms and final written report be submitted within 3 months after work has been completed to the Information Center.

3. Contact the Native American Heritage Commission for:
   - A Sacred Lands File Check.
   - A list of appropriate Native American Contacts for consultation concerning the project site and assist in the mitigation measures.

Lack of surface evidence of archeological resources does not preclude the existence of archeological resources. Lead agencies should include provisions for accidentally discovered archeological resources during construction per California Environmental Quality Act (CEQA) §15064.5 (f). Health and Safety Code §7050.5 and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery and should be included in all environmental documents. If you have any questions, please contact me at (916) 653-4038.

Sincerely,

Debbie Pilas-Treadway
Associate Governmental Program Analyst

CC: State Clearinghouse

00-81

STATE OF CALIFORNIA—BUSINESS AND TRANSPORTATION AGENCY PETE WILSON, *Governor*

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, ADVANCE PLANNING
IGR OFFICE 1-10C
120 SO. SPRING ST.
LOS ANGELES, CA 90012
TEL: (213) 897-6117 ATSS: 8- 647-6117
FAX: (213) 897-8906
E-mail: NYerjanian/D07/Caltrans/Cagov@DOT

Ms. Tabitha Lam
L.A. County Department of Regional Planning
320 W. Temple St.
Los Angeles, CA. 90012

RE: IGR/CEQA 000736NY
Notice of Preparation
60 Single Family Residential Lots
Rte.126,5

July 19, 2000

Dear Ms. Lam:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the 60 Single Family Residential Lots Project.

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:

1. Assumptions and methods used to develop trip generation/distribution, percentages and assignments.

2. An analysis of ADT, AM, and PM peak-hour volumes for both the existing and future (year 2020) conditions. This should include Routes 5 & 126 and affected ramps, streets, crossroads, and controlling intersections.

3. This analysis should include project traffic, cumulative traffic generated for all approved developments in the area, Interchange Utilization (I.C.U.) and Level of Service (LOS) of affected freeway ramp intersections on the State Highway indicating existing + project(s) + other projects LOS (existing and future).

4. Discussion of mitigation measures appropriate to alleviate anticipated traffic impacts. These mitigation discussions should include, but not be limited to, the following:
    - o financing
    - o scheduling considerations
    - o implementation responsibilities
    - o monitoring plan

5. Developer's percent share of the cost, as well as a plan of realistic mitigation measures under the control of the developer should be addressed. Any assessment fees for mitigation should be of such proportion as to cover mainline highway deficiencies that occur as a result of the additional traffic generated by the project.

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:

Stephen Buswell
IGR/CEQA Program Manager
Caltrans District 07
Transportation Planning Office, 1-10C
120 S. Spring St., Los Angeles, CA 90012

If you have any questions, please call Mr. Yerjanian at (213) 897-6117 and refer to IGR/CEQA 000736NY.

Sincerely,

STEPHEN J. BUSWELL
IGR/CEQA Program Manager
Transportation Planning Office

D:\000736NY

OCTOBER 1, 2003 GEOTECHNICAL INVESTIGATION
A.G.I. GEOTECHNICAL, INC.

GEOTECHNICAL INVESTIGATION AND RESPONSE TO REVIEW SHEETS

Burnham Property
Revised Tentative Tract Map No. 53189
County of Los Angeles, California

October 1, 2003
Project No. 13-2474-00

Prepared for:

SCC Acquisitions, Inc.
21900 Burbank Blvd., Ste. 114
Woodland Hills, California 91367

Attention: Mr. Dennis Bickler

A.G.I. GEOTECHNICAL, INC.

7247 Hayvenhurst Avenue, Unit A-2 • Van Nuys, CA 91406 • (818) 785-5244 • FAX (818) 785-6251

October 1, 2003

Project No. 13-2474-00

SCC Acquisitions, Inc.
21900 Burbank Boulevard, Ste. 114
Woodland Hills, CA 91367

Attention: Mr. Dennis Bickler

Subject: **GEOTECHNICAL INVESTIGATION AND RESPONSE TO REVIEW SHEETS**
Burnham Property
Revised Tentative Tract Map No. 53189
County of Los Angeles, California

Gentlemen:

The purpose of this investigation and report was to address the changes made to Revised Tentative Tract Map No. 53189 and address the comments of the LACDPW Materials Engineering Division which were prepared on June 5 and June 28, 2000. Copies of these Review Sheets are provided in this report. This report includes a Geologic Map, Plate 1 which utilizes the revised tentative tract map as a base map. Our Geologic Cross Section, Plate 2 and a Removal Map, Plate 3, are included with the geologic map in the map pocket of this report.

If you have any questions about this report or questions pertaining to the geology of the site, please call feel free to call our office.

Sincerely,
A.G.I. GEOTECHNICAL, INC.

Mark A. Swiatek, C.E.G. 1781
Project Geologist

CERTIFIED ENGINEERING GEOLOGIST
MARK A. SWIATEK
No. 1781
STATE OF CALIFORNIA

Juan A. Vidal, R.G.E. 861
Principal Engineer

REGISTERED PROFESSIONAL ENGINEER
JUAN A. VIDAL
No. 861
Exp. 12-31-05
GEOTECHNICAL
STATE OF CALIFORNIA

Distribution: (2) Addressee
(2) Los Angeles County
(1) B & E Engineers
(1) Bonterra Consulting

TABLE OF CONTENTS

Enclosures:
Plate 1, Geologic Map
Plate 2, Geologic Cross Sections
Plate 3, Limit and Depth of Removal Map
Boring Logs
Laboratory Testing Data
Review Sheets
Slope Stability Calculations
Seismic Settlement Analysis

INTRODUCTION

SCOPE OF WORK

The purpose of our investigation was to evaluate the earth materials and geologic environment within the area of planned grading. We relied upon data completed as part of the preliminary site investigation. We supplemented the data by drilling 9 hollow stem borings up to 50 feet deep and 7 bucket auger borings up to 74 feet deep. All of the borings were logged and sampled by our geologist. Bucket auger borings in alluvium and bedrock were downhole logged by our geologist. Bucket auger borings 1-5 were drilled to depths of at least 10 feet below the toe of major planned cut slopes on the revised tentative map. Undisturbed and bulk samples of the various earth materials were retained for further classification and testing in our laboratory. Logs of the borings and the results of the laboratory testing are included in this report.

LABORATORY TESTING

CLASSIFICATION

Soils were classified visually according to the Unified Soil Classification System. Unit weight and moisture determinations were performed for each undisturbed sample. Results of unit weight and moisture determination are shown on the attached Boring Logs.

LOAD CONSOLIDATION TESTS

To investigate the potential for settlement of the earth materials, load consolidation test were performed on undisturbed samples. Axial loads were carried to a maximum of 9408 lbs/sq.ft. To hasten consolidation and simulate possible adverse field conditions, water was added at axial loads

of 2352 lbs/sq.ft. Compressibility of the soils within the zone of significant stress was investigated and the results considered in our engineering analyses. Graphic plots of the load consolidation curves are attached.

MAXIMUM DENSITY/OPTIMUM MOISTURE

Maximum density/optimum moisture content relationships were determined on a typical samples of the earth materials. The test were conducted in accordance with ASTM: D-1557. The results of the tests are shown on the attached graphs.

DIRECT SHEAR TESTS

In order to determine the shear strength of the earth materials, direct shear tests were performed on relatively undisturbed and remolded samples of the earth materials brought up from the borings. The direct shear test procedure used for the sample consists of enclosing a sample (in this case a sample having a height of one inch and a diameter of 2.62 inches) in a box consisting of an upper and lower half. In the machine used, the lower half slides underneath the upper half of the box. Before placing the sample in the box, the sample is placed between porous stones and saturated for a period of at least 24 hours. After the soaking period, the sample is placed in the box, the normal load applied and a horizontal force is applied to the lower half of the box. The horizontal force is applied at a controlled speed of 0.05 inches per minute or slower. The sample is allowed to drain during shearing. A stress-strain curve is obtained by plotting the shear stress versus shear displacement. To obtain the failure envelope, at least three tests are performed at different normal loads (in this case 1,000, 2,000 and 4,000 lbs./sq.ft.). The horizontal force is applied until a displacement of 0.25 inches has been experienced by the sample. At a displacement of 0.25 inches, it is generally assumed that the sample has reached its ultimate shearing strength. Graphic plots of the test results, including moisture content at the time of shearing, are attached.

GRAIN SIZE DISTRIBUTION

Sieve analyses test were conducted on a selected samples of the recent alluvium. Graphic plots of the testing results are attached.

REVISIONS TO TENTATIVE TRACT MAP NO. 53189

Several revisions have been made to the Tentative Tract Map since the Geolabs report dated April 20, 2000 was prepared. Lots along San Francisquito Road have been eliminated in favor of their siting on the westerly side of San Francisquito wash. The revised map indicates there will be a total of 60 estate sized lots and 3 open space lots. Nearly all of the lots have been setback away from the hillside terrain, thus reducing the extent of cut slopes and exposure to potential debris flows. Access to the development is proposed from Stoney Creek Road in adjacent Tract 51644.

The extent of hillside grading has been significantly reduced on the revised Tentative Tract Map. Cut and fill slopes are planned at 2:1 or flatter. The tallest proposed 2:1 cut slope is located at the rear of Lots 31 through 33, and reaches a maximum height of 83 feet. 2:1 cut slopes from 20 to 45 are planned at the rear of Lots 1-6, 14 and 15.

The tallest planned fill slope is anticipated to be 35 feet in height, along the easterly side of Stoney Creek Road. The maximum depth of fill (after removals) is anticipated to be on the order of 45 feet beneath Stoney Creek Road in the southwesterly corner of the site.

We understand that the lots will be serviced by a sewer, with a sewer pump station proposed adjacent to Lot 52.

REVISED GEOLOGIC MAP AND CROSS SECTIONS

An updated Geologic Map, utilizing the revised Tentative Tract Map layout produced by B & E Engineers, is presented as Plate 1. Cross Sections from the previous site report have been reoriented and/or revised as needed to address the new configuration. The Geologic Cross Sections are presented on Plate 3.

We revised the Geologic Map to reflect a second alluvial unit that was not identified by GeoLabs. The geologic map and cross sections reflect alluvial unit Qal1 which has been derived from deposition in the San Fracisquito wash. The Qal1is younger in age than the Qal unit. The Qal unit is identified by its geomorphic surface which slopes south towards the San Francisquito wash at a consistent grade of 6%. Based upon our observations and previous studies completed at Tesoro Del Valle (Tract 51644), the Qal1unit contains soft channels, pockets and lenses of silts and fine sands interpreted as being flood deposits along the edges of the modern drainage. We interpret borings B1, B2, B6, CPT 5 by GeoLabs to have encountered fine grained units of the Qal1. We have revised the geologic map to show the approximate limits of the Qal1 unit.

SLOPE STABILITY ANALYSES

Pertinent cross sections and stability analyses are discussed herein. Shear strengths utilized in our analyses were obtained from the referenced report dated April 4, 2000. For each analysis, we provide a geologic cross section showing the critical failure surface.

Cross Section C-C'

Cross Section C-C' has been revised to reflect the absence of the large cut slope. The small landslide located near the rear of Lot 29 should be removed and recompacted in its entirety. Bedding of the Saugus and Castaic Formation is laterally supported in the immediate vicinity of Lot 29.

Cross Section D-D'

The proposed development has been reduced in the vicinity of the tall natural slope and colluvial-swale depicted in Cross Section D-D'. Lot 53 is over 300 feet from the mouth of this swale.

Cross Section E-E'

This cross section depicts proposed 2:1 cut slopes associated with Lots 10 and 14. Bedding is anticipated to be laterally supported with respect to the 40 +/- feet high cut slope between the lots. The 2:1 cut slope along the north side of the Lot 10 is anticipated to expose southerly-dipping bedrock of the Saugus Formation. At the planned gradient, the bedrock exposed in the cut is anticipated to have adverse components of dip. It is recommended to trim this slope back at a gradient of 3:1

Cross Section F-F'

The natural slope illustrated in this cross section is now remote to the proposed development. Slope stability evaluations are no longer warranted.

Cross Section H-H'

A 2:1 cut slope is now proposed at the rear of Lots 31 through 33 where a taller 3:1 cut was previously planned. Bedding is anticipated to be laterally supported with respect to the slope face, with the syncline axis located near the top of the ridge. We have evaluated this slope with circular failure surfaces accordingly. Factors of safety of 2.10 (static) and 1.46 (pseudostatic) were obtained. The cut portion of the building pads on lots 31-33. are expected to expose Castaic Formation bedrock. In addition to the circular analyses, we evaluated the possibility of a failure along the contact between the Saugus and Castaic formation. We utilized along bedding shear strength parameters established in the preliminary report. The calculations presented in this report indicate factors of safety against failure are greater than code required.

Cross Section J-J'

The natural slope illustrated in this cross section is now remote to the proposed development. Slope stability evaluations are no longer warranted.

Cross Section K-K'

As illustrated, the natural slope ascending from the rear of Lot 29 is underlain by laterally supported bedrock of the Saugus Formation. The former 3:1 cut slope has been eliminated and the proposed lots pulled back from the hillside terrain relative to the previous Tentative Tract Map. The small landslide should be removed and recompacted in its entirety.

Basin Slopes-Rapid Drawdown

Numerous small detention basins are proposed throughout the site. The tallest basin slope (at 2:1) associated with these basins is located near Lot 11 and reaches a maximum height of 11 feet. We have evaluated this slope for a rapid drawdown condition and engineered fill shear strength parameters (since alluvial soils will be removed and replaced with engineered fill). Factors of safety of 1.95 (static) and 1.42 (pseudostatic) were obtained.

RESPONSE TO GEOLOGIC AND SOILS ENGINEERING REVIEW SHEETS

We present herein itemized response to the Geologic (June 5, 2000) and Soils Engineering (June 28, 2000) Review Sheets which are included in this report.

Geologic Review Item #1

Lot 33 was formerly located at the mouth of a tall swale which contains colluvial soils. This review comment now pertains to Lot 30 which is located below the same swale.

The lot lines for Lot 30 do not include the steep portion of the swale (as the former Lot 33). The buildable pad of Lot 30 is roughly 70 feet from the 1300' contour line which we consider the mouth of the swale, where debris flows would be deposited. Slope gradients beyond this contour are 7:1 or flatter, and hence too flat to generate debris flows. We anticipate potential debris flows from the steeper sides and upper head of the swale to be deposited on the channel bottom, and conveyed down the canyon to the 1300' contour location as sediment. Hence, we consider the current location of Lot 30 to be too distant from the swale to be at risk from debris flows.

At the grading plan stage, we recommend that drainage devices (i.e. interceptor drain/concrete swale) be provided at the mouth of this swale, and around Lots 29 and 30 to convey drainage and sediment to appropriate storm drain inlets. An easement for drainage purposes exist between lots 30 and 31.

Soils Engineering Item #1

Proposed cut slopes within alluvial and colluvial deposits will be reconstructed with engineered fill as a result of the proposed alluvial removals. Accordingly, surficial slope stability analyses for such conditions are not warranted.

Review of the revised Tentative Tract Map indicates that the exposure of the proposed development to the natural slopes exceeding 2:1 has been significantly reduced and practically eliminated. Discussions with respect to specific areas are provided herein.

Lots 26 through 30

As discussed for the Geologic Item #1, Lot 30 is located in an ample distance from debris flow hazards. At the grading plan stage, we recommend that drainage devices (i.e. interceptor drain/concrete swale) be provided at the mouth of this swale, and around Lots 29 and 30 to convey drainage to appropriate storm drain inlets. At present, a catchment swale is proposed at the rear of Lots 26 through 28. The small landslide at the rear of Lots 29 and 30 should be removed and recompacted in its entirety, thus mitigating its potential for surficial instability.

Lot 60

Lot 60 is located roughly 20 feet from the toe of a 28 +/- feet high, 2:1 natural slope. The lot is elevated roughly 5 feet above the surrounding natural grade, thus directing any potential debris and drainage around its pad.

Soils Engineering Item #2-Seismic Settlement

We present herein an updated table summarizing the estimated seismic settlement for each boring and CPT location in consideration of the proposed removals. These estimates were derived from the analyses presented in the April 20, 2000 GeoLabs report, and by excluding (subtracting) any settlement from zones to be removed and recompacted. We also completed a dry sand seismic settlement analysis of BH7. The calculations are included in this report.

EXCAVATION LOCATION	ANTICIPATED REMOVAL DEPTH	ESTIMATED SEISMIC SETTLEMENT (CONSIDERING REMOVAL)
CPT1	12'	.20"
CPT2	12'	.60"
CPT3	12'	< 1/4"
CPT4	25'	.80"
CPT5	25'	0"
BORING 1	25'	< 3/4"
BORING 2	25'	< 2"*
BORING 3	12'	.58"
BORING 4	12'	.74"
BORING 5	12'	.82"
BORING 6	25'	< 1/4"
BORING BH7	12'	.97"

Summary

As discussed in the 4-20-00 Geolabs report, the settlement estimate from B2* utilized California sampler blow counts which yielded higher settlement estimates on account of poor correlation to SPT blow counts. CPT3 and CPT4 were performed in the vicinity and provide more consistent settlement estimates. We consider their estimated seismic settlement to be more realistic and appropriate for grading in the area of the borings.

Considering the foregoing, and in light of the anticipated removals, we remain of the opinion that total seismic settlement of one inch, with differential seismic settlement of 2/3" across a distance of 30 feet, be considered in the design of foundations.

Soils Engineering Item #3

The enclosed Removal Map (Plate 1) illustrated the limits and depths of proposed removals. The map shows the average anticipated depth of removal. Removals in the 12' average vary from 8-15'. Removals in the 25' average area vary from 20-30 feet. Those slopes that are anticipated to expose alluvial or colluvial soils are to be reconstructed with engineered fill via the removals or through stabilization.

Should friable, weathered, or other unsuitable bedrock be encountered in the planned cut slopes, they will require stabilization. The need for such stability fills will be determined in-grading based on the quality of the bedrock materials exposed.

RESTRICTED USE AREAS

Since the issuance of the April 20, 2000 report, the LACDPW Materials Engineering Division has revised their criteria for Restricted Use Areas. Areas underlain by unsuitable or unmitigated liquefiable soils are no longer designated as Restricted Use Areas. Rather, they are denoted by a Geotechnical Note on the Final Maps. Accordingly, alluvial areas which do not receive removals

during the grading of the site will require a Geotechnical Note on the Final Map which identifies which lots contain soils subject to hydroconsolidation/liquefaction/excessive settlement.

The small landslide located at the rear of Lots 29 and 30 is to be removed and recompacted. A keyway and backdrains should be provided with the reconstruction. The resulting cavity can easily be filled/reconstructed with 2:1 or flatter slope gradients. Further definition of this reconstruction will be provided at the grading plan stage.

Based on the forgoing, no Restricted Use Areas are required for the subject tract.

SUMMARY

Based on our review, the development of the site (as presented in the revised map) is feasible from a geotechnical perspective. Revisions have reduced the potential for geologic hazards such as debris flows and surficial instability of the ascending natural slopes from impacting the lots. The clustering of pads has reduced the extent of remedial yardage (alluvial removals) anticipated as well as minimizing the total graded area.

111 STATEMENT

Based upon tests conducted as outlined in this and applicable referenced reports, and if constructed in accordance with our recommendations and properly maintained, it is the opinion of the undersigned, a duly registered professional engineer and engineering geologist, that (1) the proposed structure(s) will be safe against hazard from landslide, settlement or slippage, and that (2) the proposed building or grading construction will have no adverse effect on the geologic stability of property outside the building site. The nature and extent of tests conducted for purposes of this declaration are, in the opinion of the undersigned, in conformance with generally accepted practices in this area. Test findings and statements of professional opinion do not constitute a guarantee or warranty, expressed or implied.

CLOSURE

This geotechnical report has been prepared in accordance with generally accepted engineering practices at this time and location. No other warranties, either expressed or implied, are made as to the professional advice provided under the terms of our agreement and included in this report.

Thank you for this opportunity to be of service. Please do not hesitate to call if you have any questions regarding this report..

REFERENCES

- ***GeoLabs Westlake Village***, Geotechnical Investigation Proposed 60 Lot Development Tentative Tract Map No. 53189, San Francisquito Canyon Ranch, County of Los Angeles, California, dated April 20, 2000

LOG OF BORING

PROJECT NO. 13-2474-00 LOG NO. B-1

Project SCC Aquisitions, Inc. Burnham Property, Tract 53189, Santa Clarita

Method of Drilling 30" Bucket Drill Rig Ground Elevation

Location See Plan Logged by AO Date Observed 8-20-03

Depth (Ft)	Classification	Blow Count	Undisturbed Sample	Buk Sample	Moisture Content %	Dry Density (lbs/cu.ft.)	Description	Symbol	Remarks
0							**BEDROCK-Castaic Formation: (Tc)**		
		5	X		5.2	108	0-9' Yellowish whitish fine grained SANDSTONE, very weathered, very dry, fractured, clay gauge.		
							Soil caliche between fractures		
							@ 2' N40E,35SE fracture		
							@ 4' N5E,37NW fracture		
							N20E, 56SE		
10		4	X	X	9.1	111	massive, no obvious bedding planes, highly weathered		
							@ 9-10' Vertical fracture, open 1/4"-1/2", not continuous, hard sandstone lense		
1		4	X		9.4	119	9'-20' Yellowish whitish fine grained SANDSTONE with occasional mudstone lenses, bedding obscured.		
20		4	X		10.7	125			
2							20'-36' Rusty orange, yellowish fine grained SANDSTONE with occasional mudstone interbeds, a vertical fracture @ 30' seperates these units, contacts between units are very irregular, not planar, beds vary in thickness, crudely bedded, very massive, not continuous.		
30		10	X		5.2	137	@ 22' N75E, 8-12N bedding		
							@ 22' N40W, 25SW fracture		
							@ 28' N35W, 22NE bedding		
							@ 30' N25E, 80NW vertical fracture		
3									
							36'-43' Mottled gray brown MUDSTONE with occasional fine grained SANDSTONE, discontinuous irregular beds, crudely bedded, massive		
40							@ 36' N-S22 bedding		
		11	X		12.5	137			
							Total Depth = 43 feet		
							No Water		
50									

LOG OF BORING

PROJECT NO. 13-2474-00 LOG NO. B-2

Project SCC Aquisitions, Inc. Burnham Property, Tract 53189, Santa Clarita

Method of Drilling 30" Bucket Drill Rig Ground Elevation

Location See Plan Logged by AO Date Observed 8-20-03

Depth (Ft.)	Classification	Blow Count	Undisturbed Sample	Bulk Sample	Moisture Content %	Dry Density (lbs/cu.ft.)	Description	Symbol	Remarks
0							**BEDROCK-Castaic Formation: (Tc)**		
							0-10' Light brown to brown CLAYSTONE, highly weathered, massive, occasional small gypsum crystals, dry, no bedding.		
		4			10.0	112			
					14.6	131	10'-14' Transition into a brown MUDSTONE interbedded with fine grained SANDSTONES, not continuous, massive with gypsum crystals.		
10		6					@ 14' N25E, 17NW bedding		
							crystals are 1-2" long by 1/4 inch thick		
		4			6.2	110	14'-24' Yellow orange fine grained SANDSTONE with occasional MUDSTONE lenses, gypsum crystals, massive, structureless.		
20					8.5	133	@ 24' N37E,45NW bedding very irregular, crudely bedded		
		5			17.7	108	24'-33' Brown, gray brown MUDSTONE, fine SANDSTONE lenses, very irregular contact, massive, gypsum bearing		
30		5			25.6	98	@ 27' fine grained sandstone, very irregular, crudely bedded		
							@ 29' N65E, 43NW		
							Total Depth = 33 feet		
							No Water		
40									
50									

LOG OF BORING

PROJECT NO. 13-2474-00 LOG NO. B-3

Project SCC Aquisitions, Inc. Burnham Property, Tract 53189, Santa Clarita

Method of Drilling 30" Bucket Drill Rig Ground Elevation

Location See Plan Logged by AO Date Observed 8-20-03

Depth (Ft.)	Classification	Blow Count	Undisturbed Sample	Buk Sample	Moisture Content %	Dry Density (lbs/cu.ft.)	Description	Symbol	Remarks
0							**BEDROCK-Saugus Formation: (TQs)**		
							0-8' Rusty green very fine grained SANDSTONE, fractured with coarse grained pebbly lense.		
5		4	X		12.5	116	@ 1' N32E, 47NW shear @ 4' N65E, 12-18NW pebble lineation @ 8' N82E,12-18NW pebble lineation		
							8'-16' Rusty orange yellow coarse grained gravelly conglomerate, massive, occasional moderately sorted lenses.		
1							@ 16' N60E,20-25NW pebble lineation		
1		5	X		5.4	117			
							16'-20' Rusty orange yellow coarse grained SANDSTONEwith pebbles and moderately sorted SANDSTONE lenses, massive.		
20							@ 20' N42E,16-22N		
		5	X		5.0	118			
							20'-30'6" Yellowish, whitish very coarse grained SANDSTONE with irange staining.		
25							@ 31' N64E,13-18 bedding		
							30'6"-34' Brown rusty red Clayey very fine grained SANDSTONE with bluish gray Clayey very fine grained SANDSTONE.		
3		4	X	X	17.4	111	@ 31' Clay gauge, sticky red orange slightly slicked @ 34' N35E,22-25NW pebble lineation		
							34'-35'6" Rusty yellowish white coarse grained SANDSTONE.		
3							@ 35'6" N42E,12-16NW		
							BEDROCK-Castaic Formation: (Tc)		
							35'6"-37' Bluish MUDSTONE interbedded with SANDSTONE with gypsum crystals 3'7" long.		
4		9	X	X	15.1	113			
							CONTINUED...		

LOG OF BORING

PROJECT NO. 13-2474-00 LOG NO. B-3 Cont.

Project SCC Aquisitions, Inc. Burnham Property, Tract 53189, Santa Clarita

Method of Drilling 30" Bucket Drill Rig Ground Elevation

Location See Plan Logged by AO Date Observed 8-21-03

Depth (Ft.)	Classification	Blow Count	Undisturbed Sample	Bulk Sample	Moisture Content %	Dry Density (lbs/cu.ft.)	Description	Symbol	Remarks
40							37'-43' Blusih MUDSTONE with occasional gypsum crystals, fractured.		
45							43'-44' Reddish orange coffee brown MUDSTONE with gypsum crystals. @ 43' N35W, 35SW shear with polish surfaces		
		8	X		22.1	107	44'-54' Transition into a grayish whitish coarse SANDSTONE interbedded with yellowish coarse grained SANDSTONE lense. @ 45' N77E,12-15NW bedding N27E,62NW shear occasional grooves		
							54'-58' Rusty yellowish coarse SANDSTONE with gravels, yellowish coarse SANDSTONE beds, massive, lenses. @ 55' N50E,25NW pebble lineation		
		7	X		13.3	118	58'-61' Bluish gray MUDSTONE, massive to a very fine SANDSTONE.		
65							61'-71' Yellowish very fine rusty yellow Clayey fine grained SANDSTONE. @ 65' N42E,12-14NW bedding @ 65' Rusty orange red mudstone		
			X		12.7	115	71'-74' Blusih MUDSTONE. @ 71' N60W,10-15NW bedding		
							Total Depth = 74 feet No Water		

LOG OF BORING

PROJECT NO. 13-2474-00 LOG NO. B-4

Project SCC Aquisitions, Inc. Burnham Property, Tract 53189, Santa Clarita

Method of Drilling 30" Bucket Drill Rig Ground Elevation

Location See Plan Logged by AO Date Observed 8-21-03

Depth (Ft.)	Classification	Blow Count	Undisturbed Sample	Buk Sample	Moisture Content %	Dry Density (lbs/cu.ft.)	Description	Symbol	Remarks
0				X			**SLOPEWASH: (Qsw)**		
							0-2' Black brown slightly Clayey SAND will small pebbles, porous. (dry, loose)		
		4	X		7.2	128	2'-8' Mottled light brown and black brown slightly Clayey SAND with small gravels.		
10		6	X		2.9	122	8'-11' Mottled green yellow rusty slightly Clayey very fine grained SANDSTONE layer. @ 11' N80E,12-22NW very irregular contact E-W,33-36N fracture		
							COLLUVIUM: (Qc)		
							11'-15' Whitish yellowish rusty small gravelly SAND, friable. (dry, loose)		
							BEDROCK-Saugus Formation: (TQs)		
20		5	X		8.6	123	15'-20' Whitish rusty small gravelly SANDSTONE with lenses of moderately sorted SANDSTONE.		
							20'-25' Coarse gravel, SANDSTONE, rusty in color, clasts are granitic composition. @ 25' E_W, 37-40N pebble lineation		
30		9	X		7.1	128	25'-30' Rusty orange coarse gravels, pebble and cobble size. @ 30' N70E,20-40SE pebble lineation, cross bed		
							30'-40' Finer grained SANDSTONE, very irregular gravels.		
40		10	X	X	5.5	125	**BEDROCK-Castiac Formation: (Tc)**		
			X		14.4	117	40'-45' Alternating bluish MUDSTONE with reddish MUDSTONE.		
50							Total Depth = 45 feet No Water		

LOG OF BORING

PROJECT NO. 13-2474-00 LOG NO. B-5

Project SCC Aquisitions, Inc. Burnham Property, Tract 53189, Santa Clarita

Method of Drilling 30" Bucket Drill Rig Ground Elevation

Location See Plan Logged by AO Date Observed 8-21-03

Depth (Ft)	Classification	Blow Count	Undisturbed Sample	Buk Sample	Moisture Content %	Dry Density (lbs/cu.ft.)	Description	Symbol	Remarks
0							**SLOPEWASH: (Qsw)**		
		1	X		4.3	109	0-8' Black, dark brown slightly Clayey Silty SAND with pebbles, porous. (dry, loose)		
10		5	X		5.3	118	**BEDROCK-Saugus Formation: (TQs)**		
							8'-38' Light yellowish brown , rusty conglomeritic SANDSTONE with occasional coarse grained SANDSTONE lenses and pebble to cobble beds, contacts between lithologic units very errosional, irregular, massive.		
20		5	X		6.6	118	@ 18' N50E,26SE @ 19' N62E,27-32SE pebble lineation @ 27' N48E,40-45SE pebble lineation @ 38' bluish gray very fine grained SANDSTONE bed N60E,31-33SE very irregular N60E,34SE @ 42' N62E,34SE pebble lineation		
30		8	X		4.7	116	38'-47' Rusty yellowish orange, gray coarse grained SANDSTONE interbedded with pebble beds. @ 47' N45E,55E		
40							**BEDROCK-Castaic Formation: (Tc)**		
							47'-54' Contact with above unit is very errosional and irregular, N85E,7-11S, reddish to orange MUDSTONE with bluish gray MUDSTONE, very massive in appearance, blocky parting, slick. @ 48' N47E, 27SE shear lineation		
50		7	X		19.4	111	Total Depth = 54 feet No Water		

LOG OF BORING

PROJECT NO. 13-2474-00 LOG NO. B-6

Project SCC Aquisitions, Inc. Burnham Property, Tract 53189, Santa Clarita

Method of Drilling 30" Bucket Drill Rig Ground Elevation

Location See Plan Logged by AO Date Observed 8-21-03

Depth (Ft.)	Classification	Blow Count	Undisturbed Sample	Buk Sample	Moisture Content %	Dry Density (lbs/cu.ft.)	Description	Symbol	Remarks
0							**ALLUVIUM: (Qal)**		
			X		5.9	100	0-2' Yellowish Silty very fine SAND. (very porous, moderately dense)		
		4	X		5.0	98	2'-12' Yellowish Silty fine SAND with occasional scattered pebbles. (moist, moderately dense)		
10		1	X						
		2	X		7.6	99	12'-26' Yellowish Silty fine SAND with occasional medium grained SAND and pebbles. (moist, dense)		
		2	X		10.5	111			
20		2	X		12.0	95			
		3	X						
							Total Depth = 26 feet No Water		
30									
40									
50									

LOG OF BORING

PROJECT NO. 13-2474-00 LOG NO. B-7

Project SCC Aquisitions, Inc. Burnham Property, Tract 53189, Santa Clarita

Method of Drilling 30" Bucket Drill Rig Ground Elevation

Location See Plan Logged by AO Date Observed 8-21-03

Depth (Ft.)	Classification	Blow Count	Undisturbed Sample	Bulk Sample	Moisture Content %	Dry Density (lbs/cu.ft.)	Description	Symbol	Remarks
0							**ALLUVIUM: (Qal)**		
							0-10' Yellowish brown Silty fine grained SAND, porous, gopher holes. (loose, moderately dense)		
		1	X		25.6	85			
10									
		1	X		9.7	97	10'-14' Brownish Silty fine grained SAND. (moist, dense)		
		1	X		10.3	96	14'-26' Brownish Silty fine to medium grained SAND, occasional pebbles, caliche. (moist)		
20		1	X		13.6	103			
			X		11.9	103			
							Total Depth = 26 feet No Water		
30									
40									
50									

LOG OF BORING

PROJECT NO. 13-2474-00 LOG NO. BH-1

Project SCC Aquisitions, Inc. Burnham Property, Tract 53189, Santa Clarita

Method of Drilling Hollow Stem Ground Elevation

Location See Plan Logged by MPS Date Observed 8-20-03

Depth (Ft.)	Classification	Blow Count	Undisturbed Sample	Buk Sample	Moisture Content %	Dry Density (lbs/cu.ft.)	Description	Symbol	Remarks
0							0-3' Yellow brown Silty medium SAND, some coarse grains, rootlets.] (slightly moist, porous)		
		11	X		2.7	109	3'-6' Same as above, scattered pebbles, some caliche. (slightly moist, porous)		
5		21	X		3.7	113	6'-9' Same as above, more pebbles @ 9'. (slightly moist, dense)		
		19	X		3.7	107	9'-12' Brown Silty SAND. (moist)		
1		19	X		4.8	116	12'-15' Yellow brown coarse SAND and gravel, some pebbles. (slightly moist)		
1		12	X		3.9	105	15'-20' Yellow brown coarse SAND and gravel, some pebbles. (slightly moist)		
20		44	X		3.7	113	20'-25' Tan coarse SANDS and gravels. (moist, dense)		
		47	X		2.9	114			
25							Total Depth = 25 feet No Water		
3									
3									
4									

LOG OF BORING

PROJECT NO. 13-2474-00 LOG NO. BH-2

Project SCC Aquisitions, Inc. Burnham Property, Tract 53189, Santa Clarita

Method of Drilling Hollow Stem Ground Elevation

Location See Plan Logged by MPS Date Observed 8-20-03

Depth (Ft.)	Classification	Blow Count	Undisturbed Sample	Bulk Sample	Moisture Content %	Dry Density (lbs/cu.ft.)	Description	Symbol	Remarks
0							0-3' Yellow brown slightly Clayey Silty SAND (moist, porous)		
		12	X		3.2	101	3'-6' Same as above, scattered pebbles. (moist, porous)		
		12	X		10.7	83	6'-9' Same as above. (moist, dense)		
		18	X		5.7	94	9'-12' Yellow brown coarse SAND and gravels, pebbles. (moist, dense)		
		17	X		5.0	104	12'-15' Yellow brown coarse SAND and gravels, pebbles. (moist, dense)		
		16	X		7.3	107	15'-20' Yellow brown Silty SAND with some coarse SAND, scattered pebbles. (moist, dense)		
20		17	X		13.1	100	20'-25' Whitish tan SAND with pebbles and gravels. (moist, dense)		
25		21	X		6.3	103			

Total Depth = 25 feet
No Water

LOG OF BORING

PROJECT NO. 13-2474-00 LOG NO. BH-3

Project SCC Aquisitions, Inc. Burnham Property, Tract 53189, Santa Clarita

Method of Drilling Hollow Stem Ground Elevation

Location See Plan Logged by MPS Date Observed 8-20-03

Depth (Ft.)	Classification	Blow Count	Undisturbed Sample	Buk Sample	Moisture Content %	Dry Density (lbs/cu.ft.)	Description	Symbol	Remarks
0							0-5' Yellow brown Silty SAND, scattered pebbles. (moist)		
5		15	X		3.7	96	5'-10' Yellowish whitish SAND with pebbles.		
1		49	X		1.8	127	10'-15' Yellow brown coarse grained SAND.		
1		30	X		3.7	115	15'-20' Brown Silty coarse grained SAND.		
20		26	X		5.9	110	20'-23' Whitish yellow brown SAND interbedded with brown Clayey SAND. (moist)		
		25	X		6.5	110			
25							Total Depth = 23 feet No Water		
3									
3									
4									

LOG OF BORING

PROJECT NO. 13-2474-00 LOG NO. BH-4

Project SCC Aquisitions, Inc. Burnham Property, Tract 53189, Santa Clarita

Method of Drilling Hollow Stem Ground Elevation

Location See Plan Logged by MPS Date Observed 8-20-03

Depth (Ft.)	Classification	Blow Count	Undisturbed Sample	Bulk Sample	Moisture Content %	Dry Density (lbs/cu.ft.)	Description	Symbol	Remarks
0							0-4' Brown Silty coarse SAND with pebbles, some rootlets. (moist, porous)		
		25	X		1.2	124	4'-8' Brown Silty coarse SAND with pebbles, some rootlets, porous. (moist, dense)		
		36	X		5.2	96	8'-12' Brown Silty SAND with rare rootlets. (dense)		
		26	X		3.3	113	12'-15' Brown Silty coarse grained SAND with pebbles.		
		25	X		3.5	115			
20		46	X		7.4	113	15'-25' Whitish yellowish brown coarse grained SANDS with pebbles and gravels. (moist)		
		20	X		4.5	112			
25							Total Depth = 25 feet No Water		

LOG OF BORING

PROJECT NO. 13-2474-00 LOG NO. BH-5

Project SCC Aquisitions, Inc. Burnham Property, Tract 53189, Santa Clarita

Method of Drilling Hollow Stem Ground Elevation

Location See Plan Logged by MPS Date Observed 8-20-03

Depth (Ft.)	Classification	Blow Count	Undisturbed Sample	Bulk Sample	Moisture Content %	Dry Density (lbs/cu.ft.)	Description	Symbol	Remarks
0							**OLDER ALLUVIUM: (Qoal)** 0-4' Brown Silty SAND slightly mottled with dark brown. (slightly moist, porous)		
5		30	X		1.8	111	4'-8' Yellow brown coarse SANDS and gravel and pebbles. (moist, dense)		
		19	X		3.2	111	8'-12' Brown slightly Clayey Silty SAND with pebbles. (moist, dense)		
10		16	X		7.9	109	12'-17' Brown to whitish brown medium SAND to coarse SAND with gravels and pebbles. (moist, dense)		
15		41	X		2.9	114	17'-22' Same as above.		
20		22	X		4.3	109	22'-27' Same as above with small rootlets structures.		
25		22	X		9.4	110			
							Total Depth = 27 feet No Water		
30									
35									
40									

LOG OF BORING

PROJECT NO. 13-2474-00 LOG NO. BH-6

Project SCC Aquisitions, Inc. Burnham Property, Tract 53189, Santa Clarita

Method of Drilling Hollow Stem Ground Elevation

Location See Plan Logged by MPS Date Observed 8-20-03

Depth (Ft.)	Classification	Blow Count	Undisturbed Sample	Bulk Sample	Moisture Content %	Dry Density (lbs/cu.ft.)	Description	Symbol	Remarks
0							0-3' Light brown mottled with dark brown Silty fine SAND, roots. (porous)		
		22	X		3.7	105	3'-6' Same as above, slightly Sandier, scattered gravels. (moist, porous)		
		24	X		2.7	103	6'-9' Yellow brown Silty coarse SAND. (moist, dense)		
		19	X		3.8	113	9'-12' Yellow brown Silty SAND. (porous)		
		11	X		11.9	100	12'-15' Yellow brown Silty SAND. (porous)		
		12	X		12.5	98	15'-20' Brown to tan mottled with brown Clayey Silty SAND, micaceous. (moist, dense)		
20		21	X		19.6	96	20'-27' Brown to tan mottled with brown Clayey Silty SAND, micaceous. (moist, dense)		
25		19	X		17.7	104			
							Total Depth = 27 feet No Water		

LOG OF BORING

PROJECT NO. 13-2474-00 LOG NO. BH-7

Project SCC Aquisitions, Inc. Burnham Property, Tract 53189, Santa Clarits

Method of Drilling Hollow Stem Auger Ground Elevation

Location See Plan Logged by MPS Date Observed 8-21-03

Depth (Ft.)	Classification	Blow Count	Undisturbed Sample	Bulk Sample	Moisture Content %	Dry Density (lbs/cu.ft.)	Description	Symbol	Remarks
0							0-3' Yellow brown Silty SAND with pebbles, roots. (porous)		
		16	X		5.5	120			
							3'-7' Lighter yellow brown Silty SAND, pebbles, roots.		
		17	X		4.5	108			
10		13	≡				7'-15' Lighter yellow brown Silty coarse grained SAND, pebbles, roots. (dense)		
		19	X		7.4	107			
1		13	≡				15'-17' Lighter yellow brown Silty coarse grained SAND, pebbles, roots with layers of medium grained SAND. (dense)		
		27	X		3.6	122			
20		20	≡						
		50/10	X		3.1	115			
2		25	≡				17'-35' Whitish tan coarse SAND and gravels, pebbles. (moist)		
		24	X		6.2	111			
30		21	≡						
		20	X		5.7	113			
3		24	≡				35'-42' Yellow brown to brown medium SAND with some pebbles, slight mottling of dark brown.		
		22	X		5.2	113			
40		27	≡						
		50/5	X				42'-50' Orange brown medium SAND with pebbles.		
4		20	≡						
		50/9	X						
50		21	≡				Total Depth = 50 feet No Water ≡ Standard Penetration Test		

A.G.I. Geotechnical, Inc.

LOG OF BORING

PROJECT NO. 13-2474-00 LOG NO. BH-8

Project SCC Aquisitions, Inc. Burnham Property, Tract 53189, Santa Clarita

Method of Drilling Hollow Stem Ground Elevation

Location See Plan Logged by MPS Date Observed 8-21-03

Depth (Ft.)	Classification	Blow Count	Undisturbed Sample	Bulk Sample	Moisture Content %	Dry Density (lbs/cu.ft.)	Description	Symbol	Remarks
0							0-3' Light brown Silty SAND, dark brown mottling. (moist, porous)		
		25	X		2.8	103	3'-6' Orange brown Silty coarse grained SANDS and gravels. (moist, dense)		
		24	X		2.7	103	6'-9' Orange brown medium SAND with some lenses of coarse SAND. (moist, dense)		
		18	X		3.9	105	9'-12' Orange brown medium SAND. (moist, dense)		
		19	X		6.3	106	12'-15' Orange brown medium SAND with scattered pebbles, lenses of corase SAND. (moist, dense)		
		13	X		2.5	107	15'-20' Orange brown SAND mottled with rust brown organic matter. (moist, dense)		
20		22	X		9.8	106	20'-23.5' Orange brown medium SAND with lenses of coarse grained SAND and gravel, pebbles. (moist, dense)		
		23	X		4.9	104			
25							Total Depth = 23.5 feet No Water		

LOG OF BORING

PROJECT NO. 13-2474-00 LOG NO. BH-9

Project SCC Aquisitions, Inc. Burnham Property, Tract 53189, Santa Clarita

Method of Drilling Hollow Stem Ground Elevation

Location See Plan Logged by MPS Date Observed 8-21-03

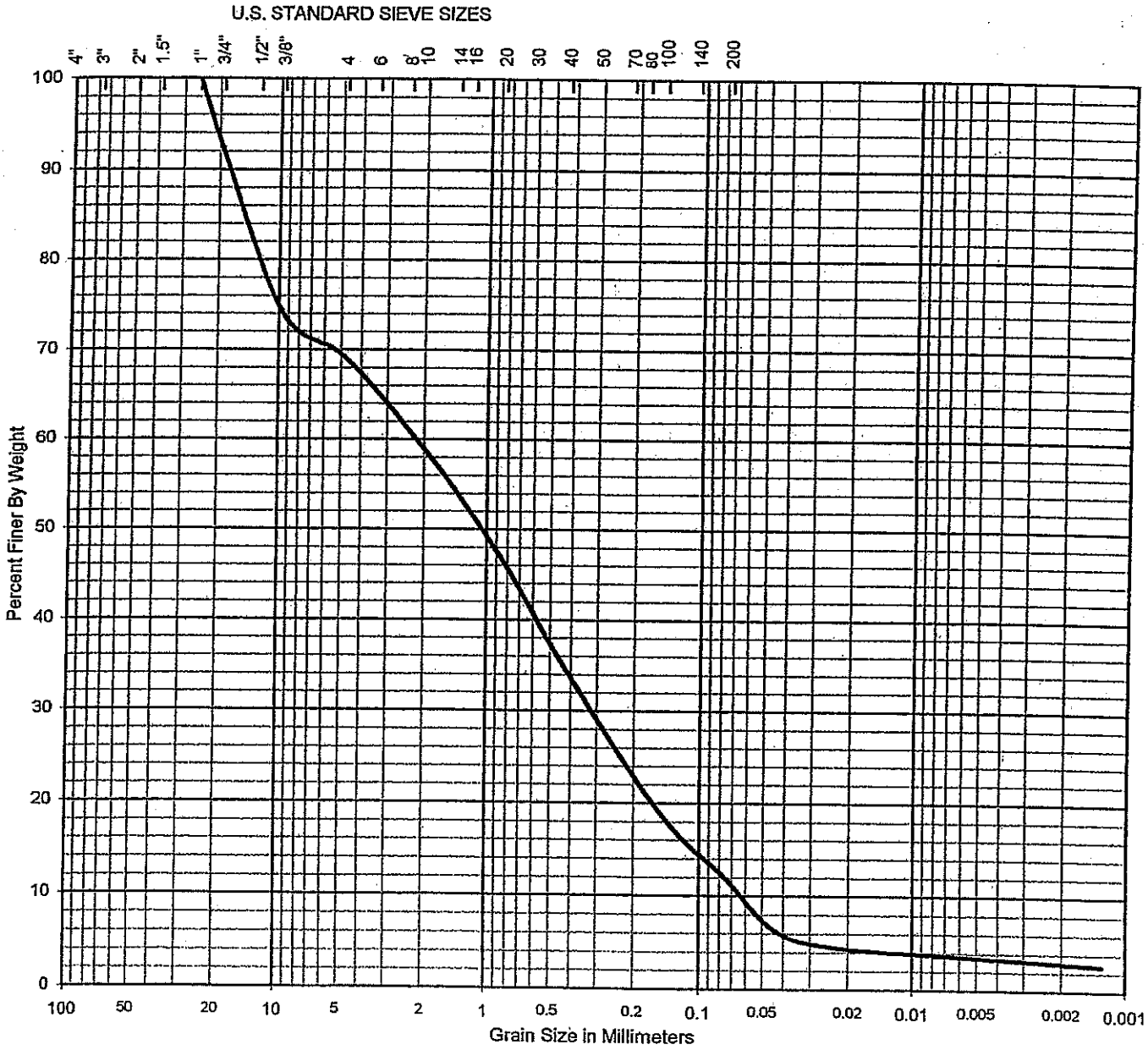
Depth (Ft.)	Classification	Blow Count	Undisturbed Sample	Bulk Sample	Moisture Content %	Dry Density (lbs/cu.ft.)	Description	Symbol	Remarks
0									
		15	X		7.9	98	0-6' Yellow brown slightly Clayey Silty fine SAND, claiche veins. (porous)		
5		10	X		8.2	97			
		10	X		10.4	102	6'-15' Brown slightly Clayey Silty fine SAND with fragments of olive SILTSTONE, caliche. (moist, dense)		
		11	X		10.9	98			
10		10	X		12.4	101			
							15'-23.5' Brown mottled with orange Sandy SILT to fine SAND, some caliche. (moist, dense)		
20		25	X		10.6	113			
		20/7	X		3.9	118			
							Total Depth = 23.5 feet No Water		
25									
30									
35									
40									

GRAIN SIZE DISTRIBUTION

PROJECT NO.	13-2474	BORING NO.	Bh7			DEPTH (FT)	9
Liquid Limit (%)	-	Plastic Limit (%)	-			Plasticity Index	NP
D_{10} (mm)	0.06	D_{30} (mm)	0.31	D_{60} (mm)	2.1	D_{50} (mm)	1.0
C_u	34	C_c	0.74			% Fines (< 75um)	11.9

REPRESENTATIVE FOR: Natural Soil

SOIL TYPE AND DESCRIPTION: (SP-SM) Gravelly SAND with Silt



GRAVEL		SAND			SILT & CLAY
Coarse	Fine	Coarse	Medium	Fine	

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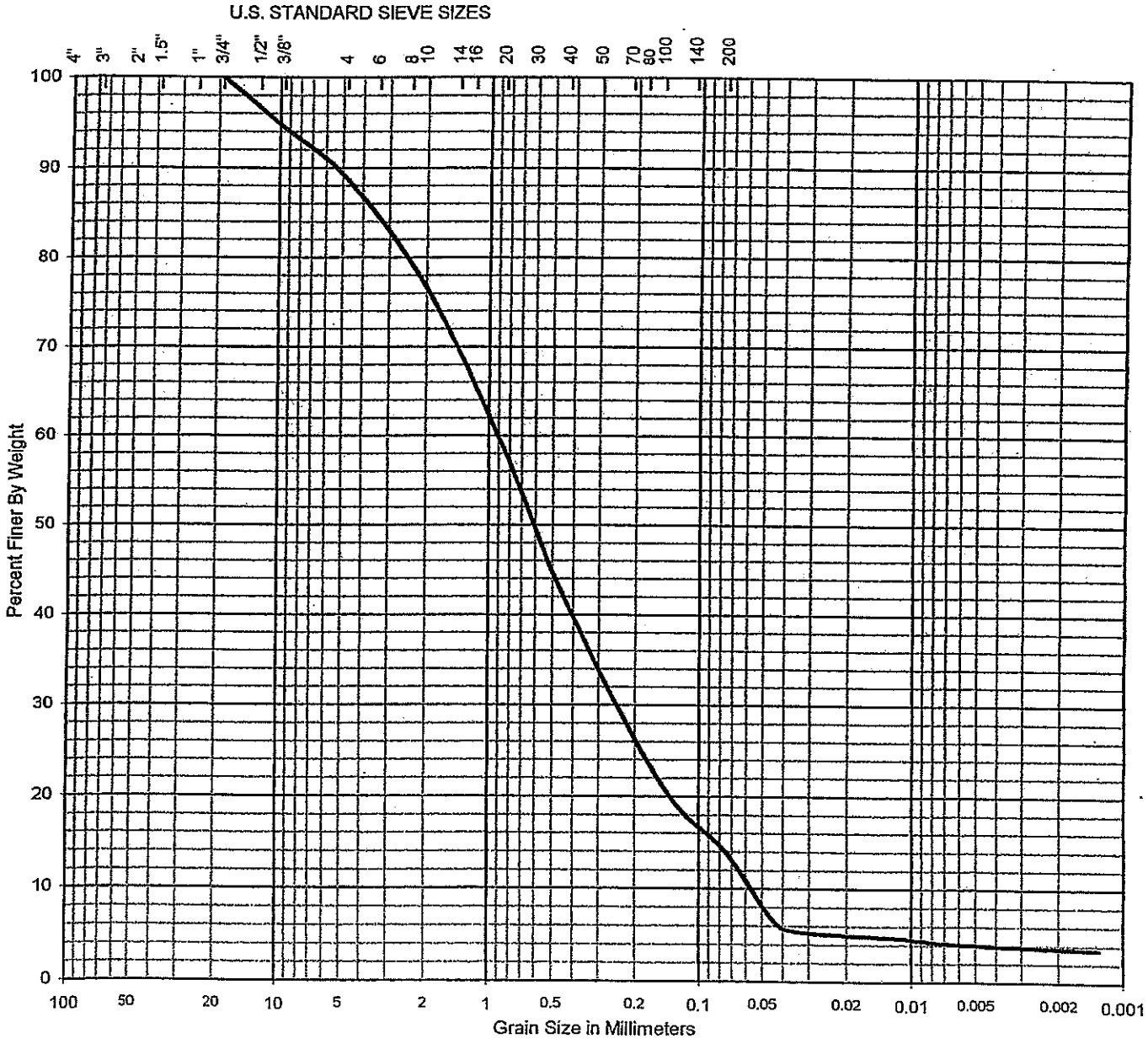
GRAIN SIZE DISTRIBUTION

PROJECT NO.	13-2474	BORING NO.	Bh7			DEPTH (FT)	15
Liquid Limit (%)	-	Plastic Limit (%)	-			Plasticity Index	NP
D_{10} (mm)	0.04	D_{30} (mm)	0.25	D_{60} (mm)	0.93	D_{50} (mm)	0.61
C_u	23	C_c	1.68			% Fines (< 75um)	14.0

REPRESENTATIVE FOR: Natural Soil

SOIL TYPE AND DESCRIPTION: (SW-SM) SAND with Gravel and Silt



GRAVEL		SAND			SILT & CLAY
Coarse	Fine	Coarse	Medium	Fine	

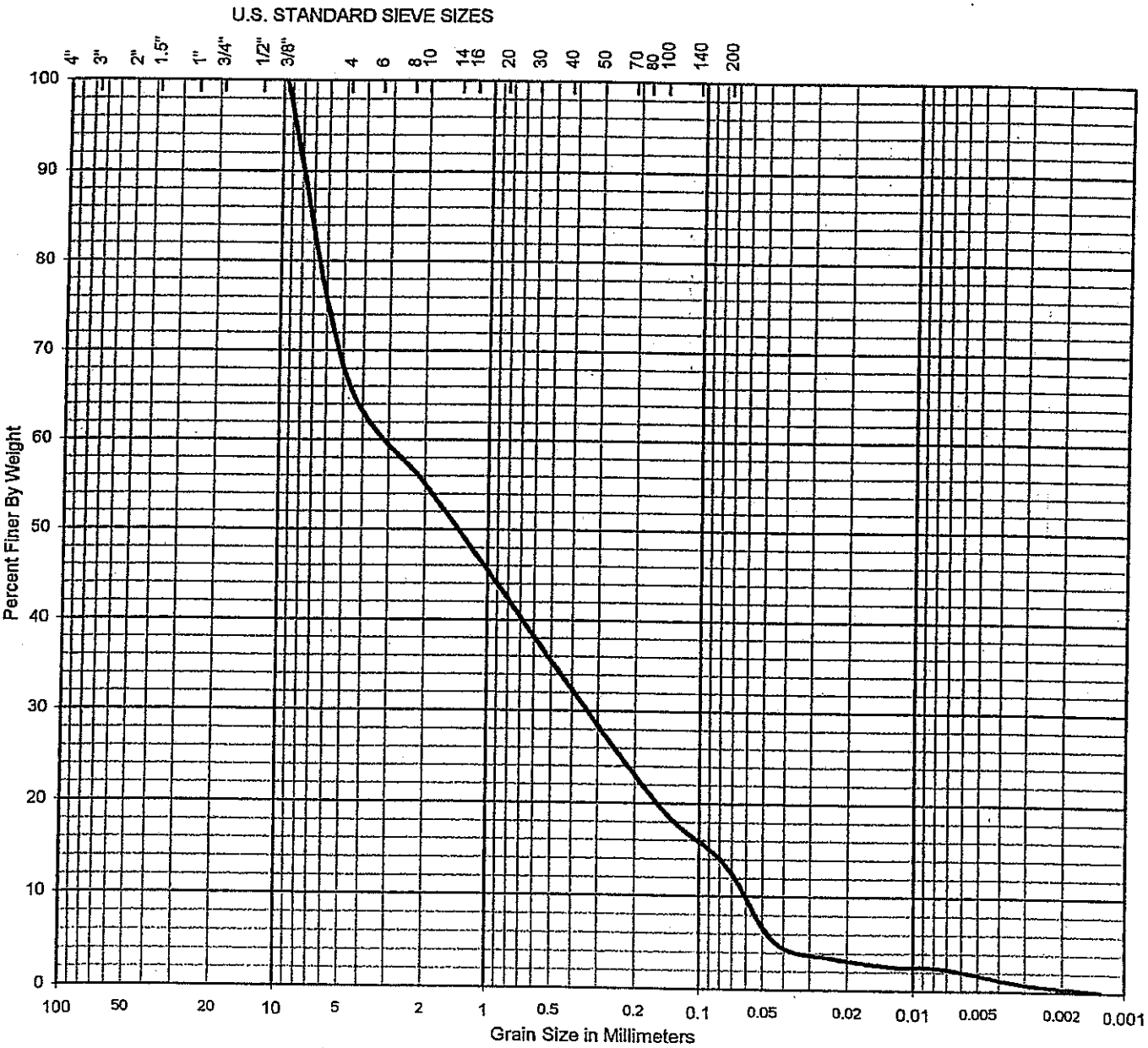
A.G.I. GEOTECHNICAL, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NO.	13-2474	BORING NO.	Bh7			DEPTH (FT)	25
Liquid Limit (%)	-	Plastic Limit (%)	-			Plasticity Index	NP
D_{10} (mm)	0.06	D_{30} (mm)	0.31	D_{60} (mm)	3.10	D_{50} (mm)	1.4
C_u	52	C_c	0.52			% Fines (< 75um)	13.4

REPRESENTATIVE FOR: Natural Soil

SOIL TYPE AND DESCRIPTION: (SP-SM) Gravelly SAND with Silt



GRAVEL		SAND			SILT & CLAY
Coarse	Fine	Coarse	Medium	Fine	

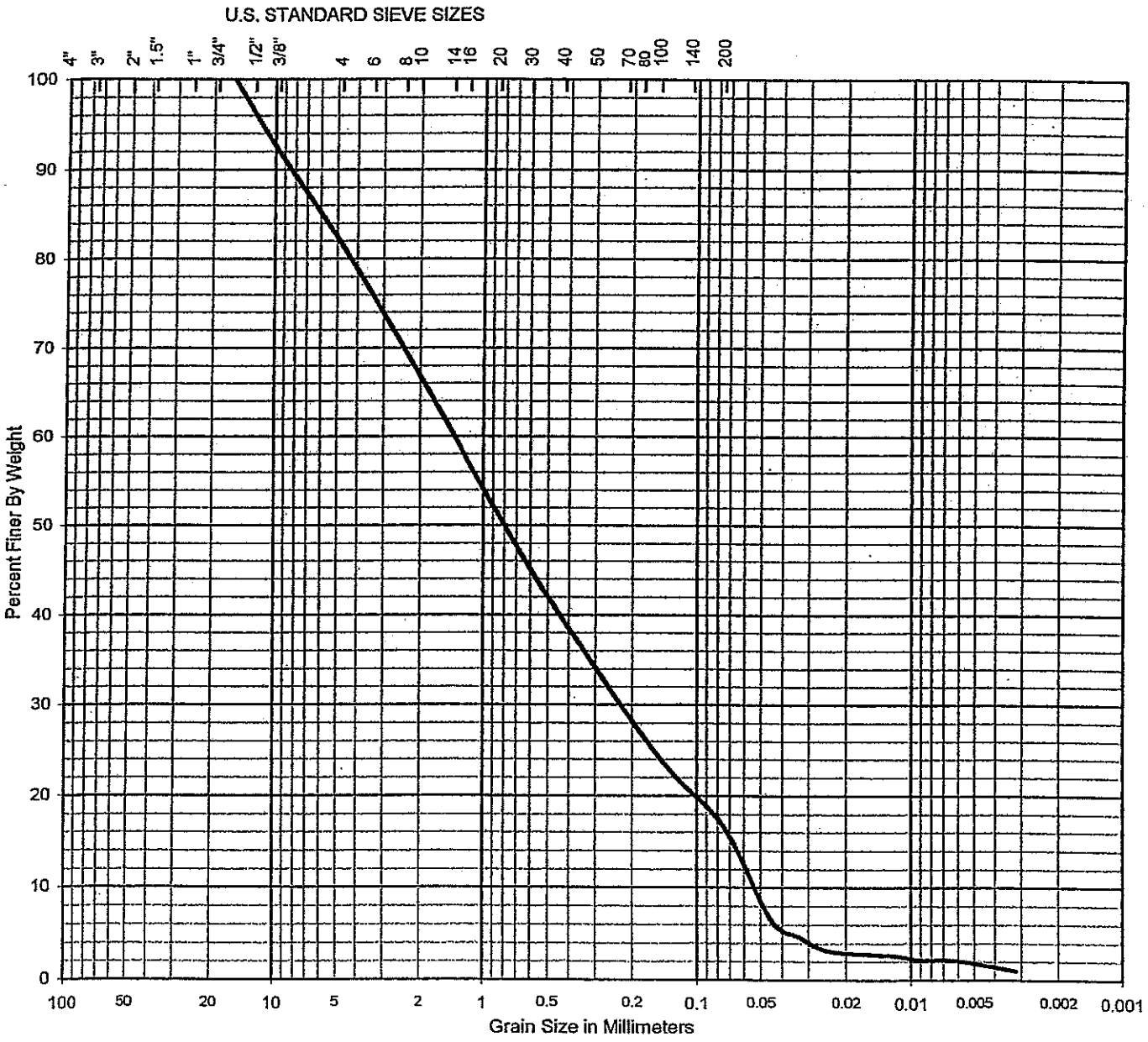
A.G.I. GEOTECHNICAL, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NO.	13-2474	BORING NO.	Bh7			DEPTH (FT)	35
Liquid Limit (%)	-	Plastic Limit (%)	-			Plasticity Index	NP
D_{10} (mm)	-	D_{30} (mm)	-	D_{60} (mm)	-	D_{50} (mm)	0.80
C_u	-	C_c	-			% Fines (< 75υm)	16.7

REPRESENTATIVE FOR: Natural Soil

SOIL TYPE AND DESCRIPTION: (SM) Silty SAND with Gravel



GRAVEL		SAND			SILT & CLAY
Coarse	Fine	Coarse	Medium	Fine	

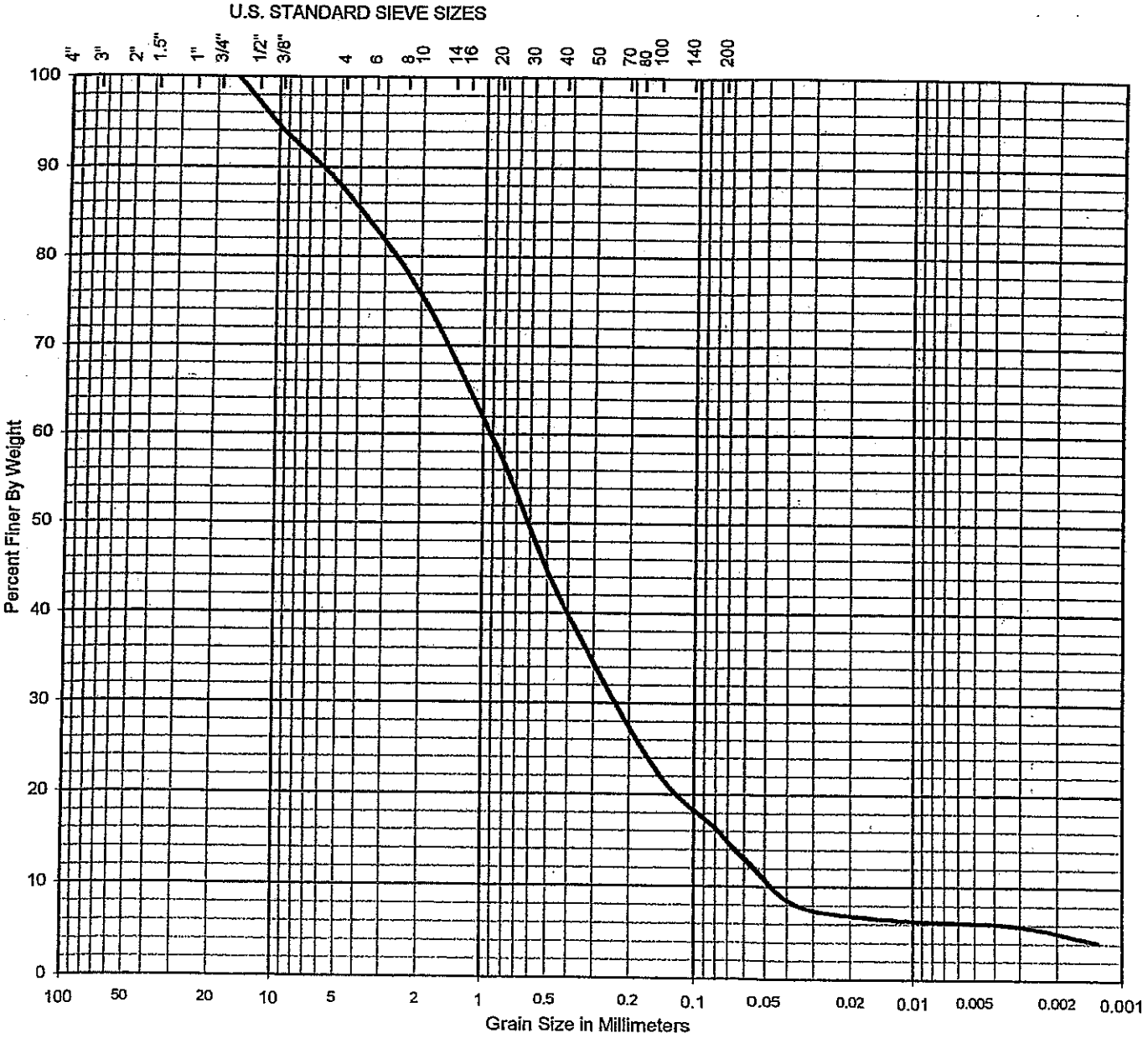
A.G.I. GEOTECHNICAL, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NO.	13-2474	BORING NO.	Bh7			DEPTH (FT)	45
Liquid Limit (%)	-	Plastic Limit (%)	-			Plasticity Index	NP
D_{10} (mm)	-	D_{30} (mm)	-	D_{60} (mm)	-	D_{50} (mm)	0.62
C_u	-	C_c	-			% Fines (< 75um)	15.7

REPRESENTATIVE FOR: Natural Soil

SOIL TYPE AND DESCRIPTION: (SM) Silty SAND with Gravel



GRAVEL		SAND			SILT & CLAY
Coarse	Fine	Coarse	Medium	Fine	

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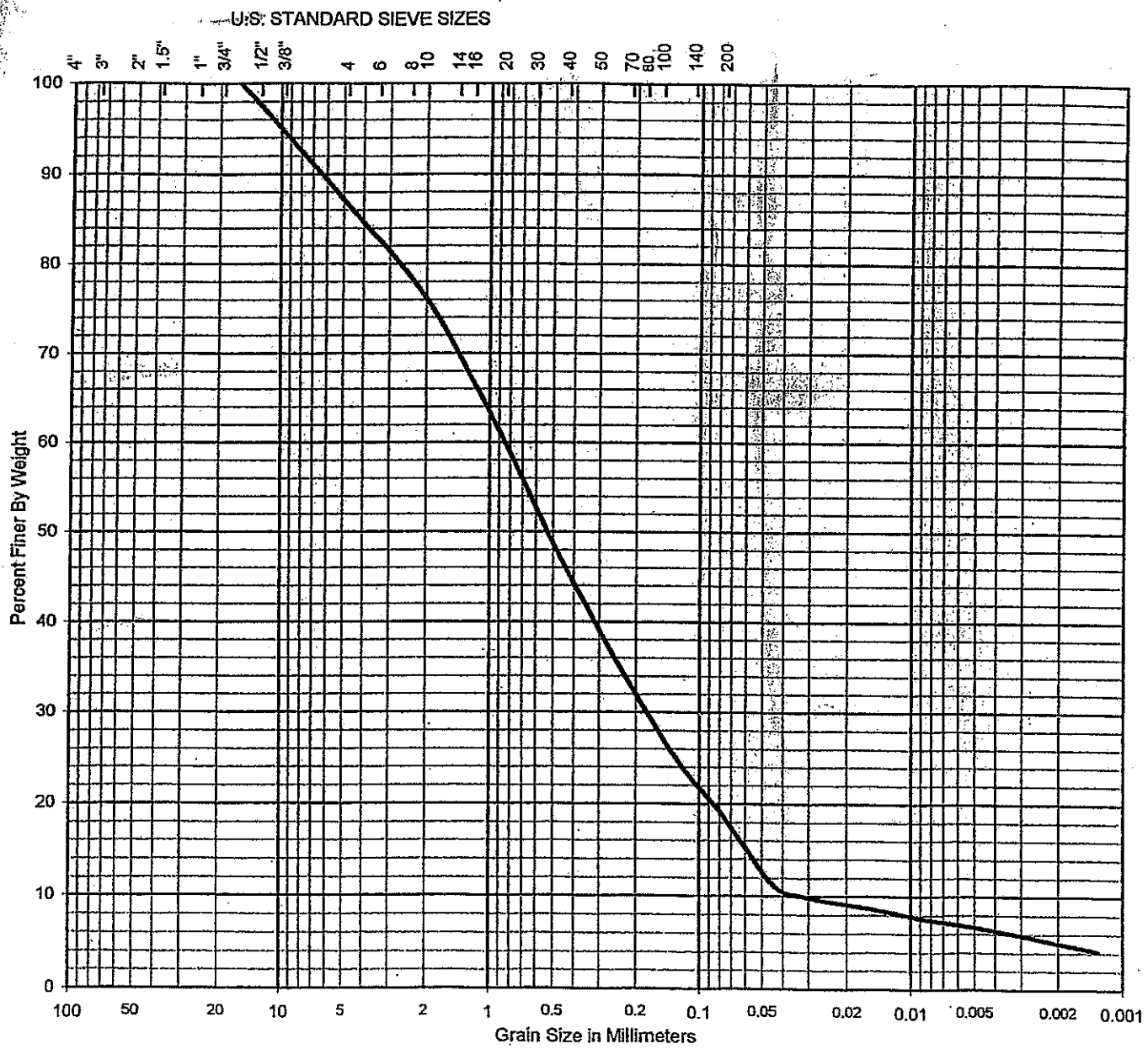
GRAIN SIZE DISTRIBUTION

PROJECT NO. 13-2474		BORING NO. Bh7		DEPTH (FT)	50
Liquid Limit (%)	-	Plastic Limit (%)	-	Plasticity Index	NP
D_{10} (mm)	-	D_{30} (mm)	-	D_{60} (mm)	-
C_u	-	C_c	-	D_{50} (mm)	0.54
				% Fines (< 75um)	18.4

REPRESENTATIVE FOR: Natural Soil

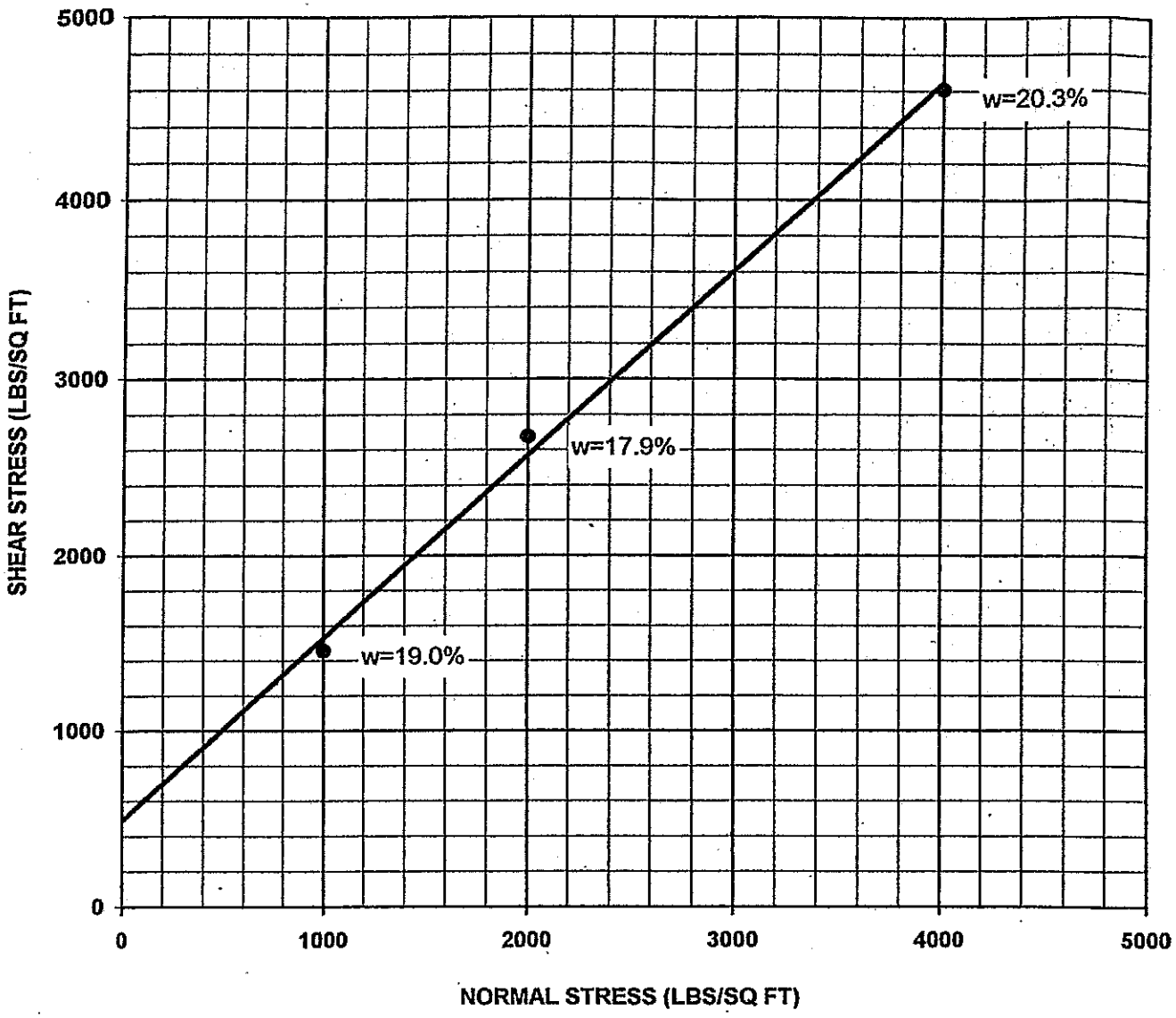
SOIL TYPE AND DESCRIPTION: (SM) Silty SAND with Gravel



GRAVEL		SAND			SILT & CLAY
Coarse	Fine	Coarse	Medium	Fine	

A.G.I. GEOTECHNICAL, INC.

DIRECT SHEAR TEST
UNDISTURBED SAMPLE



PROJECT NO. 13-2474 BORING NO. B1 DEPTH (FT) 20.0

REPRESENTATIVE FOR Bedrock - Castaic Formation

SOIL TYPE AND DESCRIPTION Fine Grained Sandstone

COHESION, C (LBS/SQ FT) 490

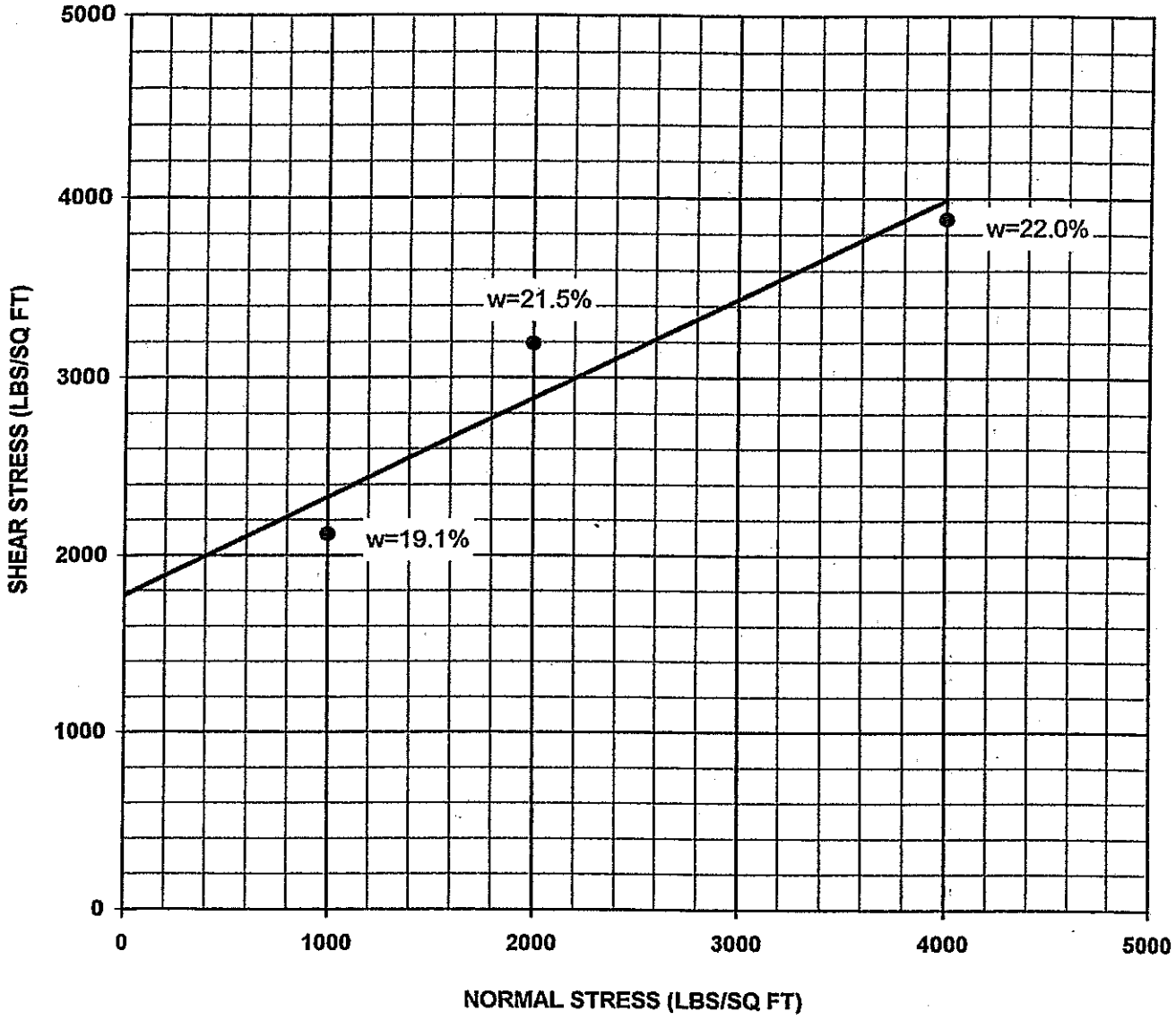
FRICTION, ϕ (DEG) 46.1

METHOD OF COMPACTION
Not Applicable

A G I

A.G.I. GEOTECHNICAL, INC.

DIRECT SHEAR TEST
UNDISTURBED SAMPLE



PROJECT NO. 13-2474 BORING NO. B2 DEPTH (FT) 25.0

REPRESENTATIVE FOR Bedrock - Castaic Formation

SOIL TYPE AND DESCRIPTION Mudstone with Fine Grained Sandstone Lenses

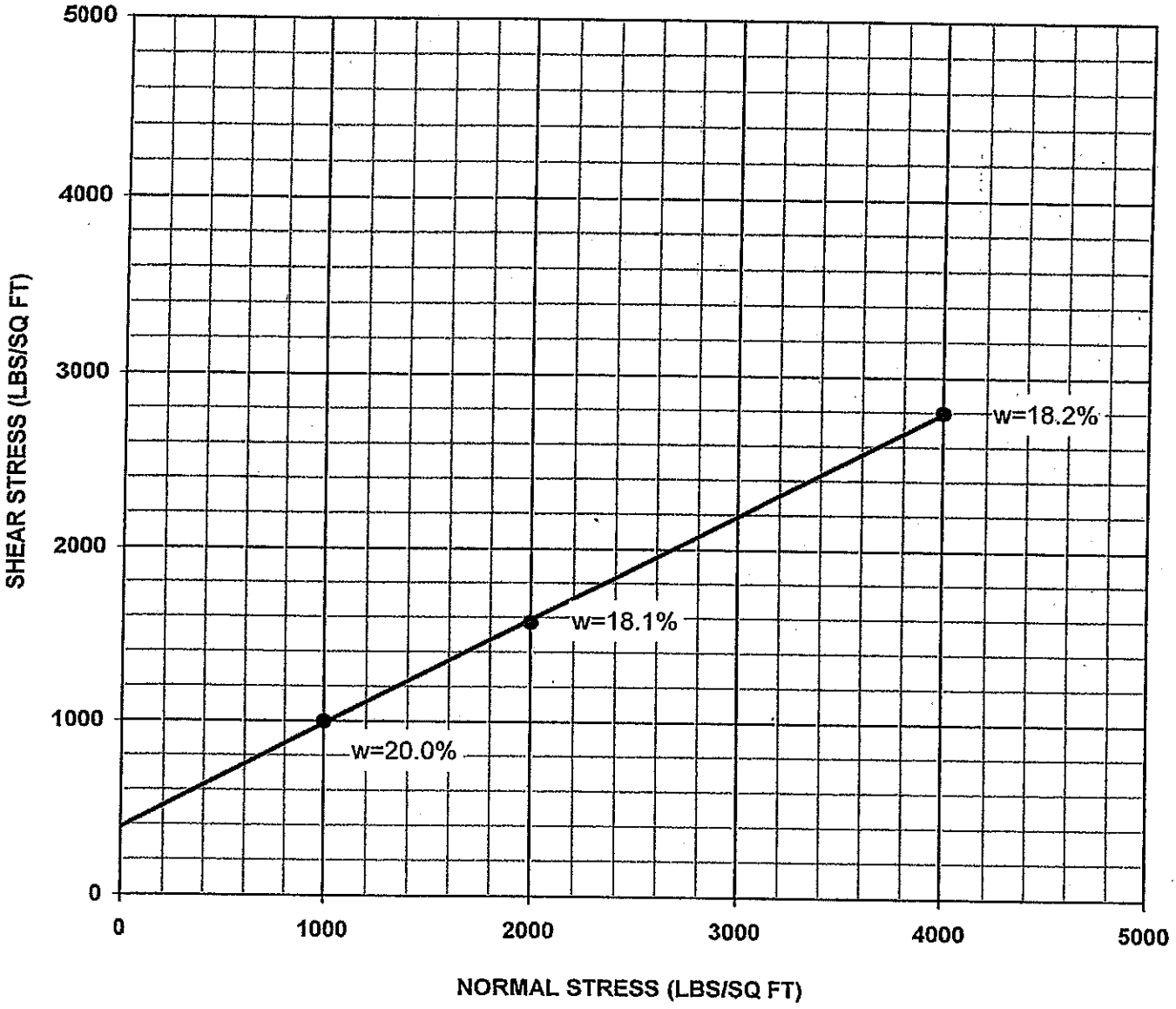
COHESION, C (LBS/SQ FT) 1,774

FRICTION, ϕ (DEG) 29.0

METHOD OF COMPACTION
Not Applicable

A.G.I. GEOTECHNICAL, INC.

DIRECT SHEAR TEST
UNDISTURBED SAMPLE



PROJECT NO. 13-2474 BORING NO. B2 DEPTH (FT) 10.0

REPRESENTATIVE FOR Bedrock - Castaic Formation

SOIL TYPE AND DESCRIPTION Mudstone with Fine Grained Sandstone Interbeds

COHESION, C (LBS/SQ FT) 389

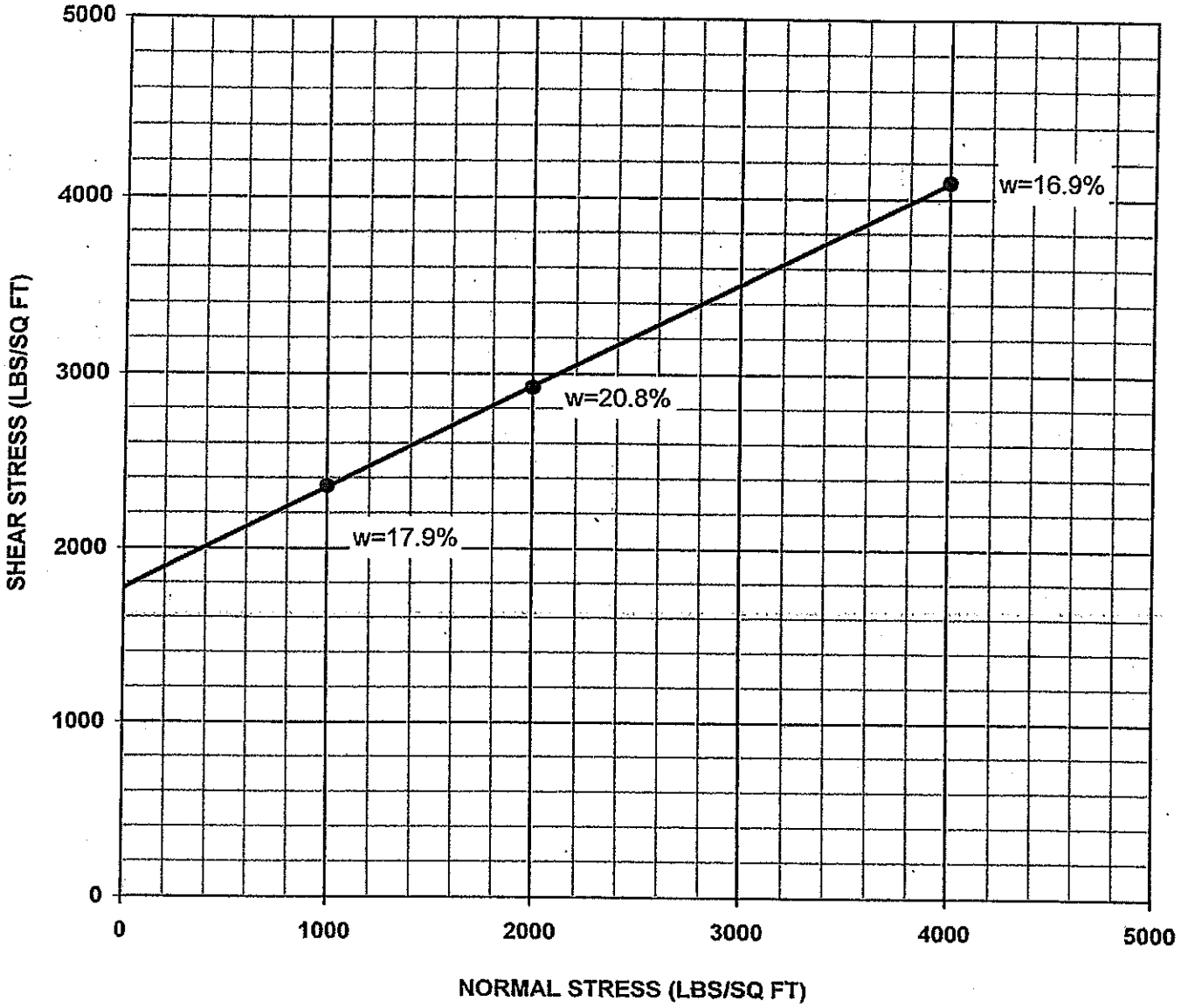
FRICTION, ϕ (DEG) 31.0

METHOD OF COMPACTION
Not Applicable

AGI

A.G.I. GEOTECHNICAL, INC.

DIRECT SHEAR TEST
UNDISTURBED SAMPLE



PROJECT NO. 13-2474 BORING NO. B3 DEPTH (FT) 60.0

REPRESENTATIVE FOR Bedrock - Saugus Formation

SOIL TYPE AND DESCRIPTION Clayey Fine Grained Sandstone

COHESION, C (LBS/SQ FT) 1,775

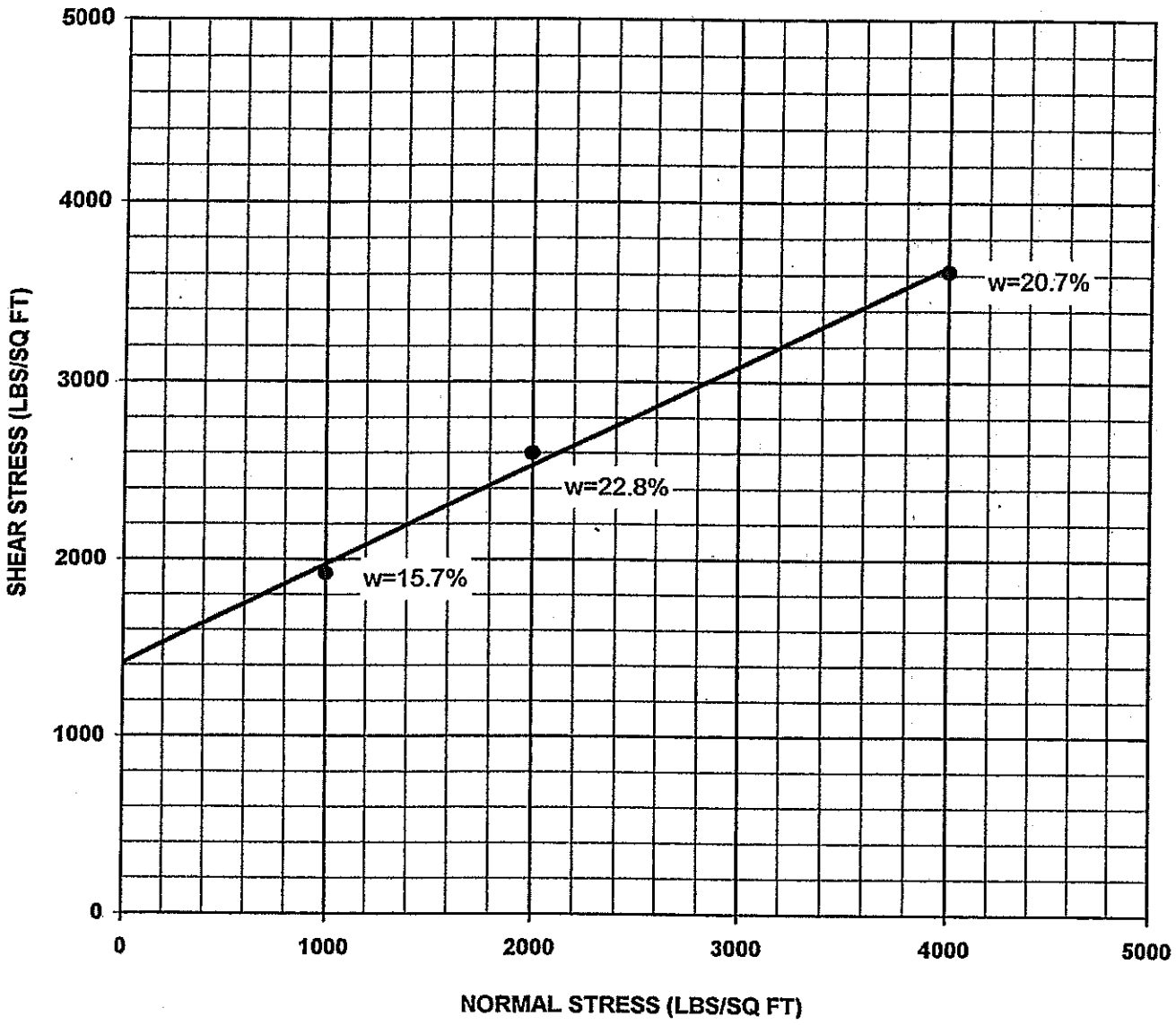
FRICTION, ϕ (DEG) 30.1

METHOD OF COMPACTION
Not Applicable

AGI

A.G.I. GEOTECHNICAL, INC.

DIRECT SHEAR TEST
UNDISTURBED SAMPLE



PROJECT NO. 13-2474 BORING NO. B4 DEPTH (FT) 41.0

REPRESENTATIVE FOR Bedrock - Castaic Formation

SOIL TYPE AND DESCRIPTION Mudstone

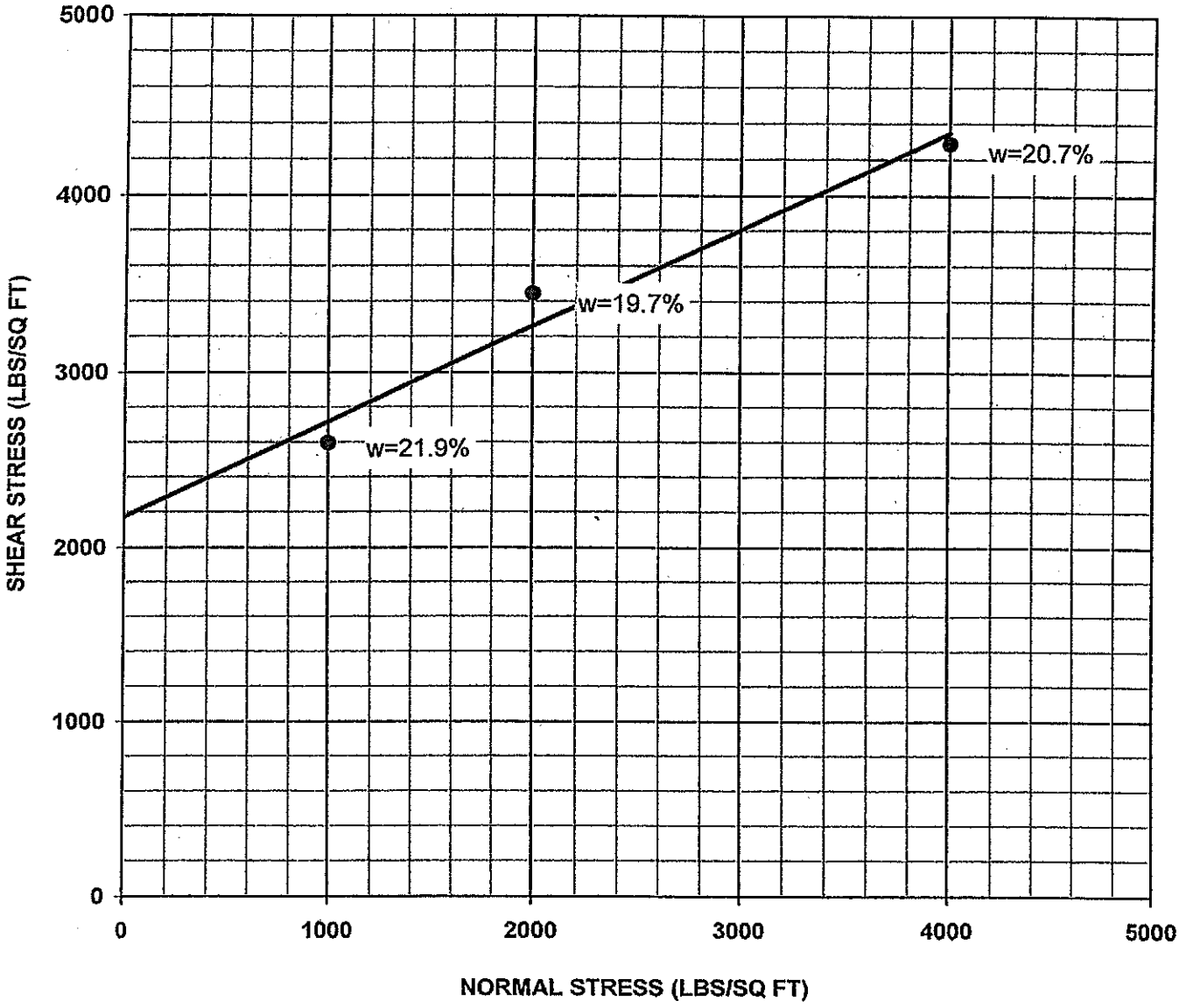
COHESION, C (LBS/SQ FT) 1,412

FRICTION, ϕ (DEG) 29.1

METHOD OF COMPACTION
Not Applicable

A.G.I. GEOTECHNICAL, INC.

DIRECT SHEAR TEST
UNDISTURBED SAMPLE



PROJECT NO. 13-2474 BORING NO. B3 DEPTH (FT) 30.0

REPRESENTATIVE FOR Bedrock - Saugus Formation

SOIL TYPE AND DESCRIPTION Clayey Fine Grained Sandstone

COHESION, C (LBS/SQ FT) 2,179

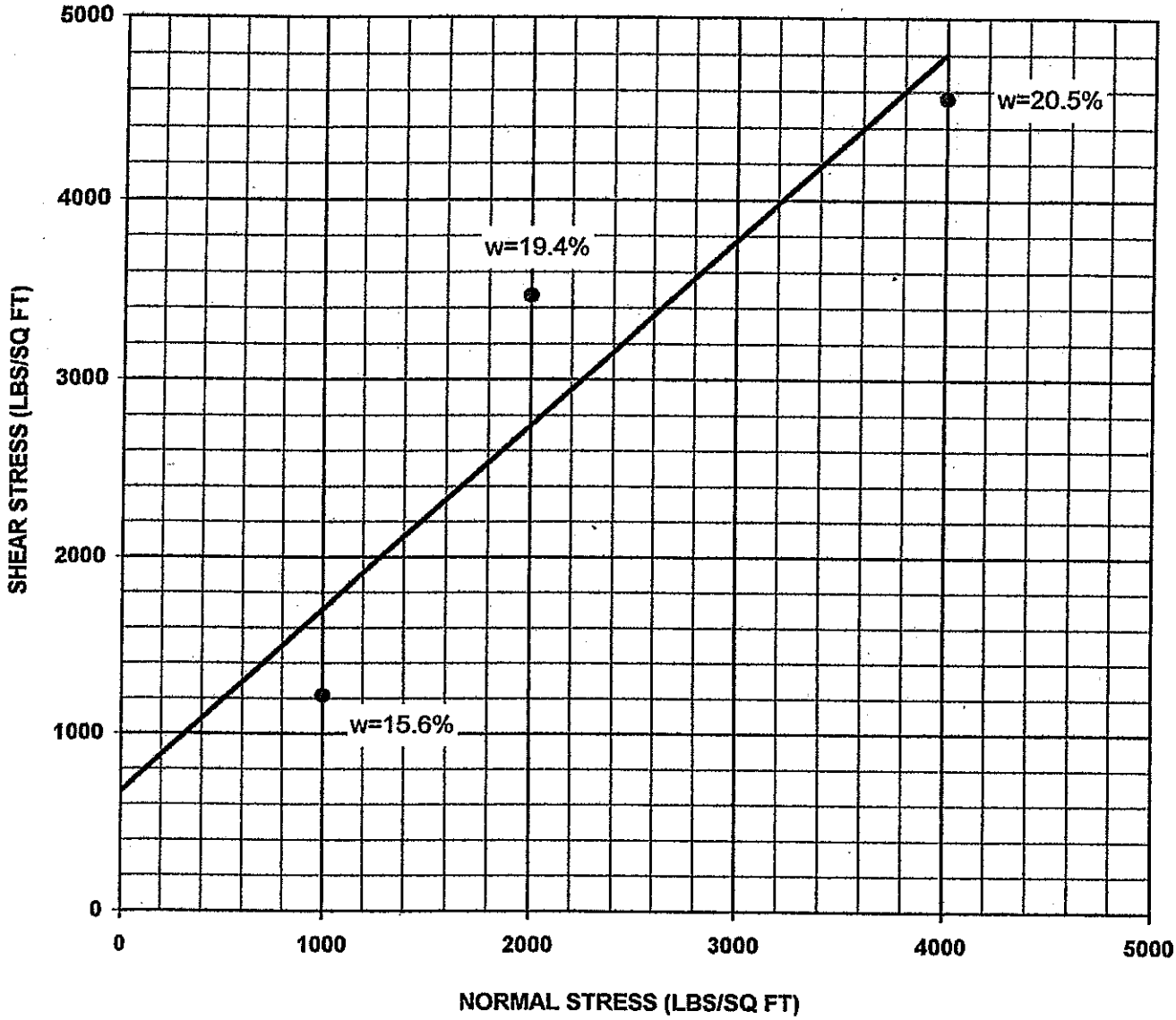
FRICTION, ϕ (DEG) 28.5

METHOD OF COMPACTION
Not Applicable

AGI

A.G.I. GEOTECHNICAL, INC.

DIRECT SHEAR TEST
UNDISTURBED SAMPLE



PROJECT NO. 13-2474 BORING NO. B5 DEPTH (FT) 20.0

REPRESENTATIVE FOR Bedrock - Saugus Formation

SOIL TYPE AND DESCRIPTION Conglomeratic Sandstone

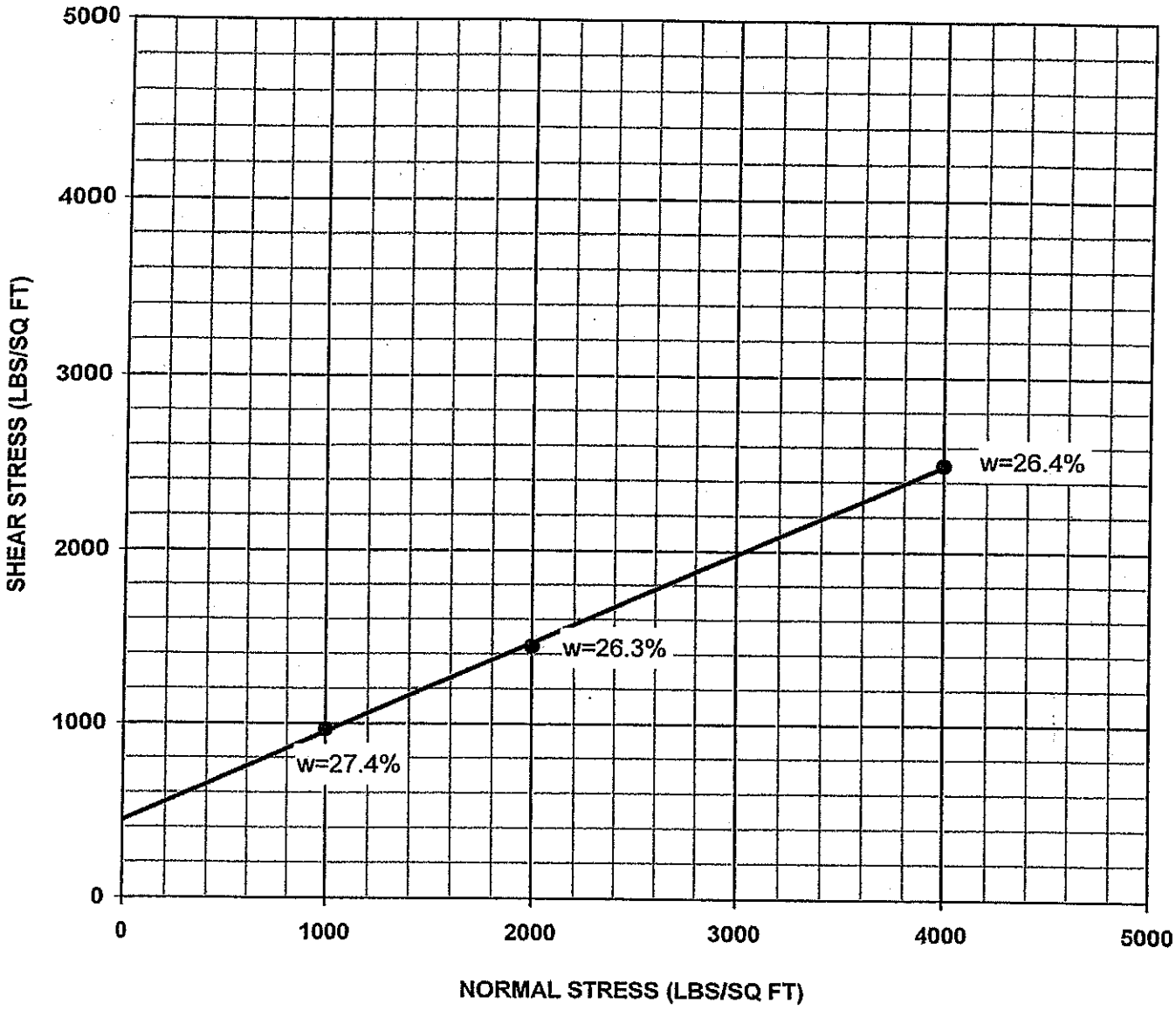
COHESION, C (LBS/SQ FT) 674

FRICTION, ϕ (DEG) 45.9

METHOD OF COMPACTION
Not Applicable

A.G.I. GEOTECHNICAL, INC.

DIRECT SHEAR TEST
REMOLDED SAMPLE @ 90% MAXIMUM DENSITY



PROJECT NO. 13-2474 BORING NO. B2 DEPTH (FT) 13-15

REPRESENTATIVE FOR Remolded Bedrock - Castaic Formation

SOIL TYPE AND DESCRIPTION Mudstone

COHESION, C (LBS/SQ FT) 444

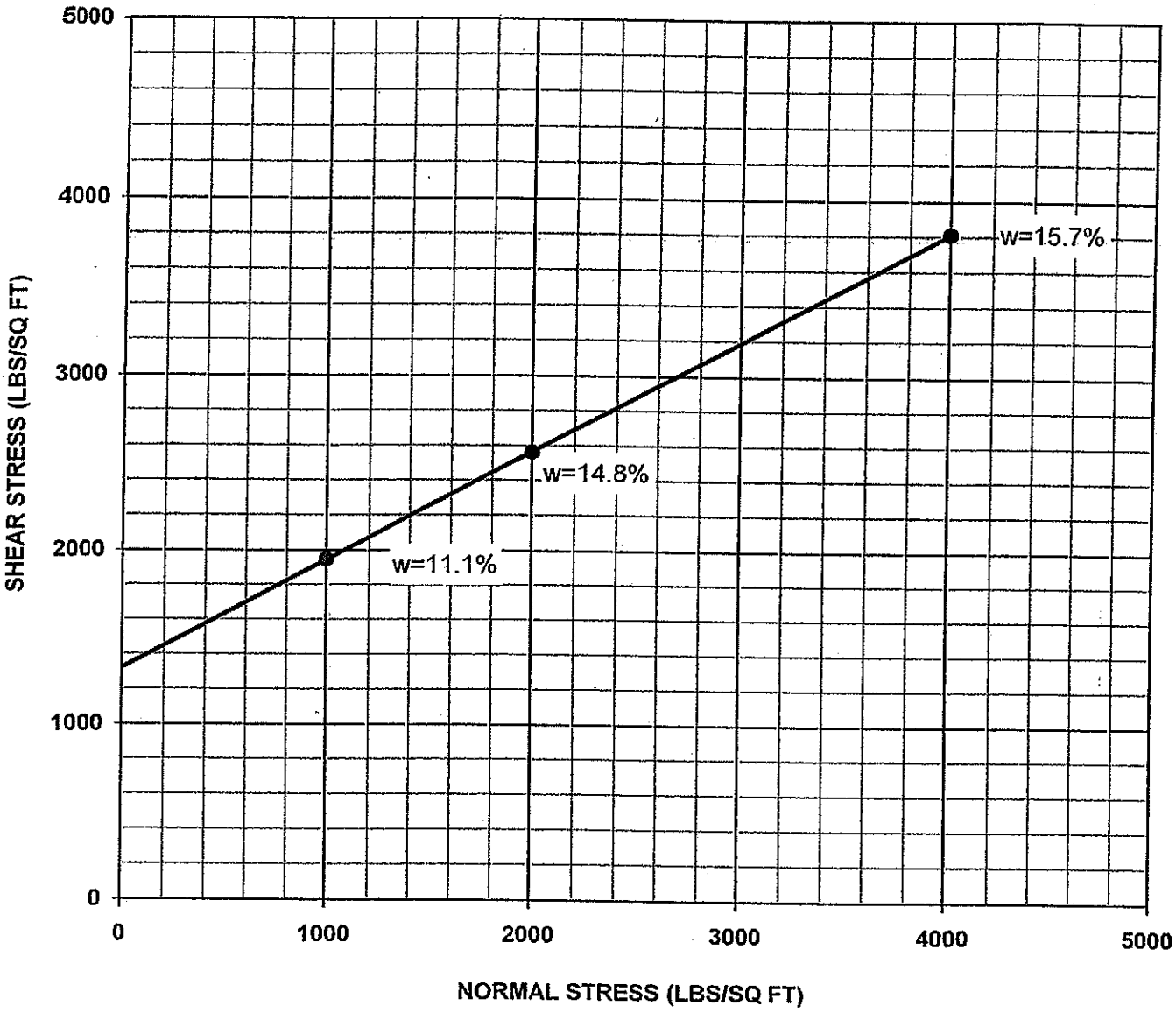
FRICTION, ϕ (DEG) 27.1

METHOD OF COMPACTION
ASTM Standard Test Method D-1557

AGI

A.G.I. GEOTECHNICAL, INC.

DIRECT SHEAR TEST
UNDISTURBED SAMPLE



PROJECT NO. 13-2474 BORING NO. B5 DEPTH (FT) 48.0

REPRESENTATIVE FOR Bedrock - Castaic Formation

SOIL TYPE AND DESCRIPTION Mudstone

COHESION, C (LBS/SQ FT) 1,325

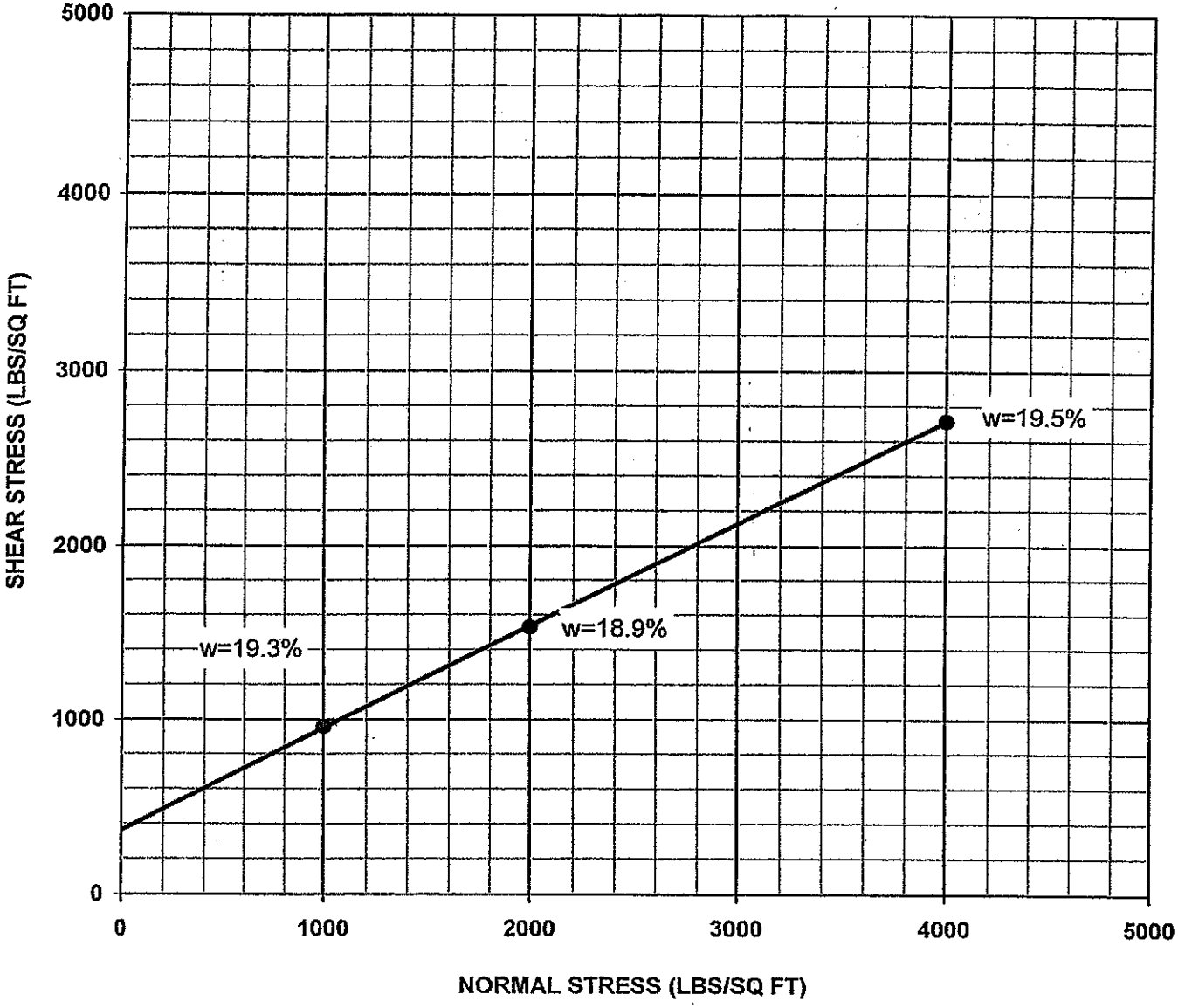
FRICTION, ϕ (DEG) 31.9

METHOD OF COMPACTION
Not Applicable

AGI

A.G.I. GEOTECHNICAL, INC.

DIRECT SHEAR TEST
REMOLDED SAMPLE @ 90% MAXIMUM DENSITY



PROJECT NO. 13-2474 BORING NO. B6 DEPTH (FT) 2-3

REPRESENTATIVE FOR Remolded Alluvium

SOIL TYPE AND DESCRIPTION Silty Fine Sand

COHESION, C (LBS/SQ FT) 367

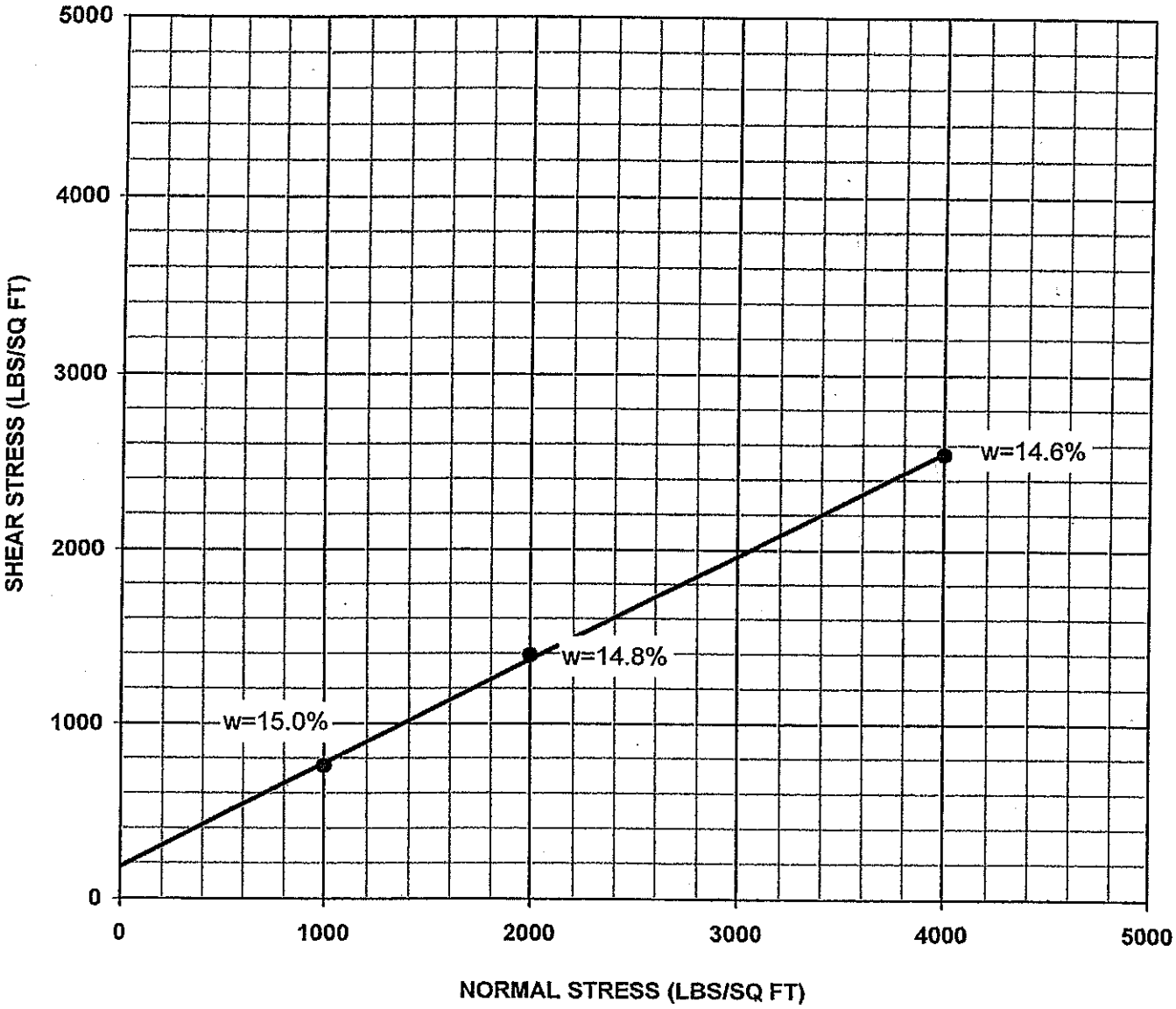
FRICTION, ϕ (DEG) 30.4

METHOD OF COMPACTION
ASTM Standard Test Method D-1557

AGI

A.G.I. GEOTECHNICAL, INC.

DIRECT SHEAR TEST
REMOLDED SAMPLE @ 90% MAXIMUM DENSITY



PROJECT NO. 13-2474 BORING NO. Bh8 DEPTH (FT) 5-7

REPRESENTATIVE FOR Remolded Alluvium

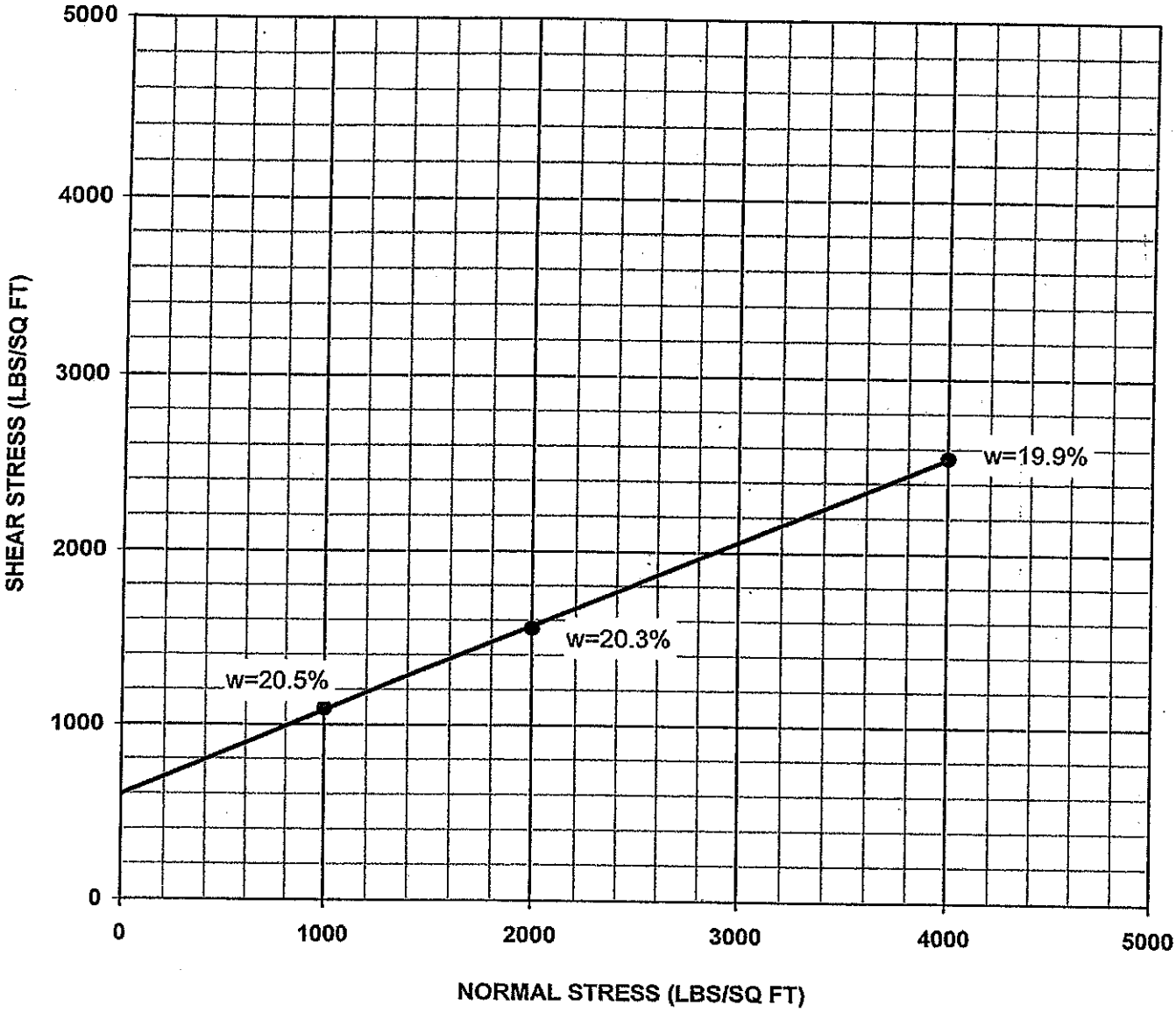
SOIL TYPE AND DESCRIPTION Silty Sand

COHESION, C (LBS/SQ FT) 183

FRICTION, ϕ (DEG) 30.7

METHOD OF COMPACTION
ASTM Standard Test Method D-1557

DIRECT SHEAR TEST
REMOLDED SAMPLE @ 90% MAXIMUM DENSITY



PROJECT NO. 13-2474 BORING NO. B3 DEPTH (FT) 30

REPRESENTATIVE FOR Remolded Bedrock - Saugus Formation

SOIL TYPE AND DESCRIPTION Clayey Fine Grained Sandstone

COHESION, C (LBS/SQ FT) 600

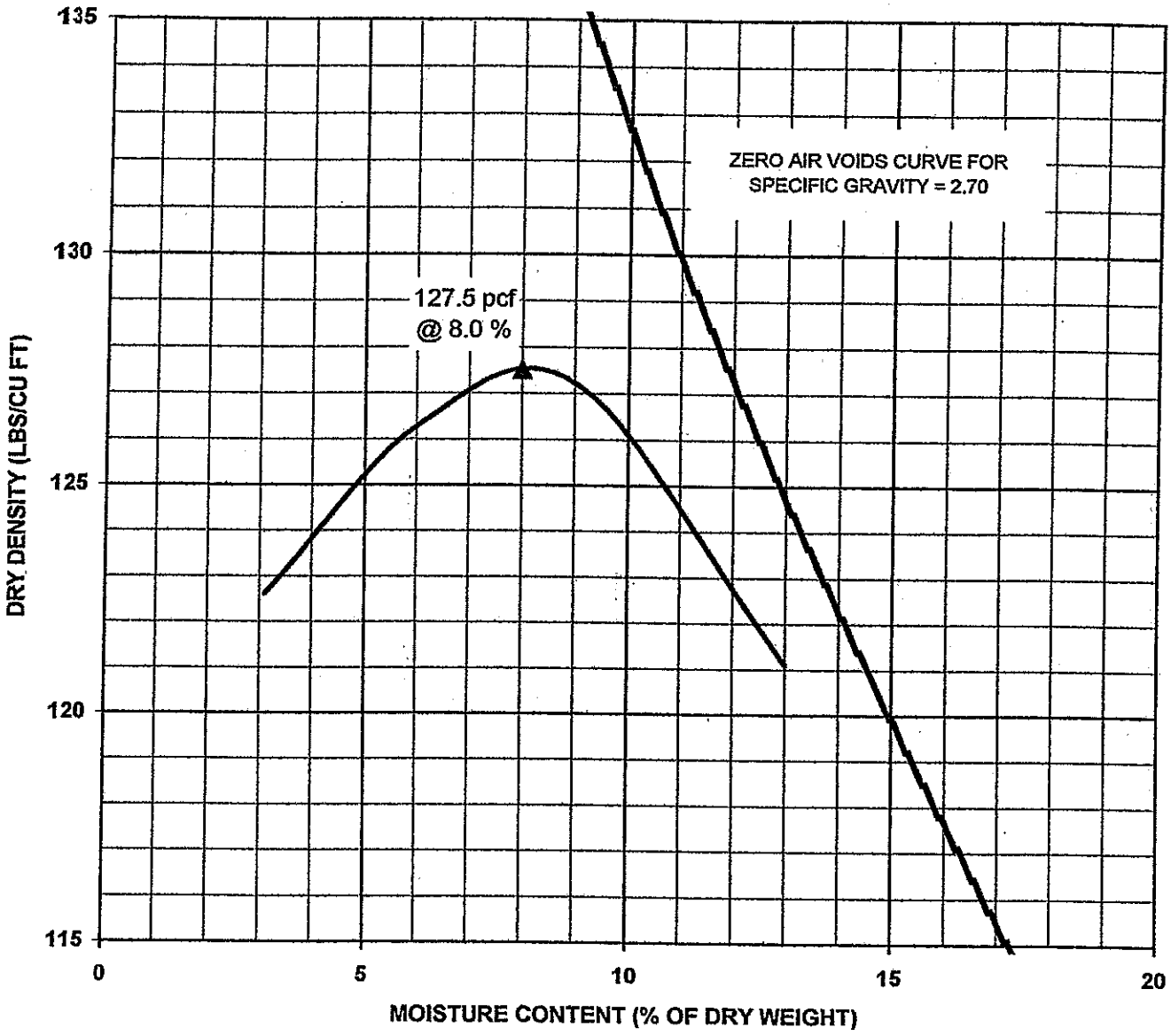
FRICTION, ϕ (DEG) 25.9

METHOD OF COMPACTION
ASTM Standard Test Method D-1557

AGI

A.G.I. GEOTECHNICAL, INC.

MAXIMUM DENSITY CURVE



PROJECT NO. 13-2474 BORING NO. Bh8 DEPTH (FT) 5-7'

REPRESENTATIVE FOR Remolded Alluvium

SOIL TYPE AND DESCRIPTION Silty Sand

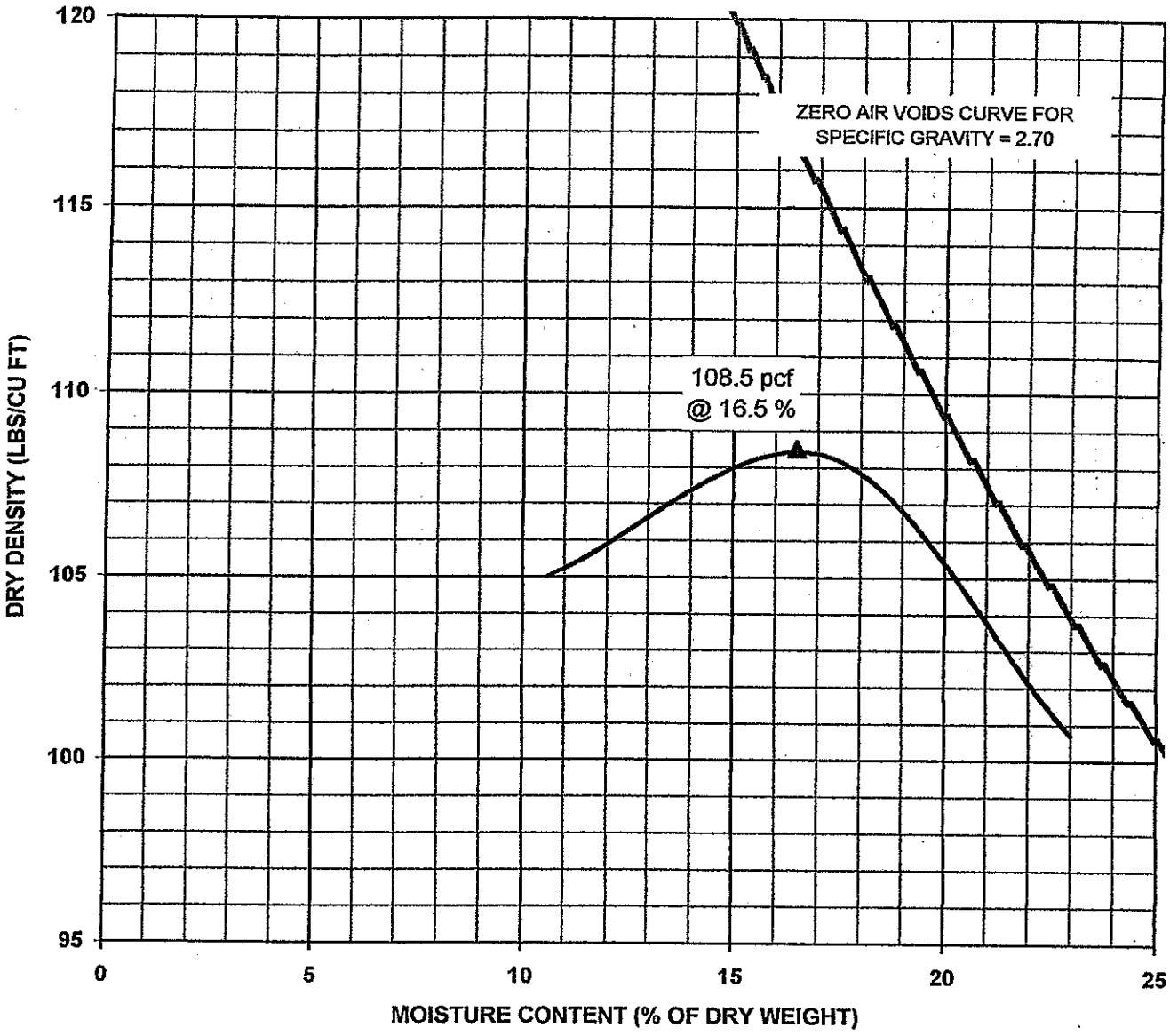
MAXIMUM DRY DENSITY (LBS/CU FT) 127.5

OPTIMUM MOISTURE CONTENT (% OF DRY WEIGHT) 8.0

METHOD OF COMPACTION
ASTM Standard Test Method D-1557

A.G.I. GEOTECHNICAL, INC.

MAXIMUM DENSITY CURVE



PROJECT NO. 13-2474 BORING NO. B2 DEPTH (FT) 13-15

REPRESENTATIVE FOR Remolded Bedrock - Castaic Formation

SOIL TYPE AND DESCRIPTION Mudstone

MAXIMUM DRY DENSITY (LBS/CU FT) 108.5

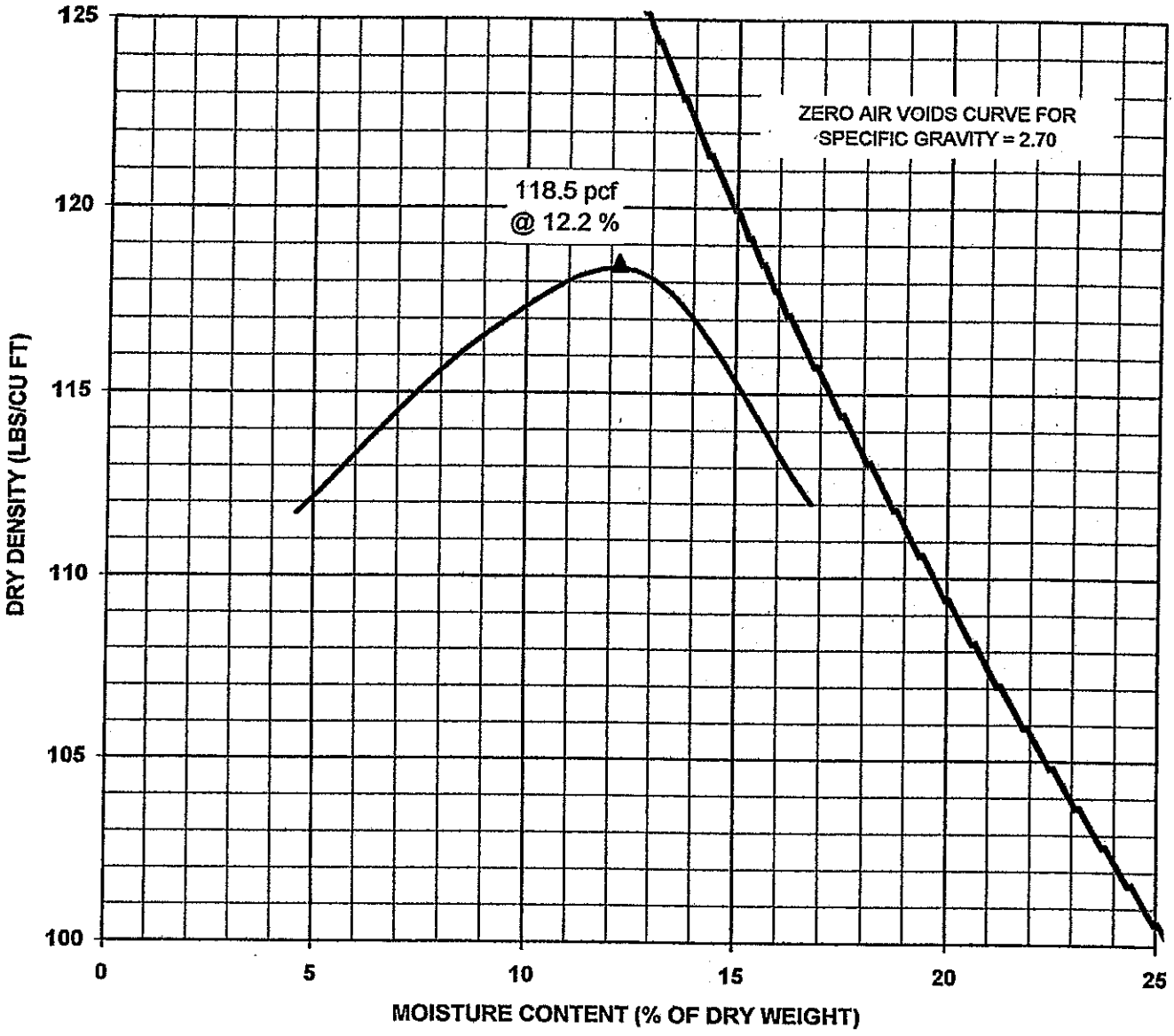
OPTIMUM MOISTURE CONTENT (% OF DRY WEIGHT) 16.5

METHOD OF COMPACTION
ASTM Standard Test Method D-1557

A G I

A.G.I. GEOTECHNICAL, INC.

MAXIMUM DENSITY CURVE



PROJECT NO. 13-2474 BORING NO. B3 DEPTH (FT) 30

REPRESENTATIVE FOR Remolded Bedrock - Saugus Formation

SOIL TYPE AND DESCRIPTION Clayey Fine Grained Sandstone

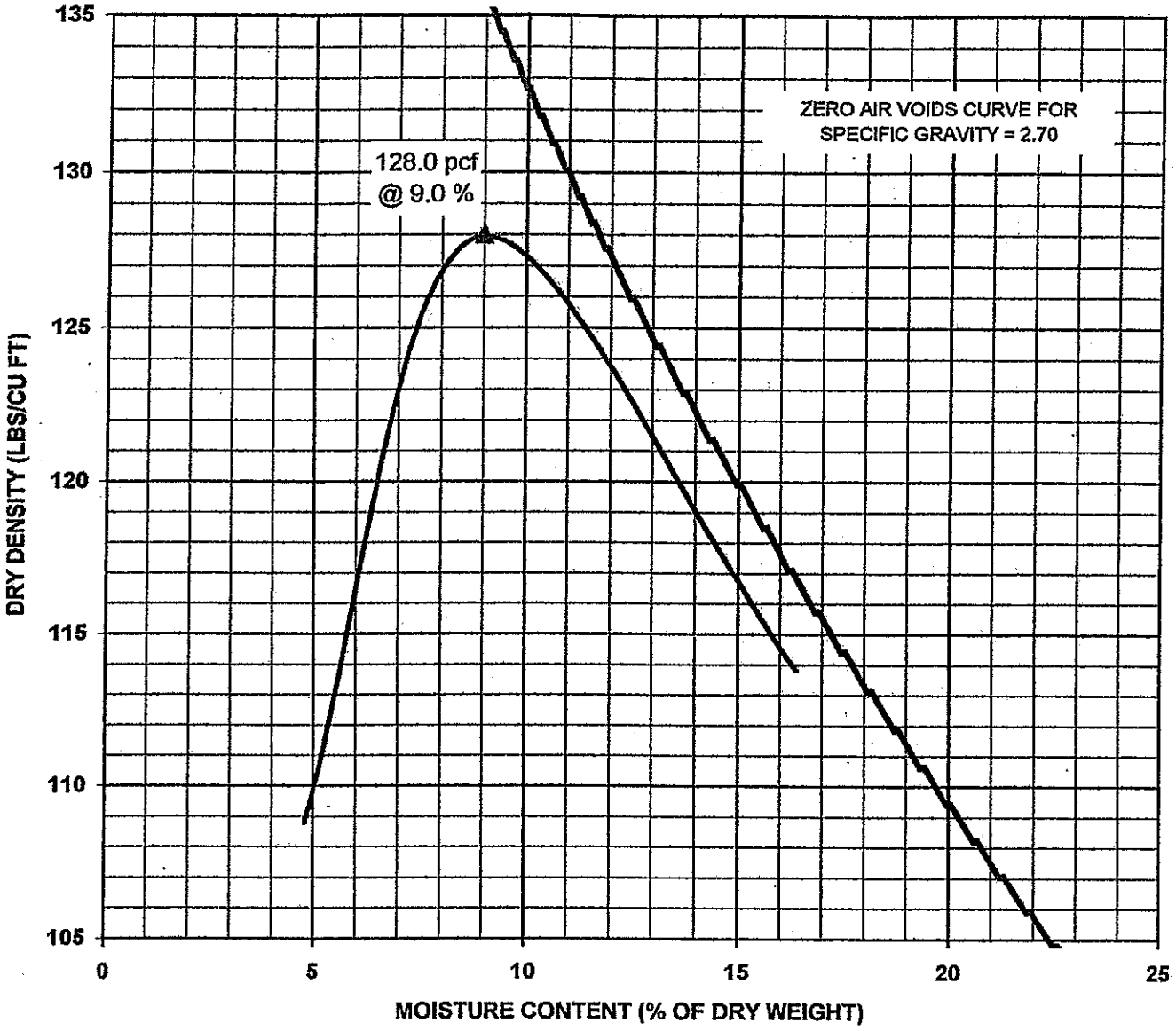
MAXIMUM DRY DENSITY (LBS/CU FT) 118.5

OPTIMUM MOISTURE CONTENT (% OF DRY WEIGHT) 12.2

METHOD OF COMPACTION
ASTM Standard Test Method D-1557

A.G.I. GEOTECHNICAL, INC.

MAXIMUM DENSITY CURVE



PROJECT NO. 13-2474 BORING NO. B4 DEPTH (FT) 0-1

REPRESENTATIVE FOR Remolded Slopewash

SOIL TYPE AND DESCRIPTION Clayey Sand

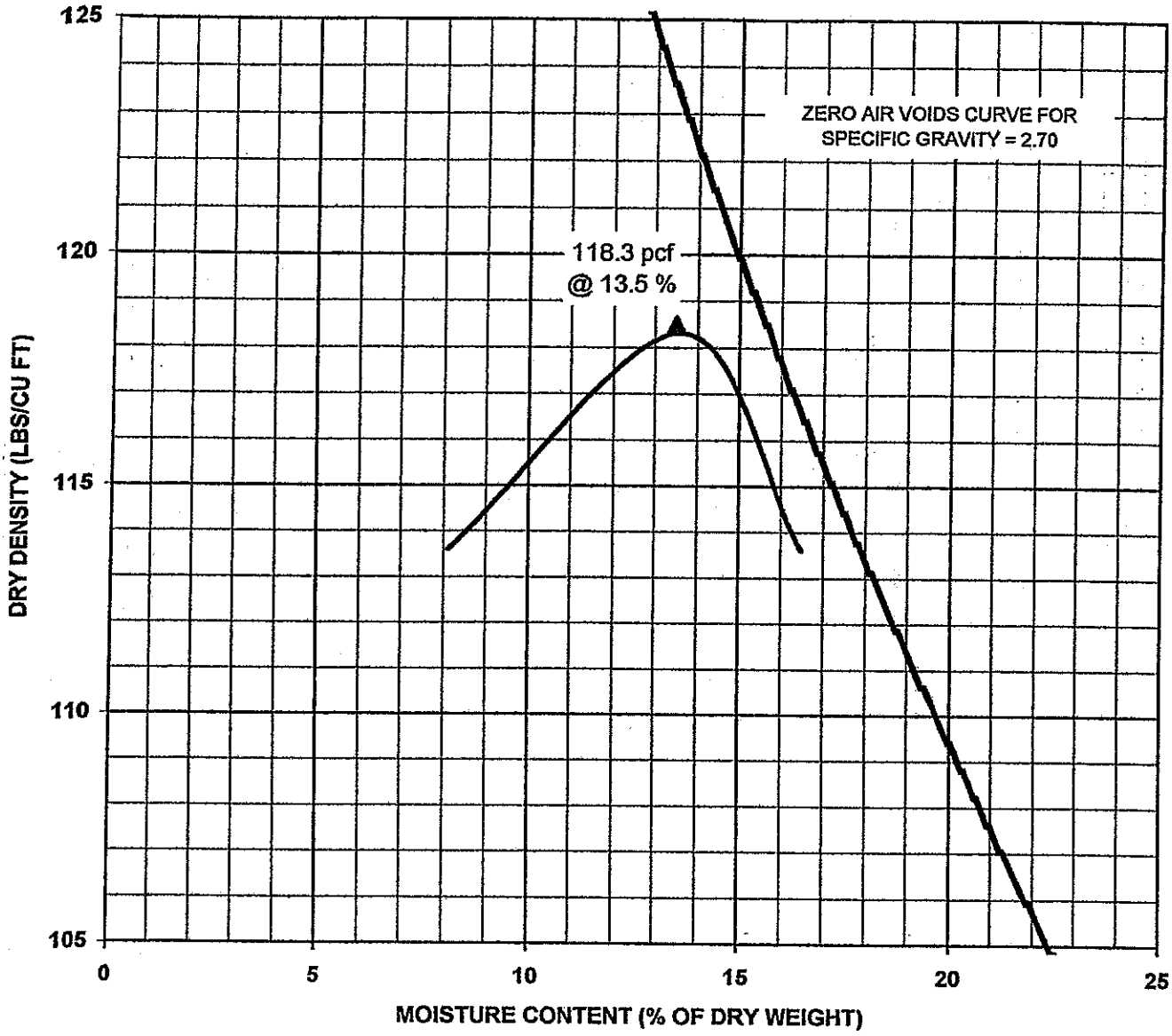
MAXIMUM DRY DENSITY (LBS/CU FT) 128.0

OPTIMUM MOISTURE CONTENT (% OF DRY WEIGHT) 9.0

METHOD OF COMPACTION
ASTM Standard Test Method D-1557

A.G.I. GEOTECHNICAL, INC.

MAXIMUM DENSITY CURVE



PROJECT NO. 13-2474 BORING NO. B6 DEPTH (FT) 2-3

REPRESENTATIVE FOR Remolded Alluvium

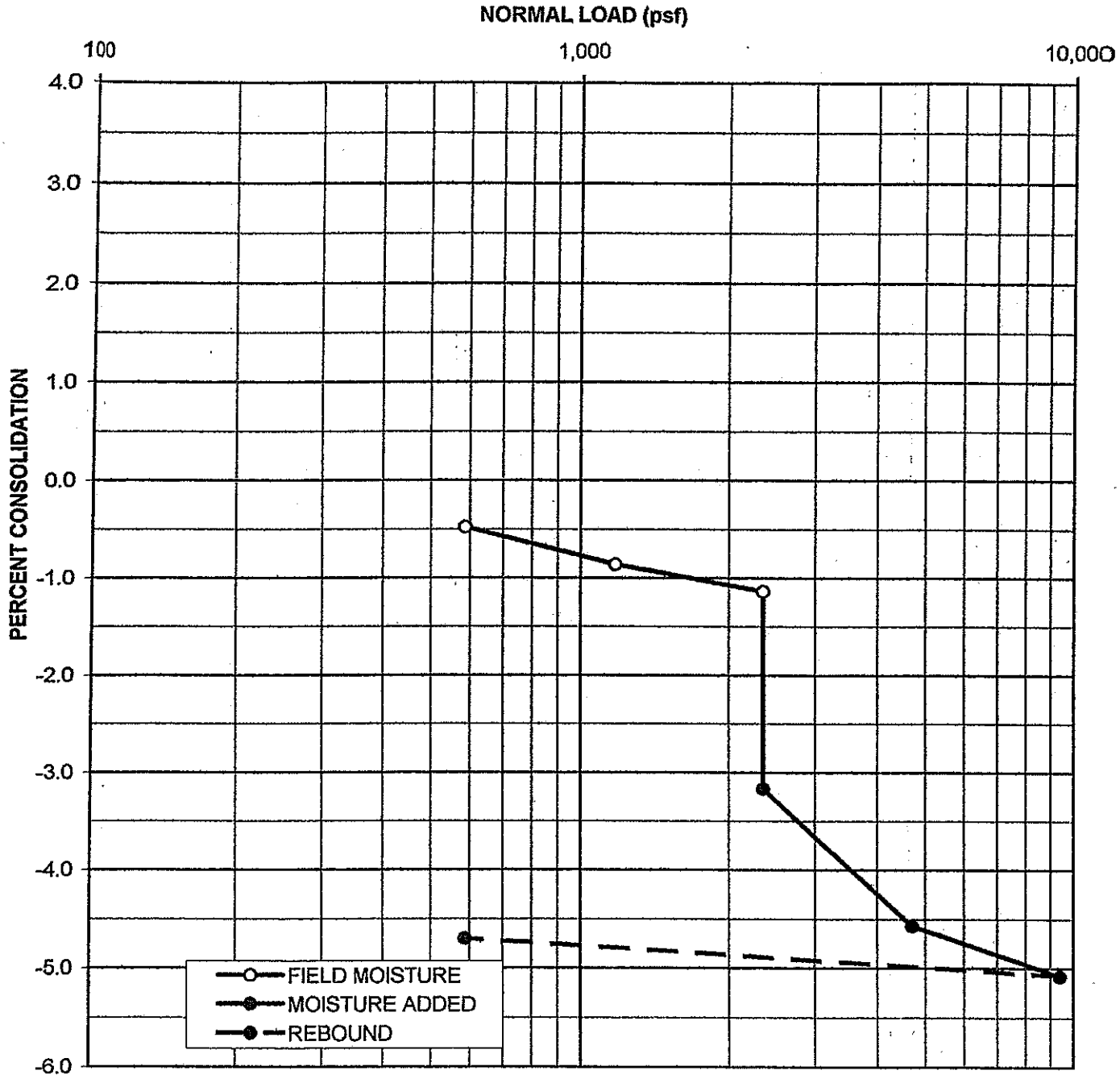
SOIL TYPE AND DESCRIPTION Silty Fine Sand

MAXIMUM DRY DENSITY (LBS/CU FT) 118.5

OPTIMUM MOISTURE CONTENT (% OF DRY WEIGHT) 13.5

METHOD OF COMPACTION
ASTM Standard Test Method D-1557

A.G.I. GEOTECHNICAL, INC.



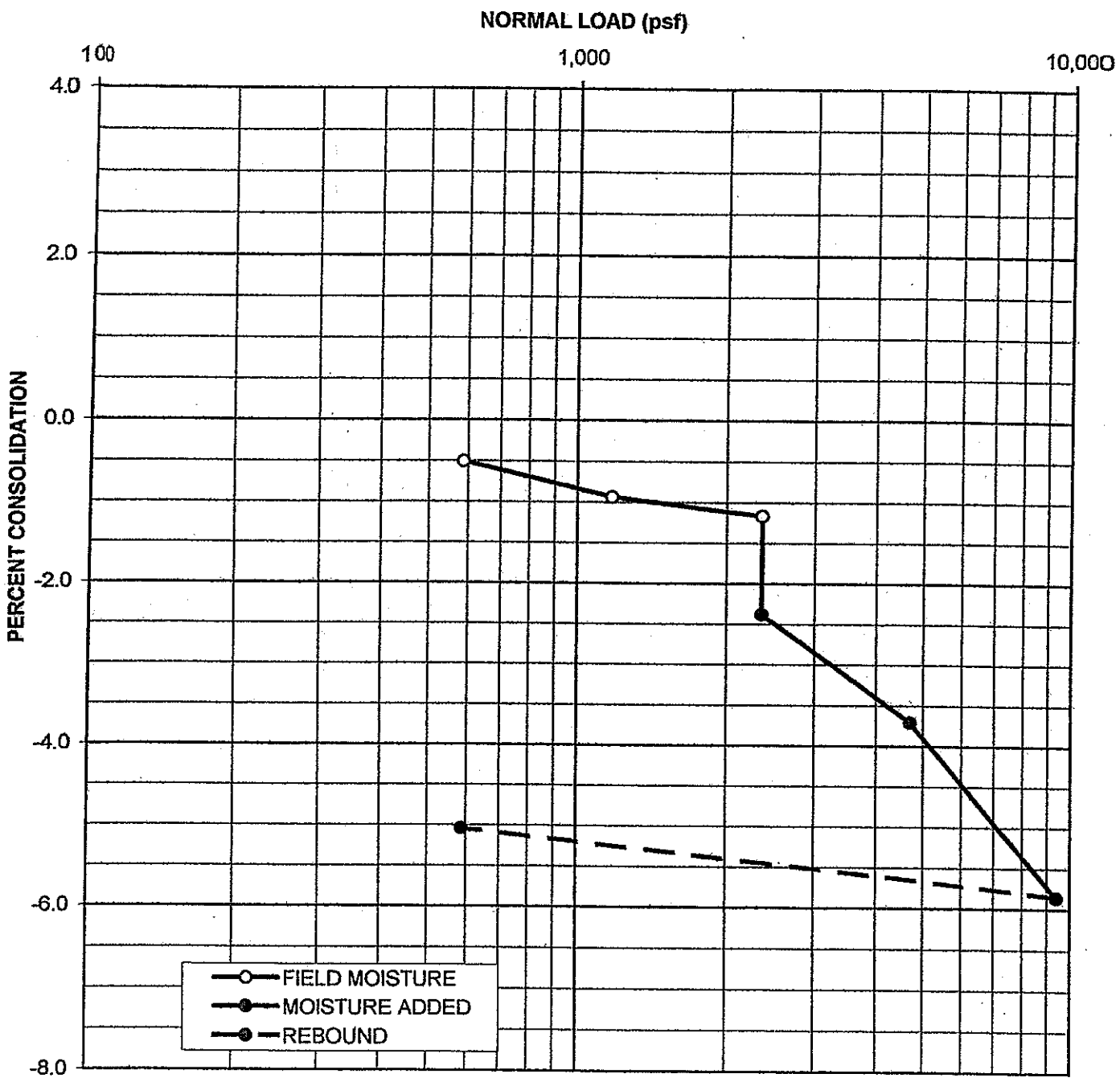
PROJECT NO. 13-2474 **BORING NO.** Bh1 **DEPTH (FT)** 6.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Silty Sand

HYDROCONSOLIDATION (%) 2.03

A.G.I. GEOTECHNICAL, INC.



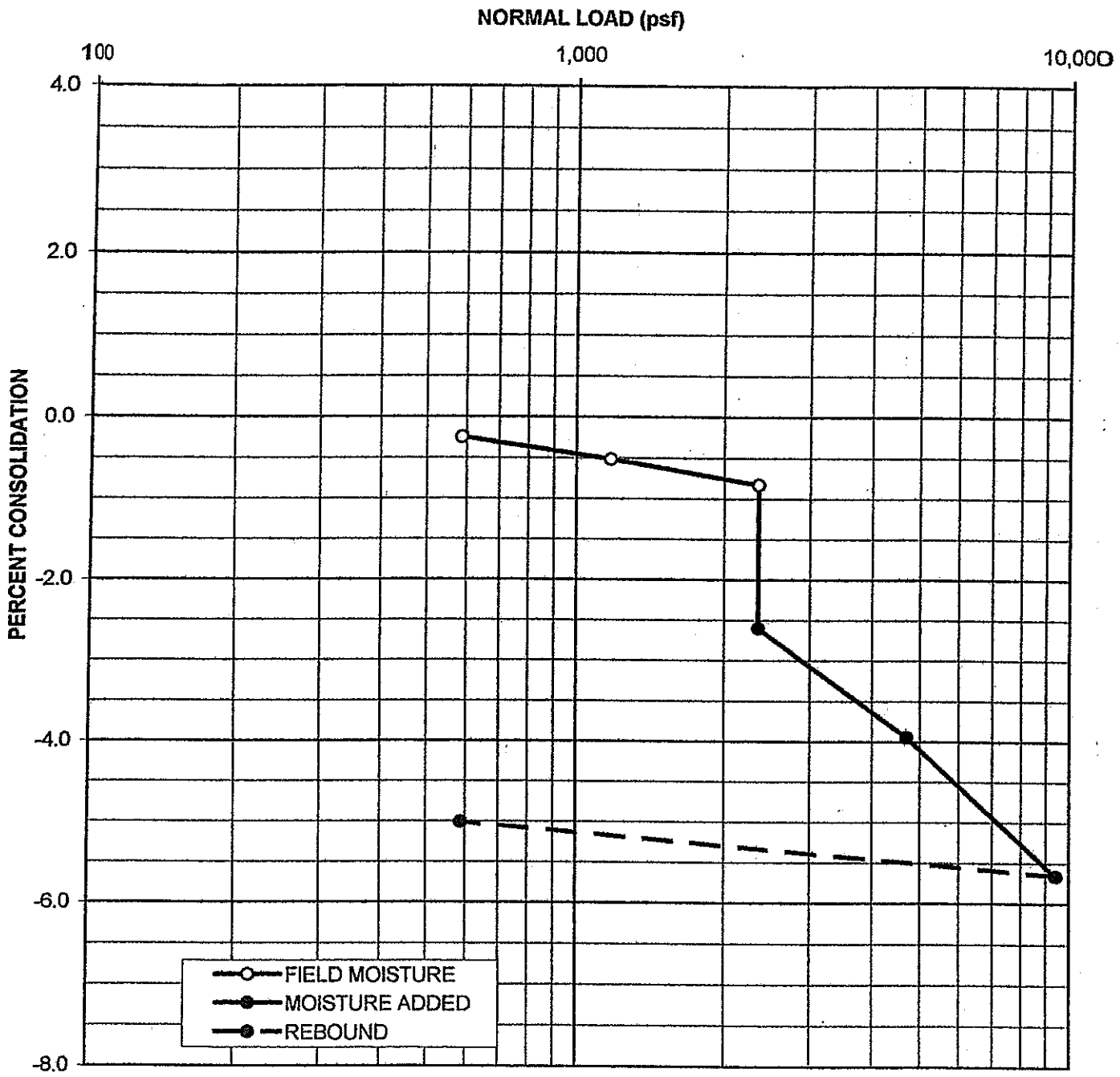
PROJECT NO. 13-2474 BORING NO. Bh1 DEPTH (FT) 9.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Silty Sand

HYDROCONSOLIDATION (%) 1.21

A.G.I. GEOTECHNICAL, INC.



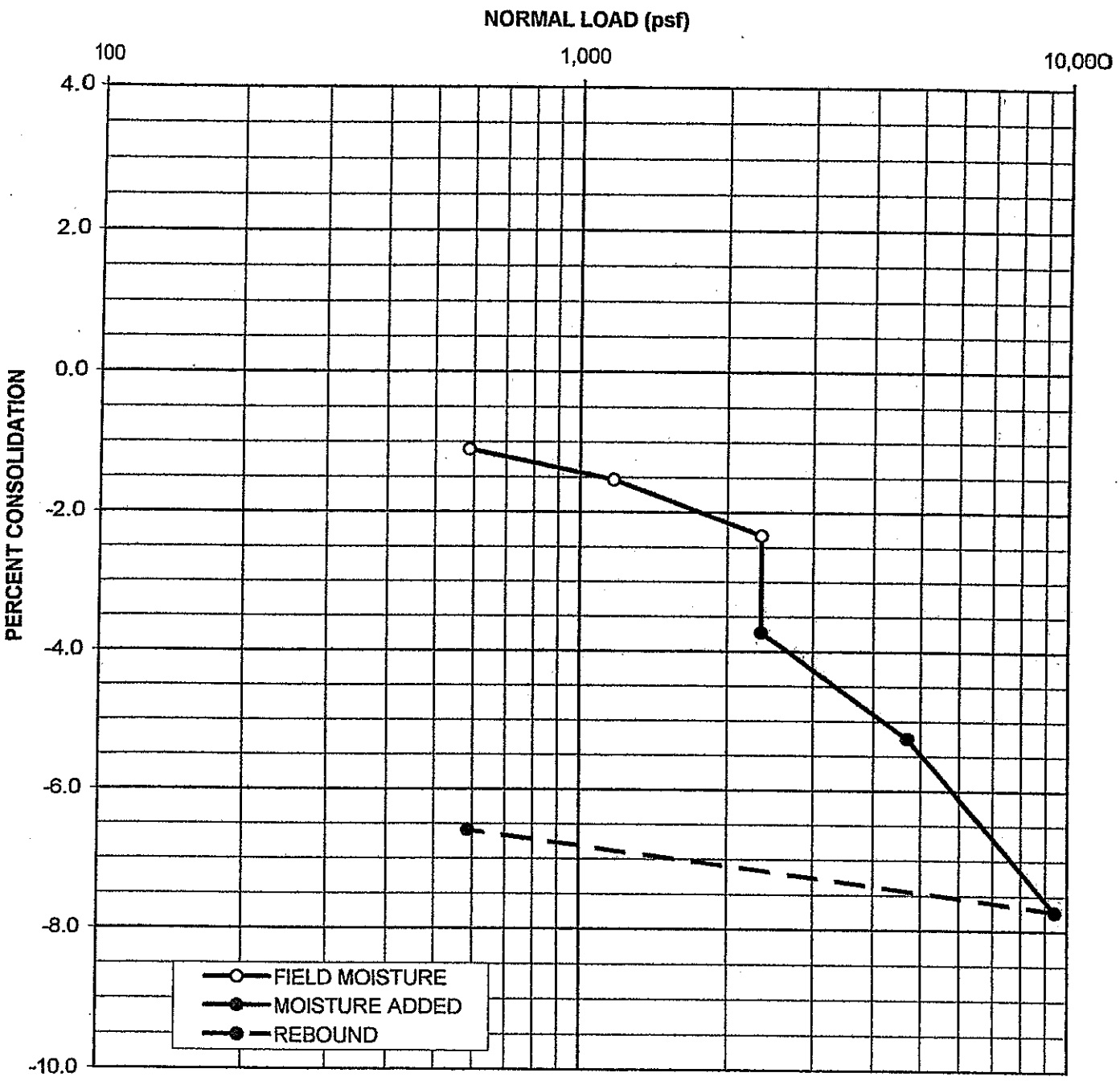
PROJECT NO. 13-2474 BORING NO. Bh1 DEPTH (FT) 12.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Sand

HYDROCONSOLIDATION (%) 1.77

A.G.I. GEOTECHNICAL, INC.

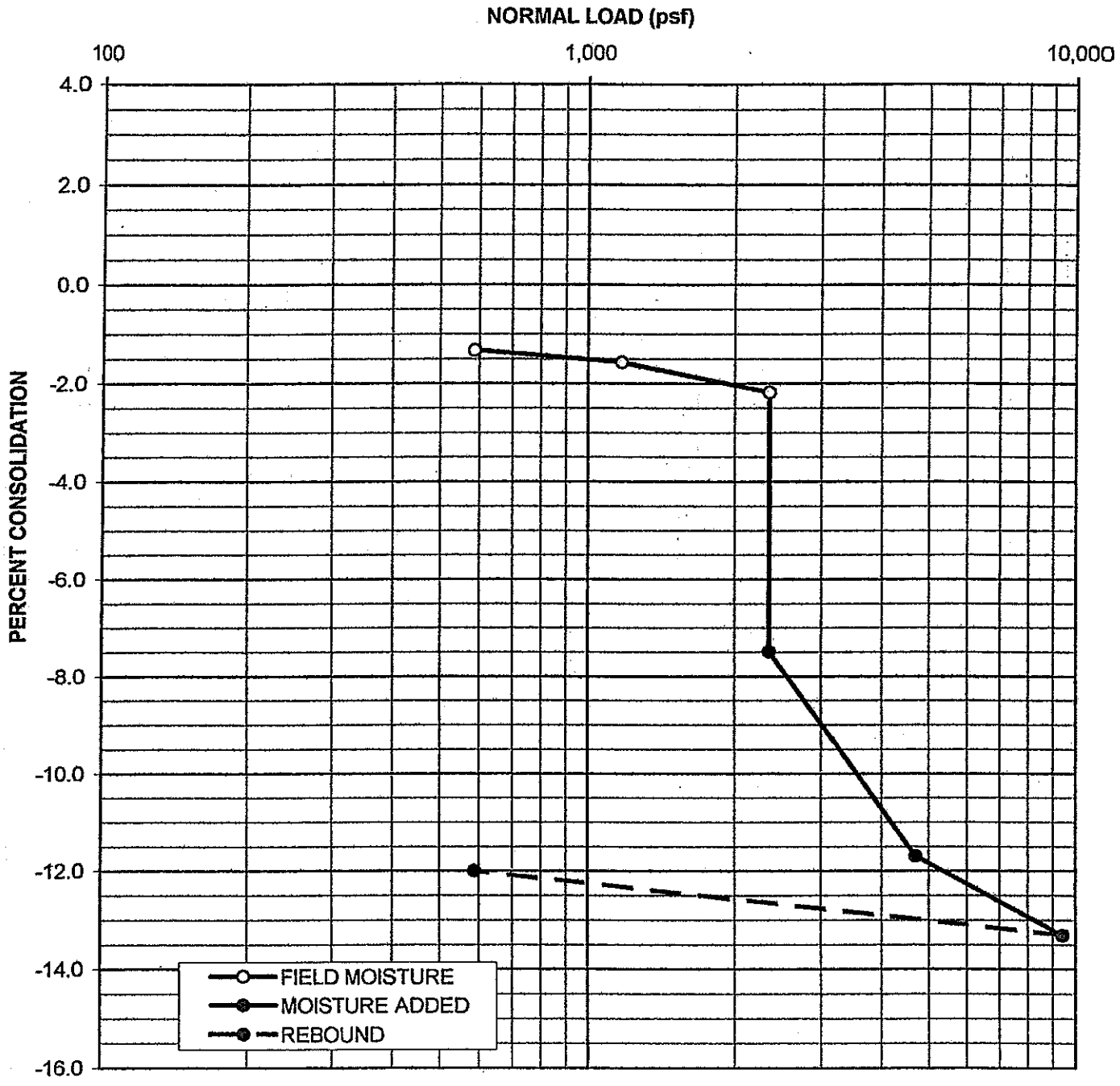


PROJECT NO. 13-2474 BORING NO. Bh1 DEPTH (FT) 15.0

REPRESENTATIVE FOR SOIL TYPE AND DESCRIPTION Natural Soil Sand

HYDROCONSOLIDATION (%) 1.40

A.G.I. GEOTECHNICAL, INC.



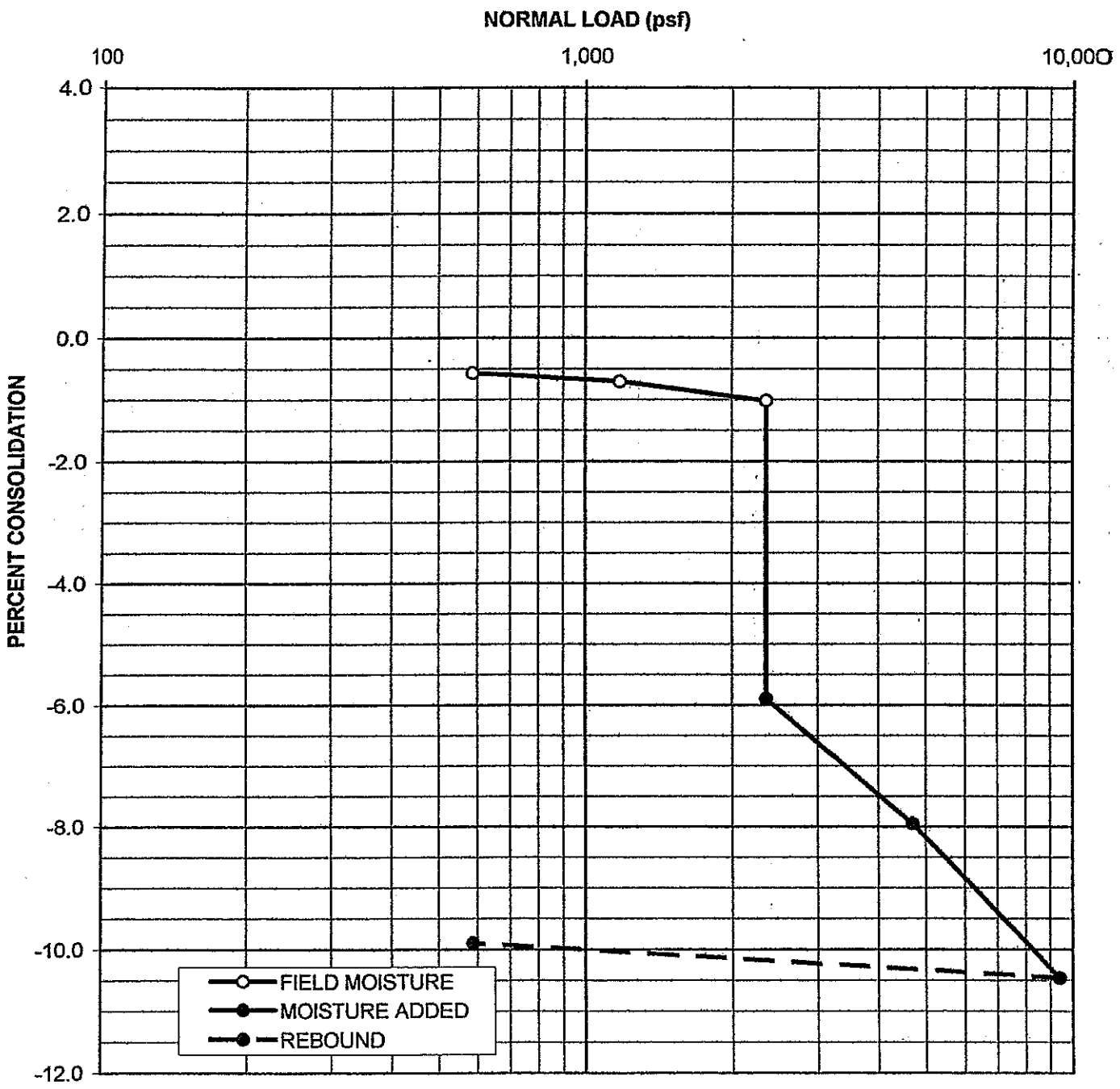
PROJECT NO. 13-2474 **BORING NO.** Bh2 **DEPTH (FT)** 6.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Clayey Silty Sand

HYDROCONSOLIDATION (%) 5.31

A.G.I. GEOTECHNICAL. INC.



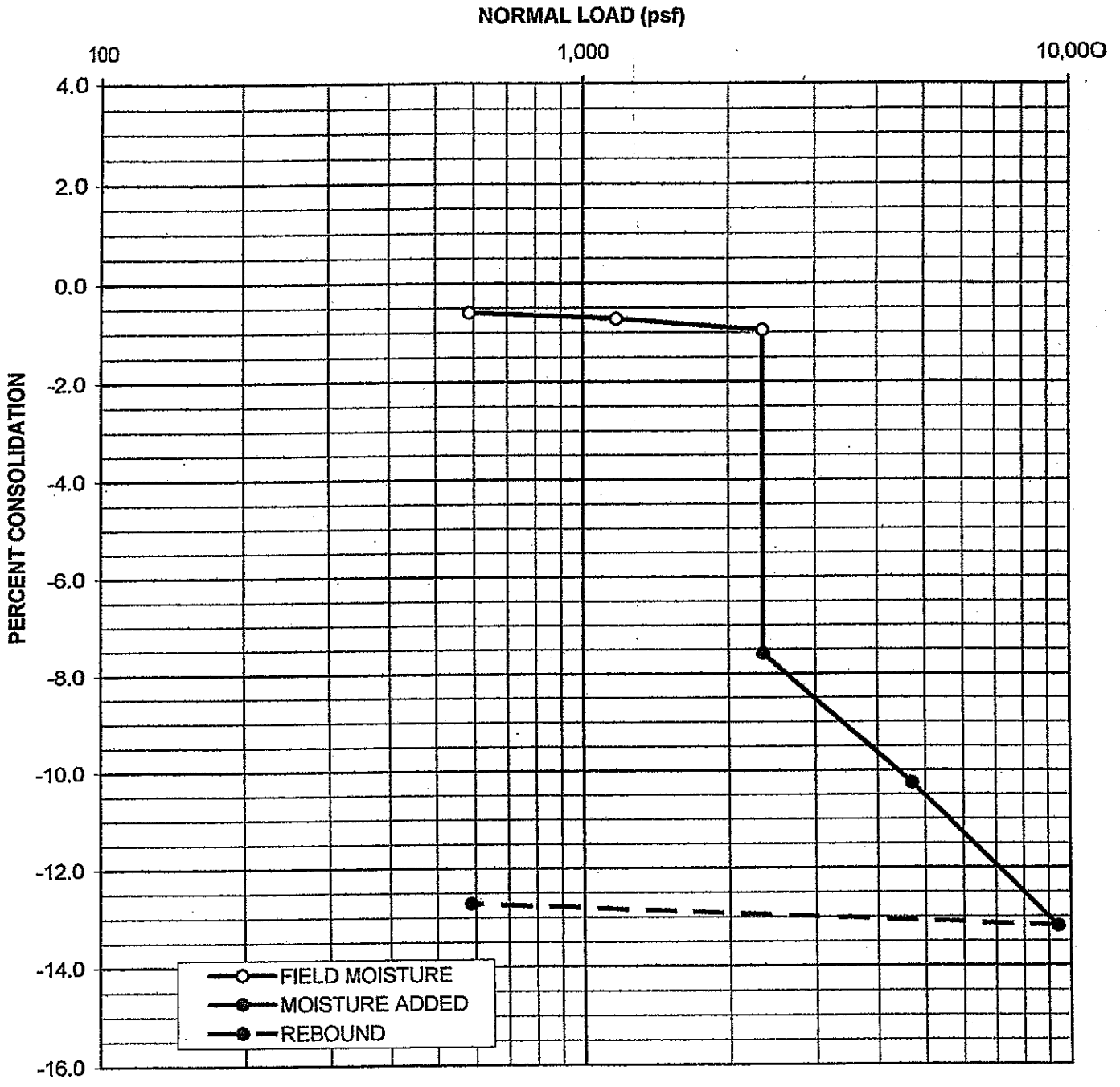
PROJECT NO. 13-2474 BORING NO. Bh2 DEPTH (FT) 12.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Sand

HYDROCONSOLIDATION (%) 4.88

A.G.I. GEOTECHNICAL. INC.



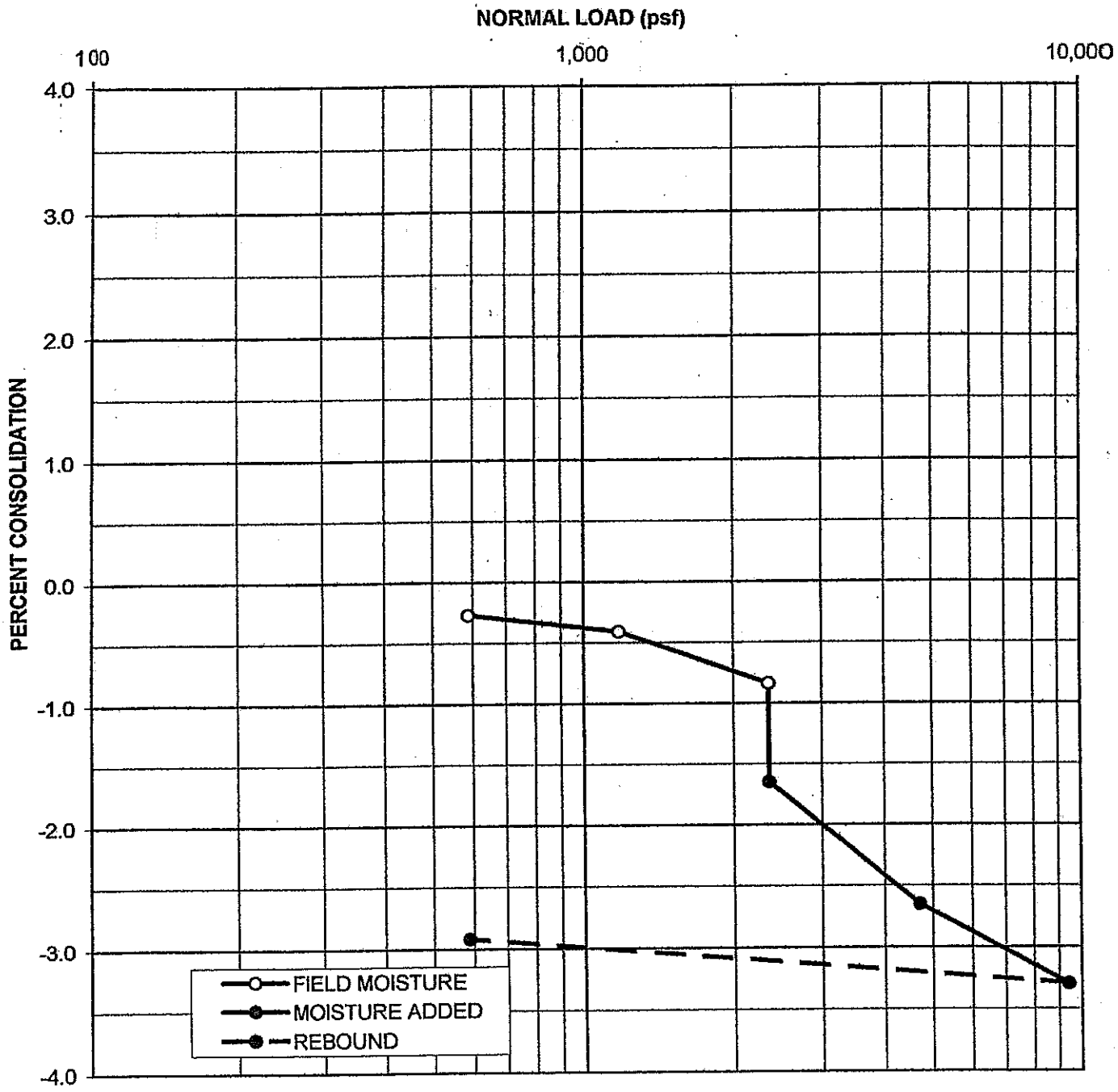
PROJECT NO. 13-2474 BORING NO. Bh3 DEPTH (FT) 5.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Sand

HYDROCONSOLIDATION (%) 6.63

A.G.I. GEOTECHNICAL, INC.



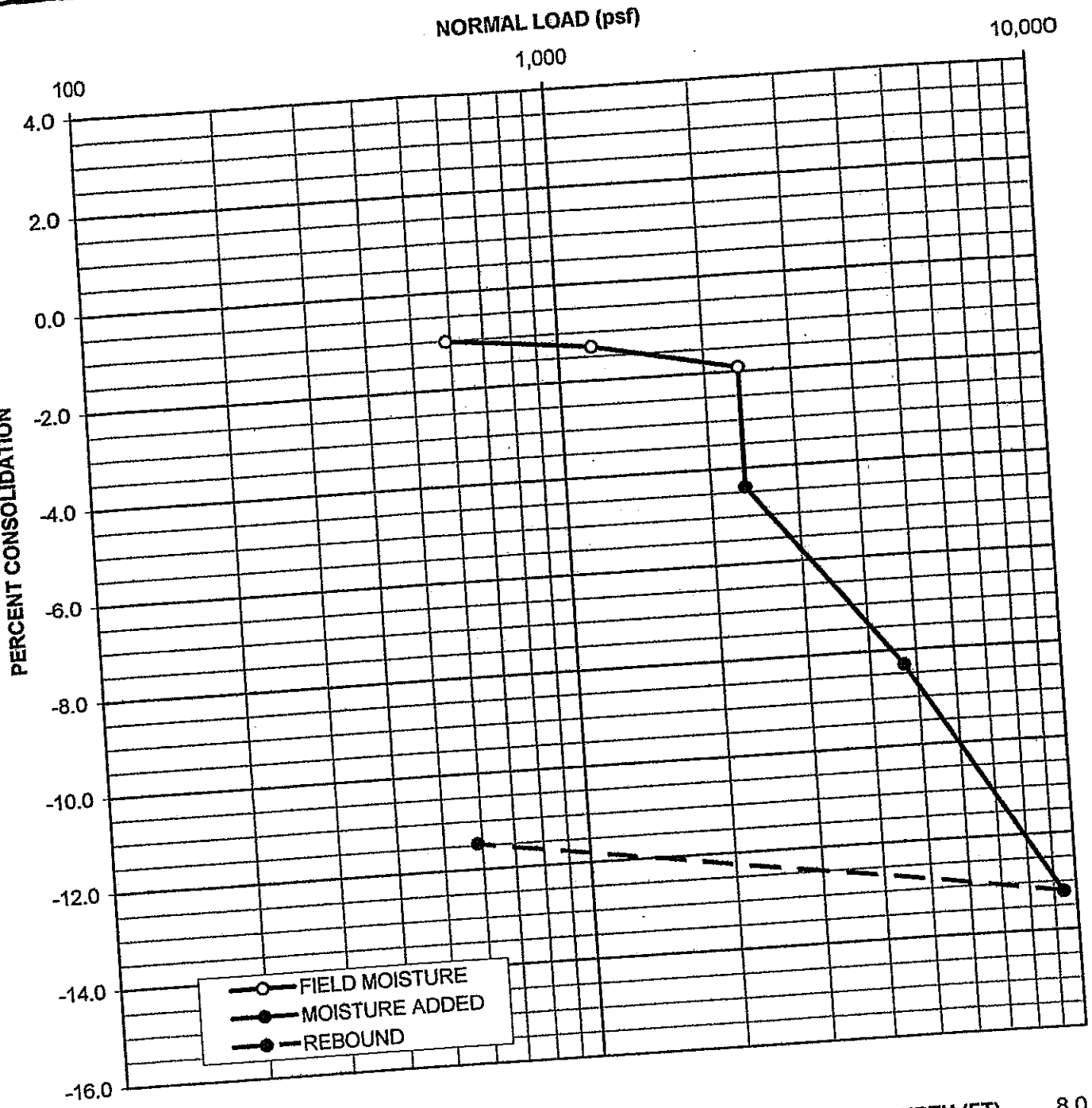
PROJECT NO. 13-2474 BORING NO. Bh3 DEPTH (FT) 15.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Silty Sand

HYDROCONSOLIDATION (%) 0.81

A.G.I. GEOTECHNICAL. INC.



PROJECT NO. 13-2474

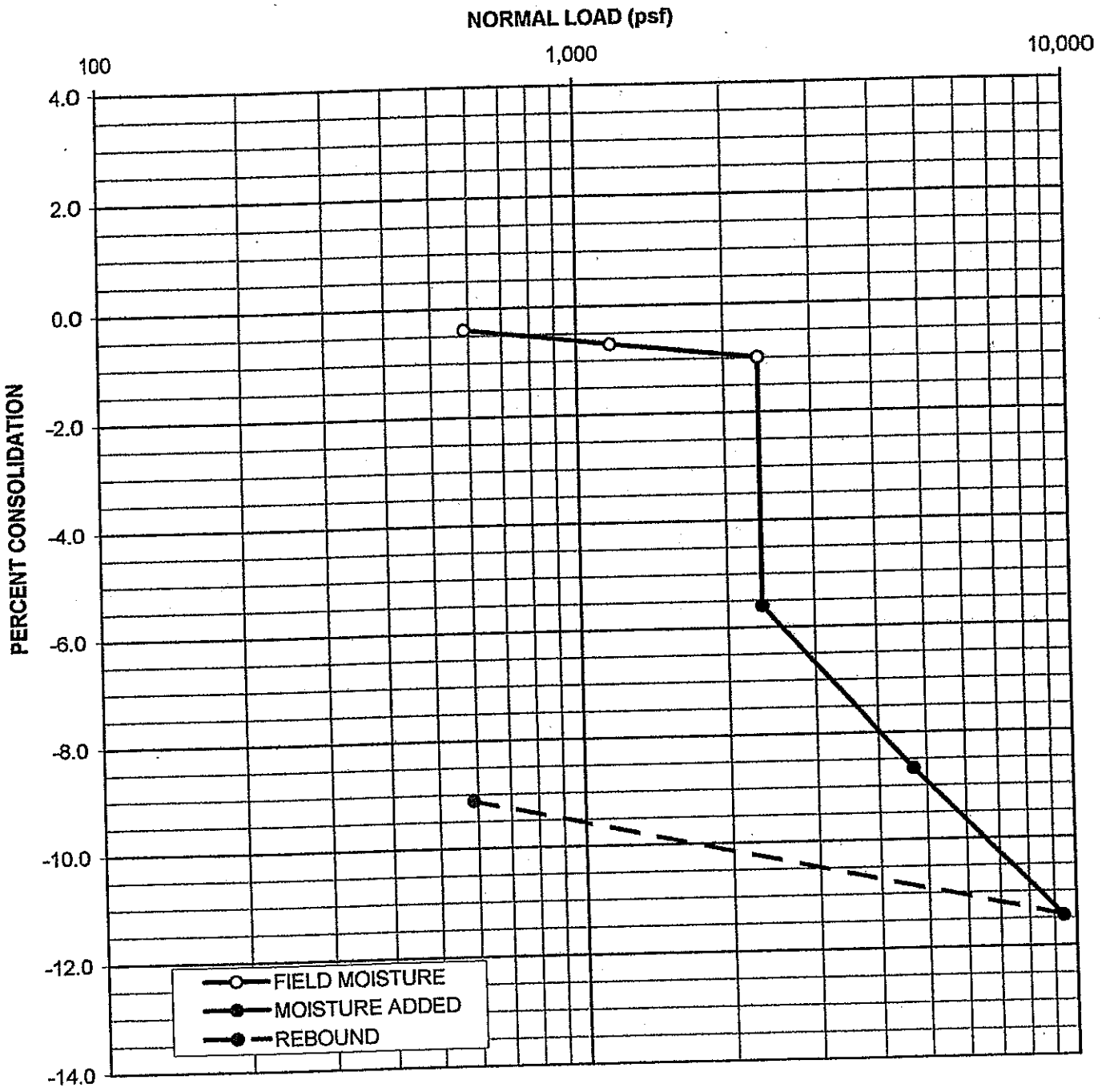
BORING NO. Bh4

DEPTH (FT) 8.0

REPRESENTATIVE FOR SOIL TYPE AND DESCRIPTION: Natural Soil / Silty Sand

HYDROCONSOLIDATION (%) 2.49

A.G.I. GEOTECHNICAL INC.

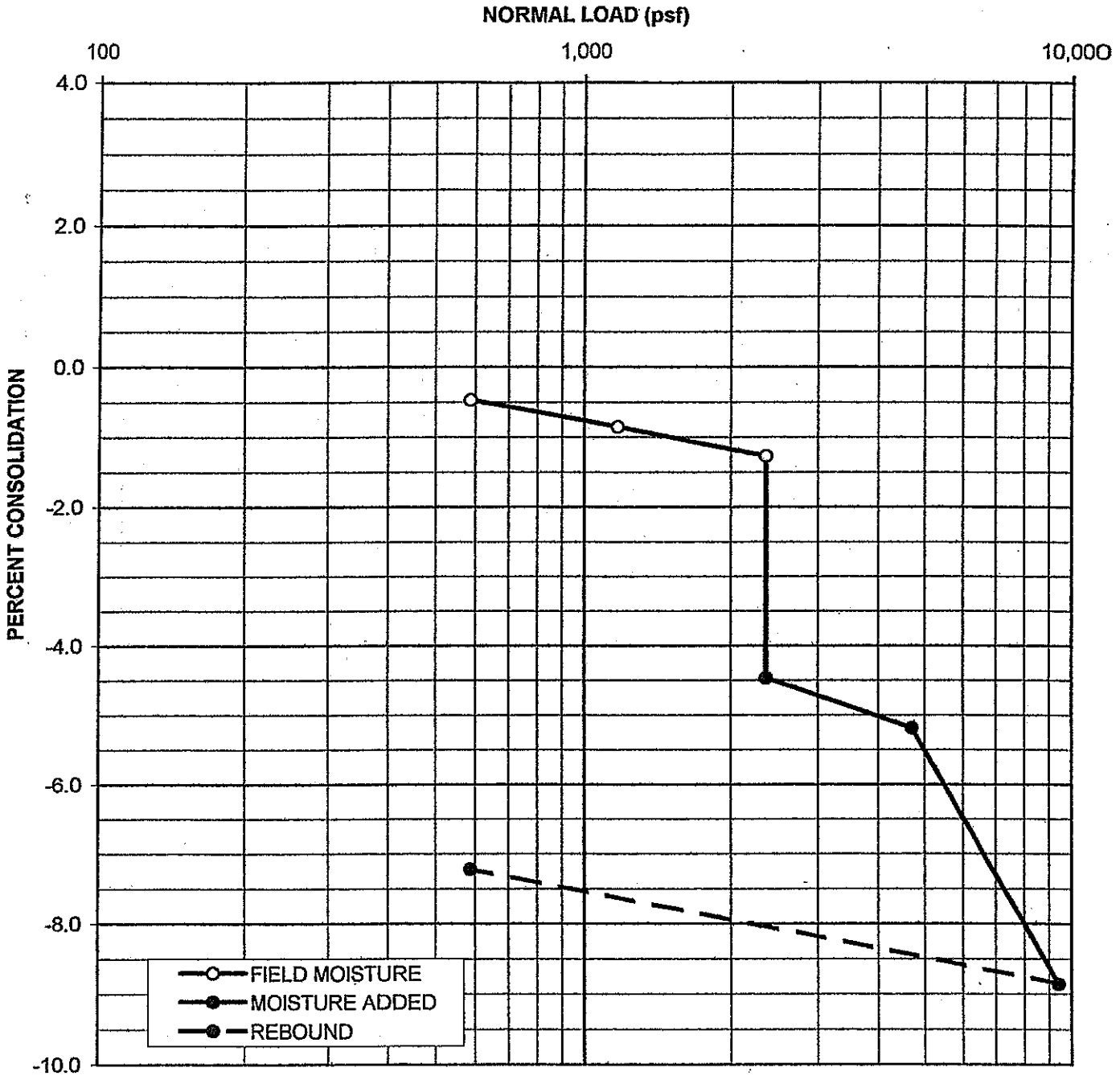


PROJECT NO. 13-2474 BORING NO. Bh4 DEPTH (FT) 12.0

REPRESENTATIVE FOR SOIL TYPE AND DESCRIPTION Natural Soil Sand

HYDROCONSOLIDATION (%) 4.61

A.G.I. GEOTECHNICAL. INC.



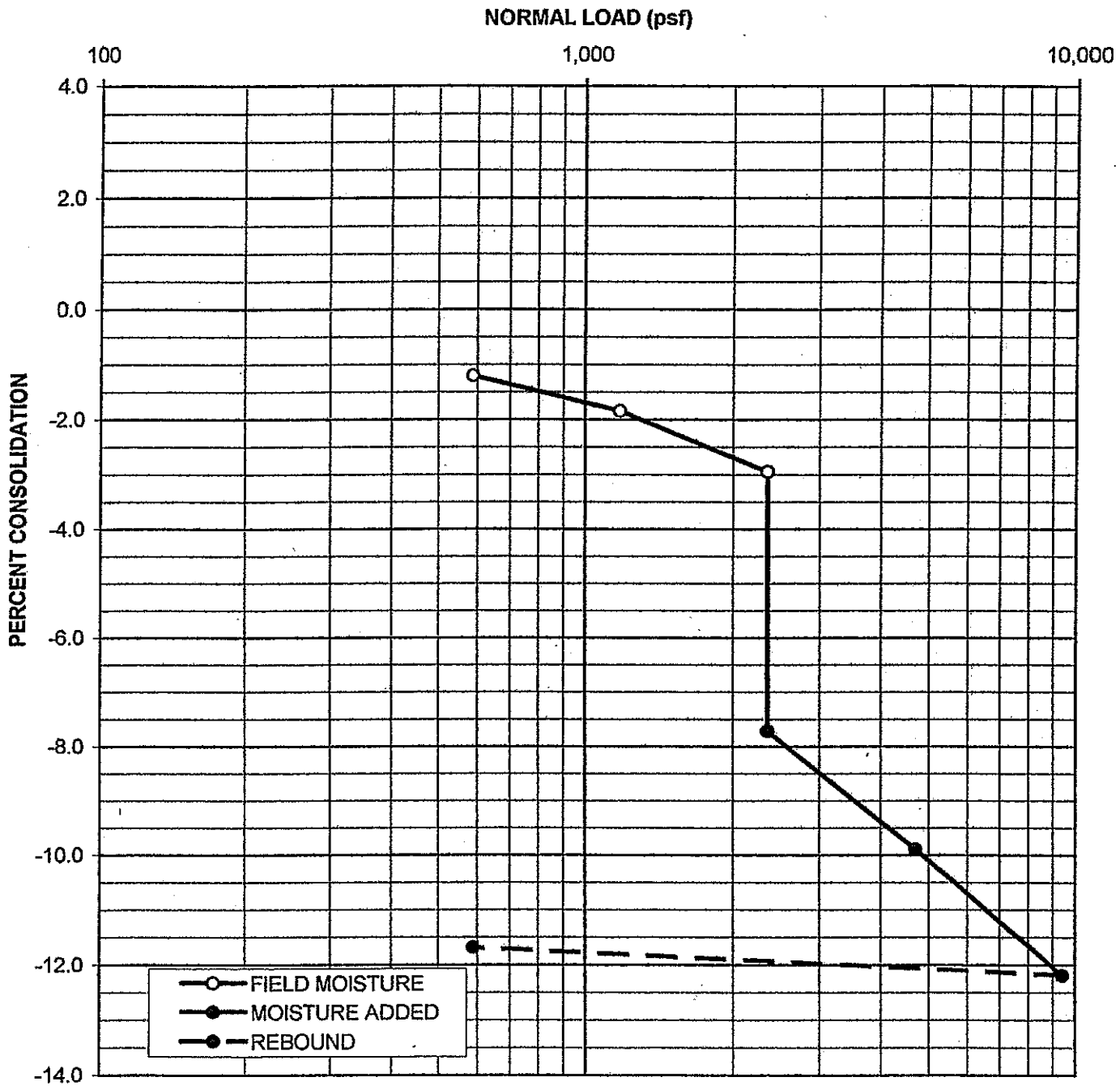
PROJECT NO. 13-2474 BORING NO. Bh5 DEPTH (FT) 8.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Clayey Silty Sand

HYDROCONSOLIDATION (%) 3.20

A.G.I. GEOTECHNICAL. INC.



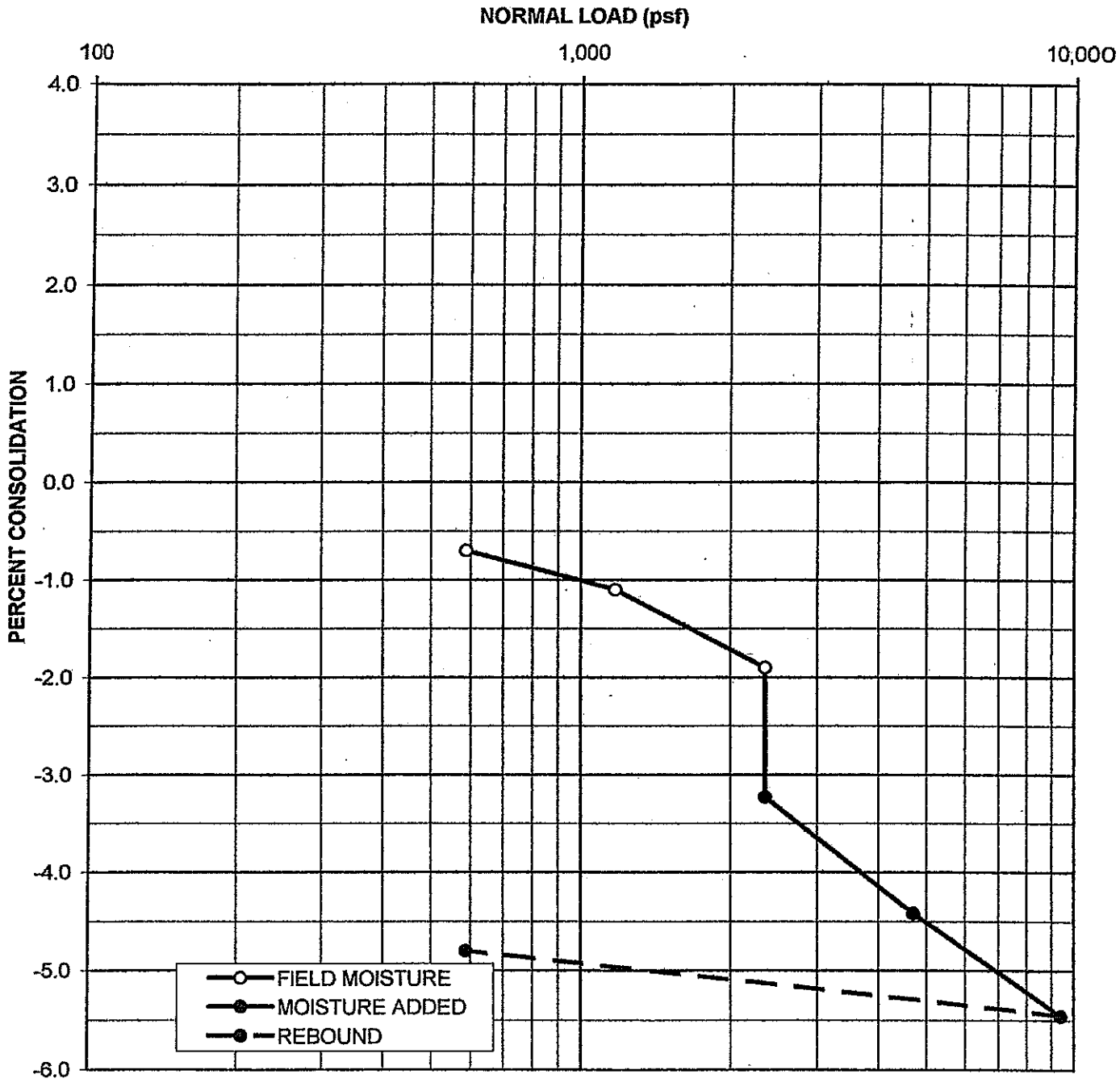
PROJECT NO. 13-2474 BORING NO. Bh6 DEPTH (FT) 6.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Sand

HYDROCONSOLIDATION (%) 4.77

A.G.I. GEOTECHNICAL, INC.



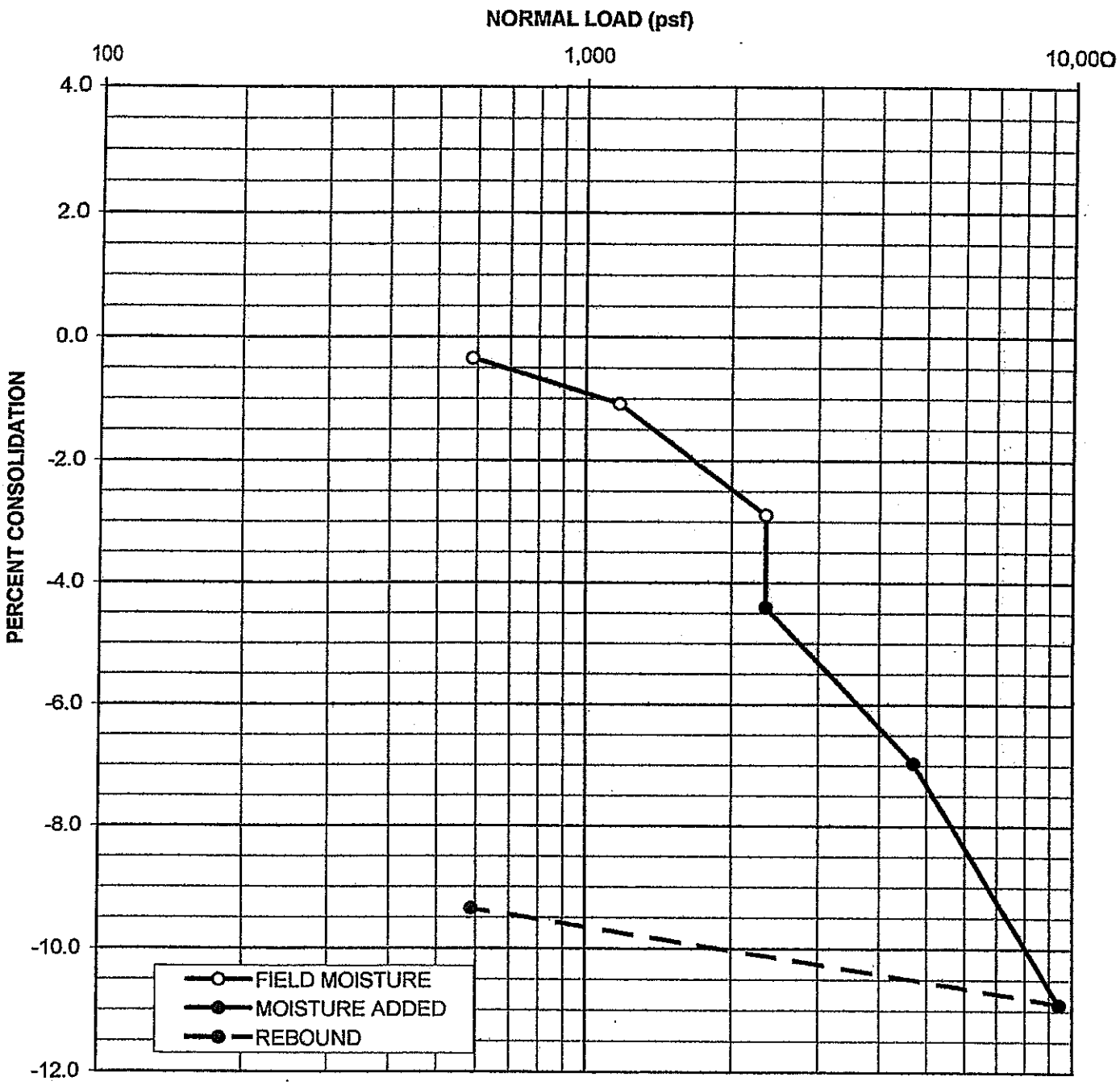
PROJECT NO. 13-2474 **BORING NO.** Bh6 **DEPTH (FT)** 9.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Silty Sand

HYDROCONSOLIDATION (%) 1.33

A.G.I. GEOTECHNICAL, INC.



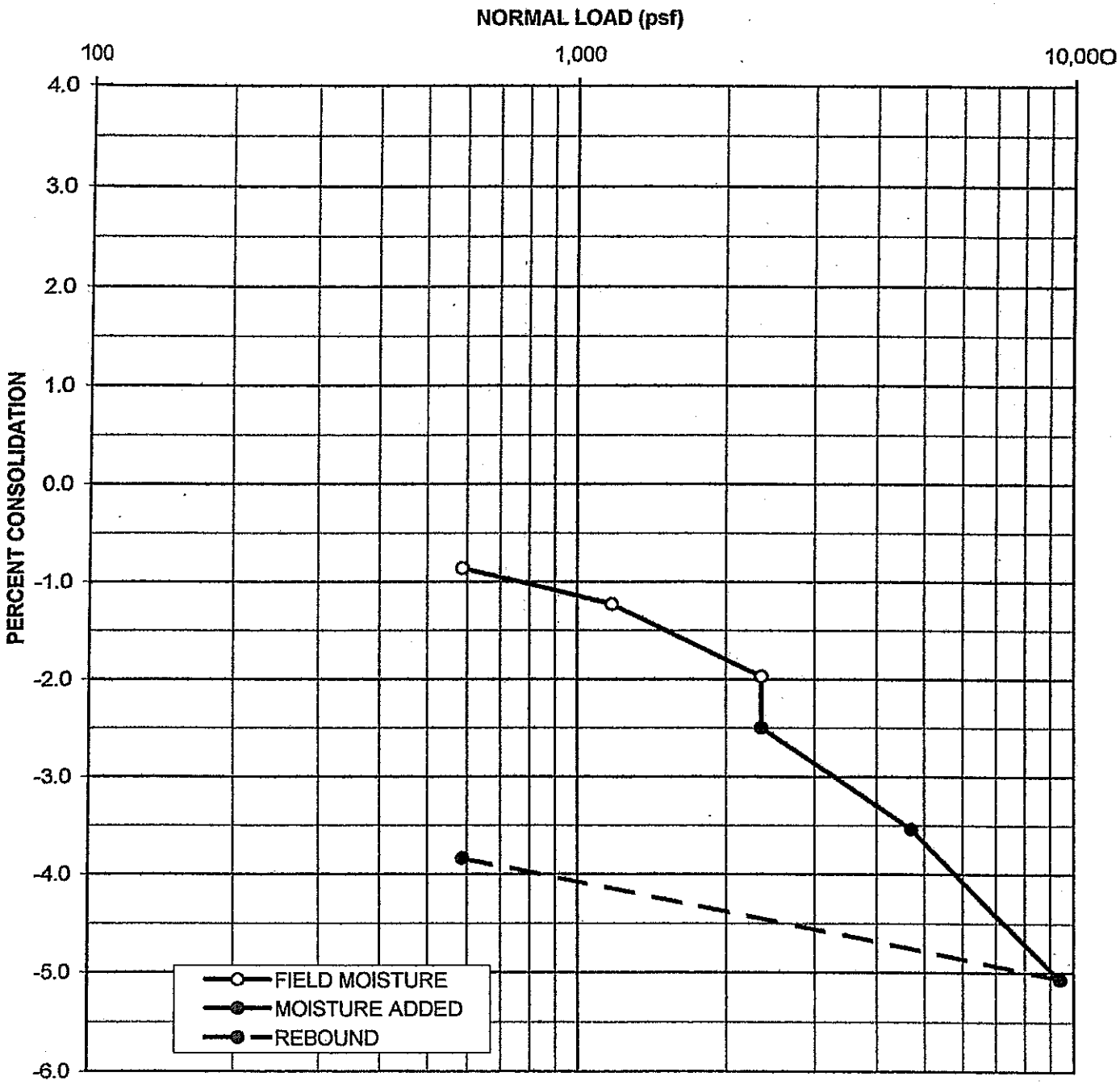
PROJECT NO. 13-2474 BORING NO. Bh6 DEPTH (FT) 12.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Silty Sand

HYDROCONSOLIDATION (%) 1.51

A.G.I. GEOTECHNICAL INC.



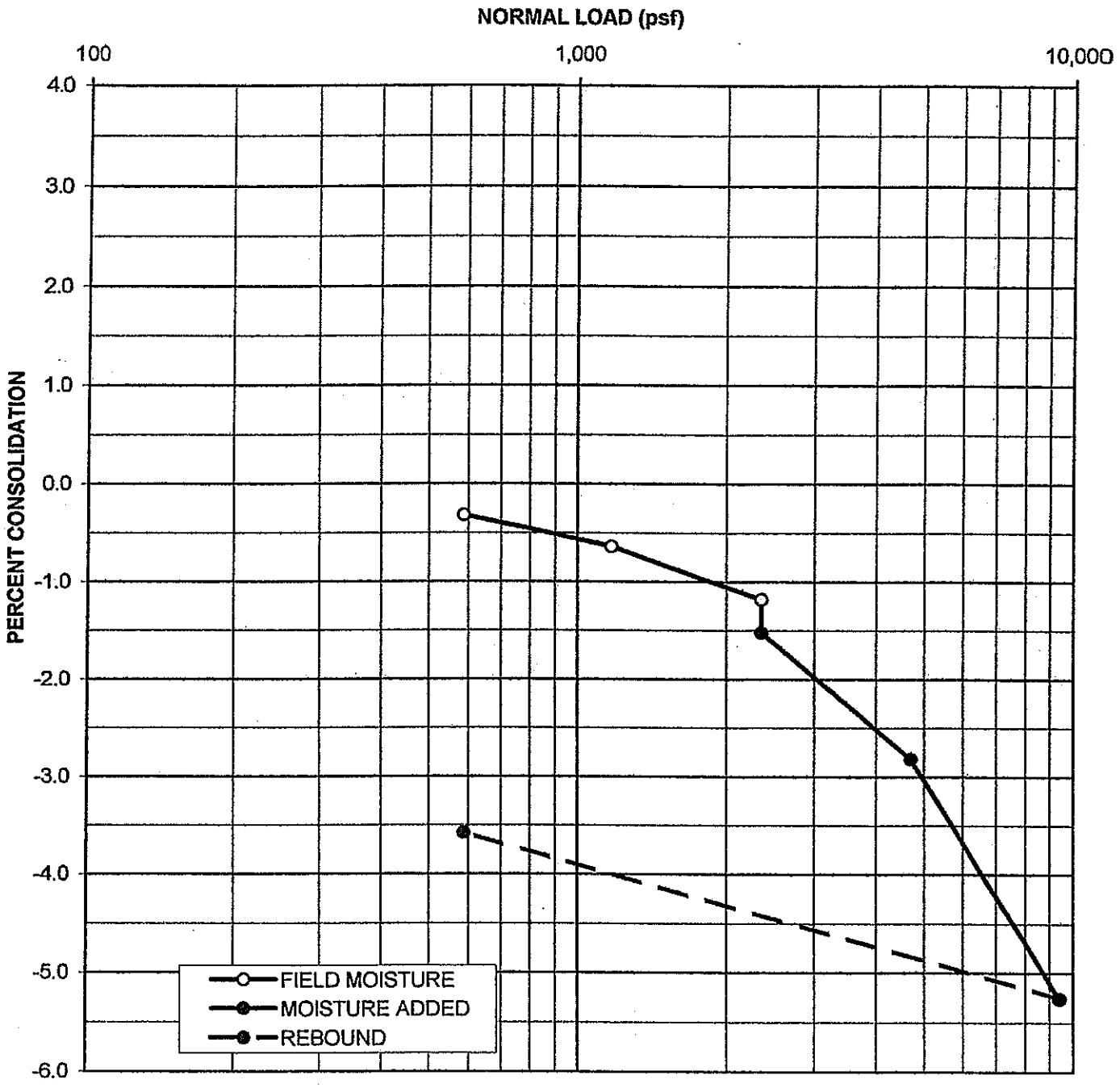
PROJECT NO. 13-2474 BORING NO. Bh6 DEPTH (FT) 15.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Clayey Silty Sand

HYDROCONSOLIDATION (%) 0.53

A.G.I. GEOTECHNICAL. INC.



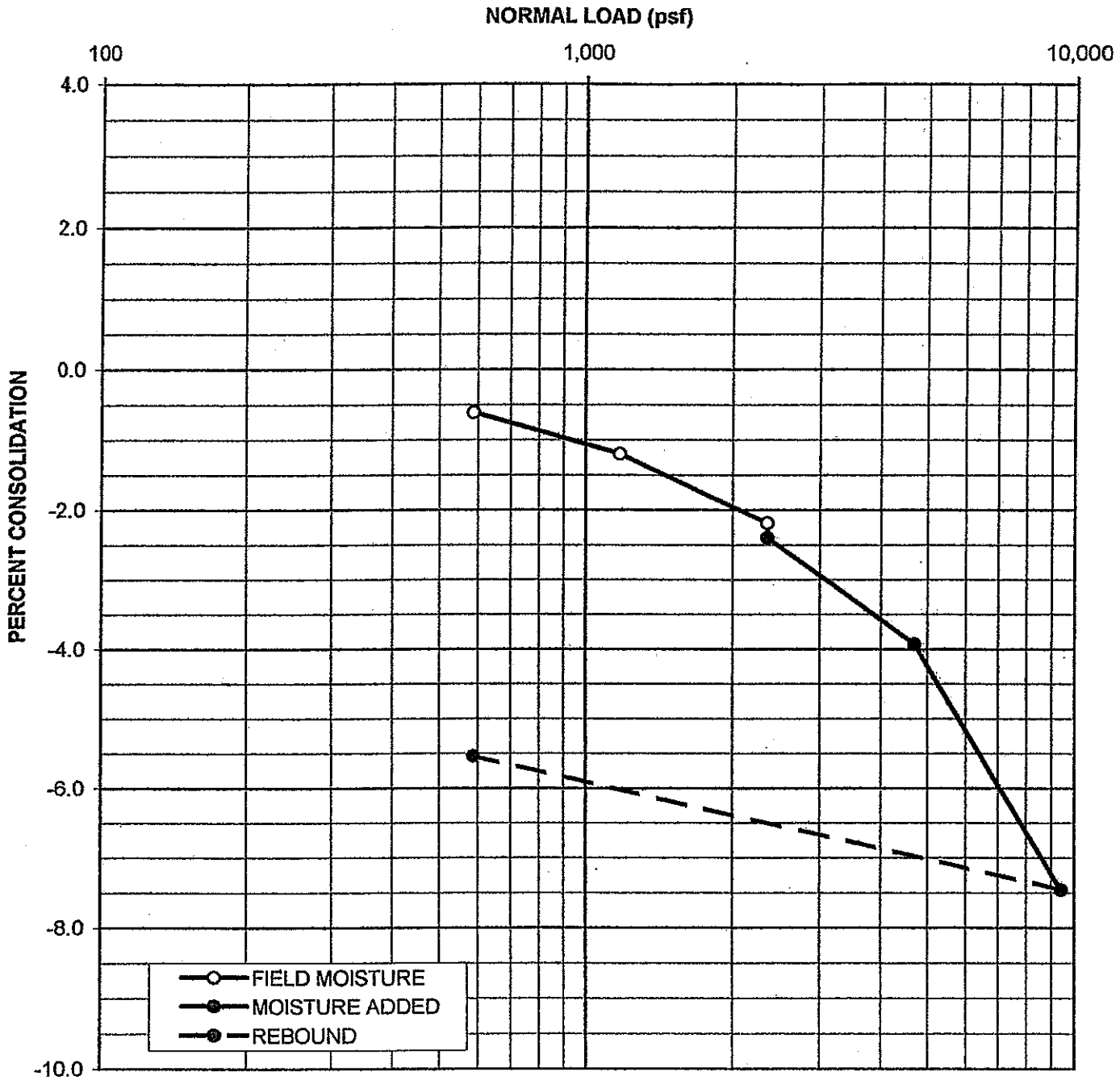
PROJECT NO. 13-2474 **BORING NO.** Bh6 **DEPTH (FT)** 20.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Clayey Silty Sand

HYDROCONSOLIDATION (%) 0.34

A.G.I. GEOTECHNICAL. INC.



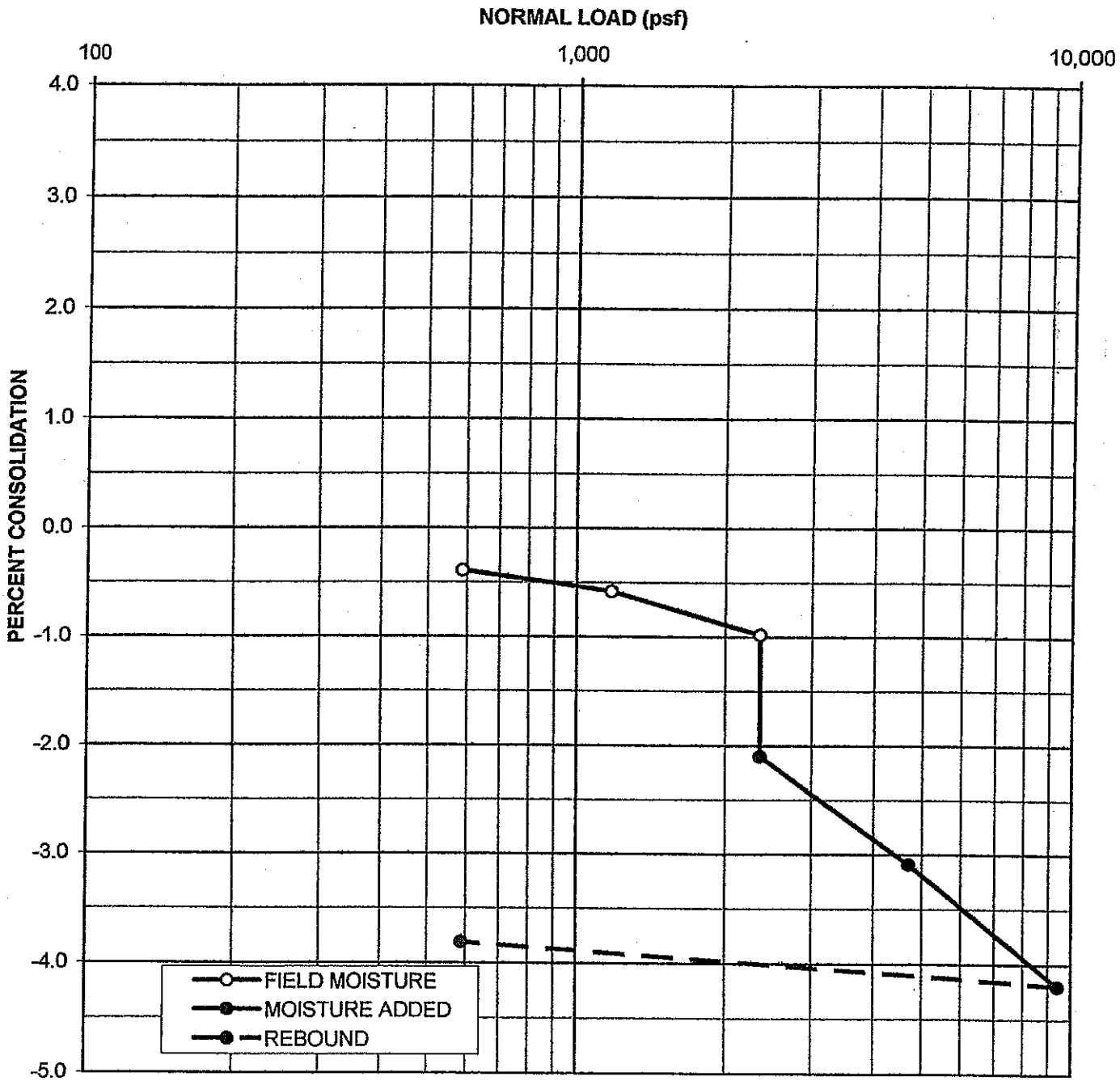
PROJECT NO. 13-2474 BORING NO. Bh6 DEPTH (FT) 25.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Clayey Silty Sand

HYDROCONSOLIDATION (%) 0.21

A.G.I. GEOTECHNICAL. INC.

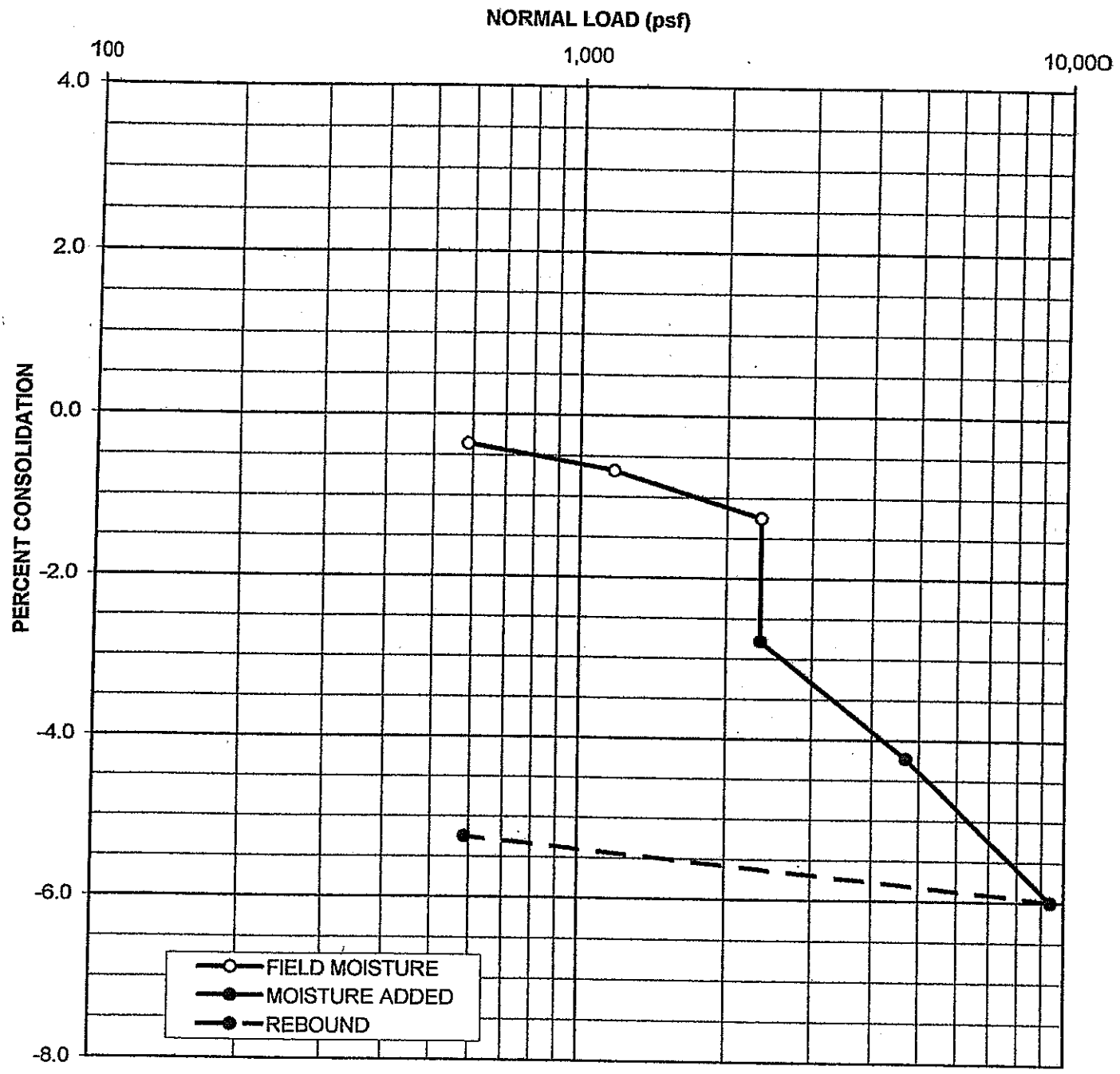


PROJECT NO. 13-2474 BORING NO. Bh7 DEPTH (FT) 7.0

REPRESENTATIVE FOR SOIL TYPE AND DESCRIPTION: Natural Soil, Silty Sand

HYDROCONSOLIDATION (%) 1.12

A.G.I. GEOTECHNICAL INC.



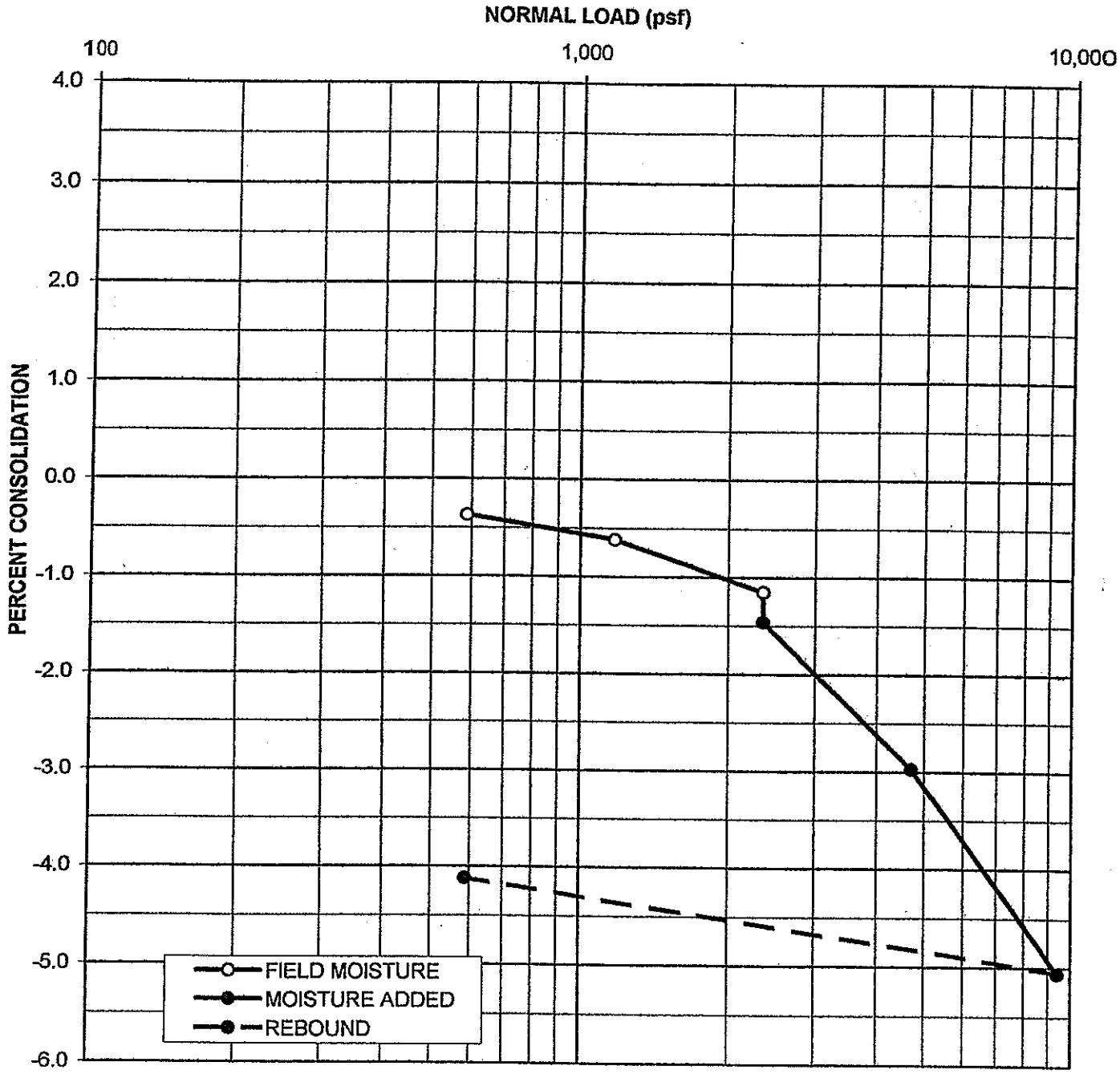
PROJECT NO. 13-2474 BORING NO. Bh7 DEPTH (FT) 32.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Sand

HYDROCONSOLIDATION (%) 1.53

A.G.I. GEOTECHNICAL INC.



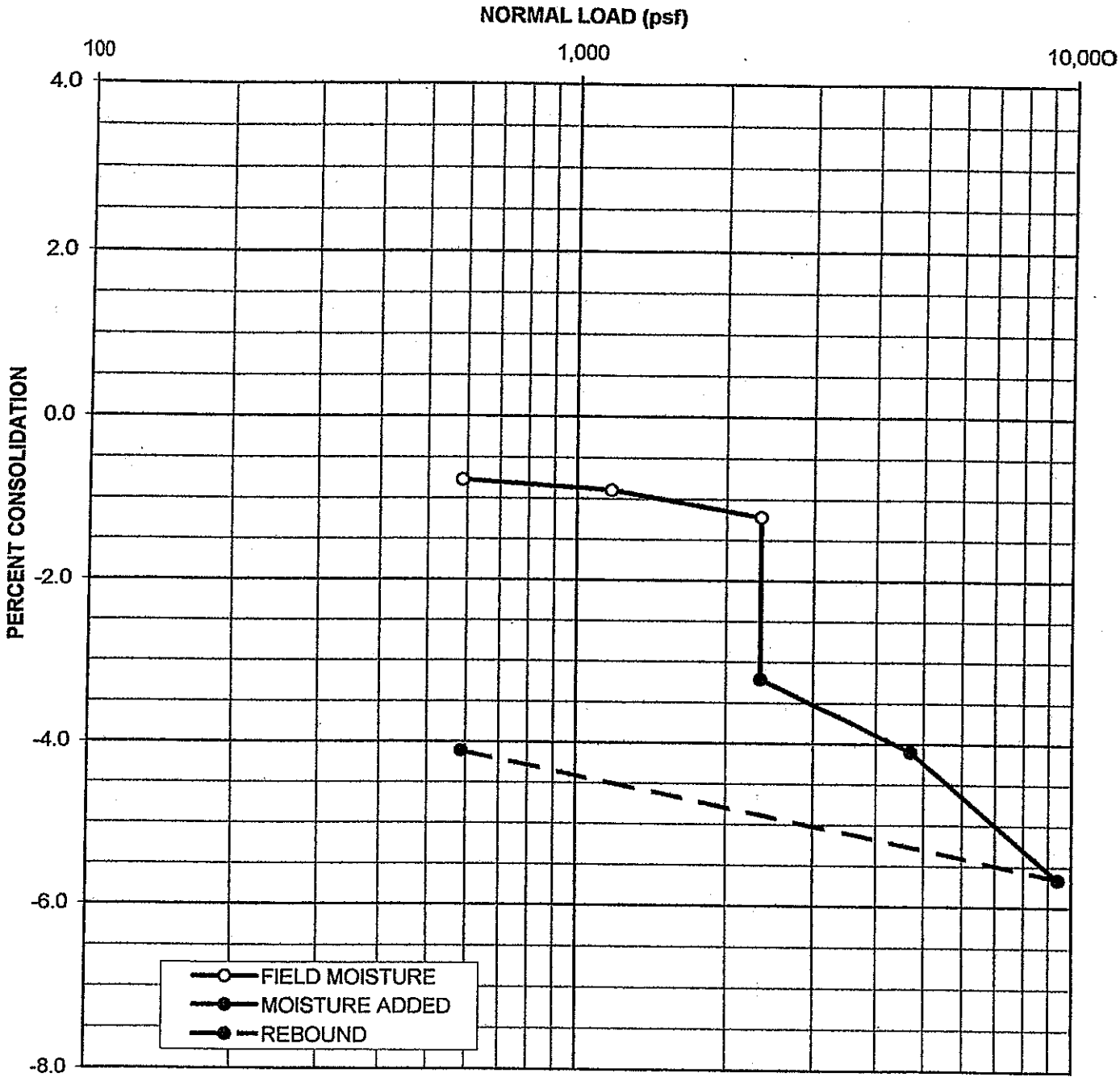
PROJECT NO. 13-2474 BORING NO. Bh7 DEPTH (FT) 37.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Sand

HYDROCONSOLIDATION (%) 0.31

A.G.I. GEOTECHNICAL, INC.



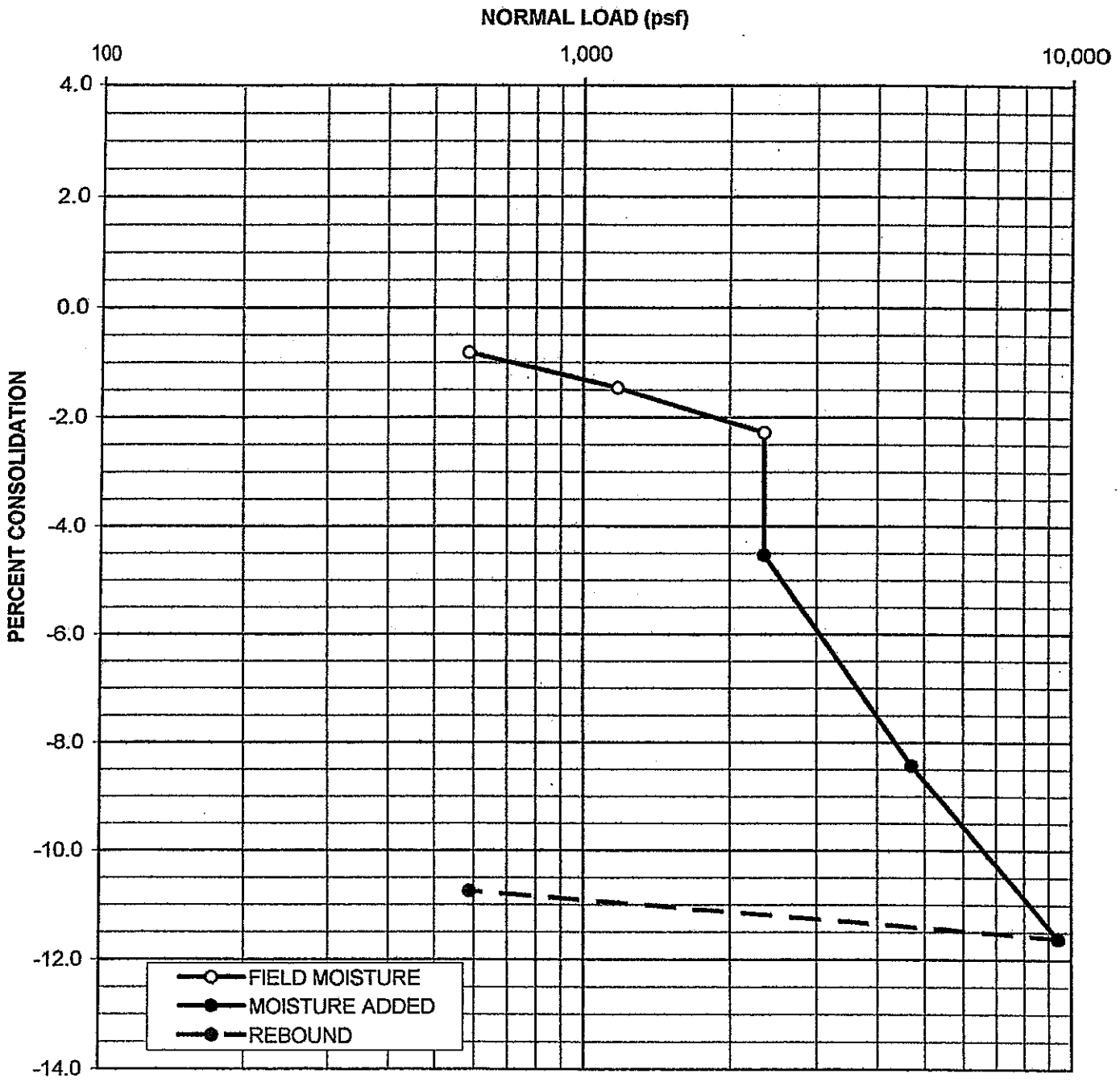
PROJECT NO. 13-2474 BORING NO. Bh8 DEPTH (FT) 6.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Sand

HYDROCONSOLIDATION (%) 1.99

A.G.I. GEOTECHNICAL, INC.



PROJECT NO. 13-2474 **BORING NO.** Bh9 **DEPTH (FT)** 6.0

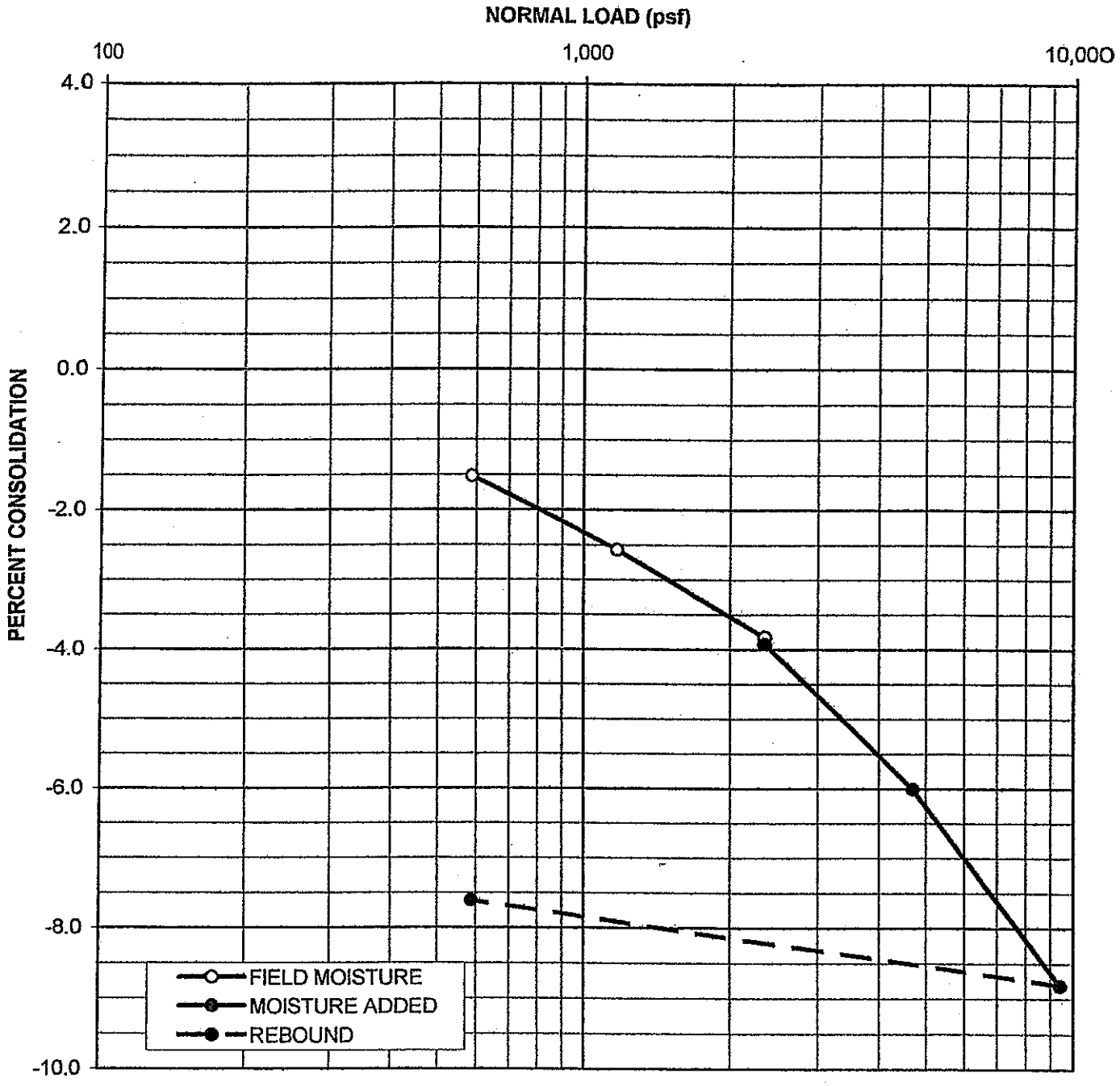
REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Clayey Silty Sand

HYDROCONSOLIDATION (%) 2.25

A G I

A.G.I. GEOTECHNICAL. INC.



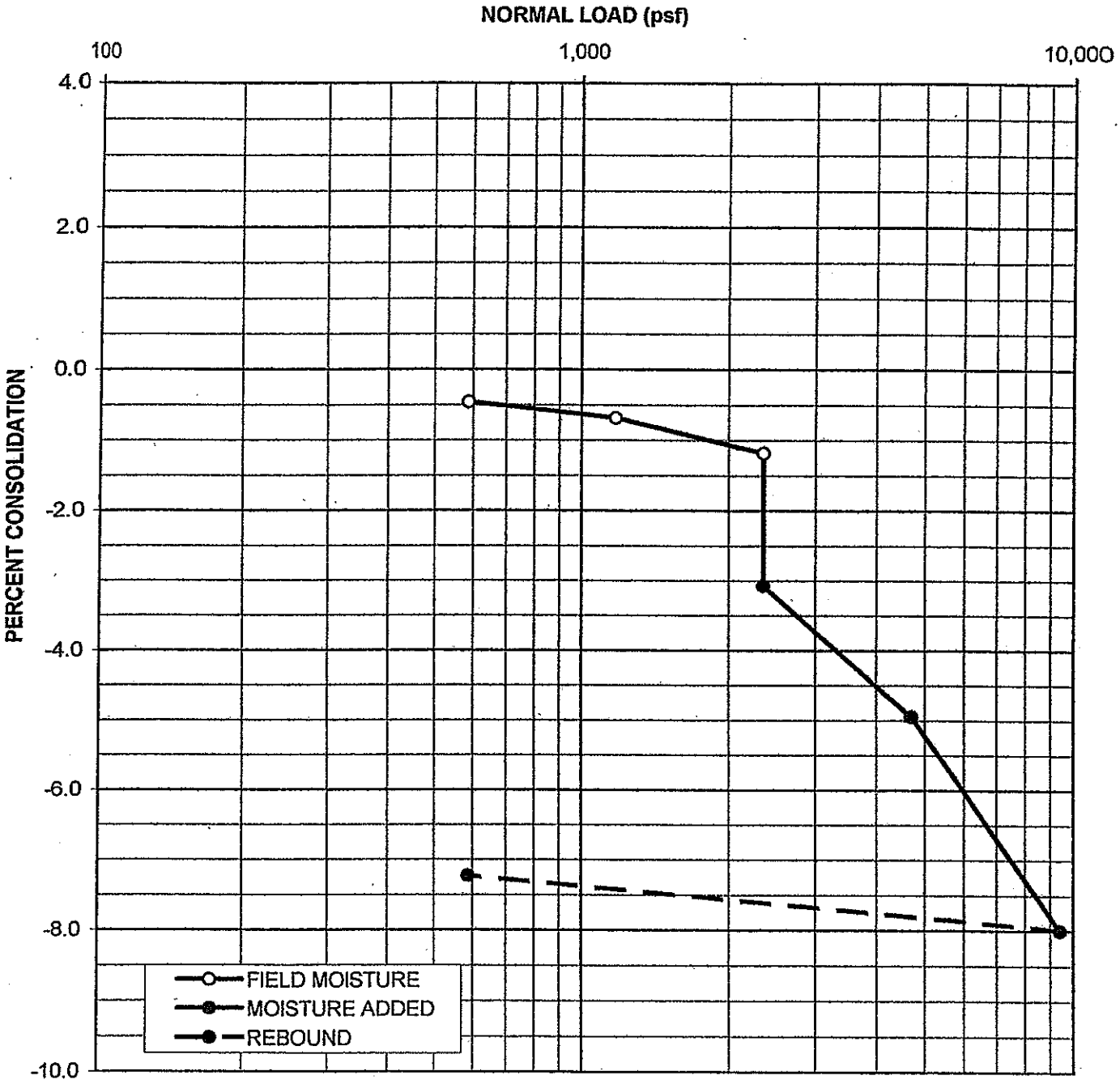
PROJECT NO. 13-2474 BORING NO. Bh9 DEPTH (FT) 9.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Clayey Silty Sand

HYDROCONSOLIDATION (%) 0.10

A.G.I. GEOTECHNICAL INC.



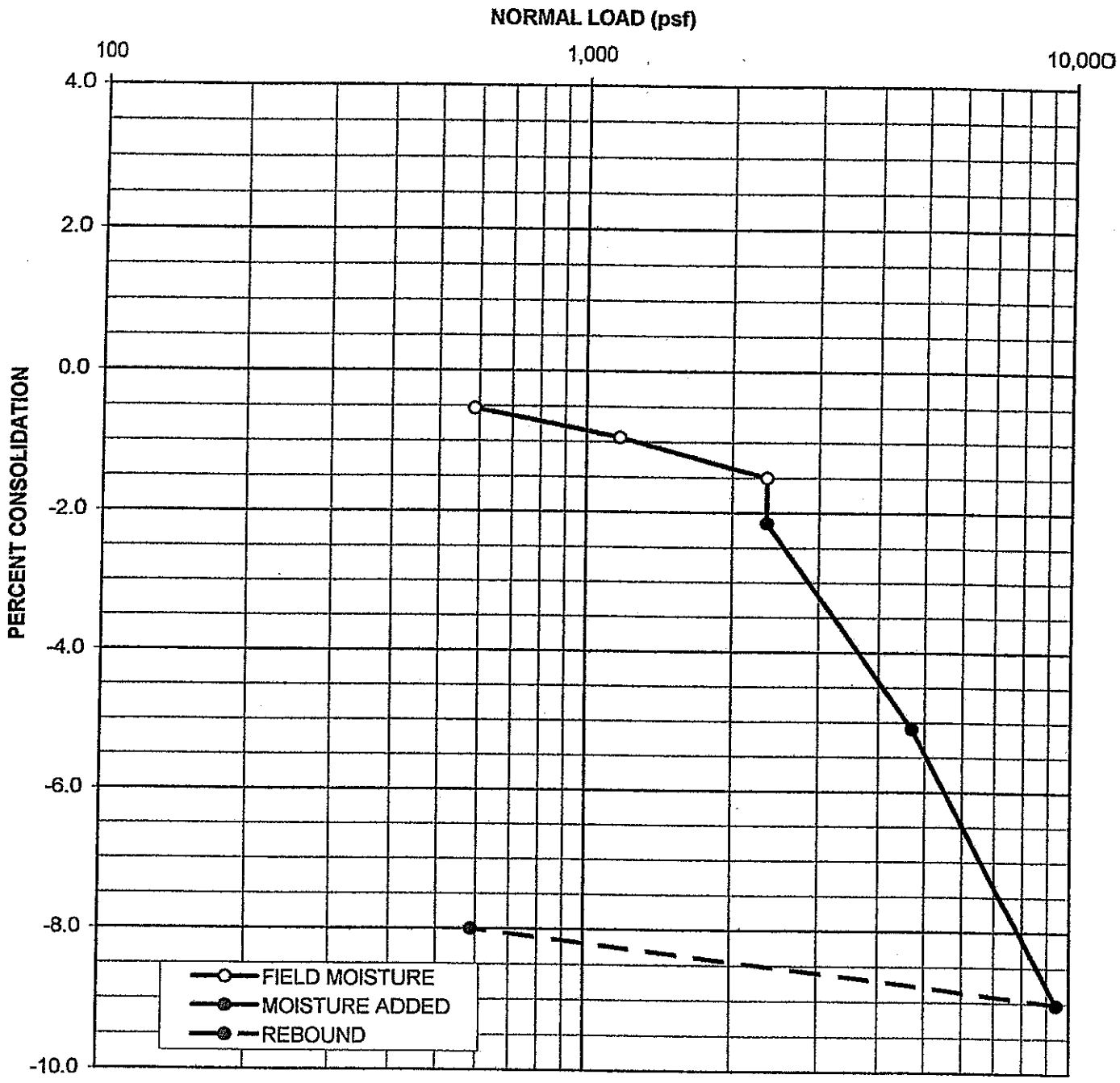
PROJECT NO. 13-2474 BORING NO. B6 DEPTH (FT) 9.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Silty Sand

HYDROCONSOLIDATION (%) 1.89

A.G.I. GEOTECHNICAL, INC.



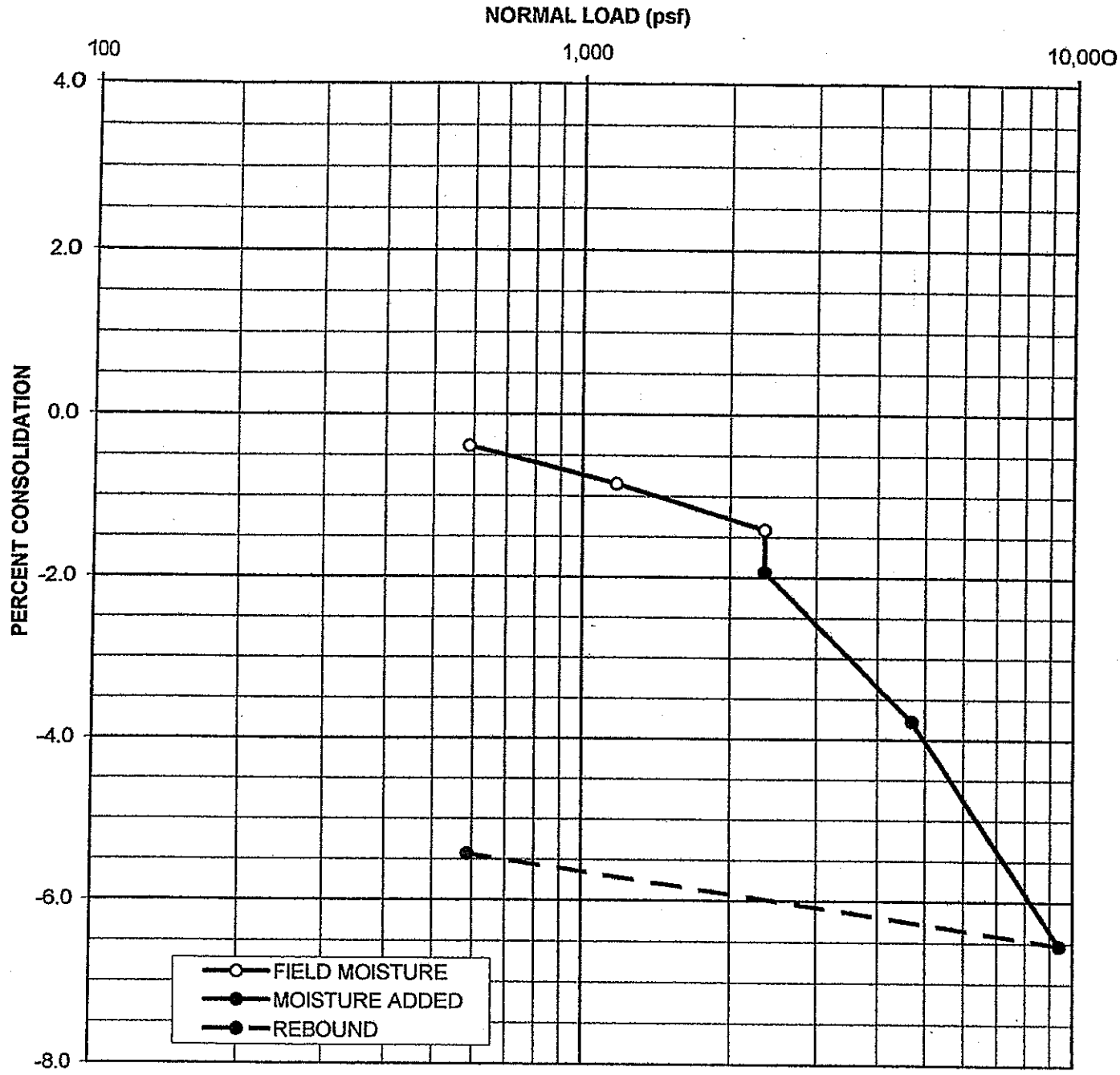
PROJECT NO. 13-2474 BORING NO. B6 DEPTH (FT) 13.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Silty Sand

HYDROCONSOLIDATION (%) 0.65

A.G.I. GEOTECHNICAL, INC.



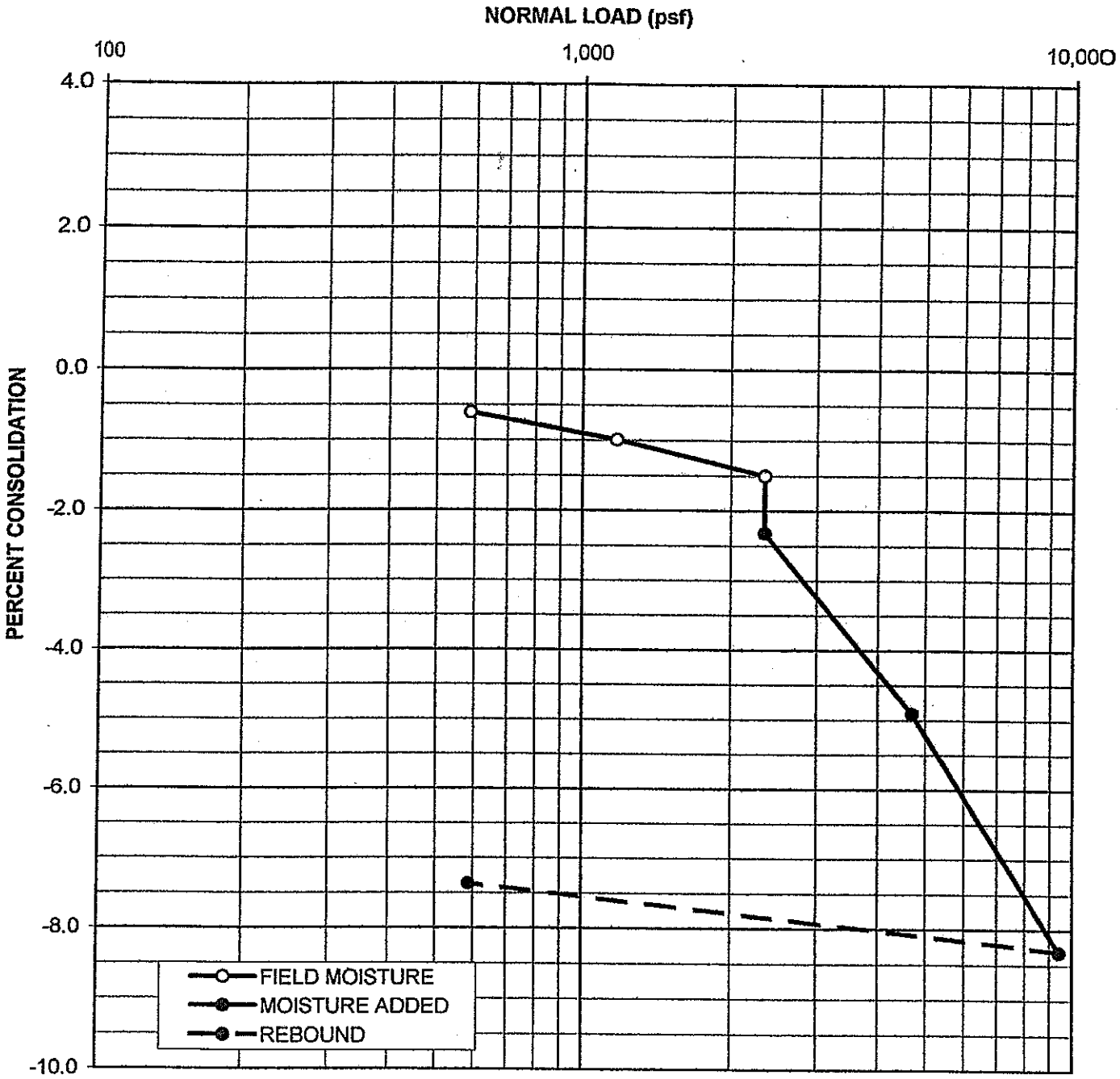
PROJECT NO. 13-2474 BORING NO. B7 DEPTH (FT) 8.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Silty Sand

HYDROCONSOLIDATION (%) 0.52

A.G.I. GEOTECHNICAL, INC.



PROJECT NO. 13-2474 BORING NO. B7 DEPTH (FT) 12.0

REPRESENTATIVE FOR Natural Soil

SOIL TYPE AND DESCRIPTION Silty Sand

HYDROCONSOLIDATION (%) 0.82

A.G.I. GEOTECHNICAL, INC.

M. J. Schiff & Associates, Inc.

Consulting Corrosion Engineers - Since 1959
431 W. Baseline Road
Claremont, CA 91711

Phone: (909) 626-0967 Fax: (909) 626-3316
E-mail lab@mjschiff.com
website: mjschiff.com

Table 1 - Laboratory Tests on Soil Samples

Burnham
Your #13-2474-00, MJS&A #03-1103LAB
24-Sep-03

Sample ID			B-2 @ 13-15'
Resistivity		**Units**	
as-received		ohm-cm	8,000
minimum		ohm-cm	480
pH			7.6
Electrical Conductivity		mS/cm	1.50
Chemical Analyses			
Cations			
calcium	Ca^{2+}	mg/kg	1,122
magnesium	Mg^{2+}	mg/kg	165
sodium	Na^{1+}	mg/kg	430
Anions			
carbonate	CO_3^{2-}	mg/kg	ND
bicarbonate	HCO_3^{1-}	mg/kg	143
chloride	Cl^{1-}	mg/kg	445
sulfate	SO_4^{2-}	mg/kg	3,525
Other Tests			
ammonium	NH_4^{1+}	mg/kg	na
nitrate	NO_3^{1-}	mg/kg	na
sulfide	S^{2-}	qual	na
Redox		mv	na

Minimum resistivity per CTM 643, sulfate per CTM 417, and choloride per CTM 422

Electrical conductivity in millisiemens/cm and chemical analysis were made on a 1:5 soil-to-water extract.
mg/kg = milligrams per kilogram (parts per million) of dry soil.
Redox = oxidation-reduction potential in millivolts
ND = not detected
na = not analyzed

Sheet 1 of 1

REVIEWER CALLING HOURS
-9 a.m. & 3-4 p.m. Mon.-Thurs.

County of Los Angeles Department of Public Works
LAND DEVELOPMENT DIVISION
GEOLOGIC REVIEW SHEET
900 S. Fremont Ave., Alhambra, CA 91803
TEL. (626) 458-4925

DISTRIBUTION
1 Geologist
__ Soils Engineer
1 LDMA/Proc. Ce
1 Section File
1 Subdivision

TENTATIVE TRACT/MINOR LAND SUBDIVISION 53189
SUBDIVIDER San Francisquito Properties, LLC
ENGINEER B & E Engineers
GEOLOGIST AND SOILS ENGINEER Geolabs Westlake Village

TENTATIVE MAP DATED 4/20/00
LOCATION San Francisquito Canyon
REPORT DATE 4/20/00

The Regional Planning Commission, developer and engineer are advised that:

PRIOR TO RECOMMENDING APPROVAL OF TENTATIVE TRACT OR MINOR LAND SUBDIVISION MAP:

1. Provide debris flow analysis for the swale on lot 33. Provide mitigation recommendations as necessary, and dep them on the tentative map.

2. The Soils Engineering review dated 6/28/00 is attached.

NOTE: Provide a copy of this review with your resubmittal.

Prepared by _____ Reviewed by _____ Date 6/5/00
Charles Nestle

NOTICE: Public Safety, relative to geotechnical subsurface exploration, shall be provided in accordance with current codes for excavations, inclusive of the Los Angeles County Code, Chapter 11.48, and the State of California, Title 8, Construction and Safety Orders.

The "Manual for Preparation of Geotechnical Reports" prepared by County of Los Angeles, Department of Public Works is available on the Internet at the following address: http://dpw.co.la.ca.us/med/manual.pdf

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

SOILS ENGINEERING REVIEW SHEET

Address: 900 S. Fremont Ave.
Alhambra, CA 91803
Telephone: (626) 458-4925
Fax: (626) 458-4913
Calling hours - Monday through Thursday 8-9 a.m. & 3-4 p.m

District Office 8.2

Sheet 1 of 1

Tentative Tract 53189
Location San Francisquito Canyon
Developer/Owner San Francisquito, LLC
Engineer/Architect B & E Engineers
Soils Engineer Geolabs (8680)
Geologist Same as Above

Review of:

Soils Engineering Report Dated 4/20/00 Geologic Report Dated 4/20/00

Previous review sheet dated 5/10/00

ACTION:

Tentative Map feasibility is not recommended for approval.

REMARKS:

1. Provide surficial slope stability analysis for all slopes steeper than 2:1 gradient which consists of colluvium and/or alluvium. Recommend mitigation if factors of safety are below County minimum standards.

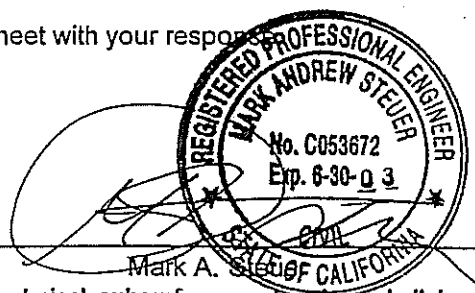
2. Provide seismically induced settlement analysis considering the proposed removal and recompaction of unsuitable materials. Also, address the anticipated amount of seismic differential settlement. Recommend mitigation as necessary.

3. Show the following on the tentative and geotechnical maps:

   Grading required for construction of buttress/ stabilization fills, where applicable.

4. Requirements of the Geology Section are attached.

5. Include a copy of this review sheet with your respon



Prepared by Mark A. Steuer Date 6/28/00

NOTICE: Public safety, relative to geotechnical subsurface exploration, shall be provided in accordance with current codes for excavations, inclusive of the Los Angeles County Code, Chapter 11.48, and the State of California, Title 8, Construction Safety Orders.

P:soilsreview/mark/53189

Seismic Settlement Analysis
Using SPT Data
(Dry Sands)

Project: Burnham / SunCal 53819
Project No.: 13-2474
Boring: Bh7

Earthquake Magnitude, M	7.00
Maximum Acceleration, a	0.55
Boring Water Level , ft	60.0
Design Water Level, ft	60.0
Design Surcharge, psf	0
Factor, $\varepsilon_{C,N} / \varepsilon_{C,N=15}$	0.89

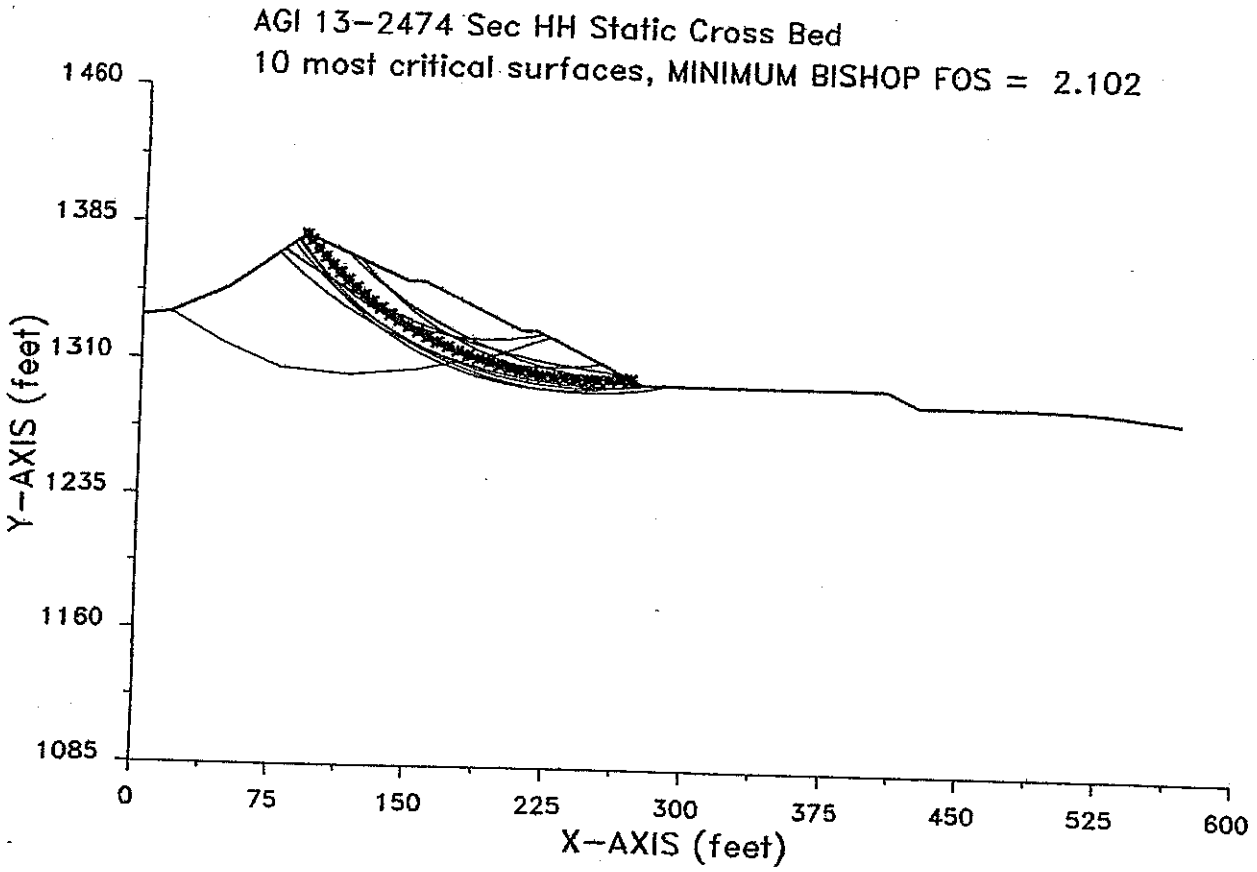
SPT Correction Factors		
C_E	1.00	Energy Ratio
C_B	1.00	Borehole Diameter
C_R	1.00	Rod Length
C_S	1.20	Sampler Type
C_{EBRS}	1.20	Overall Correction

Layer Number	Layer Base, z (ft)	Total Unit Weight, γ (pcf)	SPT N_{field}	Fines (%)	Incl? (Y/N)	Layer Thickness t (ft)	Layer Midheight z_o (ft)	Design Effective Stress $\sigma_o = \sigma_o'$ (psf)	Boring Effective Stress σ_b' (psf)	Mean Stress σ_m' (psf)	C_N	SPT Fines Corr $\delta(N_1)_{60}$	SPT $(N_1)_{60}$	r_d	G_{max} (ksf)	$\gamma_{eff}(G_{eff}/G_{max})$	γ_{eff} (%)	$\varepsilon_{C,M=7.5}$ (%)	Settlement (in)
1	5.00	127.0	13.0	12.0	N	5.00	2.50	318	318	212	1.60	1.1	26.1	1.00	863	0.000131	0.0432	0.0335	0.00
2	10.00	113.0	13.0	12.0	N	5.00	7.50	918	918	612	1.48	1.1	24.1	0.99	1429	0.000228	0.0782	0.0667	0.00
3	15.00	115.0	13.0	14.0	N	5.00	12.50	1,488	1,488	992	1.16	1.3	19.4	0.98	1691	0.000309	0.1151	0.1298	0.00
4	20.00	126.0	20.0	14.0	Y	5.00	17.50	2,090	2,090	1,393	0.98	1.3	24.7	0.97	2176	0.000333	0.1046	0.0865	0.09
5	25.00	119.0	25.0	13.0	Y	5.00	22.50	2,703	2,703	1,802	0.86	1.2	27.0	0.95	2547	0.000361	0.1044	0.0754	0.08
6	30.00	118.0	21.0	13.0	Y	5.00	27.50	3,295	3,295	2,197	0.78	1.2	20.8	0.93	2579	0.000424	0.1334	0.1361	0.15
7	35.00	119.0	24.0	17.0	Y	5.00	32.50	3,888	3,888	2,592	0.72	1.5	22.2	0.90	2861	0.000437	0.1260	0.1185	0.13
8	40.00	119.0	27.0	17.0	Y	5.00	37.50	4,483	4,483	2,988	0.67	1.5	23.2	0.87	3117	0.000445	0.1184	0.1053	0.11
9	45.00	120.0	20.0	16.0	Y	5.00	42.50	5,080	5,080	3,387	0.63	1.4	16.5	0.83	2963	0.000507	0.1474	0.2037	0.22
10	50.00	120.0	21.0	18.0	Y	5.00	47.50	5,680	5,680	3,787	0.59	1.6	16.6	0.78	3138	0.000507	0.1354	0.1868	0.20

TOTAL DRY SAND SETTLEMENT (in) : 0.97

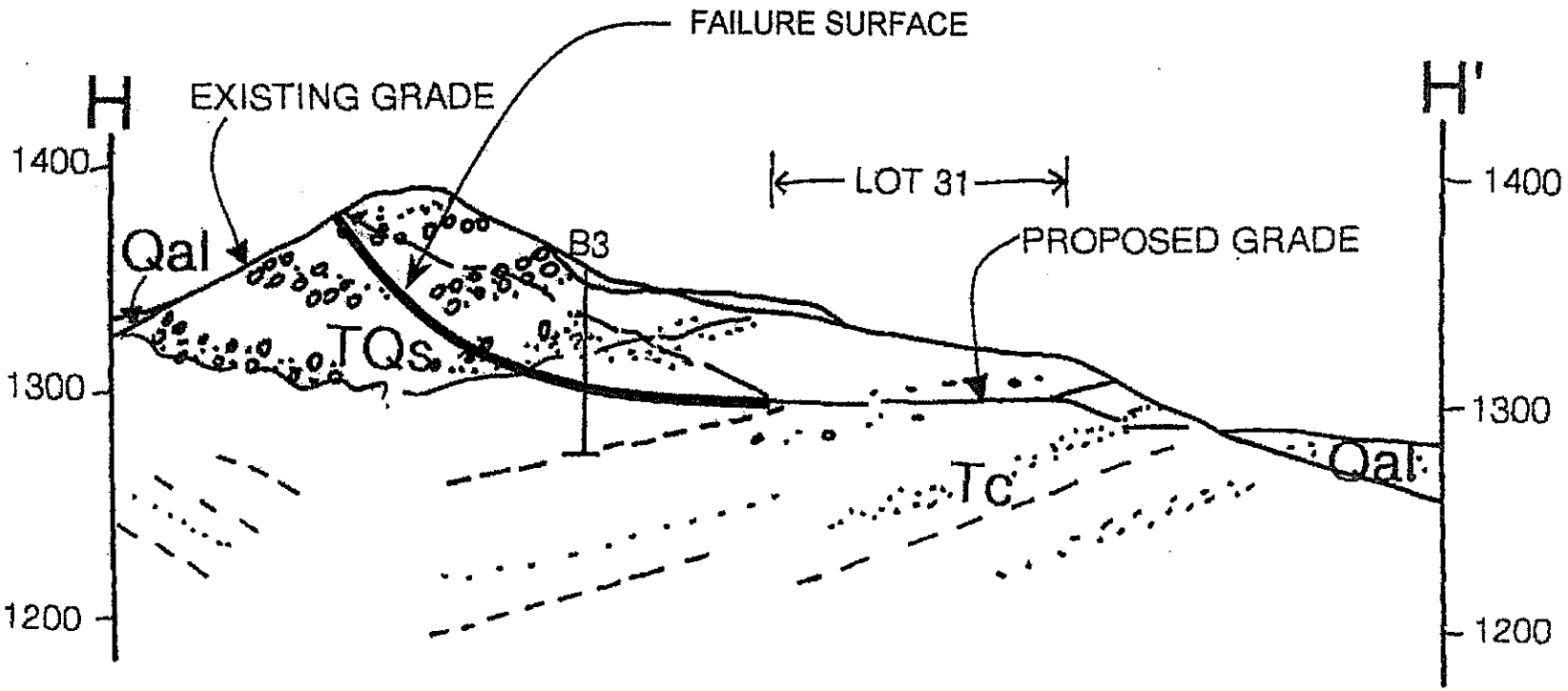
Reference: Tokimatsu, K., and Seed, H. (1987). "Evaluation of Settlements in Sands Due to Earthquake Shaking." Journal of Geotechnical Engineering, ASCE, 113(8), 861-878.

HHC 10-02-** 10:52



Section H-H' Slope Stability Results
Failure Surface Shown on Geologic Cross-Section
Circular Failure Across Bedding

Static Factor of Safety = 2.10



A.G.I. GEOTECHNICAL, INC.	Project No. : 13-2474-00	Date: 10-1-03
	Scale: As Shown	Revised: 10-1-03
	Approved By: JAV	Drawn By: MBS

XSTABL File: HHC 10-02-** 10:52

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*****************************************
*              X S T A B L              *
*                                       *
*        Slope Stability Analysis       *
*               using the               *
*            Method of Slices           *
*                                       *
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*****************************************
```

Problem Description : AGI 13-2474 Sec HH Static Cross Bed

SEGMENT BOUNDARY COORDINATES

---

14 SURFACE boundary segments

Segment No.	x-left (ft)	y-left (ft)	x-right (ft)	y-right (ft)	Soil Unit Below Segment
1	.0	1334.0	15.6	1336.0	2
2	15.6	1336.0	47.3	1350.0	1
3	47.3	1350.0	90.4	1380.0	1
4	90.4	1380.0	147.6	1355.0	1
5	147.6	1355.0	155.7	1355.0	1
6	155.7	1355.0	209.0	1329.0	1
7	209.0	1329.0	217.0	1329.0	1
8	217.0	1329.0	224.2	1325.4	1
9	224.2	1325.4	274.8	1300.0	2
10	274.8	1300.0	407.5	1300.0	2
11	407.5	1300.0	425.5	1291.0	2
12	425.5	1291.0	490.2	1291.0	2
13	490.2	1291.0	522.7	1290.0	2
14	522.7	1290.0	568.5	1285.0	2

6 SUBSURFACE boundary segments

Segment No.	x-left (ft)	y-left (ft)	x-right (ft)	y-right (ft)	Soil Unit Below Segment
1	15.6	1336.0	44.9	1319.6	2
2	44.9	1319.6	77.4	1306.3	2
3	77.4	1306.3	115.8	1303.1	2
4	115.8	1303.1	153.0	1306.6	2
5	153.0	1306.6	196.1	1315.6	2
6	196.1	1315.6	224.2	1325.4	2

ISOTROPIC Soil Parameters

2 Soil unit(s) specified

Soil Unit No.	Unit Weight Moist (pcf)	Unit Weight Sat. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Parameter Ru	Pore Pressure Constant (psf)	Water Surface No.
1	125.0	130.0	300.0	30.00	.000	.0	0
2	125.0	130.0	325.0	35.00	.000	.0	0

A critical failure surface searching method, using a random technique for generating CIRCULAR surfaces has been specified.

400 trial surfaces will be generated and analyzed.

20 Surfaces initiate from each of 20 points equally spaced along the ground surface between x = 200.0 ft
and x = 300.0 ft

Each surface terminates between x = 50.0 ft
and x = 150.0 ft

Unless further limitations were imposed, the minimum elevation at which a surface extends is y = .0 ft

* * * * * DEFAULT SEGMENT LENGTH SELECTED BY XSTABL * * * * *

6.0 ft line segments define each trial failure surface.

ANGULAR RESTRICTIONS :

The first segment of each failure surface will be inclined within the angular range defined by :

Lower angular limit := -45.0 degrees
Upper angular limit := (slope angle - 5.0) degrees

****
-- WARNING -- WARNING -- WARNING -- WARNING -- (# 48)
****
Negative effective stresses were calculated at the base of a slice. This warning is usually reported for slices that have low self weight and a relatively high "c" shear strength parameter. This effect can be eliminated by inserting a crack or by reducing the "c" value.
****

USER SELECTED option to discard surfaces with effective normal stresses less than zero

---

Factors of safety have been calculated by the :

* * * * * SIMPLIFIED BISHOP METHOD * * * * *

The most critical circular failure surface
is specified by 35 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	268.42	1303.20
2	262.44	1302.75
3	256.44	1302.48
4	250.44	1302.39
5	244.45	1302.47
6	238.45	1302.73
7	232.47	1303.17
8	226.50	1303.78
9	220.55	1304.57
10	214.63	1305.53
11	208.74	1306.67
12	202.88	1307.98
13	197.07	1309.47
14	191.30	1311.12
15	185.58	1312.95
16	179.93	1314.94
17	174.33	1317.09
18	168.79	1319.42
19	163.33	1321.90
20	157.95	1324.54
21	152.64	1327.35
22	147.42	1330.30
23	142.29	1333.41
24	137.25	1336.67
25	132.31	1340.08
26	127.48	1343.63
27	122.75	1347.32
28	118.13	1351.15
29	113.63	1355.12
30	109.24	1359.22
31	104.98	1363.44
32	100.85	1367.79
33	96.84	1372.25
34	92.97	1376.84
35	90.48	1379.96

**** Simplified BISHOP FOS = 2.102 ****

```
**********************************************************************
**                                                                  **
**  Out of the    400 surfaces generated and analyzed by XSTABL,    **
**        1 surfaces were found to have MISLEADING FOS values.      **
**                                                                  **
**********************************************************************
```

The following is a summary of the TEN most critical surfaces

Problem Description : AGI 13-2474 Sec HH Static Cross Bed

	FOS (BISHOP)	Circle Center x-coord (ft)	Circle Center y-coord (ft)	Radius (ft)	Initial x-coord (ft)	Terminal x-coord (ft)	Resisting Moment (ft-lb)
1.	2.102	250.26	1505.70	203.31	268.42	90.48	6.539E+07
2.	2.111	246.68	1508.19	210.67	278.95	83.37	9.231E+07
3.	2.117	296.18	1693.07	388.63	263.16	78.07	1.080E+08
4.	2.146	255.66	1563.14	264.69	284.21	75.26	1.205E+08
5.	2.147	191.07	1454.08	130.60	221.05	85.82	2.770E+07
6.	2.152	286.15	1548.65	248.40	273.68	113.84	5.226E+07
7.	2.154	245.68	1489.65	194.64	289.47	86.66	8.985E+07
8.	2.156	263.94	1487.91	187.60	273.68	120.68	4.512E+07
9.	2.171	224.27	1469.68	161.07	252.63	90.57	4.863E+07
10.	2.185	234.01	1470.28	174.30	273.68	86.59	8.219E+07

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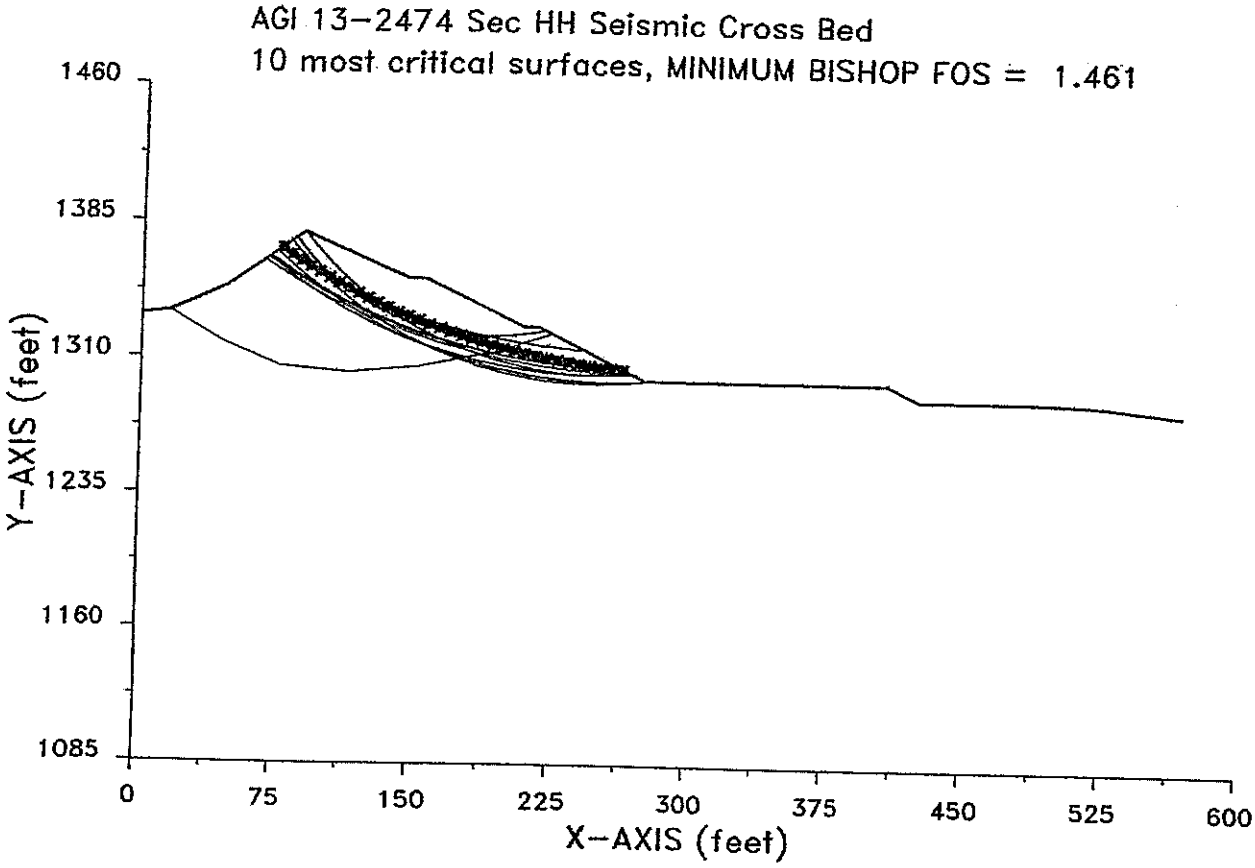
HHCS 10-02-** 10:55



XSTABL File: HHCS 10-02-** 10:55

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*              X S T A B L              *
*                                       *
*        Slope Stability Analysis       *
*               using the               *
*           Method of Slices            *
*                                       *
*        Copyright (C) 1992 Ä 94        *
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*  Ver. 5.005                94 Ä 1288  *
*****************************************
```

Problem Description : AGI 13-2474 Sec HH Seismic Cross Bed

SEGMENT BOUNDARY COORDINATES

---

14 SURFACE boundary segments

Segment No.	x-left (ft)	y-left (ft)	x-right (ft)	y-right (ft)	Soil Unit Below Segment
1	.0	1334.0	15.6	1336.0	2
2	15.6	1336.0	47.3	1350.0	1
3	47.3	1350.0	90.4	1380.0	1
4	90.4	1380.0	147.6	1355.0	1
5	147.6	1355.0	155.7	1355.0	1
6	155.7	1355.0	209.0	1329.0	1
7	209.0	1329.0	217.0	1329.0	1
8	217.0	1329.0	224.2	1325.4	1
9	224.2	1325.4	274.8	1300.0	2
10	274.8	1300.0	407.5	1300.0	2
11	407.5	1300.0	425.5	1291.0	2
12	425.5	1291.0	490.2	1291.0	2
13	490.2	1291.0	522.7	1290.0	2
14	522.7	1290.0	568.5	1285.0	2

6 SUBSURFACE boundary segments

Segment No.	x-left (ft)	y-left (ft)	x-right (ft)	y-right (ft)	Soil Unit Below Segment
1	15.6	1336.0	44.9	1319.6	2
2	44.9	1319.6	77.4	1306.3	2
3	77.4	1306.3	115.8	1303.1	2
4	115.8	1303.1	153.0	1306.6	2
5	153.0	1306.6	196.1	1315.6	2
6	196.1	1315.6	224.2	1325.4	2

ISOTROPIC Soil Parameters

---

2 Soil unit(s) specified

Soil Unit No.	Unit Weight Moist (pcf)	Unit Weight Sat. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Parameter Ru	Pore Pressure Constant (psf)	Water Surface No.
1	125.0	130.0	300.0	30.00	.000	.0	0
2	125.0	130.0	325.0	35.00	.000	.0	0

A horizontal earthquake loading coefficient
of .150 has been assigned

A vertical earthquake loading coefficient
of .000 has been assigned

A critical failure surface searching method, using a random technique for generating CIRCULAR surfaces has been specified.

400 trial surfaces will be generated and analyzed.

20 Surfaces initiate from each of 20 points equally spaced
along the ground surface between x = 200.0 ft
and x = 300.0 ft

Each surface terminates between x = 50.0 ft
and x = 150.0 ft

Unless further limitations were imposed, the minimum elevation
at which a surface extends is y = .0 ft

* * * * * DEFAULT SEGMENT LENGTH SELECTED BY XSTABL * * * * *

6.0 ft line segments define each trial failure surface.

ANGULAR RESTRICTIONS :

The first segment of each failure surface will be inclined within the angular range defined by :

Lower angular limit := -45.0 degrees
Upper angular limit := (slope angle - 5.0) degrees

****

-- WARNING -- WARNING -- WARNING -- WARNING -- (# 48)

****
Negative effective stresses were calculated at the base of a slice.
This warning is usually reported for slices that have low self weight
and a relatively high "c" shear strength parameter. This effect can
be eliminated by inserting a crack or by reducing the "c" value.
****

USER SELECTED option to discard surfaces with effective
normal stresses less than zero

Factors of safety have been calculated by the :

* * * * * SIMPLIFIED BISHOP METHOD * * * * *

The most critical circular failure surface
is specified by 35 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	263.16	1305.84
2	257.18	1306.40
3	251.22	1307.05
4	245.26	1307.79
5	239.32	1308.62
6	233.39	1309.54
7	227.48	1310.56
8	221.58	1311.67
9	215.70	1312.86
10	209.84	1314.15
11	204.00	1315.53
12	198.19	1317.00
13	192.39	1318.55
14	186.62	1320.20
15	180.88	1321.94
16	175.16	1323.76
17	169.48	1325.67
18	163.82	1327.67
19	158.19	1329.76
20	152.60	1331.93
21	147.04	1334.19
22	141.52	1336.54
23	136.03	1338.97
24	130.59	1341.48
25	125.18	1344.08
26	119.81	1346.76
27	114.49	1349.52
28	109.20	1352.37
29	103.97	1355.30
30	98.77	1358.30
31	93.63	1361.39
32	88.53	1364.56
33	83.48	1367.80
34	78.49	1371.12
35	78.07	1371.41

**** Simplified BISHOP FOS = 1.461 ****

****
**
** Out of the 400 surfaces generated and analyzed by XSTABL, **
** 6 surfaces were found to have MISLEADING FOS values. **
**
****

The following is a summary of the TEN most critical surfaces

Problem Description : AGI 13-2474 Sec HH Seismic Cross Bed

	FOS (BISHOP)	Circle Center x-coord (ft)	Circle Center y-coord (ft)	Radius (ft)	Initial x-coord (ft)	Terminal x-coord (ft)	Resisting Moment (ft-lb)
1.	1.461	296.18	1693.07	388.63	263.16	78.07	1.037E+08
2.	1.489	250.26	1505.70	203.31	268.42	90.48	6.281E+07
3.	1.490	255.66	1563.14	264.69	284.21	75.26	1.160E+08
4.	1.491	246.68	1508.19	210.67	278.95	83.37	8.880E+07
5.	1.496	269.07	1657.52	351.72	263.16	71.30	1.203E+08
6.	1.504	265.94	1653.11	347.28	263.16	70.42	1.224E+08
7.	1.507	257.81	1646.32	330.28	242.11	76.45	7.463E+07
8.	1.510	191.07	1454.08	130.60	221.05	85.82	2.669E+07
9.	1.513	247.99	1579.49	277.04	268.42	70.97	1.173E+08
10.	1.514	273.99	1677.70	374.54	268.42	68.37	1.433E+08

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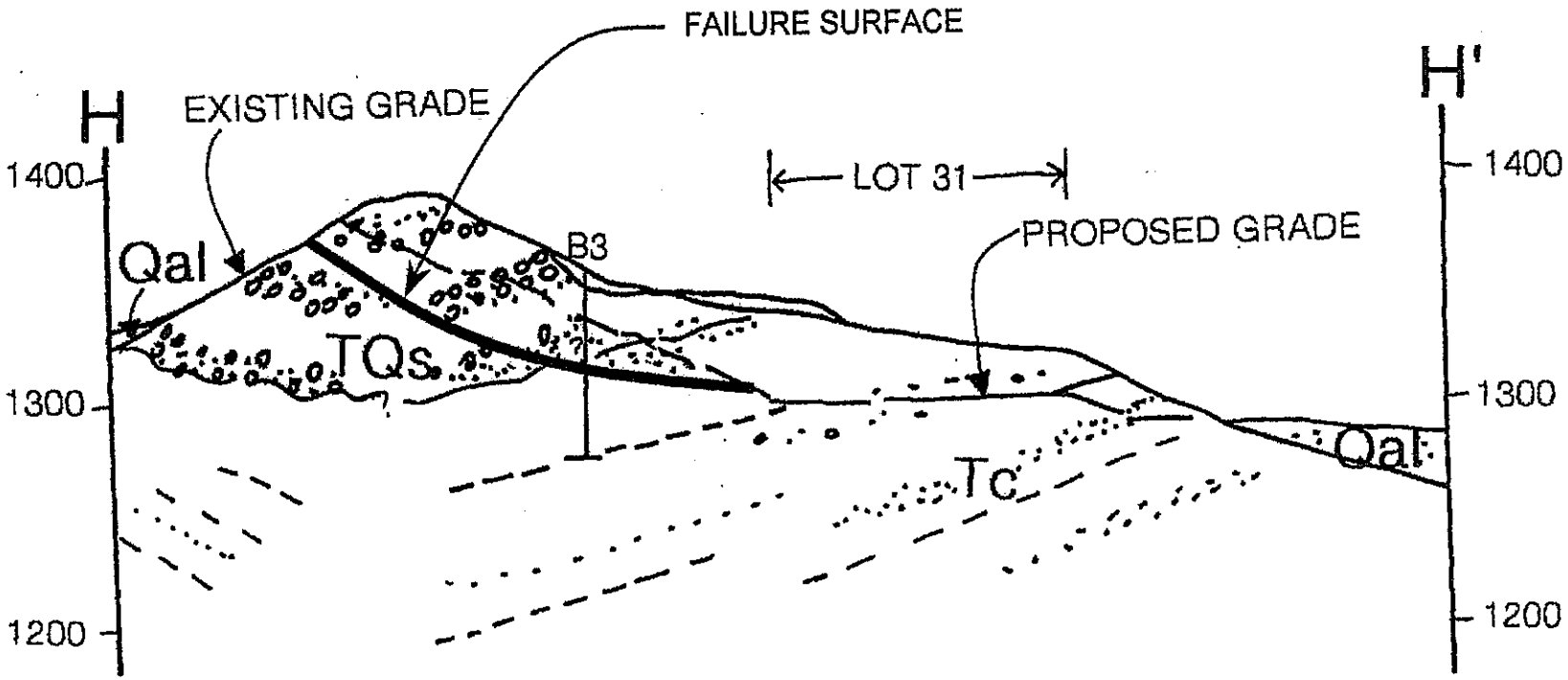
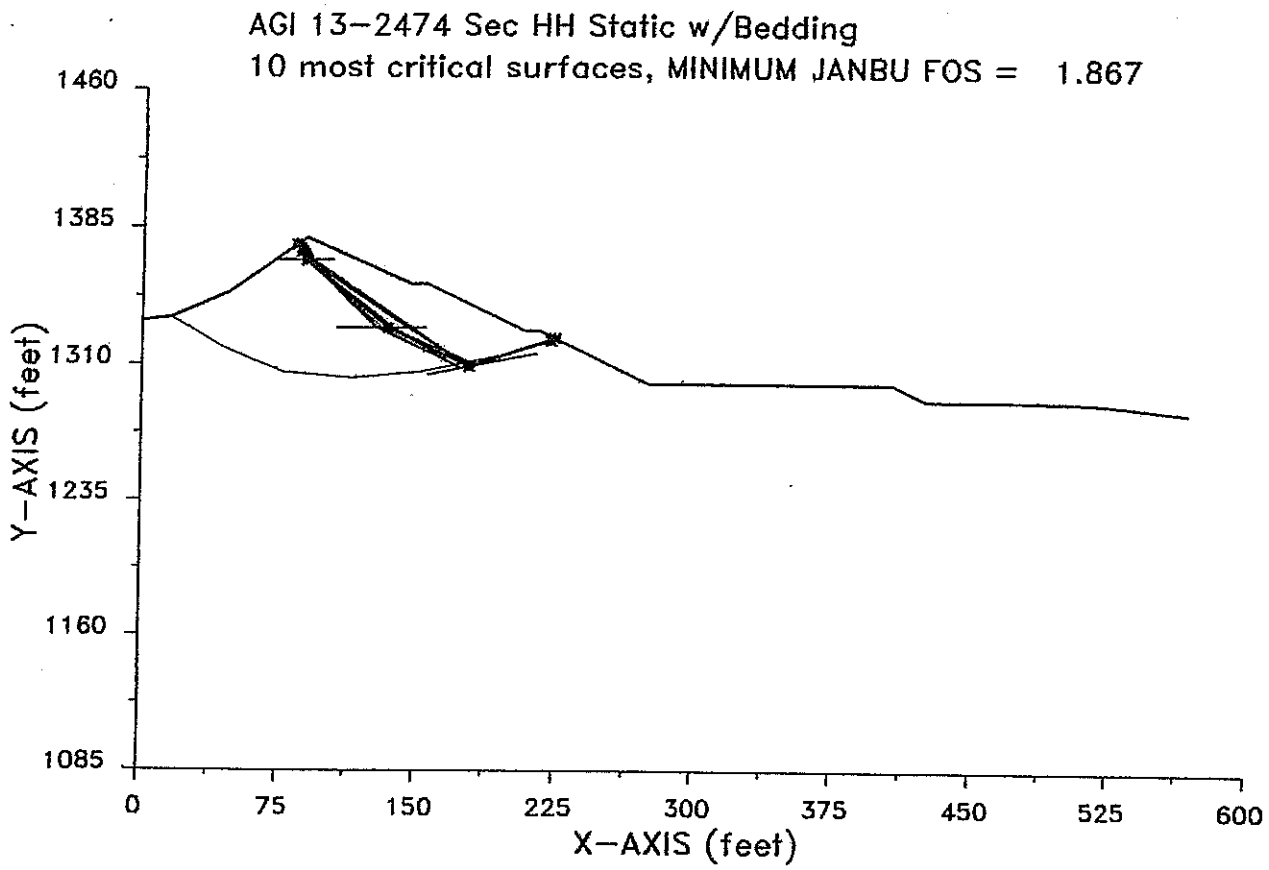
Section H-H' Slope Stability Results
Failure Surface Shown on Geologic Cross-Section
Circular Failure Across Bedding

Seismic Factor of Safety = 1.46



A.G.I. GEOTECHNICAL, INC.	Project No. : 13-2474-00	Date: 10-1-03
	Scale: As Shown	Revised: 10-1-03
	Approved By: JAV	Drawn By: MBS

HHB 10-02-** 11:07



XSTABL File: HHB 10-02-** 11:07

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*******************************************
*              X S T A B L                *
*                                         *
*        Slope Stability Analysis         *
*               using the                 *
*           Method of Slices              *
*                                         *
*         Copyright (C) 1992 Ä 94         *
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*        Moscow, ID 83843, U.S.A.         *
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*                                         *
*  Ver. 5.005                94 Ä 1288    *
*******************************************
```

Problem Description : AGI 13-2474 Sec HH Static w/Bedding

SEGMENT BOUNDARY COORDINATES

14 SURFACE boundary segments

Segment No.	x-left (ft)	y-left (ft)	x-right (ft)	y-right (ft)	Soil Unit Below Segment
1	.0	1334.0	15.6	1336.0	2
2	15.6	1336.0	47.3	1350.0	1
3	47.3	1350.0	90.4	1380.0	1
4	90.4	1380.0	147.6	1355.0	1
5	147.6	1355.0	155.7	1355.0	1
6	155.7	1355.0	209.0	1329.0	1
7	209.0	1329.0	217.0	1329.0	1
8	217.0	1329.0	224.2	1325.4	1
9	224.2	1325.4	274.8	1300.0	2
10	274.8	1300.0	407.5	1300.0	2
11	407.5	1300.0	425.5	1291.0	2
12	425.5	1291.0	490.2	1291.0	2
13	490.2	1291.0	522.7	1290.0	2
14	522.7	1290.0	568.5	1285.0	2

6 SUBSURFACE boundary segments

Segment No.	x-left (ft)	y-left (ft)	x-right (ft)	y-right (ft)	Soil Unit Below Segment
1	15.6	1336.0	44.9	1319.6	2
2	44.9	1319.6	77.4	1306.3	2
3	77.4	1306.3	115.8	1303.1	2
4	115.8	1303.1	153.0	1306.6	2
5	153.0	1306.6	196.1	1315.6	2
6	196.1	1315.6	224.2	1325.4	2

ISOTROPIC Soil Parameters

2 Soil unit(s) specified

Soil Unit No.	Unit Weight Moist (pcf)	Unit Weight Sat. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Parameter Ru	Pore Pressure Constant (psf)	Water Surface No.
1	125.0	130.0	300.0	30.00	.000	.0	0
2	125.0	130.0	.0	20.00	.000	.0	0

A critical failure surface searching method, using a random technique for generating sliding BLOCK surfaces, has been specified.

The active and passive portions of the sliding surfaces are generated according to the Rankine theory.

500 trial surfaces will be generated and analyzed.
4 boxes specified for generation of central block base

Length of line segments for active and passive portions of sliding block is 5.0 ft

Box no.	x-left (ft)	y-left (ft)	x-right (ft)	y-right (ft)	Width (ft)
1	216.3	1321.6	223.7	1324.2	.0
2	156.5	1304.7	214.9	1316.6	.0
3	107.1	1330.7	155.3	1330.7	.0
4	73.8	1367.7	104.8	1367.7	.0

****
-- WARNING -- WARNING -- WARNING -- WARNING -- (# 48)
****
Negative effective stresses were calculated at the base of a slice.
This warning is usually reported for slices that have low self weight
and a relatively high "c" shear strength parameter. This effect can
be eliminated by inserting a crack or by reducing the "c" value.
****

USER SELECTED option to discard surfaces with effective normal stresses less than zero

---

Factors of safety have been calculated by the :

* * * * * SIMPLIFIED JANBU METHOD * * * * *

The 10 most critical of all the failure surfaces examined are displayed below - the most critical first

Failure surface No. 1 specified by 7 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	224.62	1325.19
2	222.69	1323.85
3	178.97	1309.28
4	134.36	1330.70
5	89.85	1367.70
6	87.35	1372.03
7	84.94	1376.20

** Corrected JANBU FOS = 1.867 ** (Fo factor =1.073)

Failure surface No. 2 specified by 8 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	224.28	1325.36
2	221.52	1323.44
3	174.50	1308.37
4	129.24	1330.70
5	92.53	1367.70
6	90.03	1372.03
7	87.53	1376.36
8	86.85	1377.53

** Corrected JANBU FOS = 1.869 ** (Fo factor =1.078)

Failure surface No. 3 specified by 7 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	224.83	1325.08
2	223.44	1324.11
3	182.88	1310.08
4	135.98	1330.70
5	89.86	1367.70
6	87.36	1372.03
7	84.95	1376.21

** Corrected JANBU FOS = 1.871 ** (Fo factor =1.070)

Failure surface No. 4 specified by 8 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	224.31	1325.35
2	221.64	1323.47
3	173.65	1308.19
4	137.82	1330.70
5	90.24	1367.70
6	87.74	1372.03
7	85.24	1376.36
8	85.22	1376.39

** Corrected JANBU FOS = 1.871 ** (Fo factor =1.077)

Failure surface No. 5 specified by 7 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	224.35	1325.33
2	221.77	1323.52
3	173.60	1308.18

4	131.54	1330.70
5	89.07	1367.70
6	86.57	1372.03
7	84.38	1375.81

** Corrected JANBU FOS = 1.871 ** (Fo factor =1.077)

Failure surface No. 6 specified by 8 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	224.37	1325.32
2	221.84	1323.54
3	175.00	1308.47
4	128.05	1330.70
5	90.73	1367.70
6	88.23	1372.03
7	85.73	1376.36
8	85.57	1376.64

** Corrected JANBU FOS = 1.873 ** (Fo factor =1.077)

Failure surface No. 7 specified by 8 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	224.52	1325.24
2	222.37	1323.73
3	178.57	1309.20
4	146.53	1330.70
5	91.94	1367.70
6	89.44	1372.03
7	86.94	1376.36
8	86.43	1377.24

** Corrected JANBU FOS = 1.876 ** (Fo factor =1.074)

Failure surface No. 8 specified by 9 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	223.51	1325.74
2	220.96	1324.27
3	218.00	1322.20
4	174.59	1308.39
5	136.28	1330.70
6	91.20	1367.70
7	88.70	1372.03
8	86.20	1376.36
9	85.90	1376.87

** Corrected JANBU FOS = 1.878 ** (Fo factor =1.077)

Failure surface No. 9 specified by 8 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	224.45	1325.28
2	222.12	1323.65
3	178.56	1309.19
4	148.12	1330.70
5	93.99	1367.70
6	91.49	1372.03
7	88.99	1376.36
8	87.90	1378.26

** Corrected JANBU FOS = 1.879 ** (Fo factor =1.075)

Failure surface No.10 specified by 8 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	224.63	1325.18
2	222.74	1323.86
3	179.56	1309.40
4	145.74	1330.70
5	90.39	1367.70
6	87.89	1372.03
7	85.39	1376.36
8	85.33	1376.47

** Corrected JANBU FOS = 1.879 ** (Fo factor =1.073)

****
** Out of the 500 surfaces generated and analyzed by XSTABL, **
** 24 surfaces were found to have MISLEADING FOS values. **
****

The following is a summary of the TEN most critical surfaces

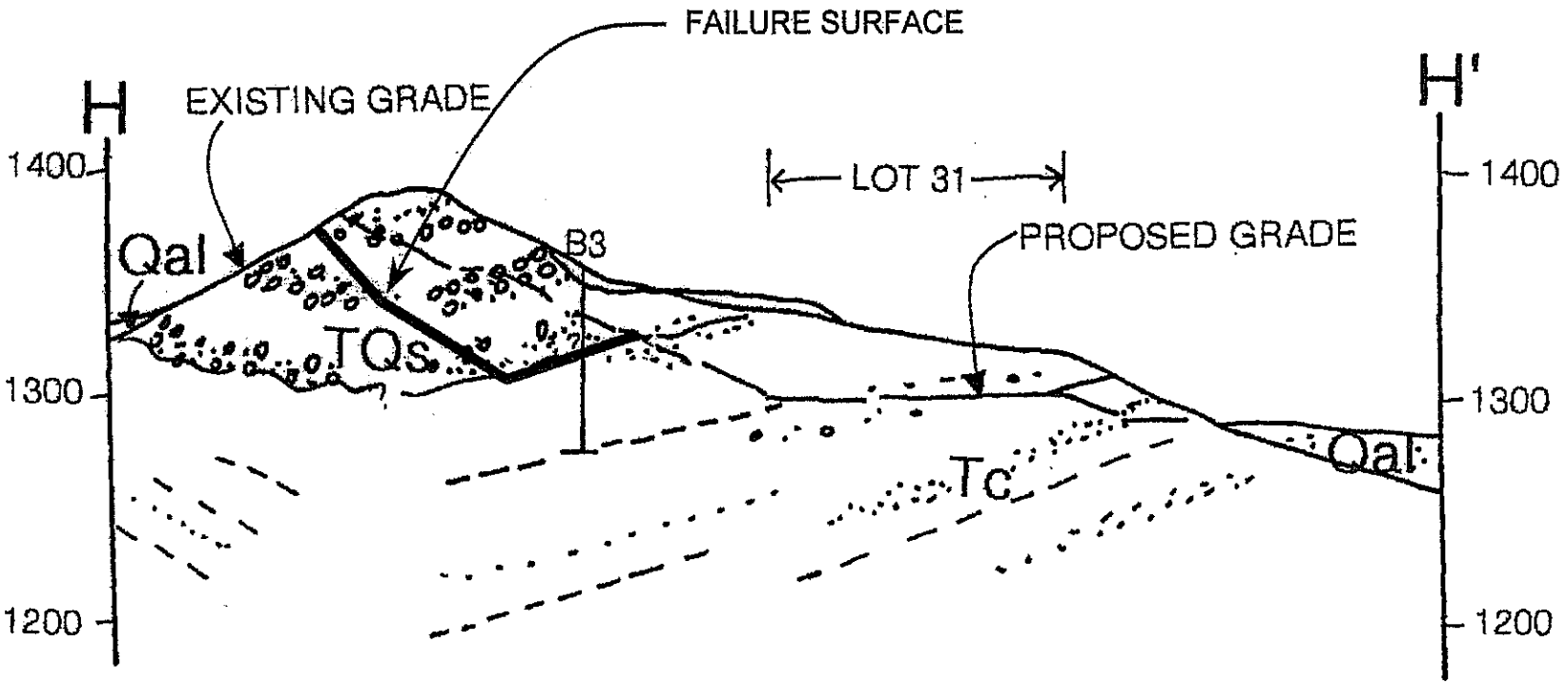
Problem Description : AGI 13-2474 Sec HH Static w/Bedding

	Modified JANBU FOS	Correction Factor	Initial x-coord (ft)	Terminal x-coord (ft)	Available Strength (lb)
1.	1.867	1.073	224.62	84.94	2.369E+05
2.	1.869	1.078	224.28	86.85	2.438E+05
3.	1.871	1.070	224.83	84.95	2.329E+05
4.	1.871	1.077	224.31	85.22	2.302E+05
5.	1.871	1.077	224.35	84.38	2.453E+05
6.	1.873	1.077	224.37	85.57	2.497E+05
7.	1.876	1.074	224.52	86.43	2.089E+05
8.	1.878	1.077	223.51	85.90	2.327E+05
9.	1.879	1.075	224.45	87.90	2.018E+05
10.	1.879	1.073	224.63	85.33	2.131E+05

* * * END OF FILE * * *

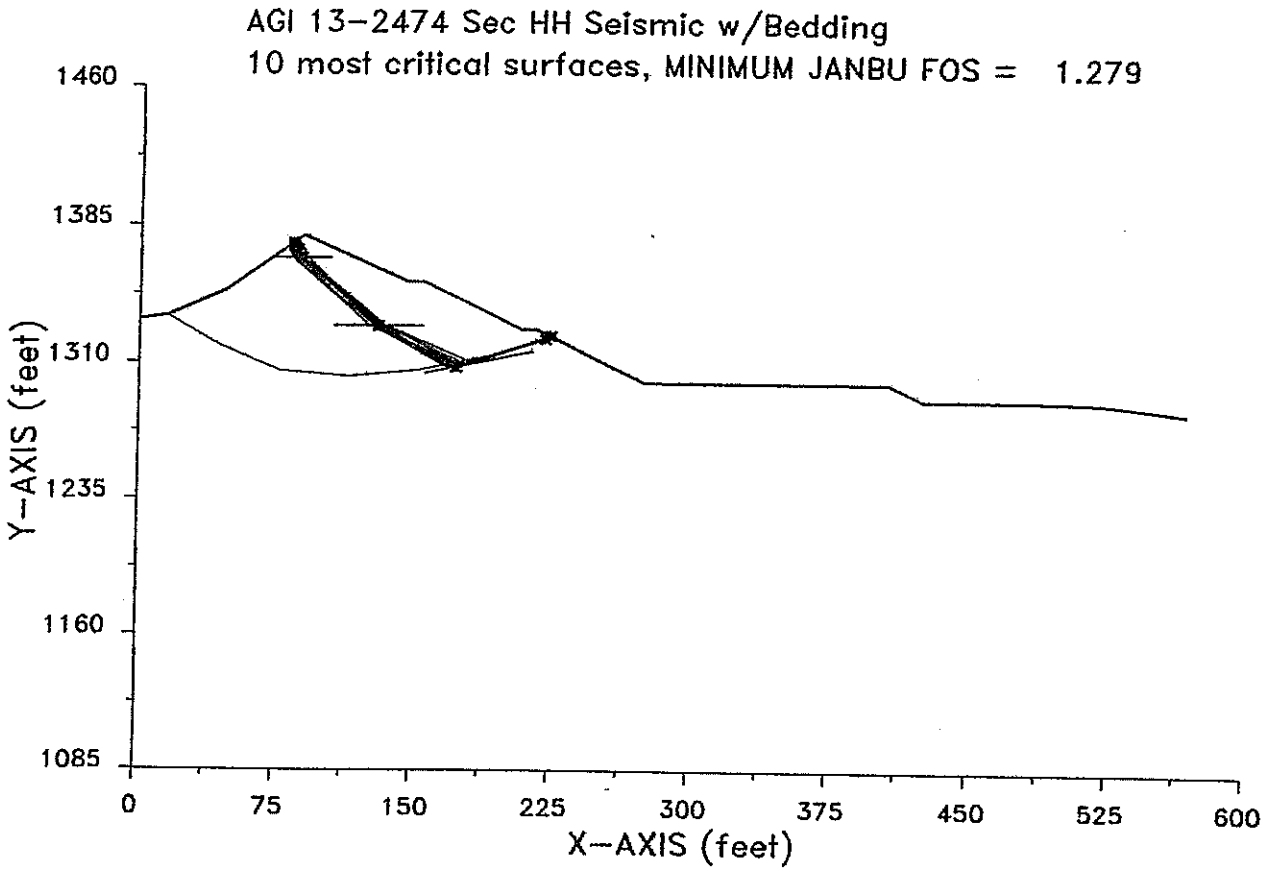
Section H-H' Slope Stability Results
Failure Surface Shown on Geologic Cross-Section
Failure Along Bedding Contact
Static and Seismic Stability

Static Factor of Safety = 1.87
Seismic Factor of Safety = 1.28



A.G.I. GEOTECHNICAL, INC.	
Project No. : 13-2474-00	Date: 10-1-03
Scale: As Shown	Revised: 10-1-03
Approved By: JAV	Drawn By: MBS

HHBS 10-02-** 11:08



XSTABL File: HHBS 10-02-** 11:08

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*              X S T A B L              *
*                                       *
*        Slope Stability Analysis       *
*               using the               *
*            Method of Slices           *
*                                       *
*         Copyright (C) 1992 Ä 94       *
*   Interactive Software Designs, Inc.  *
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*                                       *
*  Ver. 5.005                94 Ä 1288  *
*****************************************
```

Problem Description : AGI 13-2474 Sec HH Seismic w/Bedding

SEGMENT BOUNDARY COORDINATES

---

14 SURFACE boundary segments

Segment No.	x-left (ft)	y-left (ft)	x-right (ft)	y-right (ft)	Soil Unit Below Segment
1	.0	1334.0	15.6	1336.0	2
2	15.6	1336.0	47.3	1350.0	1
3	47.3	1350.0	90.4	1380.0	1
4	90.4	1380.0	147.6	1355.0	1
5	147.6	1355.0	155.7	1355.0	1
6	155.7	1355.0	209.0	1329.0	1
7	209.0	1329.0	217.0	1329.0	1
8	217.0	1329.0	224.2	1325.4	1
9	224.2	1325.4	274.8	1300.0	2
10	274.8	1300.0	407.5	1300.0	2
11	407.5	1300.0	425.5	1291.0	2
12	425.5	1291.0	490.2	1291.0	2
13	490.2	1291.0	522.7	1290.0	2
14	522.7	1290.0	568.5	1285.0	2

6 SUBSURFACE boundary segments

Segment No.	x-left (ft)	y-left (ft)	x-right (ft)	y-right (ft)	Soil Unit Below Segment
1	15.6	1336.0	44.9	1319.6	2
2	44.9	1319.6	77.4	1306.3	2
3	77.4	1306.3	115.8	1303.1	2
4	115.8	1303.1	153.0	1306.6	2
5	153.0	1306.6	196.1	1315.6	2
6	196.1	1315.6	224.2	1325.4	2

ISOTROPIC Soil Parameters

---

2 Soil unit(s) specified

Soil Unit No.	Unit Weight Moist (pcf)	Unit Weight Sat. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Parameter Ru	Pore Pressure Constant (psf)	Water Surface No.
1	125.0	130.0	300.0	30.00	.000	.0	0
2	125.0	130.0	.0	20.00	.000	.0	0

A horizontal earthquake loading coefficient
of .150 has been assigned

A vertical earthquake loading coefficient
of .000 has been assigned

A critical failure surface searching method, using a random technique for generating sliding BLOCK surfaces, has been specified.

The active and passive portions of the sliding surfaces are generated according to the Rankine theory.

500 trial surfaces will be generated and analyzed.

4 boxes specified for generation of central block base

Length of line segments for active and passive portions of sliding block is 5.0 ft

Box no.	x-left (ft)	y-left (ft)	x-right (ft)	y-right (ft)	Width (ft)
1	216.3	1321.6	223.7	1324.2	.0
2	156.5	1304.7	214.9	1316.6	.0
3	107.1	1330.7	155.3	1330.7	.0
4	73.8	1367.7	104.8	1367.7	.0

****
-- WARNING -- WARNING -- WARNING -- WARNING -- (# 48)
****
Negative effective stresses were calculated at the base of a slice. This warning is usually reported for slices that have low self weight and a relatively high "c" shear strength parameter. This effect can be eliminated by inserting a crack or by reducing the "c" value.
****

USER SELECTED option to discard surfaces with effective normal stresses less than zero

---

Factors of safety have been calculated by the :

* * * * * SIMPLIFIED JANBU METHOD * * * * *

The 10 most critical of all the failure surfaces examined are displayed below - the most critical first

Failure surface No. 1 specified by 7 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	224.35	1325.33
2	221.77	1323.52
3	173.60	1308.18
4	131.54	1330.70
5	89.07	1367.70
6	86.57	1372.03
7	84.38	1375.81

** Corrected JANBU FOS = 1.279 ** (Fo factor =1.077)

Failure surface No. 2 specified by 7 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	224.62	1325.19
2	222.69	1323.85
3	178.97	1309.28
4	134.36	1330.70
5	89.85	1367.70
6	87.35	1372.03
7	84.94	1376.20

** Corrected JANBU FOS = 1.279 ** (Fo factor =1.073)

Failure surface No. 3 specified by 8 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	224.28	1325.36
2	221.52	1323.44
3	174.50	1308.37
4	129.24	1330.70
5	92.53	1367.70
6	90.03	1372.03
7	87.53	1376.36
8	86.85	1377.53

** Corrected JANBU FOS = 1.283 ** (Fo factor =1.078)

Failure surface No. 4 specified by 8 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	224.14	1325.43
2	223.90	1325.30
3	220.96	1323.24
4	169.20	1307.29
5	129.52	1330.70
6	88.80	1367.70
7	86.30	1372.03
8	84.19	1375.68

** Corrected JANBU FOS = 1.283 ** (Fo factor =1.080)

Failure surface No. 5 specified by 7 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	224.83	1325.08
2	223.44	1324.11
3	182.88	1310.08
4	135.98	1330.70
5	89.86	1367.70
6	87.36	1372.03
7	84.95	1376.21

** Corrected JANBU FOS = 1.283 ** (Fo factor =1.070)

Failure surface No. 6 specified by 7 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	224.63	1325.18
2	222.75	1323.87
3	176.61	1308.80
4	135.45	1330.70
5	85.61	1367.70
6	83.11	1372.03
7	81.92	1374.10

** Corrected JANBU FOS = 1.286 ** (Fo factor =1.073)

Failure surface No. 7 specified by 7 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	224.27	1325.36
2	221.51	1323.43
3	170.74	1307.60
4	133.82	1330.70
5	86.63	1367.70
6	84.13	1372.03
7	82.65	1374.60

** Corrected JANBU FOS = 1.286 ** (Fo factor =1.078)

Failure surface No. 8 specified by 7 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	224.56	1325.22
2	222.52	1323.78
3	176.49	1308.77
4	126.07	1330.70
5	87.39	1367.70
6	84.89	1372.03
7	83.18	1374.98

** Corrected JANBU FOS = 1.288 ** (Fo factor =1.074)

Failure surface No. 9 specified by 7 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	224.67	1325.16
2	222.88	1323.91
3	176.57	1308.79
4	129.17	1330.70
5	84.44	1367.70
6	81.94	1372.03
7	81.08	1373.52

** Corrected JANBU FOS = 1.289 ** (Fo factor =1.073)

Failure surface No.10 specified by 7 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	224.42	1325.29
2	222.02	1323.61
3	171.69	1307.79
4	126.74	1330.70
5	83.92	1367.70
6	81.42	1372.03
7	80.71	1373.26

** Corrected JANBU FOS = 1.289 ** (Fo factor =1.076)

****
** Out of the 500 surfaces generated and analyzed by XSTABL, **
** 83 surfaces were found to have MISLEADING FOS values. **
****

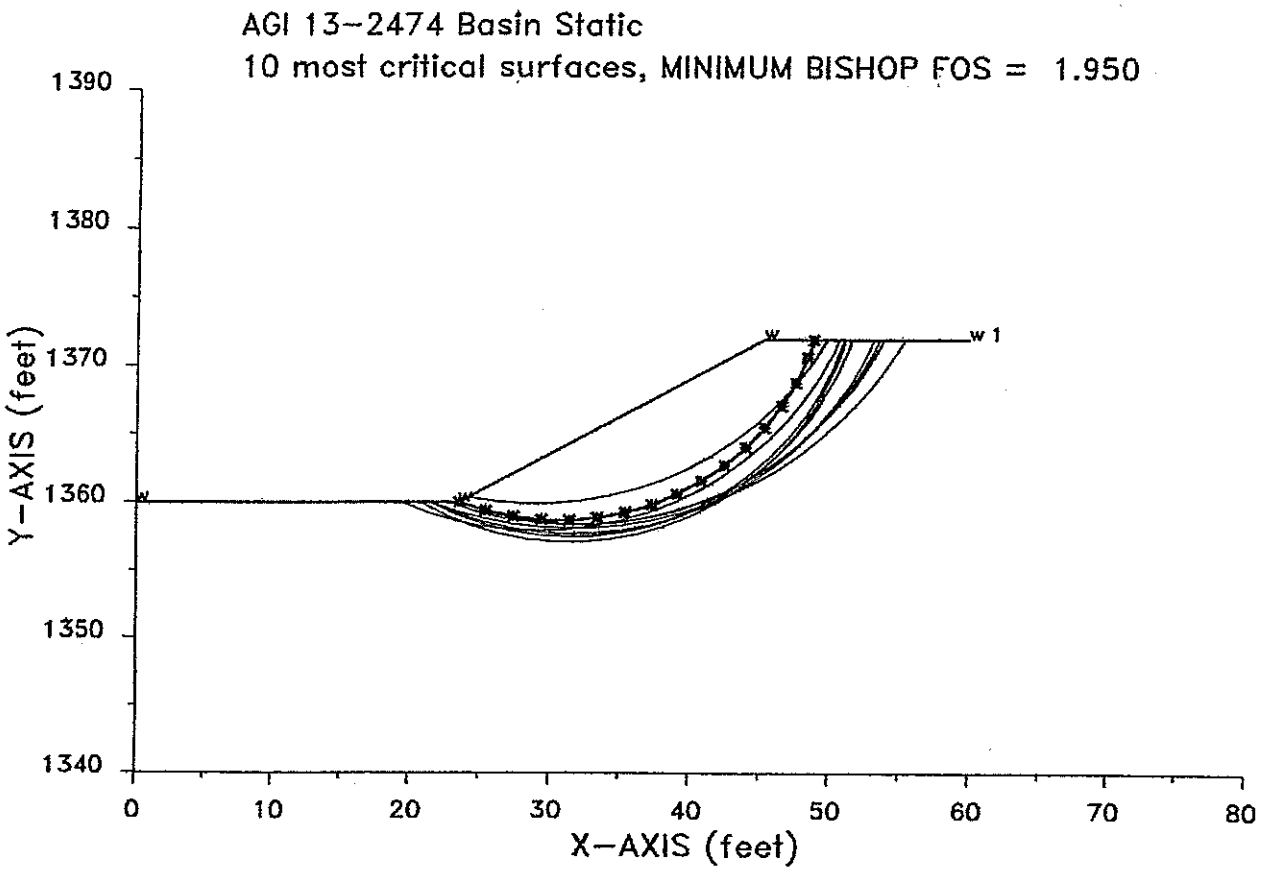
The following is a summary of the TEN most critical surfaces

Problem Description : AGI 13-2474 Sec HH Seismic w/Bedding

	Modified JANBU FOS	Correction Factor	Initial x-coord (ft)	Terminal x-coord (ft)	Available Strength (lb)
1.	1.279	1.077	224.35	84.38	2.314E+05
2.	1.279	1.073	224.62	84.94	2.237E+05
3.	1.283	1.078	224.28	86.85	2.300E+05
4.	1.283	1.080	224.14	84.19	2.370E+05
5.	1.283	1.070	224.83	84.95	2.201E+05
6.	1.286	1.073	224.63	81.92	2.293E+05
7.	1.286	1.078	224.27	82.65	2.318E+05
8.	1.288	1.074	224.56	83.18	2.455E+05
9.	1.289	1.073	224.67	81.08	2.438E+05
10.	1.289	1.076	224.42	80.71	2.502E+05

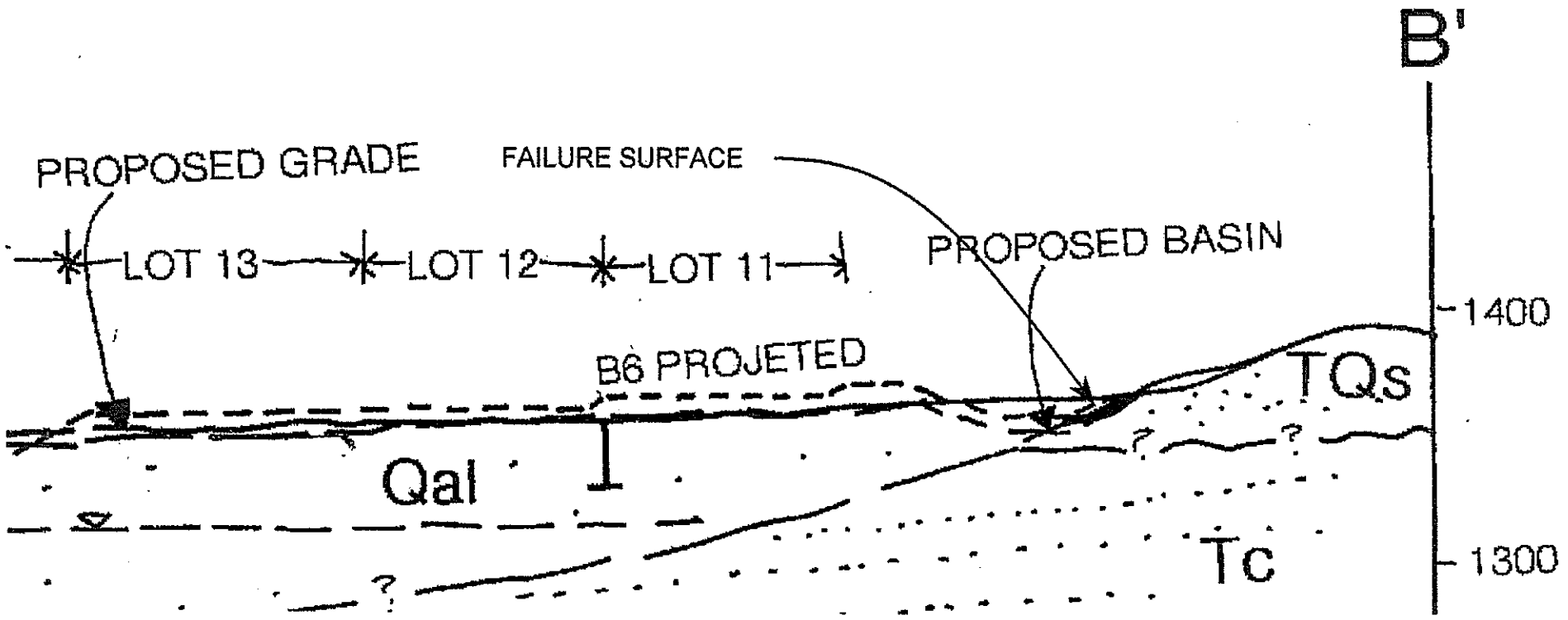
* * * END OF FILE * * *

BASIN2 10-07-** 14:55



Retention Basin Slope Stability Results for Rapid Drawdown
Failure Surface Shown on Geologic Cross-Section
Failure Through Compacted Fill Following Rapid Drawdown

Static Factor of Safety = 1.87
Seismic Factor of Safety = 1.28



A.G.I. GEOTECHNICAL, INC.	
Project No. : 13-2474-00	Date: 10-1-03
Scale: As Shown	Revised: 10-1-03
Approved By: JAV	Drawn By: MBS

XSTABL File: BASIN2 10-07-** 14:55

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*              X S T A B L              *
*                                       *
*        Slope Stability Analysis       *
*               using the               *
*            Method of Slices           *
*                                       *
*         Copyright (C) 1992 Ä 94       *
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*        Moscow, ID 83843, U.S.A.       *
*                                       *
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*                                       *
*  Ver. 5.005                94 Ä 1288  *
*****************************************
```

Problem Description : AGI 13-2474 Basin Static

SEGMENT BOUNDARY COORDINATES

---

3 SURFACE boundary segments

Segment No.	x-left (ft)	y-left (ft)	x-right (ft)	y-right (ft)	Soil Unit Below Segment
1	.0	1360.0	23.6	1360.0	1
2	23.6	1360.0	45.4	1372.0	1
3	45.4	1372.0	60.0	1372.0	1

ISOTROPIC Soil Parameters

---

1 Soil unit(s) specified

Soil Unit No.	Unit Weight Moist (pcf)	Unit Weight Sat. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Parameter Ru	Pore Pressure Constant (psf)	Water Surface No.
1	125.0	130.0	225.0	30.00	.000	.0	1

1 Water surface(s) have been specified

Unit weight of water = 62.40 (pcf)

Water Surface No. 1 specified by 4 coordinate points

****
PHREATIC SURFACE,
****

Point No.	x-water (ft)	y-water (ft)
1	.00	1360.00
2	23.60	1360.00

3	45.40	1372.00
4	60.00	1372.00

A critical failure surface searching method, using a random technique for generating CIRCULAR surfaces has been specified.

400 trial surfaces will be generated and analyzed.

20 Surfaces initiate from each of 20 points equally spaced along the ground surface between x = 12.0 ft
and x = 25.0 ft

Each surface terminates between x = 35.0 ft
and x = 60.0 ft

Unless further limitations were imposed, the minimum elevation at which a surface extends is y = .0 ft

* * * * * DEFAULT SEGMENT LENGTH SELECTED BY XSTABL * * * * *

2.0 ft line segments define each trial failure surface.

ANGULAR RESTRICTIONS :

The first segment of each failure surface will be inclined within the angular range defined by :

Lower angular limit := -45.0 degrees
Upper angular limit := (slope angle - 5.0) degrees

****
-- WARNING -- WARNING -- WARNING -- WARNING -- (# 48)
****
Negative effective stresses were calculated at the base of a slice. This warning is usually reported for slices that have low self weight and a relatively high "c" shear strength parameter. This effect can be eliminated by inserting a crack or by reducing the "c" value.
****

USER SELECTED option to discard surfaces with effective normal stresses less than zero

---

Factors of safety have been calculated by the :

* * * * * SIMPLIFIED BISHOP METHOD * * * * *

The most critical circular failure surface
is specified by 17 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	23.63	1360.02
2	25.53	1359.38
3	27.48	1358.94
4	29.47	1358.71
5	31.47	1358.69
6	33.46	1358.87
7	35.42	1359.27
8	37.33	1359.86
9	39.17	1360.65
10	40.91	1361.62
11	42.55	1362.78
12	44.05	1364.09
13	45.41	1365.56
14	46.62	1367.16
15	47.64	1368.87
16	48.49	1370.68
17	48.94	1372.00

**** Simplified BISHOP FOS = 1.950 ****

****
** **
** Out of the 400 surfaces generated and analyzed by XSTABL, **
** 62 surfaces were found to have MISLEADING FOS values. **
** **
****

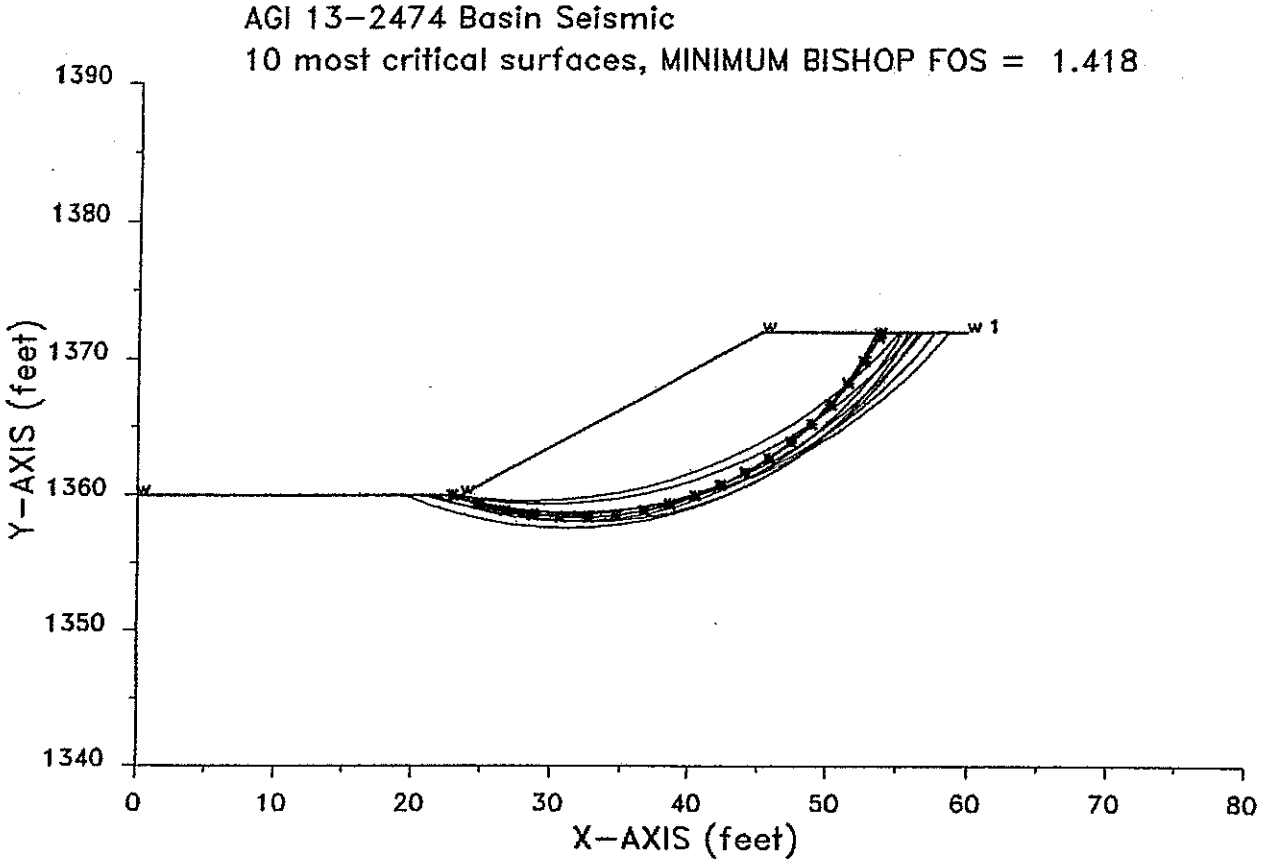
The following is a summary of the TEN most critical surfaces

Problem Description : AGI 13-2474 Basin Static

	FOS (BISHOP)	Circle Center x-coord (ft)	Circle Center y-coord (ft)	Radius (ft)	Initial x-coord (ft)	Terminal x-coord (ft)	Resisting Moment (ft-lb)
1.	1.950	30.69	1377.87	19.20	23.63	48.94	2.444E+05
2.	1.964	31.78	1383.10	24.73	22.95	53.87	3.974E+05
3.	1.967	32.24	1381.91	23.52	23.63	53.56	3.725E+05
4.	1.972	31.66	1381.10	23.39	21.58	53.19	3.975E+05
5.	1.974	29.18	1381.54	23.61	19.53	50.76	3.621E+05
6.	1.975	31.56	1378.63	21.13	21.58	51.60	3.482E+05
7.	1.975	31.40	1378.10	20.59	21.58	51.04	3.319E+05
8.	1.979	29.04	1383.99	24.06	24.32	49.90	2.682E+05
9.	1.993	31.41	1377.70	20.59	20.89	51.17	3.497E+05
10.	1.993	31.57	1385.50	27.39	21.58	55.37	4.800E+05

* * * END OF FILE * * *

BASIN2S 10-07-** 14:56



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*                                       *
*        Slope Stability Analysis       *
*               using the               *
*            Method of Slices           *
*                                       *
*        Copyright (C) 1992 Ä 94        *
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*        Moscow, ID 83843, U.S.A.       *
*                                       *
*          All Rights Reserved          *
*                                       *
*  Ver. 5.005                94 Ä 1288  *
*****************************************
```

Problem Description : AGI 13-2474 Basin Seismic

SEGMENT BOUNDARY COORDINATES

---

3 SURFACE boundary segments

Segment No.	x-left (ft)	y-left (ft)	x-right (ft)	y-right (ft)	Soil Unit Below Segment
1	.0	1360.0	23.6	1360.0	1
2	23.6	1360.0	45.4	1372.0	1
3	45.4	1372.0	60.0	1372.0	1

ISOTROPIC Soil Parameters

---

1 Soil unit(s) specified

Soil Unit No.	Unit Weight Moist (pcf)	Unit Weight Sat. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Parameter Ru	Pore Pressure Constant (psf)	Water Surface No.
1	125.0	130.0	225.0	30.00	.000	.0	1

1 Water surface(s) have been specified

Unit weight of water = 62.40 (pcf)

Water Surface No. 1 specified by 4 coordinate points

****
PHREATIC SURFACE,
****

Point No.	x-water (ft)	y-water (ft)
1	.00	1360.00

2	23.60	1360.00
3	45.40	1372.00
4	60.00	1372.00

A horizontal earthquake loading coefficient
of .150 has been assigned

A vertical earthquake loading coefficient
of .000 has been assigned

A critical failure surface searching method, using a random technique for generating CIRCULAR surfaces has been specified.

400 trial surfaces will be generated and analyzed.

20 Surfaces initiate from each of 20 points equally spaced
along the ground surface between x = 12.0 ft
and x = 25.0 ft

Each surface terminates between x = 35.0 ft
and x = 60.0 ft

Unless further limitations were imposed, the minimum elevation
at which a surface extends is y = .0 ft

* * * * * DEFAULT SEGMENT LENGTH SELECTED BY XSTABL * * * * *

2.0 ft line segments define each trial failure surface.

ANGULAR RESTRICTIONS :

The first segment of each failure surface will be inclined within the angular range defined by :

Lower angular limit := -45.0 degrees
Upper angular limit := (slope angle - 5.0) degrees

****
-- WARNING -- WARNING -- WARNING -- WARNING -- (# 48)
****
Negative effective stresses were calculated at the base of a slice.
This warning is usually reported for slices that have low self weight
and a relatively high "c" shear strength parameter. This effect can
be eliminated by inserting a crack or by reducing the "c" value.
****

USER SELECTED option to discard surfaces with effective normal stresses less than zero

---

Factors of safety have been calculated by the :

* * * * * SIMPLIFIED BISHOP METHOD * * * * *

The most critical circular failure surface
is specified by 20 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	22.95	1360.00
2	24.84	1359.36
3	26.78	1358.88
4	28.76	1358.55
5	30.75	1358.39
6	32.75	1358.39
7	34.74	1358.55
8	36.72	1358.87
9	38.66	1359.34
10	40.56	1359.98
11	42.40	1360.76
12	44.17	1361.69
13	45.86	1362.76
14	47.45	1363.97
15	48.95	1365.30
16	50.33	1366.74
17	51.59	1368.30
18	52.72	1369.94
19	53.72	1371.68
20	53.87	1372.00

**** Simplified BISHOP FOS = 1.418 ****

****
**
** Out of the 400 surfaces generated and analyzed by XSTABL, **
** 101 surfaces were found to have MISLEADING FOS values. **
**
****

The following is a summary of the TEN most critical surfaces

Problem Description : AGI 13-2474 Basin Seismic

	FOS (BISHOP)	Circle Center x-coord (ft)	Circle Center y-coord (ft)	Radius (ft)	Initial x-coord (ft)	Terminal x-coord (ft)	Resisting Moment (ft-lb)
1.	1.418	31.78	1383.10	24.73	22.95	53.87	3.843E+05
2.	1.422	31.57	1385.50	27.39	21.58	55.37	4.648E+05
3.	1.423	29.54	1393.72	34.36	22.95	56.14	5.102E+05
4.	1.423	32.24	1381.91	23.52	23.63	53.56	3.603E+05
5.	1.426	31.42	1391.22	32.54	22.26	57.67	5.573E+05
6.	1.429	30.51	1390.78	32.24	20.89	56.71	5.477E+05
7.	1.431	32.80	1384.03	25.97	22.95	55.82	4.476E+05
8.	1.433	28.32	1394.89	35.30	22.95	55.19	4.880E+05
9.	1.433	31.47	1393.23	34.48	22.26	58.64	6.054E+05
10.	1.434	31.14	1387.03	29.42	19.53	56.44	5.514E+05

* * * END OF FILE * * *

MARCH 11, 2004 GEOTECHNICAL INVESTIGATION
A.G.I. GEOTECHNICAL, INC.

RESPONSE TO SOILS ENGINEERING AND GEOLOGIC REVIEW SHEETS

Burnham Property
Revised Tentative Tract Map No. 53189
County of Los Angeles, California

March 11, 2004
Project No. 13-2474-01

Prepared for:

SCC Acquisitions, Inc.
Attention: Mr. Dennis Bickler
21900 Burbank Blvd., Ste. 114
Woodland Hills, CA 91367

A.G.I. GEOTECHNICAL, INC.

7247 Hayvenhurst Avenue, Unit A-2 • Van Nuys, CA 91406 • (818) 785-5244 • FAX (818) 785-6251

March 11, 2004

Project No. 13-2474-01

SCC Acquisitions, Inc.
Attention: Mr. Dennis Bickler
21900 Burbank Boulevard, Suite 114
Woodland Hills, CA 91367

Subject: **RESPONSE TO SOILS ENGINEERING AND GEOLOGIC REVIEW SHEETS**
Burnham Property
Revised Tentative Tract Map No. 53189
County of Los Angeles, California

Dear Mr. Bickler:

This report has been prepared in response to the Geologic & Soils Engineering Review by the County of Los Angeles Department of Public Works, Geotechnical and Materials Engineering Division. The reviews were completed on 11-18-03 and 12-31-03 of the referenced A.G.I, Geotechnical, Inc. "Geotechnical Investigation and Response to Review Sheets" dated October 1, 2003. Copies of the review letters are included with this report for reference. If you have any questions with regards to this report, please feel free to call our office.

Sincerely,
A.G.I. GEOTECHNICAL, INC.

CERTIFIED ENGINEERING GEOLOGIST
MARK A. SWIATEK
No. 1781
STATE OF CALIFORNIA

Mark A. Swiatek, C.E.G. 1781
Project Engineering Geologist

REGISTERED PROFESSIONAL ENGINEER
JUAN A. VIDAL
No. 861
Exp. 12-31-05
GEOTECHNICAL
STATE OF CALIFORNIA

Juan A. Vidal, R.G.E. 86
Project Soils Engineer

Enclosures: Plate 1, Geologic Map
Plate 2, Geologic Cross Sections
Plate 3, Limits and Depths of Removal
Appendix A, Slope Stability Analyses
Appendix B, Seismic Settlement Calculations
Review Sheets 11-18-03 & 12-31-03

Distribution: (6) Addressee
(3) B & E Engineers
(2) Bonterra

REFERENCES

- ***AGI Geotechnical Inc.,*** "Geotechnical Investigation and Response to Review Sheets, Burnham Property, Revised Tentative Tract Map No. 53189, County of Los Angeles, California", October 1, 2003

- ***GeoLabs Westlake Village, Inc.,*** Geotechnical Investigation Proposed 60 Lot Development, tentative Tract Map No. 53189, San Francisquito Canyon ranch, County of Los Angeles, California, April 20, 2000

TENTATIVE MAP REVISIONS

Only minor changes were made to the previously submitted tentative map. They included realignment of A Street and more detail in the area of planned storm drain inlets and debris basins. Cut slopes previously planned at gradients of 2:1 on lots 10 and 31-33 have been reduce to 3:1.

The revised tentative map was used as base maps to prepare the Geologic Map included in this report. We have revised our geologic cross sections to reflect the planned grades. We added Geologic Cross Section L-L' to analyze the largest plan debris basin which was added to the revised tentative map. Slope stability analyses for the basin were completed utilizing the rapid draw down method. The analyses are included in Appendix A of this report.

GEOLOGIC REVIEW SHEET

Remark/Condition 1: The proposed cut slope has been revised to 3:1.

Remark/Condition 2: Soil Engineering review comments are addressed below.

SOILS ENGINEERING REVIEW SHEET

Remark/Condition 1: Revised seismic settlement analyses have been completed and are included in Appendix B of this report. The analyses were performed in accordance with "Special Publication 117" requirements using historic high groundwater levels estimated from OFR 97-11, "Seismic Hazard Evaluation of the Newhall 7.5-Minute Quadrangle, Los Angeles County, California", and considering the depths of unsuitable soils to be removed and recompacted. A tabulation of the calculated settlements is provided below:

Location	Removal (ft)	Historic High Water (ft)	Seismic Settlement (in)		
			Liquefaction	Dry Sand	Total
CPT1	12	40	0.0	0.0	0.0
CPT2	12	20	1.3	0.4	1.7
CPT3	25	20	0.4	0.0	0.4
CPT4	25	20	2.1	0.0	2.1
CPT5	25	20	0.1	0.0	0.1
B1	25	20	2.0	0.0	2.0
B2	25	20	3.9	0.0	3.9
B3	12	20	1.6	0.0	1.6
B4	12	40	0.0	0.0	0.1
B5	12	20	2.5	0.1	2.5
B6	25	20	0.0	0.0	0.0
Bh7	12	30	2.0	0.3	2.3

Because the Cone Penetration Test (CPT) is more sophisticated and reliable than conventional drilling and sampling methods, the settlements derived from the CPT soundings are considered to be more representative of actual settlements to be expected under the design earthquake and

groundwater conditions. We therefore estimate that maximum total settlements will be about 2.1 inches, with up to 2/3 of that as differential settlement, or 1.5 inches. Recommendations for post-tensioned slab foundation design intended to accommodate this differential settlement are provided in a subsequent section of this report.

Because the alluvial deposits have a gentle slope (~6%), and because there are no steeply descending slopes nearby, the risk of significant lateral spread movement or surface manifestation associated with the predicted seismic settlements is considered very small.

Remark/Condition 2: As discussed on page 4 of our report, the geomorphology of the site indicates deeper unsuitable soils within the modern bottom of the San Francisquito wash (unit Qal_1) than within the older alluvium located within the upgradient canyons (unit Qal). The 12' and 25' removal depth recommendations were based on this geomorphology, with 12' of removals in the Qal and 25' in the Qal_1. The site topography clearly indicates that boring Bh-4 is located in the Qal unit where 12' of removal is considered appropriate. This is also evident in the increase in dry density below the 12' strata change shown on the log of boring Bh-4. In any event, the actual removal depths will be determined based on the conditions observed during grading.

Remark/Condition 3:

a) The limits and depths of recommended removal and recomapaction are shown on the tentative map and our enclosed Plate 3.

b) The tentative map has been revised to show the grading required to completely remove the landslide in the area of lots 29and 30.

c) The gradient of all cut and fill slope sis indicated on the tentative map.

d) All slopes areas within the alluvial deposits are located within the limit of recommended removal.

e) Acknowledged.

Remark/Condition 4: A.G.I. Geotechnical, Inc. agrees with the findings, conclusions and recommendations of the previous site investigation report prepared by GeoLabs Westlake Village on April 20, 2000. We included reference to the GeoLabs report in our previous report dated October 1, 2003.

Remark/Condition 5: A.G.I. Geotechnical, Inc. will review and sign and stamp the plans in verification of our recommendations, as requested.

Remark/Condition 6: 2 sets of plans will be submitted by the project engineer.

Remark/Condition 7: Acknowledged.

POST-TENSIONED SLAB FOUNDATIONS

Post-tensioned slabs should be designed in accordance with the recommendations of either the California Foundation Slab Method or Post-Tensioning Institute. The slabs should be designed for at least 1.5 inches of surficial differential movement (i.e., at least 1.5 inches in a 30-foot span). The recommended soil modulus of subgrade reaction (K) to be used for design is 100 pounds per cubic inch. This is equivalent to a surface bearing value of 1000 pounds per square foot.

California Foundation Slab Method

It is recommended that slabs be designed for a free span of 15 feet for low expansion index (EI) soils. From a soil expansion/shrinkage standpoint, a common contributing factor to distress of structures using post-tensioned slabs is fluctuation of moisture in soils underlying the perimeter of the slab, compared to the center, causing a "dishing" or "arching" of the slabs. To mitigate this possibility, construction of a perimeter "cut off" wall should be employed.

All slab subgrade areas should be moistened prior to placement of concrete. A continuous perimeter curtain wall should extend to a depth of at least 18 inches below exterior grade to preserve this moisture. The cut-off walls may be integrated into the slab design or independent of the slab and should be a minimum of six inches wide.

Post-Tensioning Institute Method

Post-tensioned slabs should have sufficient stiffness to resist excessive bending due to non-uniform swell and shrinkage of subgrade soils. The differential movement can occur at the corner, edge, or center of slab. The potential for differential uplift can be evaluated using the 1997 Uniform Building Code Section 1816 based on design specifications of the Post-Tensioning Institute. The following table presents suggested minimum coefficients to be used in the Post-Tensioning Institute design method.

Suggested Coefficients	Value
Thornthwaite Moisture Index	-20 in/yr
Correction Factor for Irrigation	20 in/yr
Depth to Constant Soil Suction	5 (feet)
Constant Soil Suction: (pf)	3.6

The coefficients are considered minimums and may not be adequate to represent worst case conditions such as adverse drainage and/or improper landscaping and maintenance. The above parameters are applicable provided structures have gutters and downspouts and positive drainage is maintained away from structures. Therefore, it is important that information regarding drainage, site maintenance, settlements and affects of expansive soils be passed on to future homeowners.

Based on the above parameters, the following values were obtained from figures or tables of the Uniform Building Code Section 1816, Division III. The values may not be appropriate to account for possible differential settlement of the slab due to other factors. If a stiffer slab is desired, higher values of y_m may be warranted.

Expansion Index of Soil Subgrade	EX
e_m center lift	5.0 feet
e_m edge lift	2.5 feet
Y_m center lift	1.10 inch
Y_m edge lift	0.35 inch
Differential Settlement, (inch)	1.0

Deepened footings/edges around the slab perimeter must be used to minimize non-uniform surface moisture migration (from an outside source) beneath the slab. An edge depth of at least 18 inches should be considered for low EX soil. The bottom of the deepened footing/edge should be designed to resist tension, using cable or reinforcement per the Structural Engineer. Other applicable recommendations presented under conventional foundation and the California Foundation Slab Method should be adhered to during the design and construction phase of the project.

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
GEOTECHNICAL AND MATERIALS ENGINEERING DIVISION

SOILS ENGINEERING REVIEW SHEET

ddress: 900 S. Fremont Ave., Alhambra CA 91803
elephone: (626) 458-4925
Fax: (626) 458-4913

District Office
Job Number
Sheet 1 of 1

eview No. 1

DISTRIBUTION:
____ Drainage
____ Grading
____ Geo/Soils Central File
____ District Engineer
____ Geologist
____ Soils Engineer
____ Engineer/Architect

entative Tract Map 53189
ocation San Francisquito Canyon
Developer/Owner Sun Cal Companies
ngineer/Architect B& E engineers
oils Engineer A.G.I. Geotechnical, Inc. (13-2474-00)
eologist A.G.I. Geotechnical, Inc.

eview of:

evised Tentative Tract Map Dated By Regional Planning 7/17/03
Geotechnical Report Dated 10/1/03
revious Review Sheet Dated 8/14/03

CTION:

entative Map feasibility is not recommended for approval.

EMARKS:

Provide seismically induced settlement analyses, considering the removal and recompaction of unsuitable soils. Address the anticipated amount of differential settlement . Recommend mitigation as necessary. The analyses must be performed for soils within the upper 50 feet, as a minimum, for shallow foundation, or greater depth where deep foundation and/or subterranean structure is proposed. The historic-high water table shall be used in the analyses, unless other information is provided which indicates a higher or lower level is appropriate. Recommend mitigation as necessary. The liquefaction data and analyses must conform to the State of California Division of Mines and Geology "Special Publication 117", dated 1997 and "Recommended Procedure For Implementation of DMG Special Publication 117", dated March 1999. Also address the potential for lateral spreading, surface manifestation, etc.

In the vicinity of Boring BH-4, twelve (12) feet of removal and recompaction is recommended. Consolidation test results for soil samples at 8 and 12 feet indicate collaps of 2.49% and 4.61% respectively. Since characteristics of the soils at 15 to 25 foot depth are similar to those above 12 feet, it appears that deeper removal and recompaction is warranted. verify and revise recommendation as necessary.

3. Show / note the following on the tentative map and the geotechnical map:

a. Approximate limits and depth of removal and recompaction of unsuitable soils / soils subject to hydroconsolidation.

b. Approximate area of all landslides to be remove and recompacted. — show 2:1 fill

c. gradient of all cut and fill slopes.

d. Engineered fills to be constructed on all cut slopes within the alluvial and colluvial deposits, to mitigate surficial slope instability.

e. alluvial areas that will not be mitigated and will require a geotechnical note on the Final Map.

- call + discuss w/

4. The Soils Engineer of record must acknowledge all pertinent previous soil reports and make a statement that he agrees with thei findings, conclusions and recommendations or provide appropriate modifications. All previous reports must be identified by the author, date of report, etc.

5. The Soils Engineer of record must review the plans and sign and stamp the plans in verification of his recommendations. Origina manual signature and wet stamp are required.

6. Submit two sets of plans to the Soils Section for verification of compliance with County codes and policies.

7. Include a copy of this review sheet with your response.

NOTE (S) TO THE PLAN CHECKER/ BUILDING AND SAFETY ENGINEEER:

A. PER THE SOILS ENGINEER; "FILLS PLACED IN EXCESS OF 20 FEET FROM FINISH GRADE SHALL BE MOISTENED TO 2 TO 3% OVER OPTIMUM MOISTURE CONTENT AND COMPACTED TO AT LEAST 92% RELATIVE COMPACTION. — call

B. ON-SITE SOILS ARE MODERATELY CORROSIVE TO METALS.

Prepared by _____ Date 12/31/03
Fred F. Garib

NOTICE: Public safety, relative to geotechnical subsurface exploration, shall be provided in accordance with current codes for excavations, inclusive of the Los Angeles County Code, Chapter 11.48, and the State of California, Title 8, Construction Safety Orders.
Ref: 53189 tent. tract

Sheet 1 of 1

County of Los Angeles Department of Public Works
GEOTECHNICAL AND MATERIALS ENGINEERING DIVISION
GEOLOGIC REVIEW SHEET
900 So. Fremont Ave., Alhambra, CA 91803
TEL. (626) 458-4925

DISTRIBUTION
1 Geologist
__ Soils Engineer
1 GMED File
1 Subdivision

TENTATIVE TRACT / PARCEL MAP 53189
SUBDIVIDER Sun Cal Companies
ENGINEER B & E Engineers
GEOLOGIST & SOILS ENGINEER A.G.I. Geotechnical, Inc.

TENTATIVE MAP DATED 7/17/03 (Revised)
LOCATION Santa Clarita

REPORT DATE 10/01/03, 4/20/00 (Geolabs – Westlake Village)

The Regional Planning Commission, developer, and engineer are advised that:

PRIOR TO RECOMMENDING APPROVAL OF THE TENTATIVE TRACT OR PARCEL MAP:

1. Revise the proposed cut-slope at the rear of lot 10 to reflect the consultant's recommendation of a 3:1 cut.

2. The Soils Engineering review dated 12/31/03 is attached.

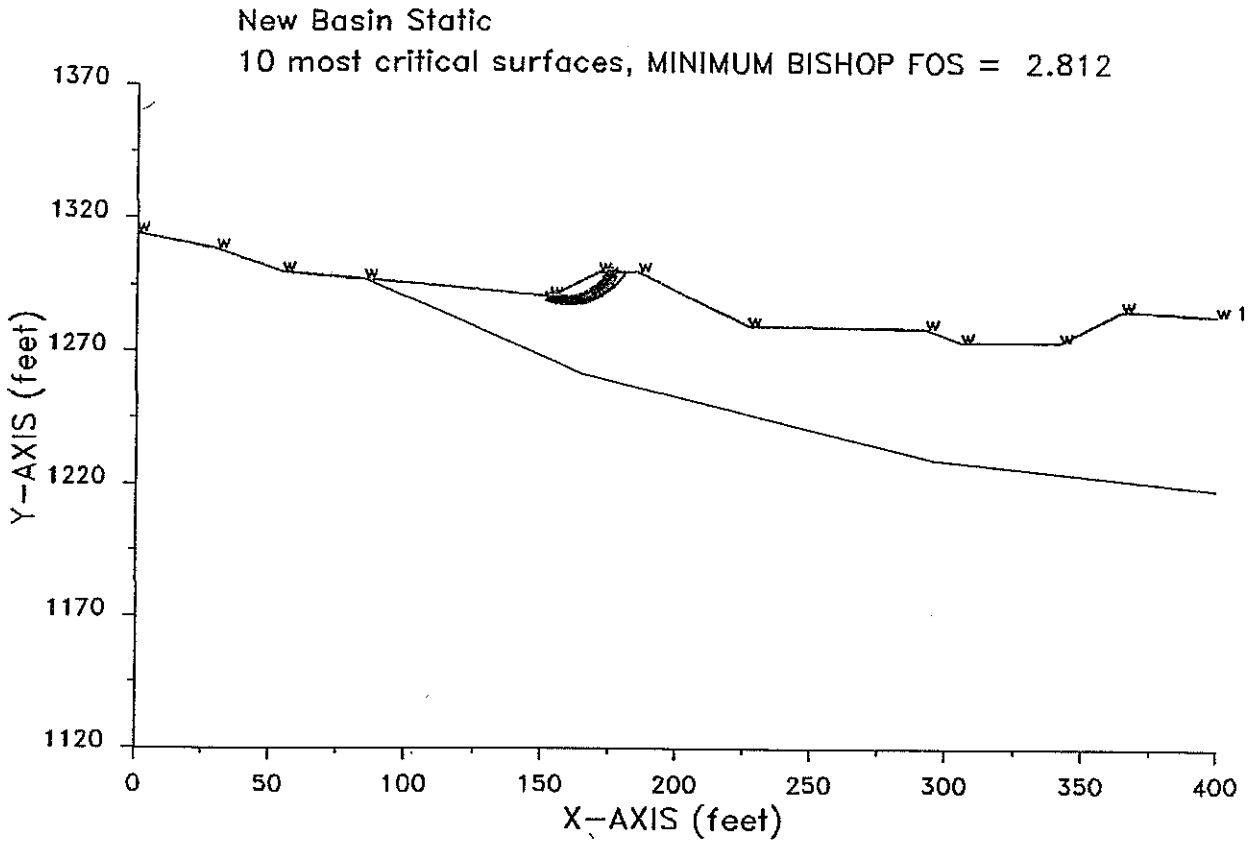
NOTE Provide a copy of this review with your resubmittal

Prepared by Geir R. Mathisen Reviewed by Charles T. Nestle Date 11/18/03

APPENDIX A

SLOPE STABILITY ANALYSES

BASIN3 3-04-** 6:54



XSTABL File: BASIN3 3-04-** 6:54

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*              X S T A B L              *
*                                       *
*        Slope Stability Analysis       *
*               using the               *
*           Method of Slices            *
*                                       *
*         Copyright (C) 1992 Ä 94       *
*   Interactive Software Designs, Inc.  *
*        Moscow, ID 83843, U.S.A.       *
*                                       *
*          All Rights Reserved          *
*                                       *
*  Ver. 5.005                94 Ä 1288  *
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Problem Description : New Basin Static

SEGMENT BOUNDARY COORDINATES

---

12 SURFACE boundary segments

Segment No.	x-left (ft)	y-left (ft)	x-right (ft)	y-right (ft)	Soil Unit Below Segment
1	.0	1314.6	30.2	1308.5	1
2	30.2	1308.5	55.0	1300.0	1
3	55.0	1300.0	85.0	1297.3	1
4	85.0	1297.3	153.0	1291.0	2
5	153.0	1291.0	171.0	1300.0	2
6	171.0	1300.0	186.0	1300.0	2
7	186.0	1300.0	227.0	1280.0	2
8	227.0	1280.0	293.0	1279.0	2
9	293.0	1279.0	306.0	1274.0	2
10	306.0	1274.0	342.0	1274.0	2
11	342.0	1274.0	364.9	1285.9	2
12	364.9	1285.9	400.0	1284.0	2

3 SUBSURFACE boundary segments

Segment No.	x-left (ft)	y-left (ft)	x-right (ft)	y-right (ft)	Soil Unit Below Segment
1	85.0	1297.3	165.2	1261.8	1
2	165.2	1261.8	296.0	1229.5	1
3	296.0	1229.5	400.0	1218.2	1

ISOTROPIC Soil Parameters

---

2 Soil unit(s) specified

Soil Unit No.	Unit Weight Moist (pcf)	Unit Weight Sat. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Parameter Ru	Pore Pressure Constant (psf)	Water Surface No.
1	125.0	130.0	150.0	30.00	.000	.0	1
2	125.0	130.0	300.0	30.00	.000	.0	1

1 Water surface(s) have been specified

Unit weight of water = 62.40 (pcf)

Water Surface No. 1 specified by 13 coordinate points

****
PHREATIC SURFACE,
****

Point No.	x-water (ft)	y-water (ft)
1	.00	1314.60
2	30.20	1308.50
3	55.00	1300.00
4	85.00	1297.30
5	153.00	1291.00
6	171.00	1300.00
7	186.00	1300.00
8	227.00	1280.00
9	293.00	1279.00
10	306.00	1274.00
11	342.00	1274.00
12	364.90	1285.90
13	400.00	1284.00

A critical failure surface searching method, using a random technique for generating CIRCULAR surfaces has been specified.

100 trial surfaces will be generated and analyzed.

100 Surfaces initiate from each of 1 points equally spaced along the ground surface between x = 153.0 ft
and x = 153.0 ft

Each surface terminates between x = 171.0 ft
and x = 186.0 ft

Unless further limitations were imposed, the minimum elevation at which a surface extends is y = .0 ft

* * * * * DEFAULT SEGMENT LENGTH SELECTED BY XSTABL * * * * *

1.0 ft line segments define each trial failure surface.

ANGULAR RESTRICTIONS :

The first segment of each failure surface will be inclined within the angular range defined by :

Lower angular limit := -45.0 degrees
Upper angular limit := (slope angle - 5.0) degrees

Factors of safety have been calculated by the :

* * * * * SIMPLIFIED BISHOP METHOD * * * * *

The most critical circular failure surface is specified by 29 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	153.00	1291.00
2	153.92	1290.61
3	154.86	1290.27
4	155.82	1289.99
5	156.80	1289.77
6	157.78	1289.60
7	158.78	1289.49
8	159.78	1289.44
9	160.78	1289.44
10	161.77	1289.51
11	162.77	1289.63
12	163.75	1289.80
13	164.72	1290.04
14	165.68	1290.33
15	166.62	1290.67
16	167.54	1291.07
17	168.43	1291.52
18	169.29	1292.02
19	170.13	1292.57
20	170.93	1293.17
21	171.69	1293.82
22	172.42	1294.50
23	173.11	1295.23
24	173.75	1296.00
25	174.35	1296.80
26	174.90	1297.63
27	175.40	1298.50
28	175.85	1299.39
29	176.11	1300.00

**** Simplified BISHOP FOS = 2.812 ****

The following is a summary of the TEN most critical surfaces

Problem Description : New Basin Static

	FOS (BISHOP)	Circle Center x-coord (ft)	Circle Center y-coord (ft)	Radius (ft)	Initial x-coord (ft)	Terminal x-coord (ft)	Resisting Moment (ft-lb)
1.	2.812	160.19	1306.70	17.27	153.00	176.11	2.230E+05
2.	2.816	160.38	1306.09	16.80	153.00	176.05	2.202E+05
3.	2.824	160.62	1305.66	16.52	153.00	176.15	2.213E+05
4.	2.836	160.86	1305.09	16.13	153.00	176.19	2.211E+05
5.	2.890	158.57	1306.21	16.19	153.00	173.54	1.726E+05
6.	2.902	160.56	1302.51	13.77	153.00	174.10	1.775E+05
7.	2.907	158.15	1313.81	23.38	153.00	176.98	2.764E+05
8.	2.938	157.48	1313.42	22.86	153.00	175.98	2.530E+05
9.	2.947	162.44	1309.12	20.43	153.00	180.73	3.411E+05
10.	2.954	161.43	1313.51	24.03	153.00	181.32	3.787E+05

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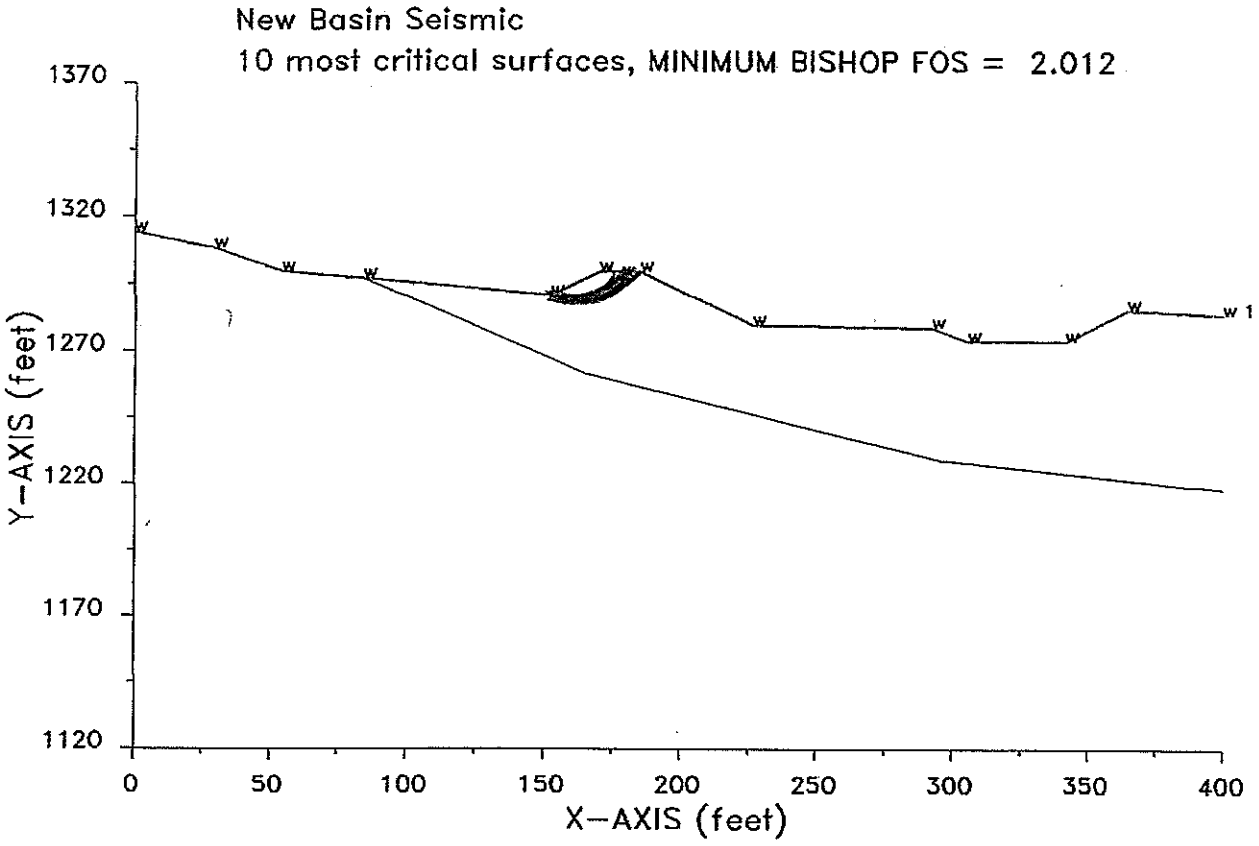
BASIN3S 3-04-** 6:55



XSTABL File: BASIN3S 3-04-** 6:55

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*****************************************
*              X S T A B L              *
*                                       *
*        Slope Stability Analysis       *
*               using the               *
*            Method of Slices           *
*                                       *
*         Copyright (C) 1992 Ä 94       *
*   Interactive Software Designs, Inc.  *
*        Moscow, ID 83843, U.S.A.       *
*                                       *
*          All Rights Reserved          *
*                                       *
*  Ver. 5.005                94 Ä 1288  *
*****************************************
```

Problem Description : New Basin Seismic

SEGMENT BOUNDARY COORDINATES

---

12 SURFACE boundary segments

Segment No.	x-left (ft)	y-left (ft)	x-right (ft)	y-right (ft)	Soil Unit Below Segment
1	.0	1314.6	30.2	1308.5	1
2	30.2	1308.5	55.0	1300.0	1
3	55.0	1300.0	85.0	1297.3	1
4	85.0	1297.3	153.0	1291.0	2
5	153.0	1291.0	171.0	1300.0	2
6	171.0	1300.0	186.0	1300.0	2
7	186.0	1300.0	227.0	1280.0	2
8	227.0	1280.0	293.0	1279.0	2
9	293.0	1279.0	306.0	1274.0	2
10	306.0	1274.0	342.0	1274.0	2
11	342.0	1274.0	364.9	1285.9	2
12	364.9	1285.9	400.0	1284.0	2

3 SUBSURFACE boundary segments

Segment No.	x-left (ft)	y-left (ft)	x-right (ft)	y-right (ft)	Soil Unit Below Segment
1	85.0	1297.3	165.2	1261.8	1
2	165.2	1261.8	296.0	1229.5	1
3	296.0	1229.5	400.0	1218.2	1

ISOTROPIC Soil Parameters

---

2 Soil unit(s) specified

Soil Unit No.	Unit Weight Moist (pcf)	Unit Weight Sat. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Parameter Ru	Pore Pressure Constant (psf)	Water Surface No.
1	125.0	130.0	150.0	30.00	.000	.0	1
2	125.0	130.0	300.0	30.00	.000	.0	1

1 Water surface(s) have been specified

Unit weight of water = 62.40 (pcf)

Water Surface No. 1 specified by 13 coordinate points

****
PHREATIC SURFACE,
****

Point No.	x-water (ft)	y-water (ft)
1	.00	1314.60
2	30.20	1308.50
3	55.00	1300.00
4	85.00	1297.30
5	153.00	1291.00
6	171.00	1300.00
7	186.00	1300.00
8	227.00	1280.00
9	293.00	1279.00
10	306.00	1274.00
11	342.00	1274.00
12	364.90	1285.90
13	400.00	1284.00

A horizontal earthquake loading coefficient
of .150 has been assigned

A vertical earthquake loading coefficient
of .000 has been assigned

A critical failure surface searching method, using a random technique for generating CIRCULAR surfaces has been specified.

100 trial surfaces will be generated and analyzed.

100 Surfaces initiate from each of 1 points equally spaced
along the ground surface between x = 153.0 ft
and x = 153.0 ft

Each surface terminates between x = 171.0 ft
and x = 186.0 ft

Unless further limitations were imposed, the minimum elevation at which a surface extends is y = .0 ft

* * * * * DEFAULT SEGMENT LENGTH SELECTED BY XSTABL * * * * *

1.0 ft line segments define each trial failure surface.

ANGULAR RESTRICTIONS :

The first segment of each failure surface will be inclined within the angular range defined by :

Lower angular limit := -45.0 degrees
Upper angular limit := (slope angle - 5.0) degrees

Factors of safety have been calculated by the :

* * * * * SIMPLIFIED BISHOP METHOD * * * * *

The most critical circular failure surface is specified by 34 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	153.00	1291.00
2	153.94	1290.67
3	154.90	1290.38
4	155.87	1290.13
5	156.85	1289.91
6	157.83	1289.74
7	158.82	1289.62
8	159.82	1289.53
9	160.82	1289.48
10	161.82	1289.48
11	162.82	1289.51
12	163.81	1289.59
13	164.81	1289.71
14	165.79	1289.87
15	166.77	1290.07
16	167.74	1290.32
17	168.70	1290.60
18	169.65	1290.92
19	170.58	1291.28
20	171.50	1291.68
21	172.40	1292.12
22	173.28	1292.59

23	174.14	1293.10
24	174.98	1293.65
25	175.79	1294.23
26	176.58	1294.84
27	177.34	1295.49
28	178.08	1296.17
29	178.79	1296.87
30	179.46	1297.61
31	180.11	1298.37
32	180.72	1299.16
33	181.30	1299.98
34	181.32	1300.00

**** Simplified BISHOP FOS = 2.012 ****

The following is a summary of the TEN most critical surfaces

Problem Description : New Basin Seismic

	FOS (BISHOP)	Circle Center x-coord (ft)	Circle Center y-coord (ft)	Radius (ft)	Initial x-coord (ft)	Terminal x-coord (ft)	Resisting Moment (ft-lb)
1.	2.012	161.43	1313.51	24.03	153.00	181.32	3.696E+05
2.	2.028	162.44	1309.12	20.43	153.00	180.73	3.334E+05
3.	2.037	160.19	1306.70	17.27	153.00	176.11	2.174E+05
4.	2.042	160.38	1306.09	16.80	153.00	176.05	2.147E+05
5.	2.047	160.62	1305.66	16.52	153.00	176.15	2.159E+05
6.	2.047	163.30	1315.67	26.73	153.00	184.95	4.899E+05
7.	2.047	162.01	1319.09	29.50	153.00	184.56	5.020E+05
8.	2.056	160.86	1305.09	16.13	153.00	176.19	2.157E+05
9.	2.058	163.17	1318.62	29.43	153.00	185.95	5.439E+05
10.	2.062	158.96	1318.99	28.62	153.00	180.34	3.831E+05

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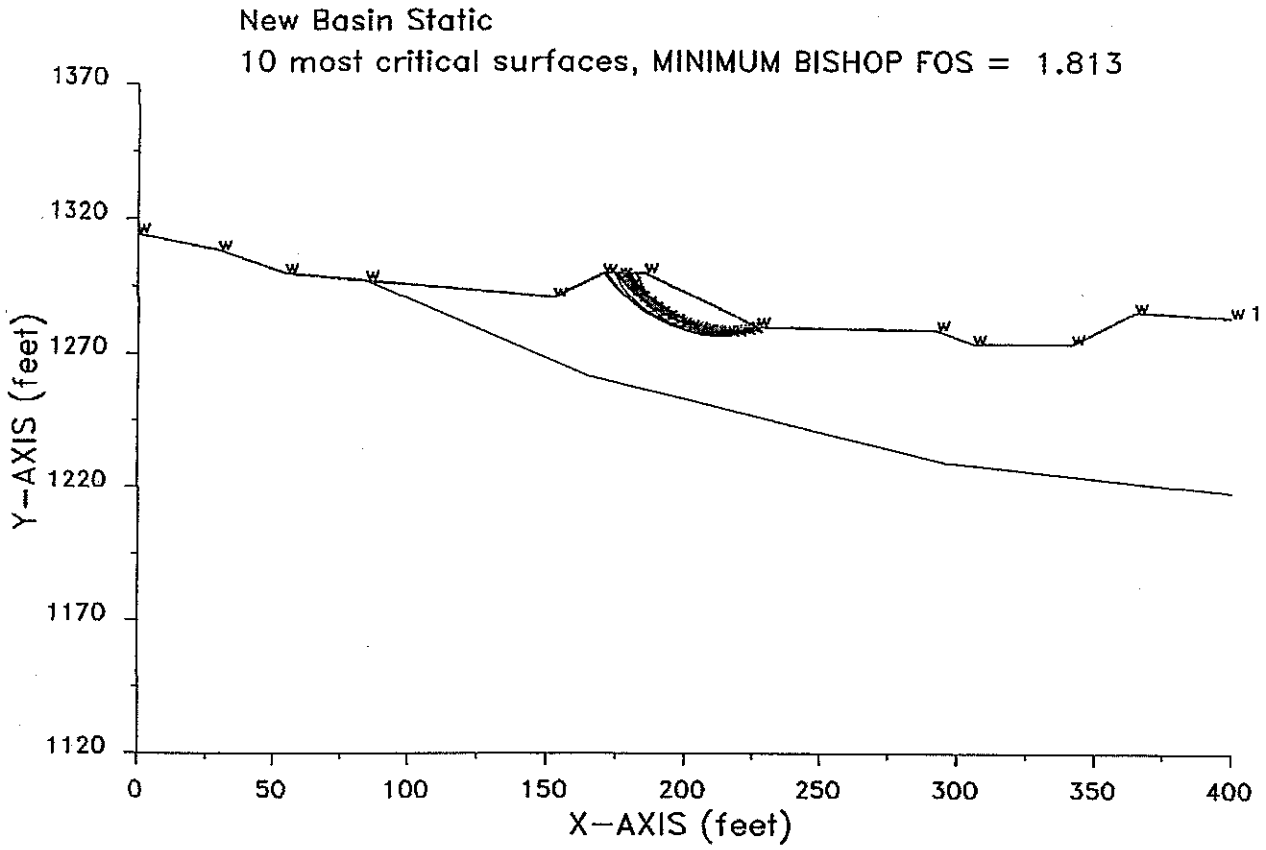
BASIN4 3-04-** 6:56



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*              X S T A B L              *
*                                       *
*        Slope Stability Analysis       *
*               using the               *
*            Method of Slices           *
*                                       *
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*  Ver. 5.005                94 Ä 1288  *
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Problem Description : New Basin Static

SEGMENT BOUNDARY COORDINATES

---

12 SURFACE boundary segments

Segment No.	x-left (ft)	y-left (ft)	x-right (ft)	y-right (ft)	Soil Unit Below Segment
1	.0	1314.6	30.2	1308.5	1
2	30.2	1308.5	55.0	1300.0	1
3	55.0	1300.0	85.0	1297.3	1
4	85.0	1297.3	153.0	1291.0	2
5	153.0	1291.0	171.0	1300.0	2
6	171.0	1300.0	186.0	1300.0	2
7	186.0	1300.0	227.0	1280.0	2
8	227.0	1280.0	293.0	1279.0	2
9	293.0	1279.0	306.0	1274.0	2
10	306.0	1274.0	342.0	1274.0	2
11	342.0	1274.0	364.9	1285.9	2
12	364.9	1285.9	400.0	1284.0	2

3 SUBSURFACE boundary segments

Segment No.	x-left (ft)	y-left (ft)	x-right (ft)	y-right (ft)	Soil Unit Below Segment
1	85.0	1297.3	165.2	1261.8	1
2	165.2	1261.8	296.0	1229.5	1
3	296.0	1229.5	400.0	1218.2	1

ISOTROPIC Soil Parameters

---

2 Soil unit(s) specified

Soil Unit No.	Unit Weight Moist (pcf)	Unit Weight Sat. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Parameter Ru	Pore Pressure Constant (psf)	Water Surface No.
1	125.0	130.0	150.0	30.00	.000	.0	1
2	125.0	130.0	300.0	30.00	.000	.0	1

1 Water surface(s) have been specified

Unit weight of water = 62.40 (pcf)

Water Surface No. 1 specified by 13 coordinate points

****
PHREATIC SURFACE,
****

Point No.	x-water (ft)	y-water (ft)
1	.00	1314.60
2	30.20	1308.50
3	55.00	1300.00
4	85.00	1297.30
5	153.00	1291.00
6	171.00	1300.00
7	186.00	1300.00
8	227.00	1280.00
9	293.00	1279.00
10	306.00	1274.00
11	342.00	1274.00
12	364.90	1285.90
13	400.00	1284.00

A critical failure surface searching method, using a random technique for generating CIRCULAR surfaces has been specified.

100 trial surfaces will be generated and analyzed.

100 Surfaces initiate from each of 1 points equally spaced along the ground surface between x = 227.0 ft
and x = 227.0 ft

Each surface terminates between x = 171.0 ft
and x = 186.0 ft

Unless further limitations were imposed, the minimum elevation at which a surface extends is y = .0 ft

* * * * * DEFAULT SEGMENT LENGTH SELECTED BY XSTABL * * * * *

3.0 ft line segments define each trial failure surface.

ANGULAR RESTRICTIONS :

The first segment of each failure surface will be inclined within the angular range defined by :

Lower angular limit := -45.0 degrees
Upper angular limit := (slope angle - 5.0) degrees

Factors of safety have been calculated by the :

* * * * * SIMPLIFIED BISHOP METHOD * * * * *

The most critical circular failure surface is specified by 20 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	227.00	1280.00
2	224.06	1279.39
3	221.09	1278.98
4	218.10	1278.77
5	215.10	1278.76
6	212.11	1278.96
7	209.13	1279.36
8	206.19	1279.96
9	203.30	1280.76
10	200.47	1281.75
11	197.71	1282.94
12	195.04	1284.30
13	192.47	1285.85
14	190.01	1287.56
15	187.67	1289.44
16	185.47	1291.48
17	183.40	1293.65
18	181.49	1295.97
19	179.74	1298.40
20	178.75	1300.00

**** Simplified BISHOP FOS = 1.813 ****

The following is a summary of the TEN most critical surfaces

Problem Description : New Basin Static

	FOS (BISHOP)	Circle Center x-coord (ft)	Circle Center y-coord (ft)	Radius (ft)	Initial x-coord (ft)	Terminal x-coord (ft)	Resisting Moment (ft-lb)
1.	1.813	216.52	1322.92	44.18	227.00	178.75	1.398E+06
2.	1.817	215.90	1327.83	49.10	227.00	175.48	1.692E+06
3.	1.819	216.55	1328.26	49.37	227.00	176.08	1.651E+06
4.	1.827	217.55	1323.40	44.42	227.00	179.81	1.331E+06
5.	1.832	211.73	1318.53	41.44	227.00	174.68	1.671E+06
6.	1.842	218.18	1323.12	44.01	227.00	180.75	1.266E+06
7.	1.844	211.92	1324.09	46.60	227.00	172.03	1.930E+06
8.	1.849	213.24	1329.69	51.56	227.00	171.10	2.074E+06
9.	1.851	212.20	1310.85	34.22	227.00	179.77	1.272E+06
10.	1.852	214.71	1311.88	34.16	227.00	182.68	1.074E+06

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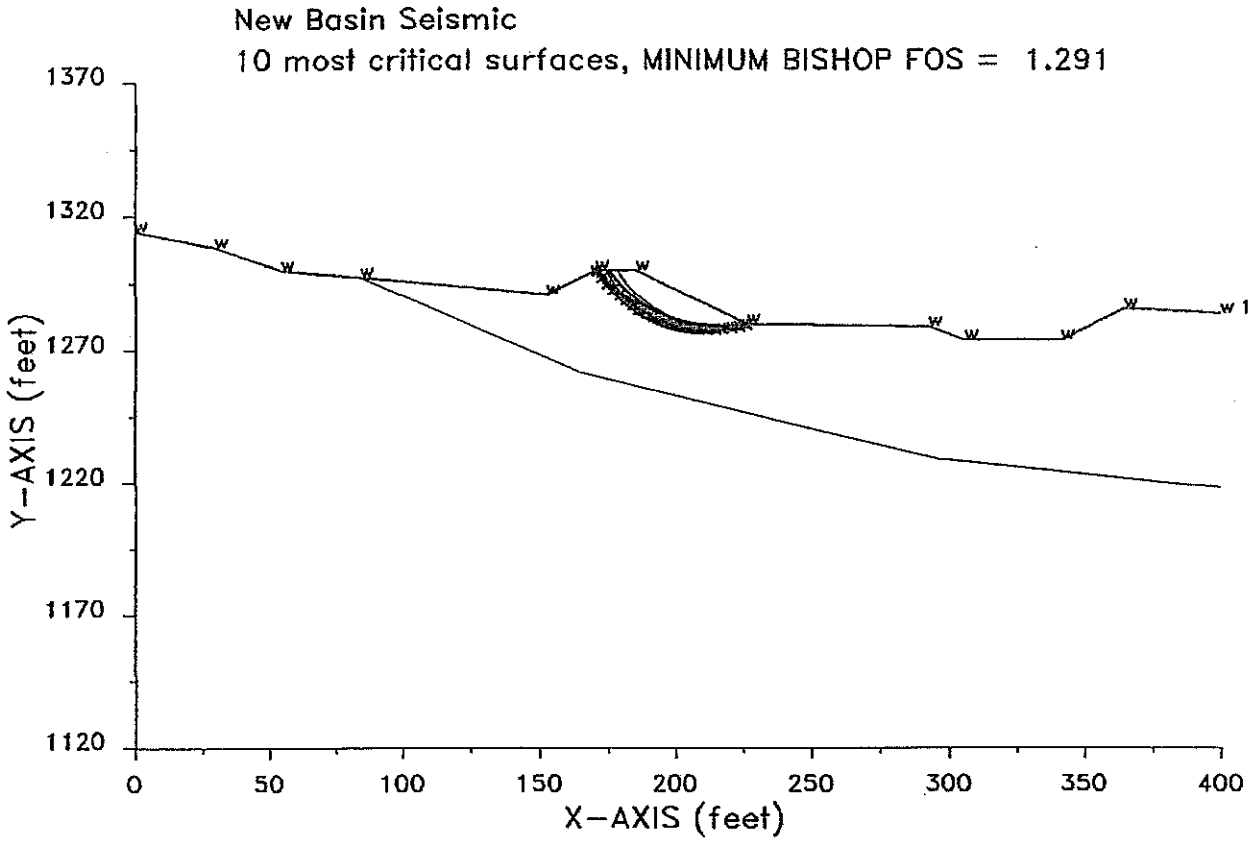
BASIN4S 3-04-** 6:56



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*        Slope Stability Analysis       *
*               using the               *
*            Method of Slices           *
*                                       *
*         Copyright (C) 1992 Ä 94       *
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*                                       *
*  Ver. 5.005                94 Ä 1288  *
*****************************************
```

Problem Description : New Basin Seismic

SEGMENT BOUNDARY COORDINATES

---

12 SURFACE boundary segments

Segment No.	x-left (ft)	y-left (ft)	x-right (ft)	y-right (ft)	Soil Unit Below Segment
1	.0	1314.6	30.2	1308.5	1
2	30.2	1308.5	55.0	1300.0	1
3	55.0	1300.0	85.0	1297.3	1
4	85.0	1297.3	153.0	1291.0	2
5	153.0	1291.0	171.0	1300.0	2
6	171.0	1300.0	186.0	1300.0	2
7	186.0	1300.0	227.0	1280.0	2
8	227.0	1280.0	293.0	1279.0	2
9	293.0	1279.0	306.0	1274.0	2
10	306.0	1274.0	342.0	1274.0	2
11	342.0	1274.0	364.9	1285.9	2
12	364.9	1285.9	400.0	1284.0	2

3 SUBSURFACE boundary segments

Segment No.	x-left (ft)	y-left (ft)	x-right (ft)	y-right (ft)	Soil Unit Below Segment
1	85.0	1297.3	165.2	1261.8	1
2	165.2	1261.8	296.0	1229.5	1
3	296.0	1229.5	400.0	1218.2	1

ISOTROPIC Soil Parameters

---

2 Soil unit(s) specified

Soil Unit No.	Unit Weight Moist (pcf)	Unit Weight Sat. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Parameter Ru	Pore Pressure Constant (psf)	Water Surface No.
1	125.0	130.0	150.0	30.00	.000	.0	1
2	125.0	130.0	300.0	30.00	.000	.0	1

1 Water surface(s) have been specified

Unit weight of water = 62.40 (pcf)

Water Surface No. 1 specified by 13 coordinate points

****
PHREATIC SURFACE,
****

Point No.	x-water (ft)	y-water (ft)
1	.00	1314.60
2	30.20	1308.50
3	55.00	1300.00
4	85.00	1297.30
5	153.00	1291.00
6	171.00	1300.00
7	186.00	1300.00
8	227.00	1280.00
9	293.00	1279.00
10	306.00	1274.00
11	342.00	1274.00
12	364.90	1285.90
13	400.00	1284.00

A horizontal earthquake loading coefficient
of .150 has been assigned

A vertical earthquake loading coefficient
of .000 has been assigned

A critical failure surface searching method, using a random technique for generating CIRCULAR surfaces has been specified.

100 trial surfaces will be generated and analyzed.

100 Surfaces initiate from each of 1 points equally spaced
along the ground surface between x = 227.0 ft
and x = 227.0 ft

Each surface terminates between x = 171.0 ft
and x = 186.0 ft

Unless further limitations were imposed, the minimum elevation at which a surface extends is y = .0 ft

* * * * * DEFAULT SEGMENT LENGTH SELECTED BY XSTABL * * * * *

3.0 ft line segments define each trial failure surface.

ANGULAR RESTRICTIONS :

The first segment of each failure surface will be inclined within the angular range defined by :

Lower angular limit := -45.0 degrees
Upper angular limit := (slope angle - 5.0) degrees

Factors of safety have been calculated by the :

* * * * * SIMPLIFIED BISHOP METHOD * * * * *

The most critical circular failure surface is specified by 23 coordinate points

Point No.	x-surf (ft)	y-surf (ft)
1	227.00	1280.00
2	224.09	1279.28
3	221.14	1278.74
4	218.16	1278.37
5	215.17	1278.17
6	212.17	1278.14
7	209.17	1278.29
8	206.19	1278.61
9	203.23	1279.11
10	200.30	1279.78
11	197.42	1280.62
12	194.60	1281.62
13	191.83	1282.79
14	189.14	1284.11
15	186.53	1285.59
16	184.01	1287.22
17	181.59	1288.99
18	179.28	1290.90
19	177.08	1292.94
20	175.00	1295.11
21	173.05	1297.39

22	171.24	1299.78
23	171.10	1300.00

**** Simplified BISHOP FOS = 1.291 ****

The following is a summary of the TEN most critical surfaces

Problem Description : New Basin Seismic

	FOS (BISHOP)	Circle Center x-coord (ft)	Circle Center y-coord (ft)	Radius (ft)	Initial x-coord (ft)	Terminal x-coord (ft)	Resisting Moment (ft-lb)
1.	1.291	213.24	1329.69	51.56	227.00	171.10	1.997E+06
2.	1.293	215.90	1327.83	49.10	227.00	175.48	1.626E+06
3.	1.296	211.92	1324.09	46.60	227.00	172.03	1.861E+06
4.	1.297	216.55	1328.26	49.37	227.00	176.08	1.586E+06
5.	1.302	217.00	1340.10	60.93	227.00	171.17	2.143E+06
6.	1.307	211.73	1318.53	41.44	227.00	174.68	1.613E+06
7.	1.308	216.52	1322.92	44.18	227.00	178.75	1.343E+06
8.	1.309	210.50	1322.18	45.29	227.00	171.04	1.934E+06
9.	1.310	218.09	1343.32	63.94	227.00	171.08	2.205E+06
10.	1.322	209.83	1318.92	42.54	227.00	171.76	1.856E+06

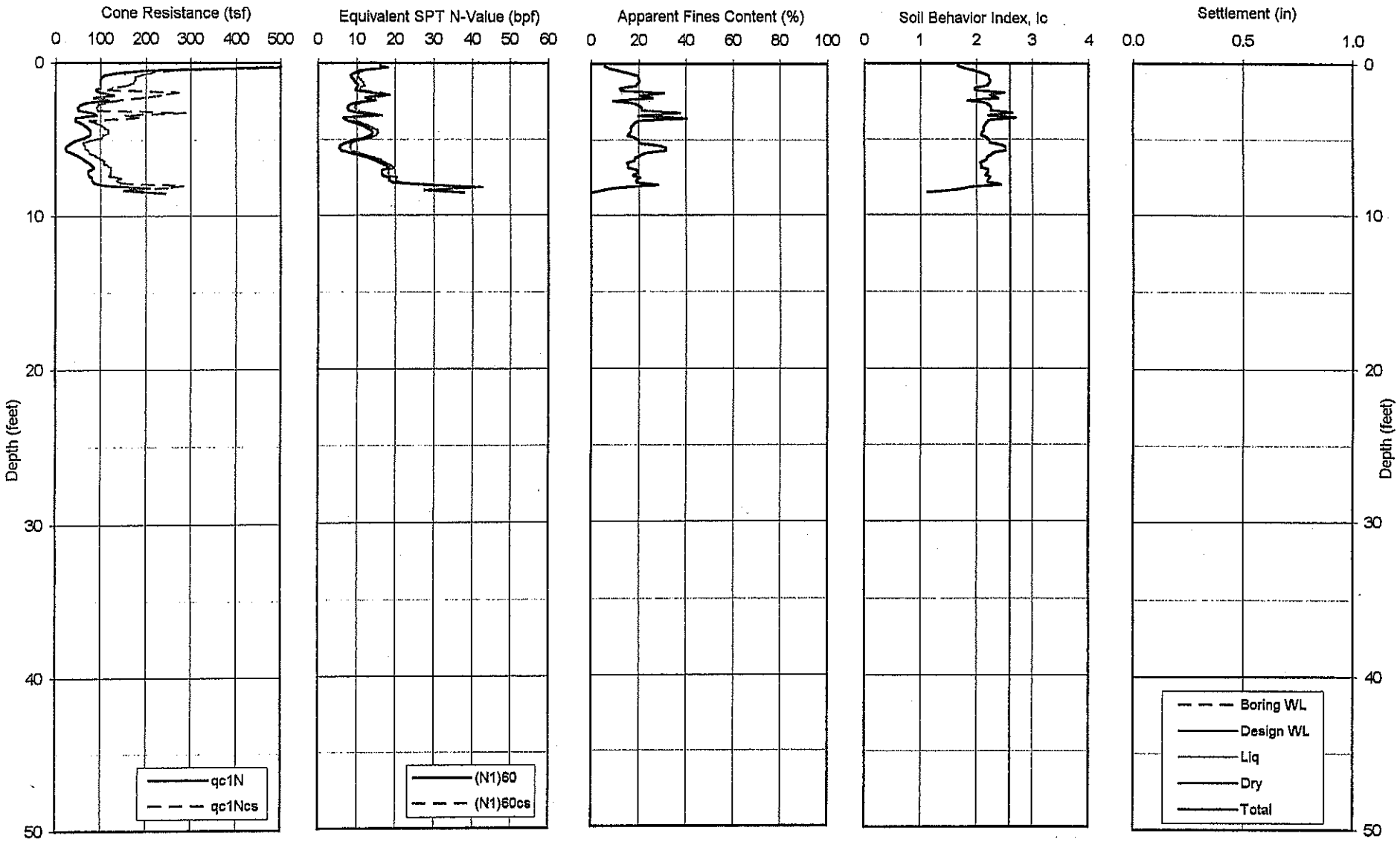
* * * END OF FILE * * *

APPENDIX B

SEISMIC SETTLEMENT ANALYSES

Earthquake Magnitude, M :	7.0	Boring Water Level (Below Orig), ft :	60.0	Removal Depth (Below Orig), ft :	12.0
Maximum Acceleration, a (g) :	0.55	Design Water Level (Below Orig), ft :	40.0	Surcharge Fill Height (Above Orig), ft :	0.0
Magnitude Scaling Factor, r_m :	1.193			Surcharge Fill Unit Weight, pcf :	125.0

TOTAL SEISMIC SETTLEMENT (in) : 0.00

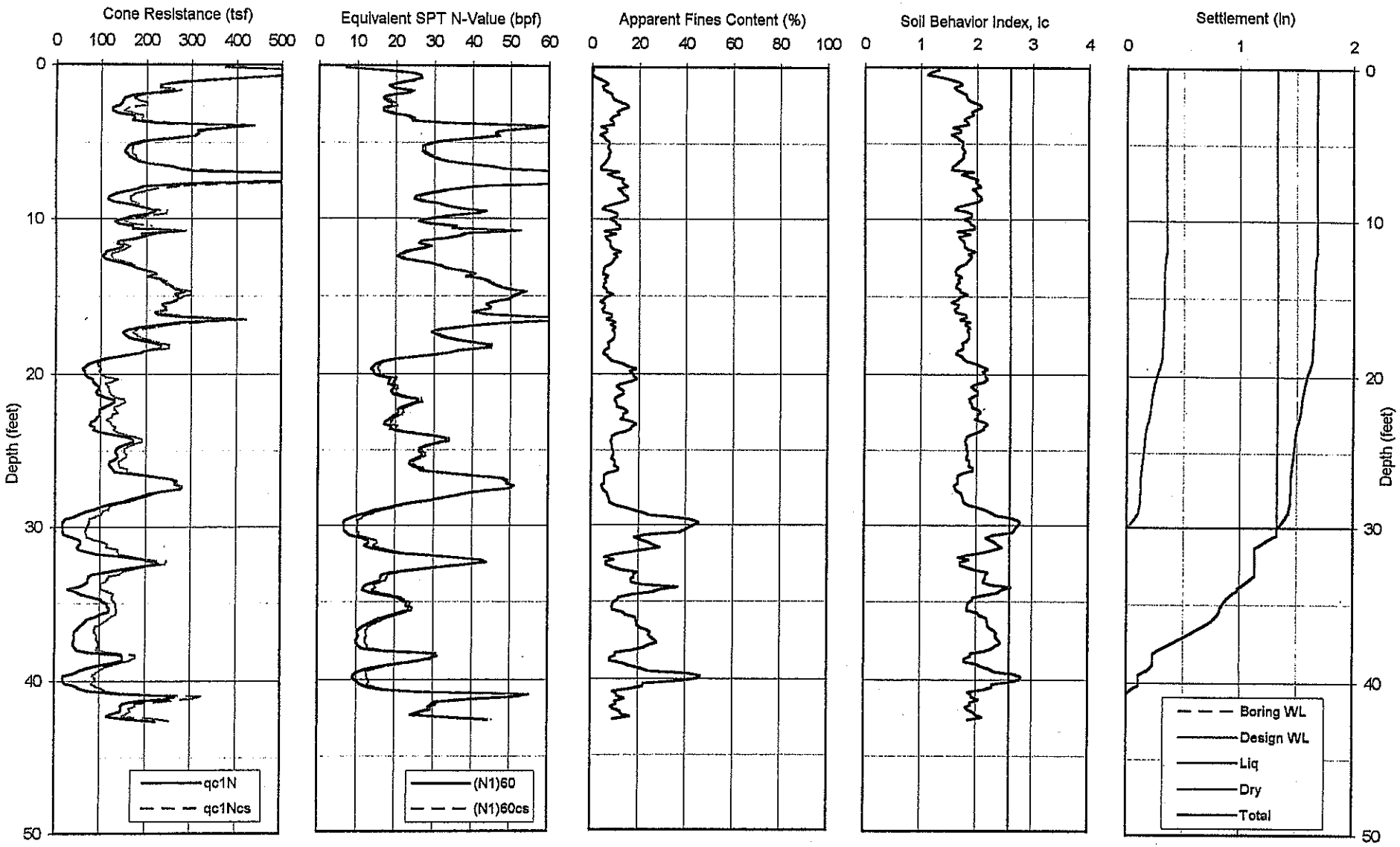


Reference: Tokimatsu, K., and Seed, H. (1987). "Evaluation of Settlements in Sands Due to Earthquake Shaking." Journal of Geotechnical Engineering, ASCE, 113(8), 861-878.

Burnham / SunCal 53819 CPT Liquefaction Evaluation GeoLabs CPT1 - 12' Removal	A.G.I. GEOTECHNICAL,	Project No. : 13-2474-01	Date: 3-19-04
		Scale: As Shown	Revised:
		Approved By: JAV	Prepared By: MBS

Earthquake Magnitude, M :	7.0	Boring Water Level (Below Orig), ft :	60.0	Removal Depth (Below Orig), ft :	12.0
Maximum Acceleration, a (g) :	0.55	Design Water Level (Below Orig), ft :	30.0	Surcharge Fill Height (Above Orig), ft :	0.0
Magnitude Scaling Factor, r_m :	1.193			Surcharge Fill Unit Weight, pcf :	125.0

TOTAL SEISMIC SETTLEMENT (in) : 1.68

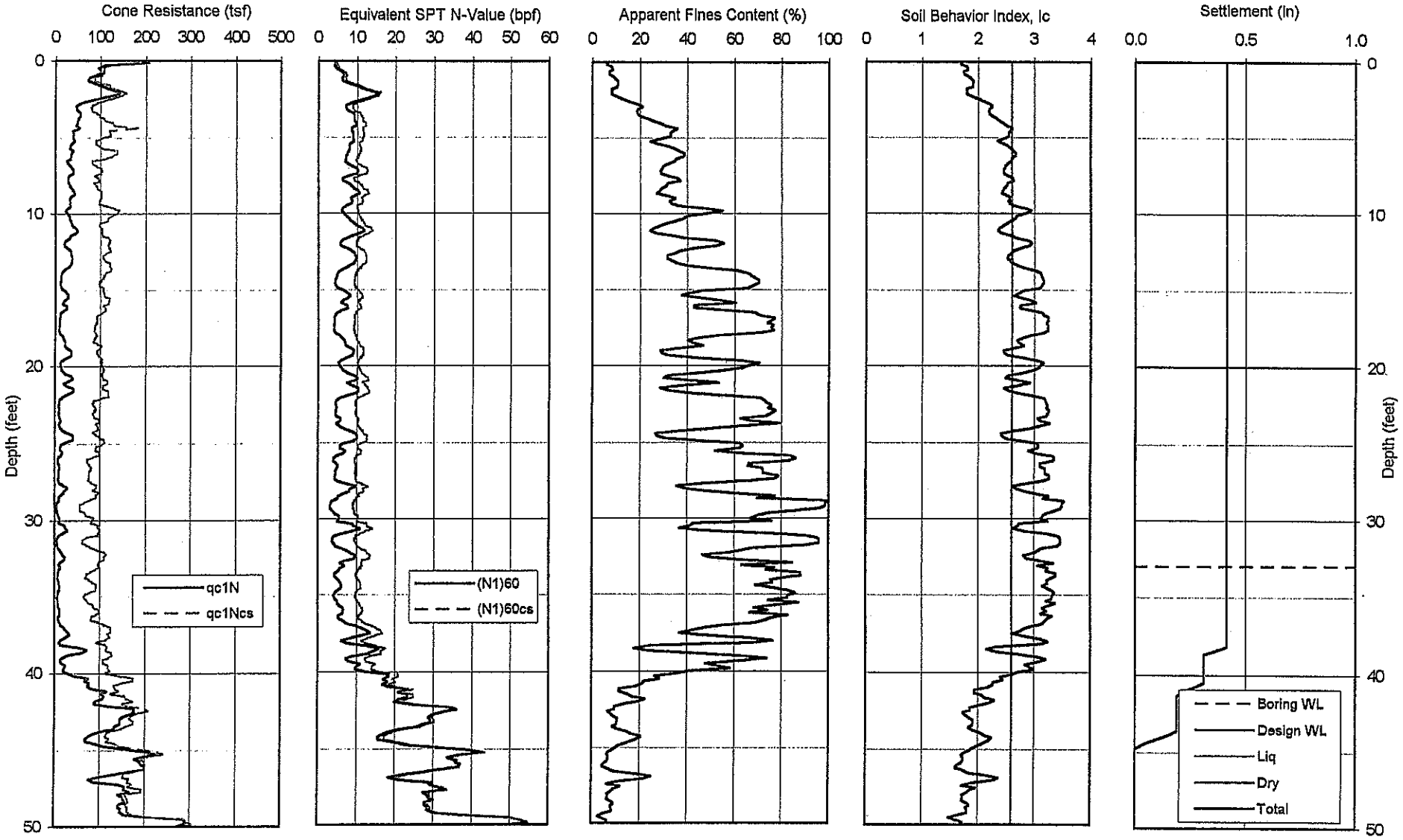


Reference: Tokimatsu, K., and Seed, H. (1987). "Evaluation of Settlements in Sands Due to Earthquake Shaking." Journal of Geotechnical Engineering, ASCE, 113(8), 861-878.

Burnham / SunCal 53819 CPT Liquefaction Evaluation GeoLabs CPT2 - 12' Removal	A.G.I. GEOTECHNICAL,	Project No. : 13-2474-01	Date: 3-19-04
		Scale: As Shown	Revised:
		Approved By: JAV	Prepared By: MBS

Earthquake Magnitude, M :	7.0	Boring Water Level (Below Orig), ft :	33.0	Removal Depth (Below Orig), ft :	25.0
Maximum Acceleration, a (g) :	0.55	Design Water Level (Below Orig), ft :	20.0	Surcharge Fill Height (Above Orig), ft :	0.0
Magnitude Scaling Factor, r_m :	1.193			Surcharge Fill Unit Weight, pcf :	125.0

TOTAL SEISMIC SETTLEMENT (in) : 0.42

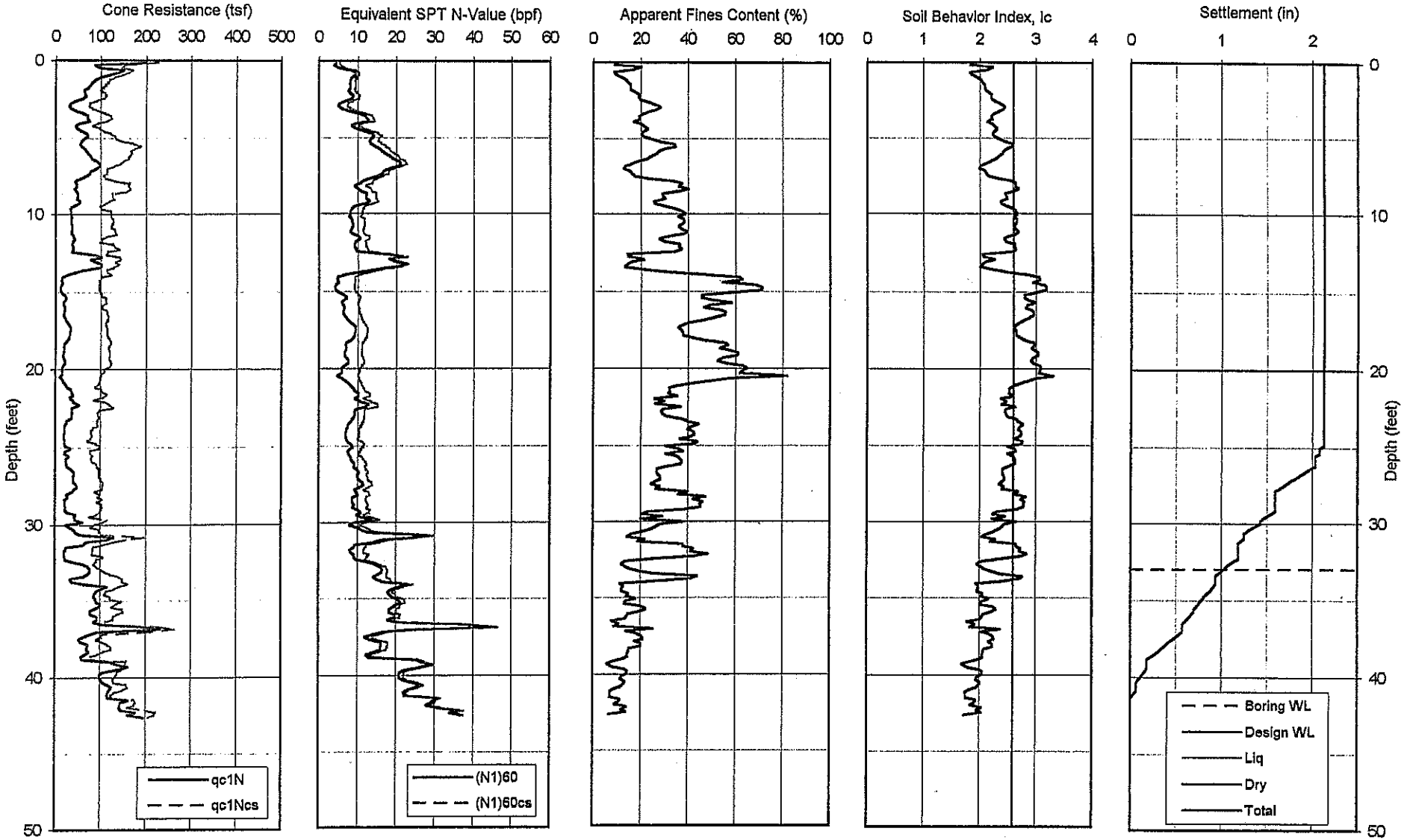


Reference: Tokimatsu, K., and Seed, H. (1987). "Evaluation of Settlements in Sands Due to Earthquake Shaking." Journal of Geotechnical Engineering, ASCE, 113(8), 861-878.

Burnham / SunCal 53819 CPT Liquefaction Evaluation GeoLabs CPT3 - 25' Removal	A.G.I. GEOTECHNICAL,	Project No. : 13-2474-01	Date: 3-19-04
		Scale: As Shown	Revised:
		Approved By: JAV	Prepared By: MBS

Earthquake Magnitude, M :	7.0	Boring Water Level (Below Orig), ft :	33.0	Removal Depth (Below Orig), ft :	26.0
Maximum Acceleration, a (g) :	0.55	Design Water Level (Below Orig), ft :	20.0	Surcharge Fill Height (Above Orig), ft :	0.0
Magnitude Scaling Factor, r_m :	1.193			Surcharge Fill Unit Weight, pcf :	125.0

TOTAL SEISMIC SETTLEMENT (in) : 2.13

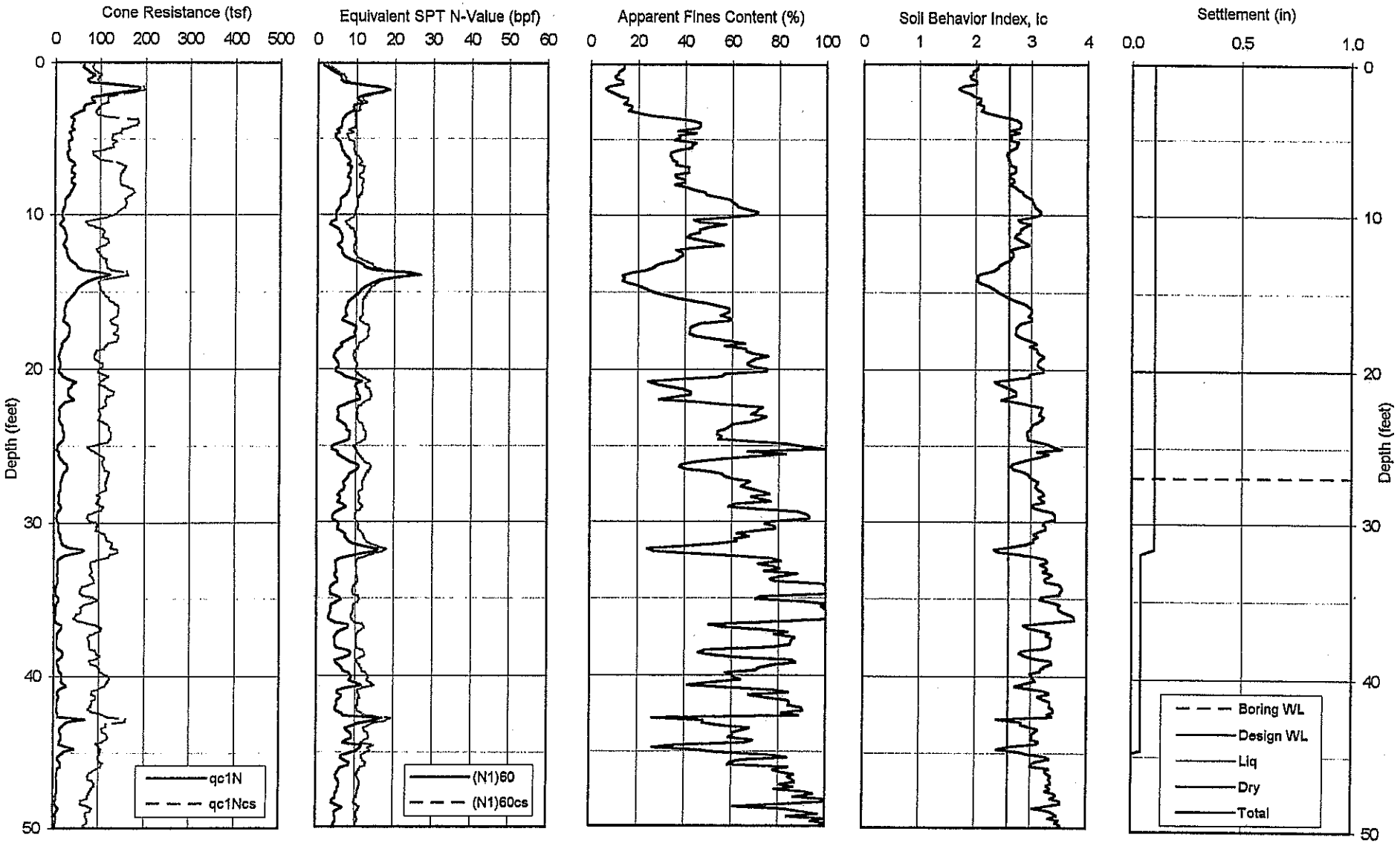


Reference: Tokimatsu, K., and Seed, H. (1987). "Evaluation of Settlements in Sands Due to Earthquake Shaking." Journal of Geotechnical Engineering, ASCE, 113(8), 861-878.

Burnham / SunCal 53819 CPT Liquefaction Evaluation GeoLabs CPT4 - 25' Removal	A.G.I. GEOTECHNICAL,	Project No. : 13-2474-01 Scale: As Shown Approved By: JAV	Date: 3-19-04 Revised: Prepared By: MBS

Earthquake Magnitude, M :	7.0	Boring Water Level (Below Orig), ft :	27.0	Removal Depth (Below Orig), ft :	25.0
Maximum Acceleration, a (g) :	0.55	Design Water Level (Below Orig), ft :	20.0	Surcharge Fill Height (Above Orig), ft :	0.0
Magnitude Scaling Factor, r_m :	1.193			Surcharge Fill Unit Weight, pcf :	125.0

TOTAL SEISMIC SETTLEMENT (in) : 0.11



Reference: Tokimatsu, K., and Seed, H. (1987). "Evaluation of Settlements in Sands Due to Earthquake Shaking." Journal of Geotechnical Engineering, ASCE, 113(8), 861-878.

Burnham / SunCal 53819 CPT Liquefaction Evaluation GeoLabs CPT5 - 25' Removal	A.G.I. GEOTECHNICAL,	Project No. : 13-2474-01	Date: 3-19-04
		Scale: As Shown	Revised:
		Approved By: JAV	Prepared By: MBS

Seismic Settlement Analysis
Using SPT Data
(Dry Sands)

Project:	Burnham / SunCal 53819
Project No.:	13-2474
Boring:	AGI Bh7 - 12' Removal

Earthquake Magnitude, M	7.00
Maximum Acceleration, a	0.55
Boring Water Level (Below Orig), ft	50.0
Design Water Level (Below Orig), ft	30.0
Surcharge Fill Height (Above Orig), ft	0.0
Surcharge Fill Unit Weight, pcf	125.0
Factor, $\varepsilon_{C,N} / \varepsilon_{C,N=15}$	0.89

SPT Correction Factors		
C_E	1.00	Energy Ratio
C_B	1.00	Borehole Diameter
C_R	1.00	Rod Length
C_S	1.20	Sampler Type
C_{ESRS}	1.20	Overall Correction

TOTAL DRY SAND SETTLEMENT (in) : 0.29

Layer	Layer Base, z (ft)	Total Unit Weight, γ (pcf)	SPT N_{field}	Fines (%)	Incl? (Y/N)	Layer Thickness t (ft)	Layer Midheight z_o (ft)	Design Effective Stress $\sigma_o = \sigma_o'$ (psf)	Boring Effective Stress σ_b' (psf)	Mean Stress σ_m' (psf)	C_N	SPT Fines Corr $\delta(N_1)_{60}$	SPT $(N_1)_{60}$	r_d	G_{max} (ksf)	$\gamma_{eff}(G_{eff}/G_{max})$	γ_{eff} (%)	$\varepsilon_{C,M=7.5}$ (%)	Settlement Δs (in)
1	5.00	126.0	13.0	12.0	N	5.00	2.50	315	315	210	1.60	1.1	26.1	1.00	859	0.000131	0.0435	0.0338	Excluded
2	10.00	113.4	13.0	12.0	N	5.00	7.50	914	914	609	1.48	1.1	24.2	1.00	1,427	0.000228	0.0787	0.0669	Excluded
3	15.00	114.5	13.0	14.0	N	5.00	12.50	1,483	1,483	989	1.16	1.3	19.4	0.97	1,690	0.000304	0.1107	0.1248	Excluded
4	20.00	125.7	20.0	14.0	Y	5.00	17.50	2,084	2,084	1,389	0.98	1.3	24.8	0.94	2,173	0.000324	0.0977	0.0798	0.09
5	25.00	121.9	25.0	13.0	Y	5.00	22.50	2,703	2,703	1,802	0.86	1.2	27.0	0.92	2,547	0.000348	0.0959	0.0694	0.07
6	30.00	119.8	21.0	13.0	Y	5.00	27.50	3,307	3,307	2,204	0.78	1.2	20.8	0.89	2,582	0.000408	0.1210	0.1242	0.13
7	35.00	120.8	24.0	17.0	Y	5.00	32.50	3,908	3,908	2,605	0.72	1.5	22.1	0.87	2,866	0.000422	0.1152	0.1090	Below WL
8	40.00	120.8	27.0	17.0	Y	5.00	37.50	4,512	4,512	3,008	0.67	1.5	23.1	0.84	3,124	0.000433	0.1104	0.0989	Below WL
9	45.00	120.8	20.0	16.0	Y	5.00	42.50	5,116	5,116	3,410	0.63	1.4	16.5	0.81	2,971	0.000500	0.1417	0.1970	Below WL
10	50.00	120.8	21.0	18.0	Y	5.00	47.50	5,719	5,719	3,813	0.60	1.6	16.7	0.79	3,159	0.000509	0.1356	0.1845	Below WL

TOTAL DRY SAND SETTLEMENT (in) : 0.29

Notes:

Reference: Tokimatsu, K., and Seed, H. (1987). "Evaluation of Settlements in Sands Due to Earthquake Shaking." Journal of Geotechnical Engineering, ASCE, 113(8), 861-878.

Liquefaction-Induced Settlement Analysis
Using SPT Data
(Saturated Sands)

Project:	Burnham / SunCal 53819
Project No.:	13-2474
Boring:	GeoLabs B1 - 25' Removal

Earthquake Magnitude, M	7.00
Maximum Acceleration, a	0.55
Boring Water Level (Below Orig), ft	50.0
Design Water Level (Below Orig), ft	20.0
Surcharge Fill Height (Above Orig), ft	0.0
Surcharge Fill Unit Weight, pcf	125.0
Magnitude Scaling Factor, r_m	1.193

SPT Correction Factors		
C_E	1.00	Energy Ratio
C_B	1.00	Borehole Diameter
C_R	1.00	Rod Length
C_S	1.00	Sampler Type
C_{ESRS}	1.00	Overall Correction

TOTAL LIQUEFACTION SETTLEMENT (in) : 1.95

Layer	Layer Base, z (ft)	Total Unit Weight γ (pcf)	SPT N_{field}	Fines (%)	Incl? (Y/N)	Layer Thickness t (ft)	Layer Midheight z_o (ft)	Design Total Stress σ_o (psf)	Design Effective Stress σ_o' (psf)	Boring Effective Stress σ_b' (psf)	C_N	SPT Fines Corr $\delta(N_1)_{60}$	SPT $(N_1)_{60}$	r_d	CSR = τ_{ave} / σ_o'	α	β	$(N_1)_{60cs}$	K_σ	CRR_M	Liq FS	Vol Strain (%)	Settlement Δs (in)
1	5.00	107.6	12.0	5.0	N	5.00	2.50	269	269	269	1.60	0.5	19.6	1.00	0.300	0.00	1.00	19.2	1.000	999	999	0.00	Excluded
2	10.00	115.0	11.3	50.0	N	5.00	7.50	825	825	825	1.56	3.9	21.6	1.00	0.298	5.00	1.20	26.2	1.000	999	999	0.00	Excluded
3	15.00	131.3	20.8	50.0	N	5.00	12.50	1,441	1,441	1,441	1.18	3.9	28.4	0.97	0.291	5.00	1.20	34.4	1.000	999	999	0.00	Excluded
4	20.00	127.4	12.6	5.0	N	5.00	17.50	2,088	2,088	2,088	0.98	0.5	12.8	0.94	0.283	0.00	1.00	12.3	1.000	999	999	0.00	Excluded
5	25.00	135.4	13.9	15.0	N	5.00	22.50	2,745	2,589	2,745	0.85	1.4	13.2	0.92	0.292	2.50	1.05	14.9	1.000	0.161	0.552	0.00	Excluded
6	30.00	137.4	12.6	15.0	Y	5.00	27.50	3,427	2,959	3,427	0.76	1.4	11.0	0.89	0.309	2.50	1.05	12.6	1.000	0.136	0.440	2.48	1.49
7	35.00	142.2	35.3	5.0	Y	5.00	32.50	4,126	3,346	4,126	0.70	0.5	25.0	0.87	0.320	0.00	1.00	24.6	0.985	0.271	0.849	0.78	0.47
8	40.00	140.3	63.0	5.0	Y	5.00	37.50	4,832	3,740	4,832	0.64	0.5	41.0	0.84	0.325	0.00	1.00	40.5	0.966	999	999	0.00	0.00
9	45.00	140.3	63.0	5.0	Y	5.00	42.50	5,534	4,130	5,534	0.60	0.5	38.3	0.81	0.326	0.00	1.00	37.9	0.948	999	999	0.00	0.00
10	50.00	140.3	63.0	5.0	Y	5.00	47.50	6,236	4,520	6,236	0.60	0.5	38.3	0.79	0.325	0.00	1.00	37.8	0.931	999	999	0.00	0.00

TOTAL LIQUEFACTION SETTLEMENT (in) : 1.95

Liquefaction-Induced Settlement Analysis
Using SPT Data
(Saturated Sands)

Project:	Burnham / SunCal 53819
Project No.:	13-2474
Boring:	AGI Bh7 - 12' Removal

Earthquake Magnitude, M	7.00
Maximum Acceleration, a	0.55
Boring Water Level (Below Orig), ft	50.0
Design Water Level (Below Orig), ft	30.0
Surcharge Fill Height (Above Orig), ft	0.0
Surcharge Fill Unit Weight, pcf	125.0
Magnitude Scaling Factor, r_m	1.193

SPT Correction Factors		
C_E	1.00	Energy Ratio
C_B	1.00	Borehole Diameter
C_R	1.00	Rod Length
C_S	1.20	Sampler Type
C_{SBRS}	1.20	Overall Correction

TOTAL LIQUEFACTION SETTLEMENT (in) : 1.96

Layer	Layer Base, z (ft)	Total Unit Weight γ (pcf)	SPT N_{field}	Fines (%)	Incl? (Y/N)	Layer Thickness t (ft)	Layer Midheight z_p (ft)	Design Total Stress σ_o (psf)	Design Effective Stress σ_o' (psf)	Boring Effective Stress σ_b' (psf)	C_N	SPT Fines Corr $\delta(N_1)_{60}$	SPT $(N_1)_{60}$	r_d	CSR = τ_{ave}/σ_o'	α	β	$(N_1)_{60cs}$	K_σ	CRR_M	Liq FS	Vol Strain (%)	Settlement Δs (in)
1	5.00	126.0	13.0	12.0	N	5.00	2.50	315	315	315	1.60	1.1	26.1	1.00	0.300	1.55	1.03	27.3	1.000	999	999	0.00	Excluded
2	10.00	113.4	13.0	12.0	N	5.00	7.50	914	914	914	1.48	1.1	24.2	1.00	0.298	1.55	1.03	25.4	1.000	999	999	0.00	Excluded
3	15.00	114.5	13.0	14.0	N	5.00	12.50	1,483	1,483	1,483	1.16	1.3	19.4	0.97	0.291	2.20	1.04	21.1	1.000	999	999	0.00	Excluded
4	20.00	125.7	20.0	14.0	Y	5.00	17.50	2,084	2,084	2,084	0.98	1.3	24.8	0.94	0.283	2.20	1.04	26.7	1.000	999	999	0.00	Above WL
5	25.00	121.9	25.0	13.0	Y	5.00	22.50	2,703	2,703	2,703	0.86	1.2	27.0	0.92	0.275	1.89	1.04	28.6	1.000	999	999	0.00	Above WL
6	30.00	119.8	21.0	13.0	Y	5.00	27.50	3,307	3,307	3,307	0.78	1.2	20.8	0.89	0.267	1.89	1.04	22.2	0.986	999	999	0.00	Above WL
7	35.00	120.8	24.0	17.0	Y	5.00	32.50	3,908	3,752	3,908	0.72	1.5	22.1	0.87	0.270	3.01	1.06	24.9	0.965	0.270	1.002	0.00	0.00
8	40.00	120.8	27.0	17.0	Y	5.00	37.50	4,512	4,044	4,512	0.67	1.5	23.1	0.84	0.280	3.01	1.06	25.9	0.952	0.283	1.010	0.00	0.00
9	45.00	120.8	20.0	16.0	Y	5.00	42.50	5,116	4,336	5,116	0.63	1.4	16.5	0.81	0.287	2.77	1.05	18.6	0.939	0.188	0.655	1.64	0.99
10	50.00	120.8	21.0	18.0	Y	5.00	47.50	5,719	4,627	5,719	0.60	1.6	16.7	0.79	0.291	3.23	1.07	19.4	0.926	0.194	0.665	1.62	0.97

TOTAL LIQUEFACTION SETTLEMENT (in) : 1.96

Seismic Settlement Analysis
Using SPT Data
(Dry Sands)

Project:	Burnham / SunCal 53819
Project No.:	13-2474
Boring:	GeoLabs B1 - 25' Removal

Earthquake Magnitude, M	7.00
Maximum Acceleration, a	0.55
Boring Water Level (Below Orig), ft	50.0
Design Water Level (Below Orig), ft	20.0
Surcharge Fill Height (Above Orig), ft	0.0
Surcharge Fill Unit Weight, pcf	125.0
Factor, $\varepsilon_{C,N} / \varepsilon_{C,N=15}$	0.89

SPT Correction Factors		
C_E	1.00	Energy Ratio
C_B	1.00	Borehole Diameter
C_R	1.00	Rod Length
C_S	1.20	Sampler Type
C_{EBRS}	1.20	Overall Correction

TOTAL DRY SAND SETTLEMENT (in) : 0.00

Layer	Layer Base, z (ft)	Total Unit Weight, γ (pcf)	SPT N_{field}	Fines (%)	Incl? (Y/N)	Layer Thickness t (ft)	Layer Midheight z_o (ft)	Design Effective Stress $\sigma_o = \sigma_o'$ (psf)	Boring Effective Stress σ_b' (psf)	Mean Stress σ_m' (psf)	C_N	SPT Fines Corr $\delta(N_1)_{60}$	SPT $(N_1)_{60}$	r_d	G_{max} (ksf)	$\gamma_{eff}(G_{eff}/G_{max})$	γ_{eff} (%)	$\varepsilon_{C,M=7.5}$ (%)	Settlement Δs (in)
1	5.00	107.6	12.0	5.0	N	5.00	2.50	269	269	179	1.60	0.5	23.4	1.00	766	0.000125	0.0427	0.0384	Excluded
2	10.00	115.0	11.3	50.0	N	5.00	7.50	825	825	550	1.56	3.9	25.1	1.00	1,373	0.000214	0.0730	0.0591	Excluded
3	15.00	131.3	20.8	50.0	N	5.00	12.50	1,441	1,441	961	1.18	3.9	33.3	0.97	1,994	0.000251	0.0702	0.0358	Excluded
4	20.00	127.4	12.6	5.0	N	5.00	17.50	2,088	2,088	1,392	0.98	0.5	15.3	0.94	1,850	0.000381	0.1507	0.2314	Excluded
5	25.00	135.4	13.9	15.0	N	5.00	22.50	2,745	2,745	1,830	0.85	1.4	15.6	0.92	2,136	0.000422	0.1548	0.2313	Excluded
6	30.00	137.4	12.6	15.0	Y	5.00	27.50	3,427	3,427	2,285	0.76	1.4	12.9	0.89	2,243	0.000487	0.1879	0.3560	Below WL
7	35.00	142.2	35.3	5.0	Y	5.00	32.50	4,126	4,126	2,751	0.70	0.5	29.9	0.87	3,257	0.000392	0.0935	0.0575	Below WL
8	40.00	140.3	63.0	5.0	Y	5.00	37.50	4,832	4,832	3,222	0.64	0.5	49.1	0.84	4,156	0.000348	0.0659	0.0121	Below WL
9	45.00	140.3	63.0	5.0	Y	5.00	42.50	5,534	5,534	3,689	0.60	0.5	45.9	0.81	4,350	0.000369	0.0686	0.0155	Below WL
10	50.00	140.3	63.0	5.0	Y	5.00	47.50	6,236	6,236	4,157	0.60	0.5	45.8	0.79	4,614	0.000380	0.0677	0.0154	Below WL

Notes:

TOTAL DRY SAND SETTLEMENT (in) : 0.00

Reference: Tokimatsu, K., and Seed, H. (1987). "Evaluation of Settlements in Sands Due to Earthquake Shaking." Journal of Geotechnical Engineering, ASCE, 113(8), 861-878.

Liquefaction-Induced Settlement Analysis
Using SPT Data
(Saturated Sands)

Project:	Burnham / SunCal 53819
Project No.:	13-2474
Boring:	GeoLabs B2 - 25' Removal

Earthquake Magnitude, M	7.00
Maximum Acceleration, a	0.55
Boring Water Level (Below Orig), ft	50.0
Design Water Level (Below Orig), ft	20.0
Surcharge Fill Height (Above Orig), ft	0.0
Surcharge Fill Unit Weight, pcf	125.0
Magnitude Scaling Factor, r_m	1.193

SPT Correction Factors		
C_E	1.00	Energy Ratio
C_B	1.00	Borehole Diameter
C_R	1.00	Rod Length
C_S	1.00	Sampler Type
C_{ESRS}	1.00	Overall Correction

TOTAL LIQUEFACTION SETTLEMENT (in) : 3.88

Layer	Layer Base, z (ft)	Total Unit Weight γ (pcf)	SPT N_{field}	Fines (%)	Incl? (Y/N)	Layer Thickness t (ft)	Layer Midheight z_o (ft)	Design Total Stress σ_o (psf)	Design Effective Stress σ_o' (psf)	Boring Effective Stress σ_b' (psf)	C_N	SPT Fines Corr $\delta(N_1)_{60}$	SPT $(N_1)_{60}$	r_d	CSR = τ_{ave}/σ_o'	α	β	$(N_1)_{60cs}$	K_σ	CRR_M	Liq FS	Vol Strain (%)	Settlement Δs (in)
1	5.00	113.4	20.2	15.0	N	5.00	2.50	284	284	284	1.60	1.4	33.6	1.00	0.300	2.50	1.05	36.3	1.000	999	999	0.00	Excluded
2	10.00	114.5	20.2	15.0	N	5.00	7.50	853	853	853	1.53	1.4	32.2	1.00	0.298	2.50	1.05	34.8	1.000	999	999	0.00	Excluded
3	15.00	117.4	17.0	15.0	N	5.00	12.50	1,433	1,433	1,433	1.18	1.4	21.5	0.97	0.291	2.50	1.05	23.6	1.000	999	999	0.00	Excluded
4	20.00	117.4	15.1	15.0	N	5.00	17.50	2,020	2,020	2,020	1.00	1.4	16.4	0.94	0.283	2.50	1.05	18.3	1.000	999	999	0.00	Excluded
5	25.00	116.6	15.1	50.0	N	5.00	22.50	2,605	2,449	2,605	0.88	3.9	17.1	0.92	0.293	5.00	1.20	20.9	1.000	0.227	0.774	0.00	Excluded
6	30.00	121.6	20.8	5.0	Y	5.00	27.50	3,201	2,733	3,201	0.79	0.5	16.9	0.89	0.313	0.00	1.00	16.4	1.000	0.177	0.567	1.66	1.00
7	35.00	132.2	27.7	5.0	Y	5.00	32.50	3,835	3,055	3,835	0.72	0.5	20.5	0.87	0.325	0.00	1.00	20.0	0.999	0.216	0.664	1.28	0.77
8	40.00	129.2	27.7	25.0	Y	5.00	37.50	4,489	3,397	4,489	0.67	2.2	20.7	0.84	0.332	4.29	1.12	24.9	0.982	0.276	0.832	1.27	0.76
9	45.00	142.2	30.9	5.0	Y	5.00	42.50	5,167	3,763	5,167	0.62	0.5	19.7	0.81	0.334	0.00	1.00	19.2	0.964	0.200	0.598	1.39	0.83
10	50.00	134.3	40.3	5.0	Y	5.00	47.50	5,859	4,143	5,859	0.60	0.5	24.6	0.79	0.333	0.00	1.00	24.2	0.947	0.256	0.768	0.87	0.52

TOTAL LIQUEFACTION SETTLEMENT (in) : 3.88

Seismic Settlement Analysis
Using SPT Data
(Dry Sands)

Project:	Burnham / SunCal 53819
Project No.:	13-2474
Boring:	GeoLabs B2 - 25' Removal

Earthquake Magnitude, M	7.00
Maximum Acceleration, a	0.55
Boring Water Level (Below Orig), ft	50.0
Design Water Level (Below Orig), ft	20.0
Surcharge Fill Height (Above Orig), ft	0.0
Surcharge Fill Unit Weight, pcf	125.0
Factor, $\varepsilon_{C,N} / \varepsilon_{C,N=15}$	0.89

SPT Correction Factors		
C_E	1.00	Energy Ratio
C_B	1.00	Borehole Diameter
C_R	1.00	Rod Length
C_S	1.20	Sampler Type
C_{EBRS}	1.20	Overall Correction

TOTAL DRY SAND SETTLEMENT (in) : 0.00

Layer	Layer Base, z (ft)	Total Unit Weight, γ (pcf)	SPT N_{field}	Fines (%)	Incl? (Y/N)	Layer Thickness t (ft)	Layer Midheight z_o (ft)	Design Effective Stress $\sigma_o = \sigma_o'$ (psf)	Boring Effective Stress σ_b' (psf)	Mean Stress σ_m' (psf)	C_N	SPT Fines Corr $\delta(N_1)_{60}$	SPT $(N_1)_{60}$	r_d	G_{max} (ksf)	$\gamma_{eff}(G_{eff}/G_{max})$	γ_{eff} (%)	$\varepsilon_{C,M=7.5}$ (%)	Settlement Δs (in)
1	5.00	113.4	20.2	15.0	N	5.00	2.50	284	284	189	1.60	1.4	40.1	1.00	941	0.000108	0.0272	0.0092	Excluded
2	10.00	114.5	20.2	15.0	N	5.00	7.50	853	853	569	1.53	1.4	38.4	1.00	1,609	0.000189	0.0535	0.0200	Excluded
3	15.00	117.4	17.0	15.0	N	5.00	12.50	1,433	1,433	955	1.18	1.4	25.5	0.97	1,819	0.000273	0.0862	0.0681	Excluded
4	20.00	117.4	15.1	15.0	N	5.00	17.50	2,020	2,020	1,347	1.00	1.4	19.4	0.94	1,973	0.000346	0.1186	0.1331	Excluded
5	25.00	116.6	15.1	50.0	N	5.00	22.50	2,605	2,605	1,737	0.88	3.9	19.8	0.92	2,255	0.000379	0.1217	0.1331	Excluded
6	30.00	121.6	20.8	5.0	Y	5.00	27.50	3,201	3,201	2,134	0.79	0.5	20.2	0.89	2,515	0.000406	0.1222	0.1303	Below WL
7	35.00	132.2	27.7	5.0	Y	5.00	32.50	3,835	3,835	2,557	0.72	0.5	24.5	0.87	2,936	0.000404	0.1055	0.0875	Below WL
8	40.00	129.2	27.7	25.0	Y	5.00	37.50	4,489	4,489	2,992	0.67	2.2	24.4	0.84	3,173	0.000424	0.1057	0.0881	Below WL
9	45.00	142.2	30.9	5.0	Y	5.00	42.50	5,167	5,167	3,445	0.62	0.5	23.5	0.81	3,362	0.000446	0.1076	0.0942	Below WL
10	50.00	134.3	40.3	5.0	Y	5.00	47.50	5,859	5,859	3,906	0.60	0.5	29.5	0.79	3,861	0.000426	0.0895	0.0565	Below WL

Notes:

TOTAL DRY SAND SETTLEMENT (in) : 0.00

Reference: Tokimatsu, K., and Seed, H. (1987). "Evaluation of Settlements in Sands Due to Earthquake Shaking." Journal of Geotechnical Engineering, ASCE, 113(8), 861-878.

Liquefaction-Induced Settlement Analysis
Using SPT Data
(Saturated Sands)

Project:	Burnham / SunCal 53819
Project No.:	13-2474
Boring:	GeoLabs B3 - 12' Removal

Earthquake Magnitude, M	7.00
Maximum Acceleration, a	0.55
Boring Water Level (Below Orig), ft	50.0
Design Water Level (Below Orig), ft	20.0
Surcharge Fill Height (Above Orig), ft	0.0
Surcharge Fill Unit Weight, pcf	125.0
Magnitude Scaling Factor, r_m	1.193

SPT Correction Factors		
C_E	1.00	Energy Ratio
C_B	1.00	Borehole Diameter
C_R	1.00	Rod Length
C_S	1.00	Sampler Type
C_{SBRS}	1.00	Overall Correction

TOTAL LIQUEFACTION SETTLEMENT (in) : 1.57

Layer	Layer Base, z (ft)	Total Unit Weight γ (pcf)	SPT N_{field}	Fines (%)	Incl? (Y/N)	Layer Thickness t (ft)	Layer Midheight z_a (ft)	Design Total Stress σ_o (psf)	Design Effective Stress σ_o' (psf)	Boring Effective Stress σ_b' (psf)	C_N	SPT Fines Corr $\delta(N_1)_{60}$	SPT $(N_1)_{60}$	r_d	CSR = τ_{ave} / σ_o'	α	β	$(N_1)_{60cs}$	K_σ	CRR_M	Liq FS	Vol Strain (%)	Settlement Δs (in)
1	5.00	107.1	15.1	5.0	N	5.00	2.50	268	268	268	1.60	0.5	24.6	1.00	0.300	0.00	1.00	24.2	1.000	999	999	0.00	Excluded
2	10.00	113.4	17.0	15.0	N	5.00	7.50	819	819	819	1.56	1.4	27.9	1.00	0.298	2.50	1.05	30.4	1.000	999	999	0.00	Excluded
3	15.00	123.1	27.1	5.0	N	5.00	12.50	1,410	1,410	1,410	1.19	0.5	32.7	0.97	0.291	0.00	1.00	32.3	1.000	999	999	0.00	Excluded
4	20.00	116.6	27.7	5.0	Y	5.00	17.50	2,010	2,010	2,010	1.00	0.5	28.1	0.94	0.283	0.00	1.00	27.7	1.000	999	999	0.00	Above WL
5	25.00	122.6	31.5	5.0	Y	5.00	22.50	2,608	2,452	2,608	0.88	0.5	28.0	0.92	0.293	0.00	1.00	27.6	1.000	0.333	1.137	0.00	0.00
6	30.00	130.0	41.0	5.0	Y	5.00	27.50	3,239	2,771	3,239	0.79	0.5	32.6	0.89	0.312	0.00	1.00	32.2	1.000	999	999	0.00	0.00
7	35.00	130.0	21.6	5.0	Y	5.00	32.50	3,889	3,109	3,889	0.72	0.5	15.9	0.87	0.324	0.00	1.00	15.5	0.996	0.167	0.514	1.80	1.06
8	40.00	130.0	37.2	5.0	Y	5.00	37.50	4,539	3,447	4,539	0.66	0.5	25.1	0.84	0.331	0.00	1.00	24.7	0.980	0.272	0.822	0.81	0.49
9	45.00	130.0	40.8	15.0	Y	5.00	42.50	5,189	3,785	5,189	0.62	1.4	26.7	0.81	0.334	2.50	1.05	29.0	0.963	0.363	1.088	0.00	0.00
10	50.00	130.0	48.0	5.0	Y	5.00	47.50	5,839	4,123	5,839	0.60	0.5	29.3	0.79	0.334	0.00	1.00	28.8	0.948	0.348	1.044	0.00	0.00

TOTAL LIQUEFACTION SETTLEMENT (in) : 1.57

Seismic Settlement Analysis
Using SPT Data
(Dry Sands)

Project:	Burnham / SunCal 53819
Project No.:	13-2474
Boring:	GeoLabs B3 - 12' Removal

Earthquake Magnitude, M	7.00
Maximum Acceleration, a	0.55
Boring Water Level (Below Orig), ft	50.0
Design Water Level (Below Orig), ft	20.0
Surcharge Fill Height (Above Orig), ft	0.0
Surcharge Fill Unit Weight, pcf	125.0
Factor, $\varepsilon_{C,N} / \varepsilon_{C,N=15}$	0.89

SPT Correction Factors		
C_E	1.00	Energy Ratio
C_B	1.00	Borehole Diameter
C_R	1.00	Rod Length
C_S	1.20	Sampler Type
C_{EBRS}	1.20	Overall Correction

TOTAL DRY SAND SETTLEMENT (in) : 0.04

Layer	Layer Base, z (ft)	Total Unit Weight, γ (pcf)	SPT N_{field}	Fines (%)	Incl? (Y/N)	Layer Thickness t (ft)	Layer Midheight z_o (ft)	Design Effective Stress $\sigma_o = \sigma_o'$ (psf)	Boring Effective Stress σ_b' (psf)	Mean Stress σ_m' (psf)	C_N	SPT Fines Corr $\delta(N_1)_{60}$	SPT $(N_1)_{60}$	r_d	G_{max} (ksf)	$\gamma_{eff}(G_{eff}/G_{max})$	γ_{eff} (%)	$\varepsilon_{C,M=7.6}$ (%)	Settlement Δs (in)
1	5.00	107.1	15.1	5.0	N	5.00	2.50	268	268	179	1.60	0.5	29.5	1.00	825	0.000116	0.0339	0.0219	Excluded
2	10.00	113.4	17.0	15.0	N	5.00	7.50	819	819	546	1.56	1.4	33.3	1.00	1,503	0.000194	0.0583	0.0300	Excluded
3	15.00	123.1	27.1	5.0	N	5.00	12.50	1,410	1,410	940	1.19	0.5	39.2	0.97	2,083	0.000235	0.0618	0.0219	Excluded
4	20.00	116.6	27.7	5.0	Y	5.00	17.50	2,010	2,010	1,340	1.00	0.5	33.6	0.94	2,363	0.000287	0.0757	0.0378	0.04
5	25.00	122.6	31.5	5.0	Y	5.00	22.50	2,608	2,608	1,738	0.88	0.5	33.6	0.92	2,690	0.000316	0.0799	0.0400	Below WL
6	30.00	130.0	41.0	5.0	Y	5.00	27.50	3,239	3,239	2,159	0.79	0.5	39.1	0.89	3,153	0.000327	0.0738	0.0262	Below WL
7	35.00	130.0	21.6	5.0	Y	5.00	32.50	3,889	3,889	2,593	0.72	0.5	19.0	0.87	2,719	0.000442	0.1299	0.1492	Below WL
8	40.00	130.0	37.2	5.0	Y	5.00	37.50	4,539	4,539	3,026	0.66	0.5	30.1	0.84	3,422	0.000398	0.0907	0.0553	Below WL
9	45.00	130.0	40.8	15.0	Y	5.00	42.50	5,189	5,189	3,459	0.62	1.4	31.8	0.81	3,725	0.000404	0.0863	0.0479	Below WL
10	50.00	130.0	48.0	5.0	Y	5.00	47.50	5,839	5,839	3,893	0.60	0.5	35.0	0.79	4,082	0.000402	0.0791	0.0362	Below WL

Notes:

TOTAL DRY SAND SETTLEMENT (in) : 0.04

Reference: Tokimatsu, K., and Seed, H. (1987). "Evaluation of Settlements in Sands Due to Earthquake Shaking." Journal of Geotechnical Engineering, ASCE, 113(8), 861-878.

Liquefaction-Induced Settlement Analysis
Using SPT Data
(Saturated Sands)

Project:	Burnham / SunCal 53819
Project No.:	13-2474
Boring:	GeoLabs B4 - 12' Removal

Earthquake Magnitude, M	7.00
Maximum Acceleration, a	0.55
Boring Water Level (Below Orig), ft	50.0
Design Water Level (Below Orig), ft	40.0
Surcharge Fill Height (Above Orig), ft	0.0
Surcharge Fill Unit Weight, pcf	125.0
Magnitude Scaling Factor, r_m	1.193

SPT Correction Factors		
C_E	1.00	Energy Ratio
C_B	1.00	Borehole Diameter
C_R	1.00	Rod Length
C_S	1.00	Sampler Type
C_{ESRS}	1.00	Overall Correction

TOTAL LIQUEFACTION SETTLEMENT (in) : 0.00

Layer	Layer Base, z (ft)	Total Unit Weight γ (pcf)	SPT N_{field}	Fines (%)	Incl? (Y/N)	Layer Thickness t (ft)	Layer Midheight z_o (ft)	Design Total Stress σ_o (psf)	Design Effective Stress σ_o' (psf)	Boring Effective Stress σ_b' (psf)	C_N	SPT Fines Corr $\delta(N_1)_{60}$	SPT $(N_1)_{60}$	r_d	CSR = τ_{ave} / σ_o'	α	β	$(N_1)_{60cs}$	K_σ	CRR_M	Liq FS	Vol Strain (%)	Settlement Δs (in)
1	5.00	118.5	23.9	15.0	N	5.00	2.50	296	296	296	1.60	1.4	39.7	1.00	0.300	2.50	1.05	42.6	1.000	999	999	0.00	Excluded
2	10.00	116.2	21.4	5.0	N	5.00	7.50	883	883	883	1.51	0.5	32.7	1.00	0.298	0.00	1.00	32.2	1.000	999	999	0.00	Excluded
3	15.00	117.7	12.0	15.0	N	5.00	12.50	1,467	1,467	1,467	1.17	1.4	15.3	0.97	0.291	2.50	1.05	17.1	1.000	999	999	0.00	Excluded
4	20.00	117.7	36.0	5.0	Y	5.00	17.50	2,056	2,056	2,056	0.99	0.5	36.0	0.94	0.283	0.00	1.00	35.5	1.000	999	999	0.00	Above WL
5	25.00	117.7	24.0	5.0	Y	5.00	22.50	2,644	2,644	2,644	0.87	0.5	21.3	0.92	0.275	0.00	1.00	20.9	1.000	999	999	0.00	Above WL
6	30.00	117.7	43.2	5.0	Y	5.00	27.50	3,233	3,233	3,233	0.79	0.5	34.4	0.89	0.267	0.00	1.00	34.0	0.990	999	999	0.00	Above WL
7	35.00	117.7	34.8	5.0	Y	5.00	32.50	3,821	3,821	3,821	0.72	0.5	25.6	0.87	0.259	0.00	1.00	25.2	0.962	999	999	0.00	Above WL
8	40.00	117.7	40.8	5.0	Y	5.00	37.50	4,410	4,410	4,410	0.67	0.5	27.9	0.84	0.251	0.00	1.00	27.5	0.936	999	999	0.00	Above WL
9	45.00	117.7	52.8	5.0	Y	5.00	42.50	4,998	4,842	4,998	0.63	0.5	33.9	0.81	0.251	0.00	1.00	33.4	0.918	999	999	0.00	0.00
10	50.00	117.7	67.2	5.0	Y	5.00	47.50	5,587	5,119	5,587	0.60	0.5	40.8	0.79	0.257	0.00	1.00	40.3	0.907	999	999	0.00	0.00

TOTAL LIQUEFACTION SETTLEMENT (in) : 0.00

Seismic Settlement Analysis
Using SPT Data
(Dry Sands)

Project:	Burnham / SunCal 53819
Project No.:	13-2474
Boring:	GeoLabs B4 - 12' Removal

Earthquake Magnitude, M	7.00
Maximum Acceleration, a	0.55
Boring Water Level (Below Orig), ft	50.0
Design Water Level (Below Orig), ft	30.0
Surcharge Fill Height (Above Orig), ft	0.0
Surcharge Fill Unit Weight, pcf	125.0
Factor, $\varepsilon_{C,N} / \varepsilon_{C,N=16}$	0.89

SPT Correction Factors		
C_E	1.00	Energy Ratio
C_B	1.00	Borehole Diameter
C_R	1.00	Rod Length
C_S	1.20	Sampler Type
C_{EBRS}	1.20	Overall Correction

TOTAL DRY SAND SETTLEMENT (in) : 0.13

Layer	Layer Base, z (ft)	Total Unit Weight, γ (pcf)	SPT N_{field}	Fines (%)	Incl? (Y/N)	Layer Thickness t (ft)	Layer Midheight z_o (ft)	Design Effective Stress $\sigma_o = \sigma_o'$ (psf)	Boring Effective Stress σ_b' (psf)	Mean Stress σ_m' (psf)	C_N	SPT Fines Corr $\delta(N_1)_{60}$	SPT $(N_1)_{60}$	r_d	G_{max} (ksf)	$\gamma_{eff}(G_{eff}/G_{max})$	γ_{eff} (%)	$\varepsilon_{C,M=7.5}$ (%)	Settlement Δs (in)
1	5.00	118.5	23.9	15.0	N	5.00	2.50	296	296	197	1.60	1.4	47.3	1.00	1,016	0.000104	0.0247	0.0052	Excluded
2	10.00	116.2	21.4	5.0	N	5.00	7.50	883	883	588	1.51	0.5	39.1	1.00	1,647	0.000191	0.0535	0.0191	Excluded
3	15.00	117.7	12.0	15.0	N	5.00	12.50	1,467	1,467	978	1.17	1.4	18.1	0.97	1,643	0.000310	0.1171	0.1440	Excluded
4	20.00	117.7	36.0	5.0	Y	5.00	17.50	2,056	2,056	1,371	0.99	0.5	43.1	0.94	2,595	0.000267	0.0640	0.0175	0.02
5	25.00	117.7	24.0	5.0	Y	5.00	22.50	2,644	2,644	1,763	0.87	0.5	25.5	0.92	2,472	0.000351	0.0993	0.0780	0.08
6	30.00	117.7	43.2	5.0	Y	5.00	27.50	3,233	3,233	2,155	0.79	0.5	41.2	0.89	3,208	0.000321	0.0710	0.0219	0.02
7	35.00	117.7	34.8	5.0	Y	5.00	32.50	3,821	3,821	2,548	0.72	0.5	30.7	0.87	3,160	0.000374	0.0887	0.0524	Below WL
8	40.00	117.7	40.8	5.0	Y	5.00	37.50	4,410	4,410	2,940	0.67	0.5	33.4	0.84	3,493	0.000378	0.0829	0.0418	Below WL
9	45.00	117.7	52.8	5.0	Y	5.00	42.50	4,998	4,998	3,332	0.63	0.5	40.5	0.81	3,966	0.000366	0.0714	0.0231	Below WL
10	50.00	117.7	67.2	5.0	Y	5.00	47.50	5,587	5,587	3,725	0.60	0.5	48.8	0.79	4,462	0.000352	0.0618	0.0116	Below WL

Notes:

TOTAL DRY SAND SETTLEMENT (in) : 0.13

Reference: Tokimatsu, K., and Seed, H. (1987). "Evaluation of Settlements in Sands Due to Earthquake Shaking." Journal of Geotechnical Engineering, ASCE, 113(8), 861-878.

Liquefaction-Induced Settlement Analysis
Using SPT Data
(Saturated Sands)

Project:	Burnham / SunCal 53819
Project No.:	13-2474
Boring:	GeoLabs B5 - 12' Removal

Earthquake Magnitude, M	7.00
Maximum Acceleration, a	0.55
Boring Water Level (Below Orig), ft	50.0
Design Water Level (Below Orig), ft	20.0
Surcharge Fill Height (Above Orig), ft	0.0
Surcharge Fill Unit Weight, pcf	125.0
Magnitude Scaling Factor, r_m	1.193

SPT Correction Factors		
C_E	1.00	Energy Ratio
C_B	1.00	Borehole Diameter
C_R	1.00	Rod Length
C_S	1.00	Sampler Type
C_{EBRS}	1.00	Overall Correction

TOTAL LIQUEFACTION SETTLEMENT (in) : 2.54

Layer	Layer Base, z (ft)	Total Unit Weight γ (pcf)	SPT N_{field}	Fines (%)	Incl? (Y/N)	Layer Thickness t (ft)	Layer Midheight z_o (ft)	Design Total Stress σ_o (psf)	Design Effective Stress σ_o' (psf)	Boring Effective Stress σ_b' (psf)	C_N	SPT Fines Corr $\delta(N_1)_{60}$	SPT $(N_1)_{60}$	r_d	CSR = τ_{ave} / σ_o'	α	β	$(N_1)_{60cs}$	K_σ	CRR_M	Liq FS	Vol Strain (%)	Settlement Δs (in)
1	5.00	117.3	24.6	5.0	N	5.00	2.50	293	293	293	1.60	0.5	39.8	1.00	0.300	0.00	1.00	39.3	1.000	999	999	0.00	Excluded
2	10.00	127.7	17.0	5.0	N	5.00	7.50	906	906	906	1.49	0.5	25.7	1.00	0.298	0.00	1.00	25.3	1.000	999	999	0.00	Excluded
3	15.00	116.5	13.2	15.0	N	5.00	12.50	1,516	1,516	1,516	1.15	1.4	16.6	0.97	0.291	2.50	1.05	18.4	1.000	999	999	0.00	Excluded
4	20.00	123.8	31.5	5.0	Y	5.00	17.50	2,117	2,117	2,117	0.97	0.5	31.1	0.94	0.283	0.00	1.00	30.6	1.000	999	999	0.00	Above WL
5	25.00	127.3	35.3	5.0	Y	5.00	22.50	2,745	2,589	2,745	0.85	0.5	30.6	0.92	0.292	0.00	1.00	30.1	1.000	999	999	0.00	0.00
6	30.00	127.3	45.6	5.0	Y	5.00	27.50	3,381	2,913	3,381	0.77	0.5	35.5	0.89	0.310	0.00	1.00	35.1	1.000	999	999	0.00	0.00
7	35.00	127.3	18.0	15.0	Y	5.00	32.50	4,018	3,238	4,018	0.71	1.4	14.1	0.87	0.322	2.50	1.05	15.8	0.990	0.169	0.526	2.04	1.22
8	40.00	127.3	19.2	5.0	Y	5.00	37.50	4,655	3,563	4,655	0.66	0.5	13.0	0.84	0.328	0.00	1.00	12.6	0.974	0.133	0.404	2.19	1.31
9	45.00	127.3	63.6	5.0	Y	5.00	42.50	5,291	3,887	5,291	0.61	0.5	39.6	0.81	0.331	0.00	1.00	39.1	0.959	999	999	0.00	0.00
10	50.00	127.3	54.0	5.0	Y	5.00	47.50	5,928	4,212	5,928	0.60	0.5	32.9	0.79	0.331	0.00	1.00	32.4	0.944	999	999	0.00	0.00

TOTAL LIQUEFACTION SETTLEMENT (in) : 2.54

Seismic Settlement Analysis
Using SPT Data
(Dry Sands)

Project:	Burnham / SunCal 53819
Project No.:	13-2474
Boring:	GeoLabs B5 - 12' Removal

Earthquake Magnitude, M	7.00
Maximum Acceleration, a	0.55
Boring Water Level (Below Orig), ft	50.0
Design Water Level (Below Orig), ft	20.0
Surcharge Fill Height (Above Orig), ft	0.0
Surcharge Fill Unit Weight, pcf	125.0
Factor, $\varepsilon_{C,N} / \varepsilon_{C,N=16}$	0.89

SPT Correction Factors		
C_E	1.00	Energy Ratio
C_B	1.00	Borehole Diameter
C_R	1.00	Rod Length
C_S	1.20	Sampler Type
C_{EBRS}	1.20	Overall Correction

TOTAL DRY SAND SETTLEMENT (in) : 0.03

Layer	Layer Base, z (ft)	Total Unit Weight, γ (pcf)	SPT N_{field}	Fines (%)	Incl? (Y/N)	Layer Thickness t (ft)	Layer Midheight z_o (ft)	Design Effective Stress $\sigma_o = \sigma_o'$ (psf)	Boring Effective Stress σ_b' (psf)	Mean Stress σ_m' (psf)	C_N	SPT Fines Corr $\delta(N_1)_{60}$	SPT $(N_1)_{60}$	r_d	G_{max} (ksf)	$\gamma_{eff}(G_{eff}/G_{max})$	γ_{eff} (%)	$\varepsilon_{C,M=7.5}$ (%)	Settlement Δs (in)
1	5.00	117.3	24.6	5.0	N	5.00	2.50	293	293	196	1.60	0.5	47.6	1.00	1,014	0.000103	0.0243	0.0050	Excluded
2	10.00	127.7	17.0	5.0	N	5.00	7.50	906	906	604	1.49	0.5	30.8	1.00	1,540	0.000209	0.0646	0.0382	Excluded
3	15.00	116.5	13.2	15.0	N	5.00	12.50	1,516	1,516	1,011	1.15	1.4	19.6	0.97	1,714	0.000307	0.1108	0.1231	Excluded
4	20.00	123.8	31.5	5.0	Y	5.00	17.50	2,117	2,117	1,411	0.97	0.5	37.2	0.94	2,508	0.000285	0.0719	0.0288	0.03
5	25.00	127.3	35.3	5.0	Y	5.00	22.50	2,745	2,745	1,830	0.85	0.5	36.6	0.92	2,840	0.000317	0.0766	0.0319	Below WL
6	30.00	127.3	45.6	5.0	Y	5.00	27.50	3,381	3,381	2,254	0.77	0.5	42.5	0.89	3,315	0.000325	0.0708	0.0201	Below WL
7	35.00	127.3	18.0	15.0	Y	5.00	32.50	4,018	4,018	2,679	0.71	1.4	16.6	0.87	2,640	0.000471	0.1481	0.2030	Below WL
8	40.00	127.3	19.2	5.0	Y	5.00	37.50	4,655	4,655	3,103	0.66	0.5	15.6	0.84	2,781	0.000502	0.1542	0.2304	Below WL
9	45.00	127.3	63.6	5.0	Y	5.00	42.50	5,291	5,291	3,527	0.61	0.5	47.4	0.81	4,298	0.000357	0.0658	0.0136	Below WL
10	50.00	127.3	54.0	5.0	Y	5.00	47.50	5,928	5,928	3,952	0.60	0.5	39.3	0.79	4,276	0.000389	0.0734	0.0257	Below WL

Notes:

TOTAL DRY SAND SETTLEMENT (in) : 0.03

Reference: Tokimatsu, K., and Seed, H. (1987). "Evaluation of Settlements in Sands Due to Earthquake Shaking." Journal of Geotechnical Engineering, ASCE, 113(8), 861-878.

Liquefaction-Induced Settlement Analysis
Using SPT Data
(Saturated Sands)

Project: Burnham / SunCal 53819
Project No.: 13-2474
Boring: GeoLabs B6 - 25' Removal

Earthquake Magnitude, M	7.00
Maximum Acceleration, a	0.55
Boring Water Level (Below Orig), ft	50.0
Design Water Level (Below Orig), ft	20.0
Surcharge Fill Height (Above Orig), ft	0.0
Surcharge Fill Unit Weight, pcf	125.0
Magnitude Scaling Factor, r_m	1.193

SPT Correction Factors		
C_E	1.00	Energy Ratio
C_B	1.00	Borehole Diameter
C_R	1.00	Rod Length
C_S	1.00	Sampler Type
C_{EBRS}	1.00	Overall Correction

TOTAL LIQUEFACTION SETTLEMENT (in) : 0.00

Layer	Layer Base, z (ft)	Total Unit Weight γ (pcf)	SPT N_{field}	Fines (%)	Incl? (Y/N)	Layer Thickness t (ft)	Layer Midheight z_o (ft)	Design Total Stress σ_o (psf)	Design Effective Stress σ_o' (psf)	Boring Effective Stress σ_b' (psf)	C_N	SPT Fines Corr $\delta(N_1)_{60}$	SPT $(N_1)_{60}$	r_d	CSR = τ_{ave} / σ_o'	α	β	$(N_1)_{60cs}$	K_σ	CRR_M	Liq FS	Vol Strain (%)	Settlement Δs (in)
1	5.00	120.8	4.4	15.0	N	5.00	2.50	302	302	302	1.60	1.4	8.4	1.00	0.300	2.50	1.05	9.9	1.000	999	999	0.00	Excluded
2	10.00	126.8	12.6	15.0	N	5.00	7.50	926	926	926	1.47	1.4	19.9	1.00	0.298	2.50	1.05	21.9	1.000	999	999	0.00	Excluded
3	15.00	127.3	17.0	50.0	N	5.00	12.50	1,566	1,566	1,566	1.13	3.9	23.1	0.97	0.291	5.00	1.20	28.1	1.000	999	999	0.00	Excluded
4	20.00	134.3	25.2	15.0	N	5.00	17.50	2,220	2,220	2,220	0.95	1.4	25.3	0.94	0.283	2.50	1.05	27.6	1.000	999	999	0.00	Excluded
5	25.00	130.0	21.4	15.0	N	5.00	22.50	2,881	2,725	2,881	0.83	1.4	19.2	0.92	0.291	2.50	1.05	21.2	1.000	0.230	0.792	0.00	Excluded
6	30.00	134.5	63.0	50.0	Y	5.00	27.50	3,542	3,074	3,542	0.75	3.9	51.2	0.89	0.308	5.00	1.20	61.8	0.998	999	999	0.00	0.00

TOTAL LIQUEFACTION SETTLEMENT (in) : 0.00

Seismic Settlement Analysis
Using SPT Data
(Dry Sands)

Project:	Burnham / SunCal 53819
Project No.:	13-2474
Boring:	GeoLabs B6 - 25' Removal

Earthquake Magnitude, M	7.00
Maximum Acceleration, a	0.55
Boring Water Level (Below Orig), ft	50.0
Design Water Level (Below Orig), ft	20.0
Surcharge Fill Height (Above Orig), ft	0.0
Surcharge Fill Unit Weight, pcf	125.0
Factor, $\varepsilon_{C,N} / \varepsilon_{C,N=16}$	0.89

SPT Correction Factors		
C_E	1.00	Energy Ratio
C_B	1.00	Borehole Diameter
C_R	1.00	Rod Length
C_S	1.20	Sampler Type
C_{EBRS}	1.20	Overall Correction

TOTAL DRY SAND SETTLEMENT (in) : 0.00

Layer	Layer Base, z (ft)	Total Unit Weight, γ (pcf)	SPT N_{field}	Fines (%)	Incl? (Y/N)	Layer Thickness t (ft)	Layer Midheight z_o (ft)	Design Effective Stress $\sigma_o = \sigma_o'$ (psf)	Boring Effective Stress σ_b' (psf)	Mean Stress σ_m' (psf)	C_N	SPT Fines Corr $\delta(N_1)_{60}$	SPT $(N_1)_{60}$	r_d	G_{max} (ksf)	$\gamma_{eff}(G_{eff}/G_{max})$	γ_{eff} (%)	$\varepsilon_{C,M=7.5}$ (%)	Settlement Δs (in)
1	5.00	120.8	4.4	15.0	N	5.00	2.50	302	302	201	1.60	1.4	9.8	1.00	608	0.000178	0.1335	0.3404	Excluded
2	10.00	128.8	12.6	15.0	N	5.00	7.50	926	926	617	1.47	1.4	23.6	1.00	1,425	0.000231	0.0808	0.0710	Excluded
3	15.00	127.3	17.0	50.0	N	5.00	12.50	1,566	1,566	1,044	1.13	3.9	27.0	0.97	1,938	0.000280	0.0857	0.0623	Excluded
4	20.00	134.3	25.2	15.0	N	5.00	17.50	2,220	2,220	1,480	0.95	1.4	30.1	0.94	2,392	0.000313	0.0862	0.0527	Excluded
5	25.00	130.0	21.4	15.0	N	5.00	22.50	2,881	2,881	1,920	0.83	1.4	22.8	0.92	2,484	0.000380	0.1132	0.1032	Excluded
6	30.00	134.5	63.0	50.0	Y	5.00	27.50	3,542	3,542	2,361	0.75	3.9	60.7	0.89	3,820	0.000296	0.0567	0.0055	Below WL

Notes:

TOTAL DRY SAND SETTLEMENT (in) : 0.00

Reference: Tokimatsu, K., and Seed, H. (1987). "Evaluation of Settlements in Sands Due to Earthquake Shaking." Journal of Geotechnical Engineering, ASCE, 113(8), 861-878.

DRAINAGE CONCEPT & SUSMP
FOR TRACT NO. 53189

March 29, 2004 **JN 99628**

B & E ENGINEERS

24 W. ST JOSEPH STREET,
ARCADIA, CA 91007-2854
TEL. (626) 446-4449

DRAINAGE CONCEPT FOR TRACT 53189

THE PROJECT IS LOCATED IN THE SAN FRANCISQUITO CANYON AREA, ABOUT 3.3 MILES NORTHWEST OF SAN FRANCISQUITO CANYON ROAD AND SECO CANYON ROAD INTERSECTION. IT ENCOMPASSES THREE SOIL CLASSIFICATION AREAS. SOIL NO. 020 AT SAN FRANCISQUITO CANYON TRAVERSING THE TRACT, SOIL NO. 094 AT NORTHWEST AND SOIL NO. 097 AT WEST OF THE TRACT. THE BURNED RUNOFF COEFFICIENTS FOR THESE SOILS WERE CALCULATED AND WERE ASSIGNED NUMBERS AS FOLLOWS:

SOIL NO. 175 FOR SOIL NO. 020, SOIL NO. 176 FOR SOIL NO. 094 AND SOIL NO. 177 FOR SOIL NO. 097.

THE FOLLOWING ARE THE HYDROLOGIC DATA FOR THIS PROJECT:

ISOHYET.....= 5.6 INCHES

SOIL CLASSIFICATIONS.....= 020, 094, 097

DESIGN FREQUENCY.....= 50-YR.

DEBRIS POTENTIAL AREA.....= DPA-8

DEBRIS PRODUCTION.....= 55CY/ACRE

BULKING FACTOR.....=1.36

WATER SURFACE PROFILE OF SAN FRANCISQUITO CANYON WAS CALCULATED USING **COUNTY SUPPLIED BURNED AND BULKED Q_{50} OF 28,124 CFS** , MANNING'S N-VALUE OF .060 AND HEC RAS PROGRAM.

WATER RESOURCES DIVISION
Hydrologic Engineering Unit

INFORMATION REQUEST SUMMARY

Date: 3/16/04

Project Name: San Francisquito Canyon

Project Location: Between Cherokee Canyon Ln and Lowridge Pl, TG 4460 G1,G2

Project Engineer: Daniel Bobadilla DB

Technical Review by: Hartun Khachikian HK

Information Requested: The Capital Flood flow rates at project location.

Information Requested By: Sandy Zundell of B&E Engineers (626) 446-4449

Information To Be Used For: Drainage concept for land development

Will Information Be Used In Any Litigation? ☐ Yes ☒ No

Information Provided:

Subarea	Area (acres)	34% burned Q_{50} (cfs)	Total Area (acres)		34% burned Total Q_{50} (cfs)	
Line A						
402A	132	142	27,286		23,393	
404A	127	106	27,413		23,309	NEW
409A	156	179	27,569		23,325	DPW
411A	56	66	27,862	43.5 Mi^2	23,339	POLICY
413A	63	56	27,925		23,302	

B.F. = 1.205

Q_{50BB} = 23,339 x 1.205 = 28,124 CFS

Line Q					
420Q	138	207	138		207

Date Provided: March 16, 2004

References: Santa Clara River File

Calculations, Comments, Etc...

Information provided above should be used for planning purposes only.

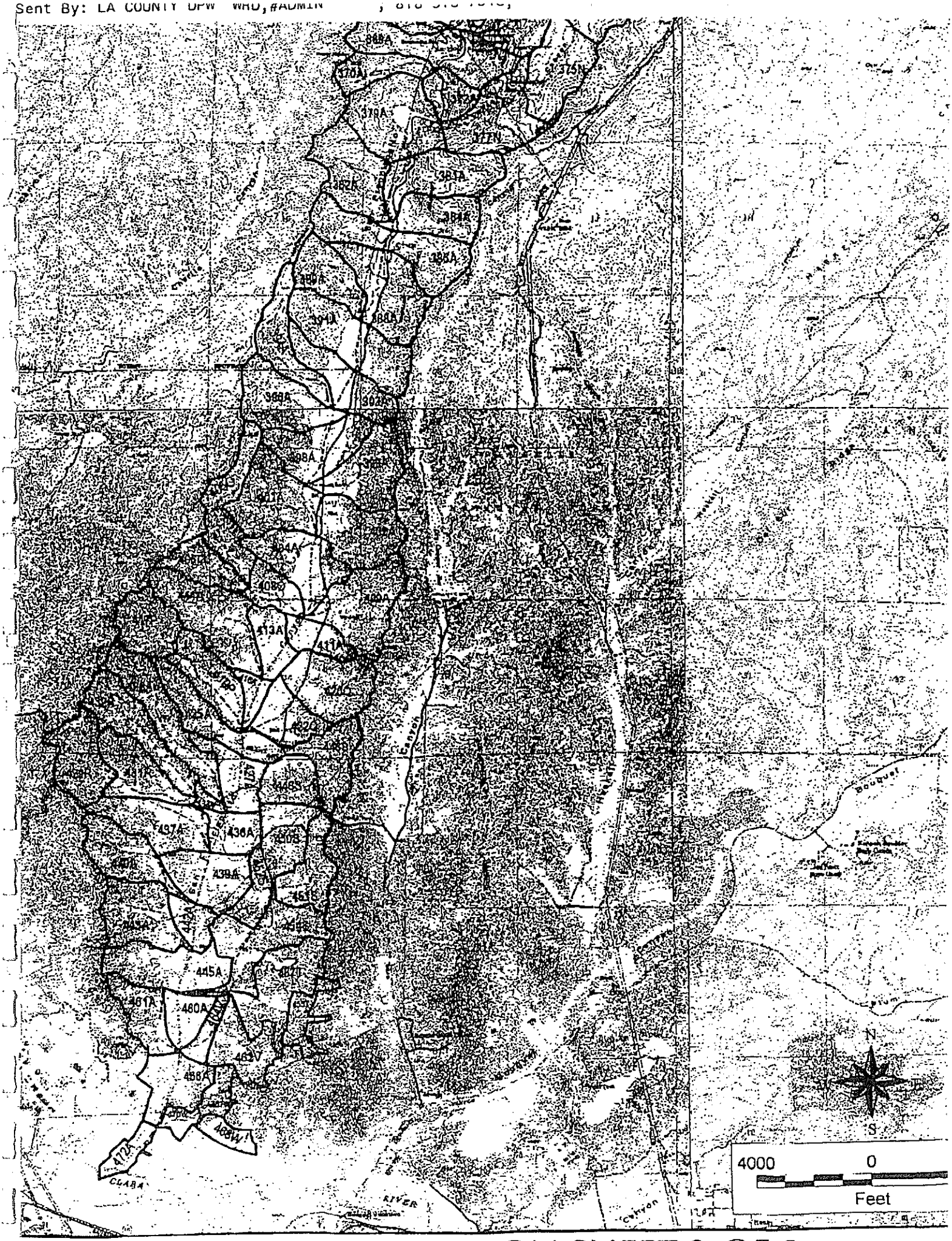
WATER RESOURCES HAS NOT INCLUDED BULKING - IT SHOULD BE APPLIED

Ben Willardson (626) 458-6117

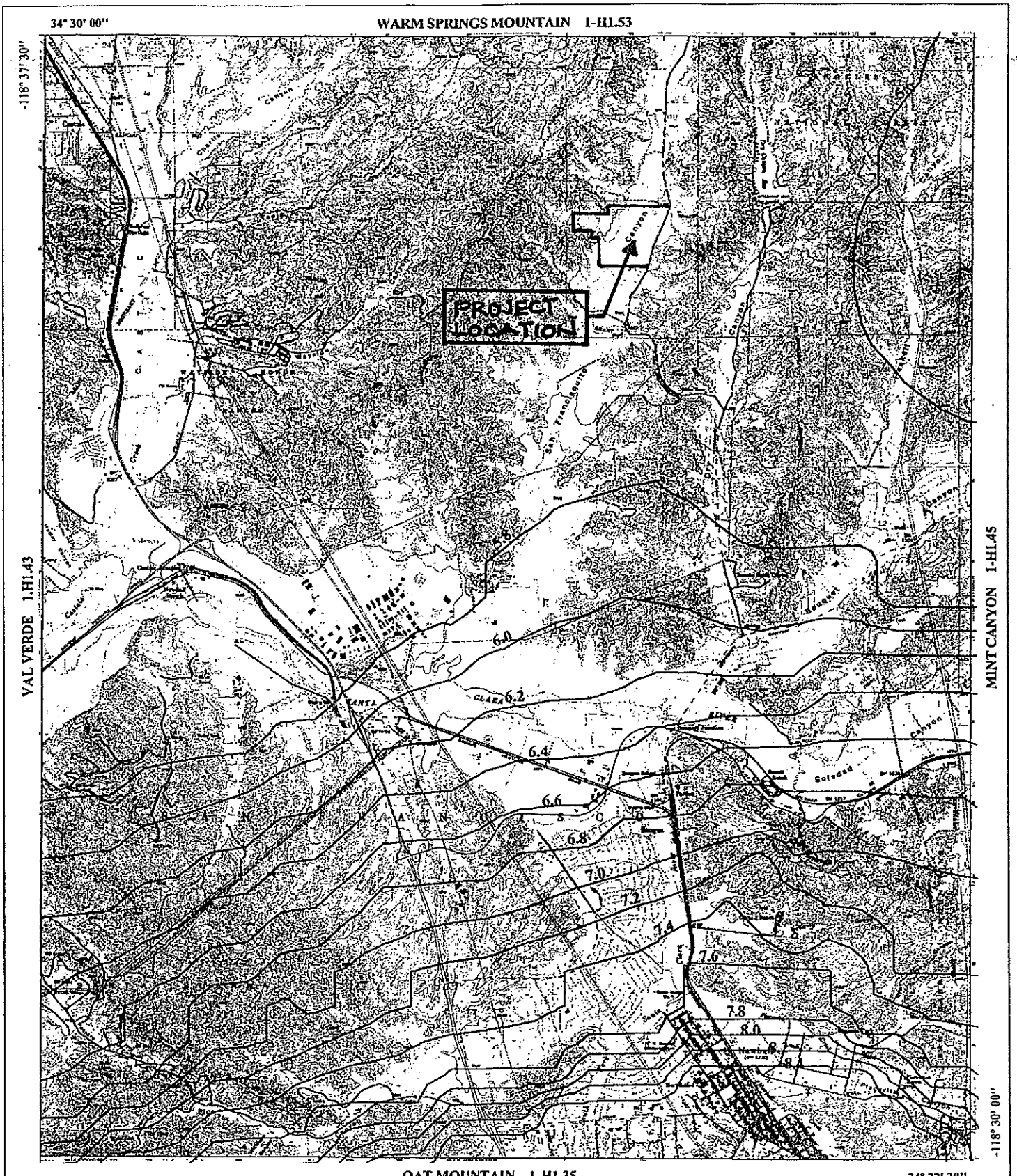
THESE QS DONE IN LATE 2003

Post-It® Fax Note 7671 | Date 3-16-04 | # of pages ▶ 3

To SANDY ZUNDELL	From DANIEL BOBADILLA
Co./Dept. B&E ENGINEERS	Co. LACDPW
Phone # (626) 446-4449	Phone # (626) 458-6139
Fax # (626) 446-6566	Fax # (626) 979-5436



SAN FRANCISQUITO CANYON SHEET 2 OF 2



1 0 1 2 Miles

N
W E
S

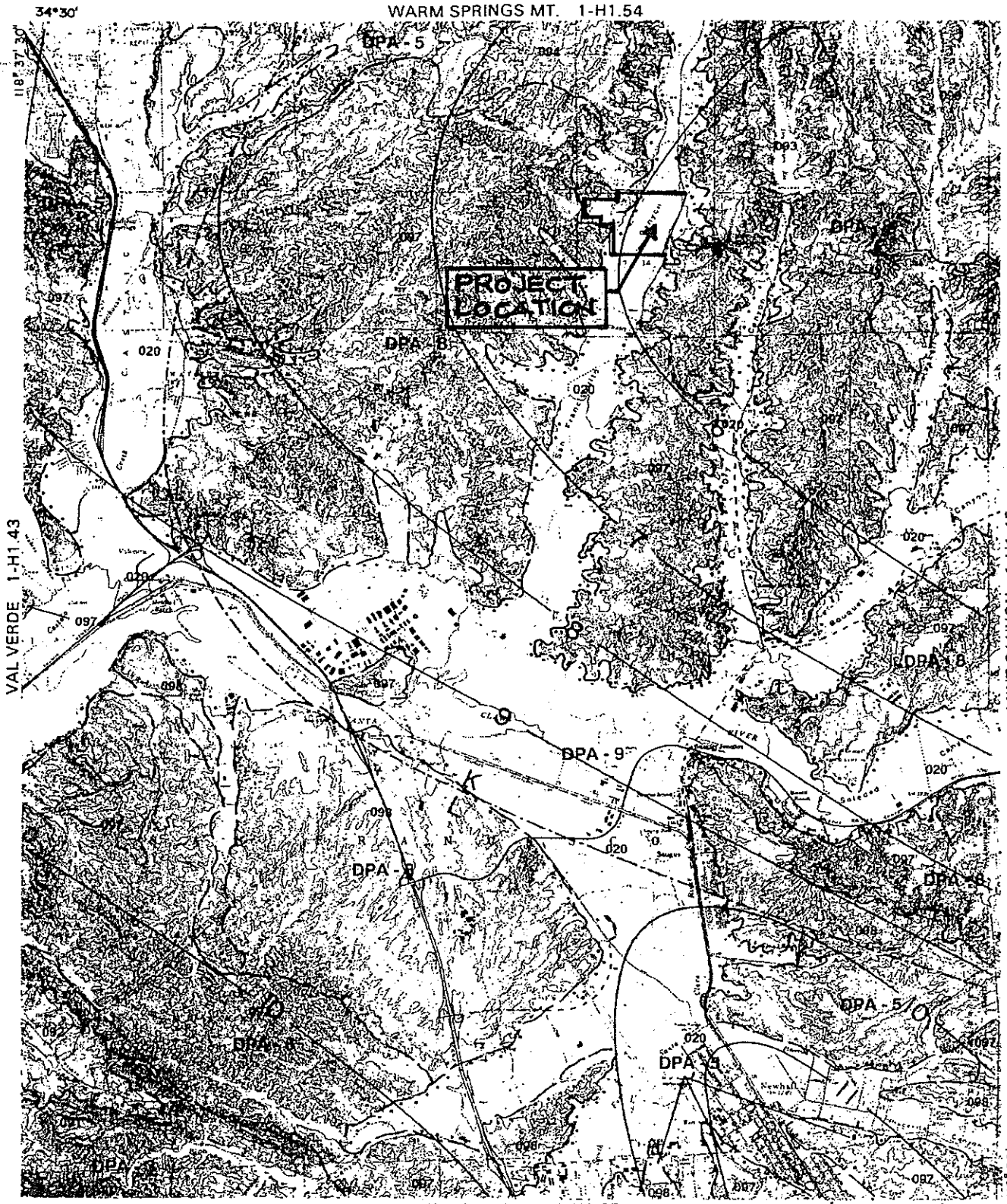
7.2 INCHES OF RAINFALL

25-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.878
10-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.714

N E W H A L L
50-YEAR 24-HOUR ISOHYET

1-H1.44

LOS ANGELES COUNTY PUBLIC WORKS
Public Service That Works



LEGEND

——— SOIL CLASSIFICATION AREA

····· DEBRIS POTENTIAL AREA

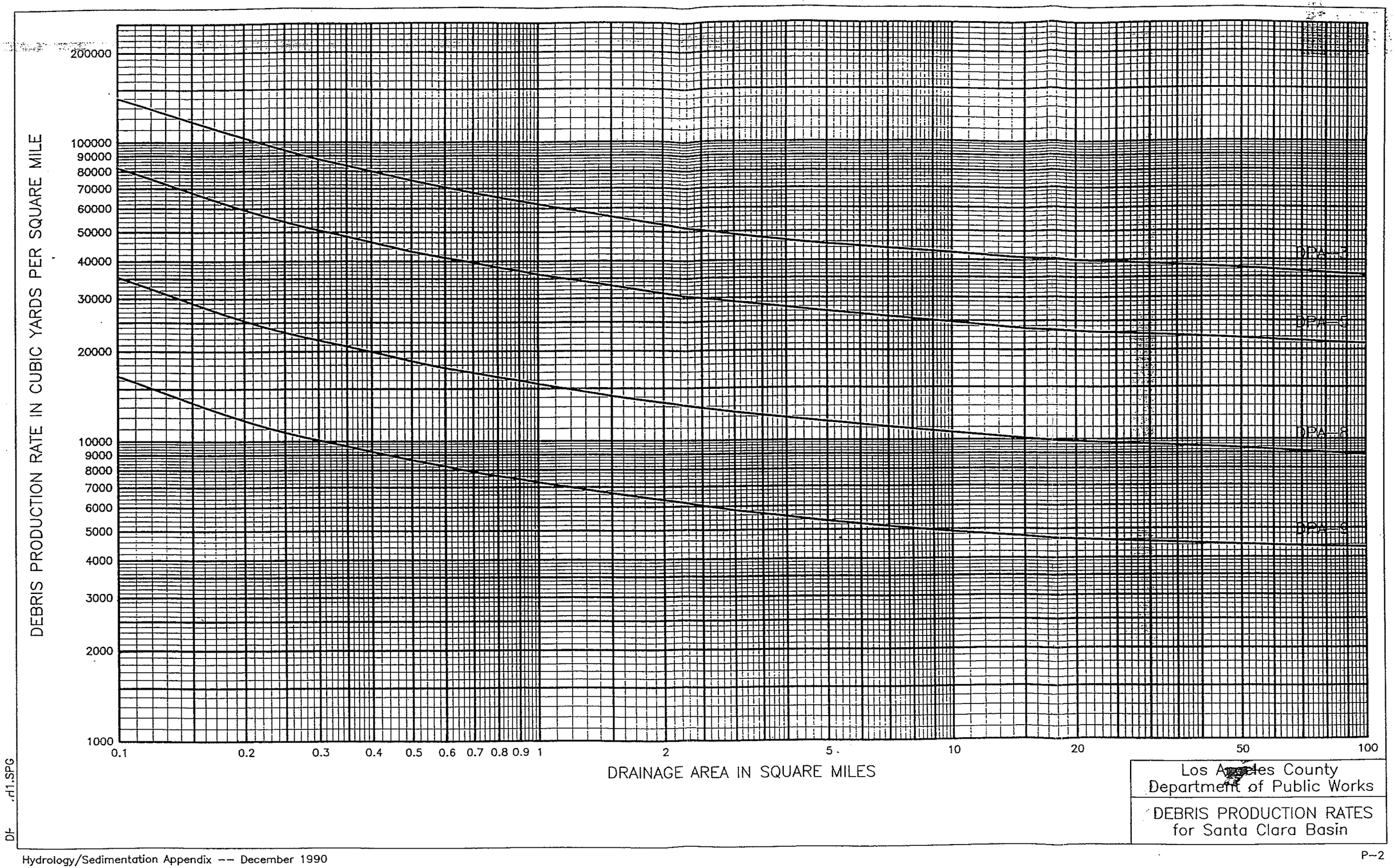
-·-·-·- RAINFALL ZONE

—12— 50-YEAR ISOHYET (MAX 24-HOUR AMOUNT)

LACDPW

NEWHALL 1988

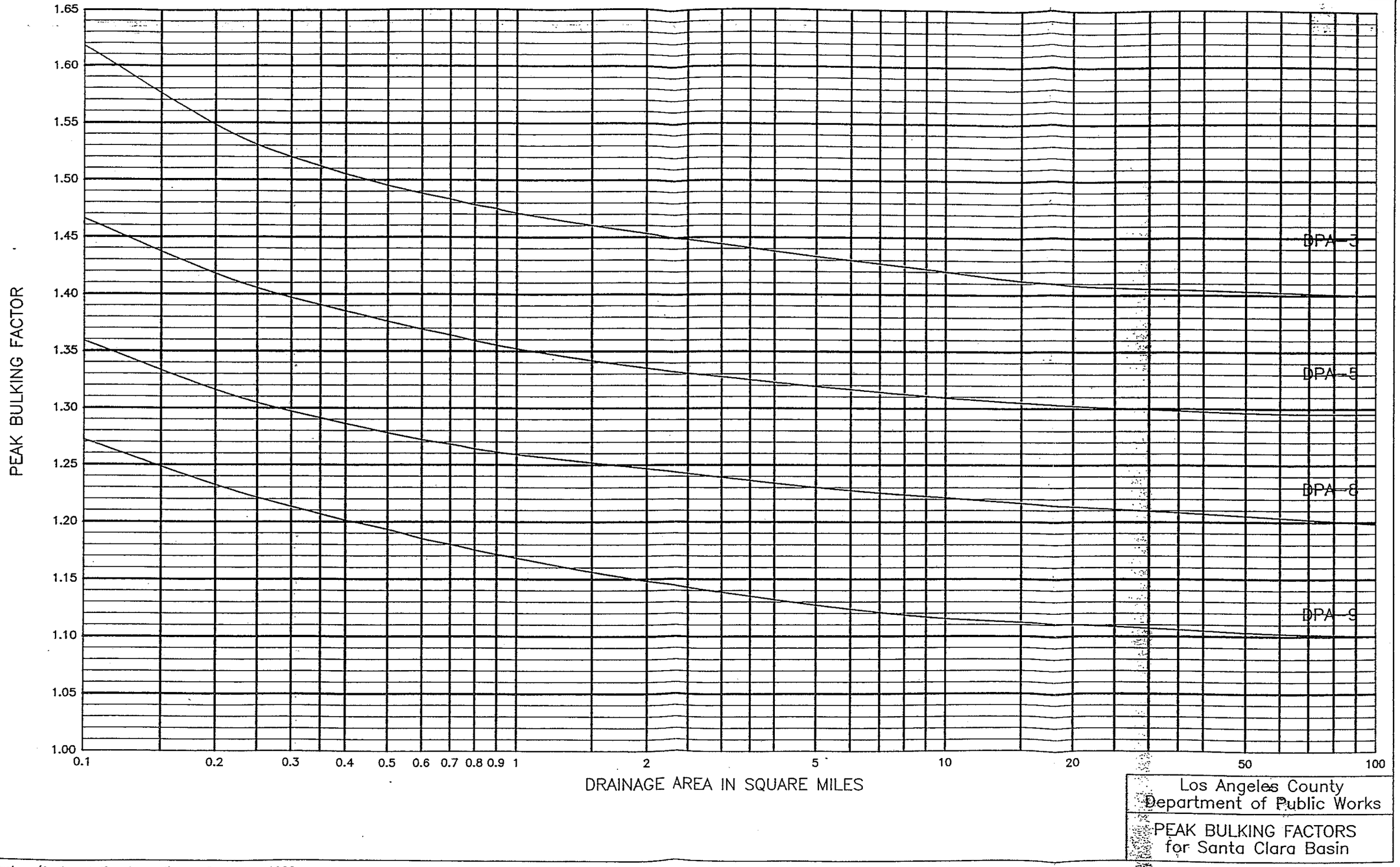
hydrologic map



Los Angeles County
Department of Public Works

DEBRIS PRODUCTION RATES
for Santa Clara Basin

D+ .d1.SPG



Los Angeles County
Department of Public Works

PEAK BULKING FACTORS
for Santa Clara Basin

PB-_rh2.SPG

POST DEVELOPED CONDITION

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4LADEPTH.RDT
5  9628    1A B & E  JN 99628 FN(53189.dat)50-YR FREQ. 12/01/03
5  9628    8AB HYDROGRAPH AT 8AB
5  9628   15BC HYDROGRAPH AT 15BC
5  9628   17AB HYDROGRAPH AT 17AB
5  9628   20AB HYDROGRAPH AT 20AB
5  9628   24BC HYDROGRAPH AT 24BC
5  9628   30CD HYDROGRAPH AT 30CD
5  9628   37EF HYDROGRAPH AT 37EF
5  9628   38E  HYDROGRAPH AT 38E
6  9628    1A 177 01  28 9A282  850 08824                    G1
6  9628    2A 177 01  17 8A282  550 08000
6  9628    3A 177 01  13 8A28
6  9628    4A 177 01  1311A282  580 06207
6  9628    5A 176 01   6 6A28
6  9628    6B 176 01   4 5A284  290 08621
6  9628    7B 176 01   099A282  400 06750
6  9628    8AB176         A282  780 05128         -          21
6  9628    9A 175 01   9 8A28
6  9628   10B 176 01   6 6A284  280 02857
6  9628   11B 176 01   099A282  300 08333
6  9628   12C 176 01  12 5A284  350 01591
6  9628   13C 020 42   3 8A284   60 01591
6  9628   14C 020 42   5 9A284   20 01591
6  9628   15BC020         A28                              21
6  9628   16B 020 42   099A282  510 04098
6  9628   17AB175         A282  600 06333                  21
6  9628   18A 175 01   511A284  120 05000
6  9628   19B 020 42   711A284  480 01700
6  9628   20AB020         A284   20 05000                  21
6  9628   21B 175 01   810A284  330 01000
6  9628   22B 020 42   6 9A284   30 01000
6  9628   23C 175 01   2 5A284  220 03000
6  9628   24BC175         A284  140 00500                  21
6  9628   25C 175 01  1110A284  300 00763
6  9628   26C 020 42  1223A284  280 00763
6  9628   27D 177 01   6 7A281  150 13333
6  9628   28D 177 01   8 7A282  970 05979
6  9628   29D 177 01  11 8A284   60 03000
6  9628   30CD177         A28                              21
6  9628   31E 176 01  3015A281 1900 11842
6  9628   32E 176 01  3811A282 1900 07692
6  9628   33E 176 01  3410A282 1000 07500
6  9628   34E 176 01  26 9A28
6  9628   35F 177 01  2812A282 1100 09091
6  9628   36F 176 01  30 9A282  900 08333
6  9628   37EF176         A282 1200 05500                  21
6  9628   38E 176 01  3012A28                              2  2
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LOS ANGELES COUNTY FLOOD CONTROL DISTRICT PROG FC601A

MODIFIED RATIONAL METHOD HYDROLOGY

B & E JN 99628 EN(53189.dat)50-YR FREQ. 12/01/03 STORM DAY 4

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
9628	1A	28.	58.	28.	58.	2	850.	0.08824	0.00	0.00	0.	177	9	A28	0.01
9628	2A	17.	37.	45.	94.	2	550.	0.08000	0.00	0.00	0.	177	8	A28	0.01
9628	3A	13.	29.	58.	120.	0	0.	0.00000	0.00	0.00	0.	177	8	A28	0.01
9628	4A	13.	24.	71.	144.	2	580.	0.06207	0.00	0.00	0.	177	11	A28	0.01
9628	5A	6.	17.	77.	154.	0	0.	0.00000	0.00	0.00	0.	176	6	A28	0.01
9628	6B	4.	13.	4.	13.	4	290.	0.08621	2.00	0.00	0.	176	5	A28	0.01
9628	7B	0.	0.	4.	12.	2	400.	0.06750	0.00	0.00	0.	176	99	A28	0.01

CONFLUENCE Q'S

9628 8A TA 1156 QA 154. QAB 165. QB 11. 9628 8B TB 1155 QB 11. QBA 162. QA 150.

9628 8AB TAB 1156 QAB 165. QA 154. QB 11.

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
9628	8AB	4.	11.	81.	165.	2	780.	0.05128	0.00	0.00	0.	176	0	A28	0.00
9628	9A	9.	18.	90.	176.	0	0.	0.00000	0.00	0.00	0.	175	8	A28	0.01
9628	10B	6.	17.	6.	17.	4	280.	0.02857	2.00	0.00	0.	176	6	A28	0.01
9628	11B	0.	0.	6.	17.	2	300.	0.08333	0.00	0.00	0.	176	99	A28	0.01
9628	12C	12.	38.	12.	38.	4	350.	0.01591	2.25	0.00	0.	176	5	A28	0.01
9628	13C	3.	6.	15.	41.	4	60.	0.01591	2.25	0.00	0.	20	8	A28	0.42
9628	14C	5.	9.	20.	51.	4	20.	0.01591	2.50	0.00	0.	20	9	A28	0.42

CONFLUENCE Q'S

9628 15B TB 1155 QB 16. QBC 65. QC 49. 9628 15C TC 1154 QC 51. QCB 66. QB 16.

9628 15BC TBC 1154 QBC 66. QB 16. QC 51.

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
9628	15BC	20.	51.	26.	66.	0	0.	0.00000	0.00	0.00	0.	20	0	A28	0.00
9628	16B	0.	0.	26.	66.	2	510.	0.04098	0.00	0.00	0.	20	99	A28	0.42

CONFLUENCE Q'S

9628 17A TA 1157 QA 176. QAB 237. QB 61. 9628 17B TB 1156 QB 64. QBA 237. QA 173.

9628 17AB TAB 1156 QAB 237. QA 173. QB 64.

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
9628	17AB	26.	64.	116.	237.	2	600.	0.06333	0.00	0.00	0.	175	0	A28	0.00
9628	18A	5.	8.	121.	243.	4	120.	0.05000	3.75	0.00	0.	175	11	A28	0.01
9628	19B	7.	12.	7.	12.	4	480.	0.01700	2.00	0.00	0.	20	11	A28	0.42

CONFLUENCE Q'S

9628 20A TA 1158 QA 242. QAB 254. QB 11. 9628 20B TB 1156 QB 12. QBA 241. QA 229.

9628 20AB TAB 1158 QAB 254. QA 242. QB 11.

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

MODIFIED RATIONAL METHOD HYDROLOGY

B & E JN 99628 EN(53189.dat)50-YR FREQ. 12/01/03 . STORM DAY 4

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
9628	20AB	7.	12.	128.	254.	4	20.	0.05000	3.75	0.00	0.	20	0	A28	0.00
9628	21B	8.	14.	8.	14.	4	330.	0.01000	2.00	0.00	0.	175	10	A28	0.01
9628	22B	6.	11.	14.	25.	4	30.	0.01000	2.25	0.00	0.	20	9	A28	0.42
9628	23C	2.	5.	2.	5.	4	220.	0.03000	2.00	0.00	0.	175	5	A28	0.01

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* CONFLUENCE Q'S

* 9628 24B TB 1155 QB 25. QBC 30. QC 4. 9628 24C TC 1154 QC 5. QCB 30. QB 25. *

* 9628 24BC TBC 1154 QBC 30. QB 25. QC 5. *

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LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
9628	24BC	2.	5.	16.	30.	4	140.	0.00500	2.50	0.00	0.	175	0	A28	0.00
9628	25C	11.	20.	11.	20.	4	300.	0.00763	2.00	0.00	0.	175	10	A28	0.01
9628	26C	12.	14.	23.	33.	4	280.	0.00763	2.50	0.00	0.	20	23	A28	0.42
9628	27D	6.	14.	6.	14.	1	150.	0.13333	0.00	0.00	0.	177	7	A28	0.01
9628	28D	8.	19.	14.	33.	2	970.	-0.05979	0.00	0.00	0.	177	7	A28	0.01
9628	29D	11.	24.	25.	54.	4	60.	0.03000	2.25	0.00	0.	177	8	A28	0.01

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* CONFLUENCE Q'S

* 9628 30C TC 1157 QC 33. QCD 84. QD 51. 9628 30D TD 1156 QD 54. QDC 86. QC 33. *

* 9628 30CD TCD 1156 QCD 86. QC 33. QD 54. *

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LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
9628	30CD	25.	54.	48.	86.	0	0.	0.00000	0.00	0.00	0.	177	0	A28	0.00
9628	31E	30.	54.	30.	54.	1	1900.	0.11842	0.00	0.00	0.	176	15	A28	0.01
9628	32E	38.	80.	68.	120.	2	1900.	0.07692	0.00	0.00	0.	176	11	A28	0.01
9628	33E	34.	75.	102.	180.	2	1000.	0.07500	0.00	0.00	0.	176	10	A28	0.01
9628	34E	26.	60.	128.	227.	0	0.	0.00000	0.00	0.00	0.	176	9	A28	0.01
9628	35F	28.	50.	28.	50.	2	1100.	0.09091	0.00	0.00	0.	177	12	A28	0.01
9628	36F	30.	70.	58.	116.	2	900.	0.08333	0.00	0.00	0.	176	9	A28	0.01

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* CONFLUENCE Q'S

* 9628 37E TE 1157 QE 227. QEF 342. QF 115. 9628 37F TF 1157 QF 115. QFE 342. QE 227. *

* 9628 37EF TEF 1157 QEF 342. QE 227. QF 115. *

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LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
9628	37EF	58.	115.	186.	342.	2	1200.	0.05500	0.00	0.00	0.	176	0	A28	0.00
9628	38E	30.	60.	216.	392.	0	0.	0.00000	0.00	0.00	0.	176	12	A28	0.01

Project	Subarea	Area (acres)	%imp	Frequency	Soil Type	Length (ft)	Slope (ft/ft)	Isohyet (in.)	Tc-calculated (min.)	Intensity (in./hr)	Cu	Cd
9628	1A	28	0.01	50	97	1400	0.25357	5.6	9	2.47	0.7	0.7
9628	2A	17	0.01	50	97	1000	0.21	5.6	8	2.69	0.7	0.7
9628	3A	13	0.01	50	97	1100	0.20364	5.6	8	2.61	0.7	0.7
9628	4A	13	0.01	50	97	1600	0.20187	5.6	11	2.3	0.7	0.7
9628	5A	6	0.01	50	94	785	0.21656	5.6	6	3.08	0.9	0.9
9628	6B	4	0.01	50	94	350	0.58	5.6	3	3.34	0.9	0.9
9628	9A	9	0.01	50	20	860	0.18256	5.6	8	2.59	0.6	0.6
9628	10B	6	0.01	50	94	950	0.33053	5.6	6	3.02	0.9	0.9
9628	12C	12	0.01	50	94	700	0.28857	5.6	5	3.27	0.9	0.9
9628	13C	3	0.42	50	20	650	0.02769	5.6	8	2.59	0.6	0.7
9628	14C	5	0.42	50	20	1030	0.08543	5.6	9	2.48	0.6	0.7
9628	18A	5	0.01	50	20	950	0.06211	5.6	11	2.27	0.5	0.5
9628	19B	7	0.42	50	20	1180	0.06169	5.6	11	2.3	0.5	0.7
9628	21B	8	0.01	50	20	1110	0.16405	5.6	10	2.32	0.5	0.5
9628	22B	6	0.42	50	20	640	0.02382	5.6	9	2.57	0.6	0.7
9628	23C	2	0.01	50	20	480	0.25208	5.6	5	3.18	0.6	0.6
9628	25C	11	0.01	50	20	1050	0.18533	5.6	10	2.43	0.6	0.6
9628	26C	12	0.01	50	20	1620	0.013444	5.6	23	1.65	0.5	0.5
9628	27D	6	0.01	50	97	870	0.24022	5.6	7	2.83	0.7	0.7
9628	28D	8	0.01	50	97	900	0.28222	5.6	7	2.84	0.7	0.7
9628	29D	11	0.01	50	97	1070	0.20747	5.6	8	2.63	0.7	0.7
9628	31E	30	0.01	50	94	2500	0.0728	5.6	15	2.03	0.9	0.9
9628	32E	38	0.01	50	94	2100	0.16666	5.6	11	2.26	0.9	0.9
9628	33E	34	0.01	50	94	1900	0.18421	5.6	10	2.33	0.9	0.9
9628	34E	26	0.01	50	94	1450	0.2069	5.6	9	2.57	0.9	0.9
9628	35F	28	0.01	50	94	1800	0.19444	5.6	10	2.37	0.9	0.9
9628	36F	30	0.01	50	94	1500	0.2	5.6	9	2.54	0.9	0.9
9628	38E	30	0.01	50	94	2000	0.138	5.6	12	2.21	0.9	0.9

PRE-DEVELOPED CONDITION

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4LADEPTH.RDT
5  9628    1A B & E  JN 99628 FN(53189.dat)50-YR PRE-DEV. FREQ. 12/01/03
5  9628    5A  HYDROGRAPH AT 5A
5  9628    7B  HYDROGRAPH AT 7B
5  9628    9C  HYDROGRAPH AT 9C
5  9628   16DE HYDROGRAPH AT 16DE
5  9628   17D  HYDROGRAPH AT 17D
6  9628    1A 177 01  28 9A282  850 08824                          G1
6  9628    2A 177 01  17 8A281 1220 12705
6  9628    3A 177 01  3315A282 1530 05490
6  9628    4A 177 01  2621A282  120 06670
6  9628    5A 177 01  1011A28                                     2
6  9628    6B 175 01  1812A282 1270 04173
6  9628    7B 175 01  1915A28                                     2
6  9628    8C 177 01  16 9A282  620 06532
6  9628    9C 177 01  2112A28                                     2
6  9628   10D 176 01  3015A281 1900 11842
6  9628   11D 176 01  3811A282 1900 07692
6  9628   12D 176 01  3410A282 1000 07500
6  9628   13D 176 01  26 9A28
6  9628   14E 177 01  2812A282 1100 09091
6  9628   15E 176 01  30 9A282  900 08333
6  9628   16DE176         A282 1200 05500                         21
6  9628   17D 176 01  3012A28                                     2  2
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LOS ANGELES COUNTY FLOOD CONTROL DISTRICT PROG FC601A

MODIFIED RATIONAL METHOD HYDROLOGY

B & E JN 99628 FN(53189.dat)50-YR PRE-DEV. FREQ. 12/01/03 STORM DAY 4

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
9628	1A	28.	58.	28.	58.	2	850.	0.08824	0.00	0.00	0.	177	9	A28	0.01
9628	2A	17.	37.	45.	94.	1	1220.	0.12705	0.00	0.00	0.	177	8	A28	0.01
9628	3A	33.	53.	78.	140.	2	1530.	0.05490	0.00	0.00	0.	177	15	A28	0.01
9628	4A	26.	35.	104.	169.	2	120.	0.06670	0.00	0.00	0.	177	21	A28	0.01
9628	5A	10.	19.	114.	182.	0	0.	0.00000	0.00	0.00	0.	177	11	A28	0.01
9628	6B	18.	29.	18.	29.	2	1270.	0.04173	0.00	0.00	0.	175	12	A28	0.01
9628	7B	19.	27.	37.	53.	0	0.	0.00000	0.00	0.00	0.	175	15	A28	0.01
9628	8C	16.	33.	16.	33.	2	620.	0.06532	0.00	0.00	0.	177	9	A28	0.01
9628	9C	21.	38.	37.	70.	0	0.	0.00000	0.00	0.00	0.	177	12	A28	0.01
9628	10D	30.	48.	30.	48.	1	1900.	0.11842	0.00	0.00	0.	176	15	A28	0.01
9628	11D	38.	72.	68.	105.	2	1900.	0.07692	0.00	0.00	0.	176	11	A28	0.01
9628	12D	34.	67.	102.	158.	2	1000.	0.07500	0.00	0.00	0.	176	10	A28	0.01
9628	13D	26.	54.	128.	198.	0	0.	0.00000	0.00	0.00	0.	176	9	A28	0.01
9628	14E	28.	50.	28.	50.	2	1100.	0.09091	0.00	0.00	0.	177	12	A28	0.01
9628	15E	30.	63.	58.	109.	2	900.	0.08333	0.00	0.00	0.	176	9	A28	0.01

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* CONFLUENCE Q'S *

* 9628 16D TD 1157 QD 198. QDE 306. QE 108. 9628 16E TE 1157 QE 108. QED 306. QD 198. *

* 9628 16DE TDE 1157 QDE 306. QD 198. QE 108. *

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LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
9628	16DE	58.	108.	186.	306.	2	1200.	0.05500	0.00	0.00	0.	176	0	A28	0.00
9628	17D	30.	54.	216.	351.	0	0.	0.00000	0.00	0.00	0.	176	12	A28	0.01

Project	Subarea	Area (acres)	%imp	Frequency	Soil Type	Length (ft)	Slope (ft/ft)	Isohyet (in.)	Tc-calculated (min.)	Intensity (in./hr)	Cu	Cd
9628	1A	28	0.01	50	97	1400	0.25357	5.6	9	2.47	0.7	0.7
9628	2A	17	0.01	50	97	1000	0.21	5.6	8	2.69	0.71	0.71
9628	3A	33	0.01	50	97	2400	0.14791	5.6	15	2.02	0.67	0.67
9628	4A	26	0.01	50	20	2780	0.14892	5.6	21	1.72	0.47	0.47
9628	5A	10	0.01	50	20	880	0.0568	5.6	11	2.29	0.54	0.54
9628	6B	18	0.01	50	20	1370	0.17591	5.6	12	2.21	0.53	0.53
9628	7B	17	0.01	50	20	1660	0.1103	5.6	15	2.03	0.52	0.52
9628	8C	16	0.01	50	97	1320	0.23311	5.6	9	2.5	0.7	0.7
9628	9C	21	0.01	50	97	1550	0.12845	5.6	12	2.21	0.68	0.68
9628	10D	30	0.01	50	94	2500	0.0728	5.6	15	2.03	0.85	0.85
9628	11D	38	0.01	50	94	2100	0.16666	5.6	11	2.26	0.85	0.85
9628	12D	34	0.01	50	94	1900	0.18421	5.6	10	2.33	0.86	0.86
9628	13D	26	0.01	50	94	1450	0.2069	5.6	9	2.57	0.86	0.86
9628	14E	28	0.01	50	97	1800	0.19444	5.6	12	2.21	0.68	0.68
9628	15E	30	0.01	50	94	1500	0.2	5.6	9	2.54	0.86	0.86
9628	17D	30	0.01	50	94	2000	0.138	5.6	12	2.21	0.85	0.85

Qpm and Vm Calculations for SUSMP

APPENDIX A VOLUME & FLOW RATE CALCULATIONS

SUBAREA 13C

PROVIDE PROPOSED PROJECT CHARACTERISTICS

A_{Total}	3.0	Acres
Type of Development	S.F.	
Predominate Soil Type #	020	
% of Project Impervious	42	
% of Project Pervious	58	
% of Project Contributing Undeveloped Area	0	
A_I	1.26	Acres
A_P	1.74	Acres
A_U	0	Acres

VOLUME AND FLOWRATE CALCULATIONS SUBAREA 13C

Iteration No.	Initial Tc (min)	Ix (in/hr)	Imp	Length (ft)	Slope (ft/ft)	Cu	Cd	Cd*Ix (in/hr)	Calculated Tc(min)	Difference (min)
1	15	0.267	0.42	650.00	0.0277	0.1	0.436	0.116412	35.2104	-20.2104
2	30	0.193	0.42	650.00	0.0277	0.1	0.436	0.084148	41.6702	-11.6702

Area (acre)	Ix (in/hr)	Cd
3	0.193	0.436

Qpm = 0.25 cfs

Ai (acre)	Ap (acre)	Au (acre)	Cu
1.26	1.74	0	0.1

Vm = 3561.03 cu.ft.

APPENDIX A VOLUME & FLOW RATE CALCULATIONS

SUBAREA 14C

PROVIDE PROPOSED PROJECT CHARACTERISTICS

A_{Total}	5.0	Acres
Type of Development	S.F.	
Predominate Soil Type #	020	
% of Project Impervious	42	
% of Project Pervious	58	
% of Project Contributing Undeveloped Area	0	
A_I	2.1	Acres
A_P	2.9	Acres
A_U	0	Acres

VOLUME AND FLOWRATE CALCULATIONS SUBAREA 14C

Iteration No.	Initial Tc (min)	Ix (In/hr)	Imp	Length (ft)	Slope (ft/ft)	Cu	Cd	Cd*Ix (in/hr)	Calculated Tc(min)	Difference (min)
1	15	0.267	0.42	1030.00	0.0854	0.1	0.436	0.116412	37.7747	-22.7747
2	30	0.193	0.42	1030.00	0.0854	0.1	0.436	0.084148	44.7050	-14.7050

Area (acre)	Ix (in/hr)	Cd
5	0.193	0.436

Qpm = 0.42 cfs

Ai (acre)	Ap (acre)	Au (acre)	Cu
2.1	2.9	0	0.1

Vm = 5935.05 cu.ft.

APPENDIX A VOLUME & FLOW RATE CALCULATIONS

SUBAREA 19 B

PROVIDE PROPOSED PROJECT CHARACTERISTICS

A_{Total}	7.0	Acres
Type of Development	S.F.	
Predominate Soil Type #	020	
% of Project Impervious	42	
% of Project Pervious	58	
% of Project Contributing Undeveloped Area	0	
A_I	2.94	Acres
A_P	4.06	Acres
A_U	0	Acres

VOLUME AND FLOWRATE CALCULATIONS SUBAREA 19B

Iteration No.	Initial Tc (min)	Ix (in/hr)	Imp	Length (ft)	Slope (ft/ft)	Cu	Cd	Cd*Ix (in/hr)	Calculated Tc(min)	Difference (min)
1	15	0.267	0.42	1180.00	0.0617	0.1	0.436	0.116412	42.1481	-27.1481
2	30	0.193	0.42	1180.00	0.0617	0.1	0.436	0.084148	49.8807	-19.8807

Area (acre)	Ix (in/hr)	Cd
7	0.193	0.436

Qpm = 0.59 cfs

Ai (acre)	Ap (acre)	Au (acre)	Cu
2.94	4.06	0	0.1

Vm = 8309.07 cu.ft.

SUBAREA 22 B

PROVIDE PROPOSED PROJECT CHARACTERISTICS

A_{Total}	9.0	Acres
Type of Development	S.F.	
Predominate Soil Type #	020	
% of Project Impervious	42	
% of Project Pervious	58	
% of Project Contributing Undeveloped Area	0	
A_I	3.78	Acres
A_P	5.22	Acres
A_U	0	Acres

VOLUME AND FLOWRATE CALCULATIONS SUBAREA 22B

Iteration No.	Initial Tc (min)	Ix (in/hr)	Imp	Length (ft)	Slope (ft/ft)	Cu	Cd	Cd*Ix (in/hr)	Calculated Tc(min)	Difference (min)
1	15	0.267	0.42	640.00	0.0238	0.1	0.436	0.116412	35.6693	-20.6693
2	30	0.193	0.42	640.00	0.0238	0.1	0.436	0.084148	42.2133	-12.2133

Area (acre)	Ix (in/hr)	Cd
9	0.193	0.436

Qpm = 0.76 cfs

Ai (acre)	Ap (acre)	Au (acre)	Cu
3.78	5.22	0	0.1

Vm = 10683.09 cu.ft.

APPENDIX A VOLUME & FLOW RATE CALCULATIONS

SUBAREA 26B

PROVIDE PROPOSED PROJECT CHARACTERISTICS

A_{Total}	12.0	Acres
Type of Development	S.F.	
Predominate Soil Type #	020	
% of Project Impervious	42	
% of Project Pervious	58	
% of Project Contributing Undeveloped Area	0	
A_I	5.04	Acres
A_P	6.96	Acres
A_U	0	Acres

VOLUME AND FLOWRATE CALCULATIONS SUBAREA 26B

Iteration No.	Initial Tc (min)	Ix (in/hr)	Imp	Length (ft)	Slope (ft/ft)	Cu	Cd	Cd*Ix (in/hr)	Calculated Tc(min)	Difference (min)
1	15	0.267	0.42	640.00	0.0134	0.1	0.436	0.116412	38.5454	-23.5454
2	30	0.193	0.42	640.00	0.0134	0.1	0.436	0.084148	45.6171	-15.6171

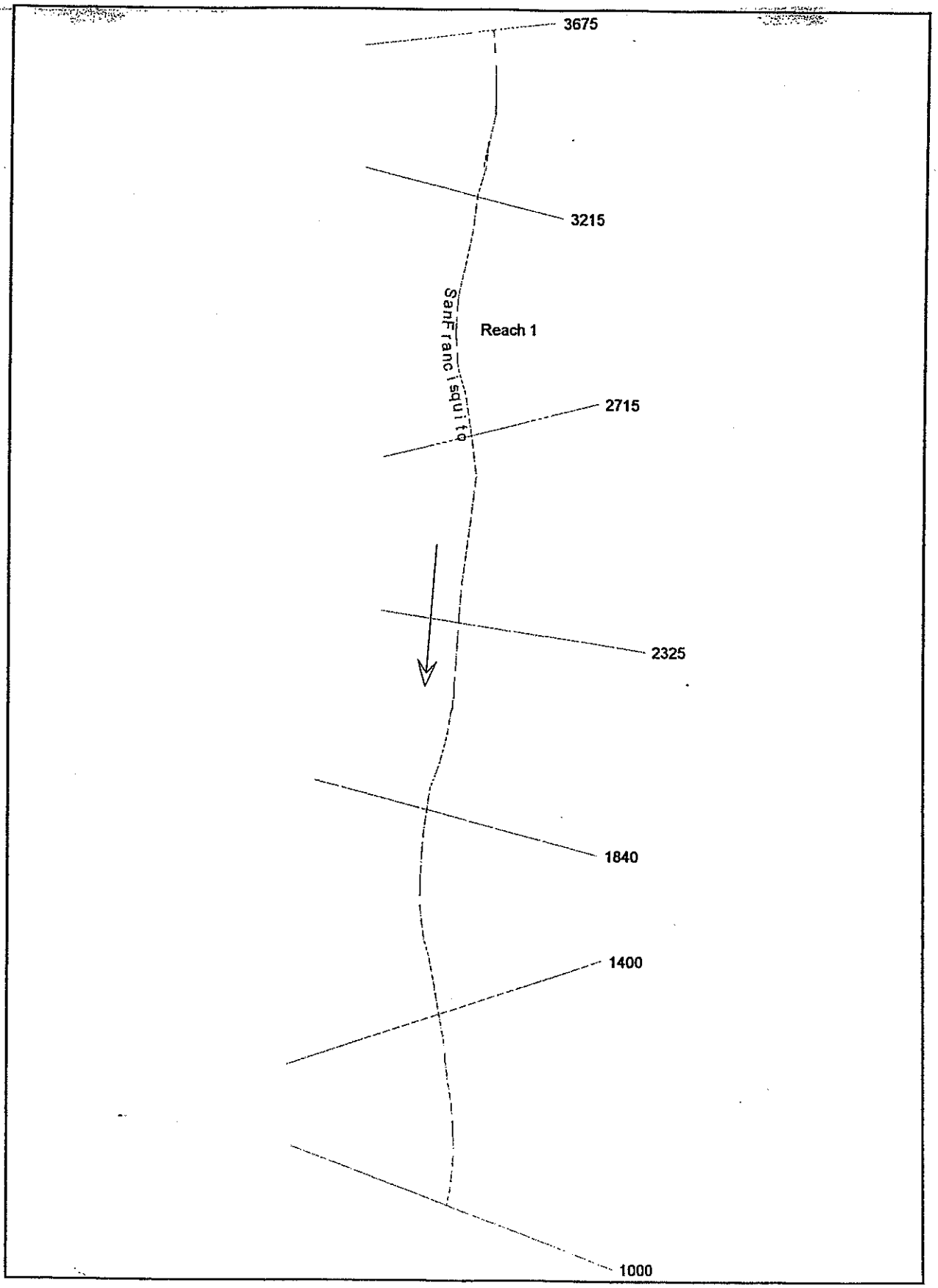
Area (acre)	Ix (in/hr)	Cd
12	0.193	0.436

Qpm = 1.02 cfs

Ai (acre)	Ap (acre)	Au (acre)	Cu
5.04	6.96	0	0.1

Vm = 14244.12 cu.ft.

SAN FRANCISQUITO CANYON
WATER SURFACE CALCULATIONS


3675
3215
SanFranciquito
Reach 1
2715
2325
1840
1400
1000

HEC-RAS Plan: San Francisq River: SanFrancisquito Reach: Reach 1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	3675	28124.00	1271.80	1279.14	1277.01	1279.88	0.006836	7.34	4260.91	814.63	0.50
Reach 1	3215	28124.00	1268.00	1275.57	1273.69	1276.33	0.008332	7.27	4281.34	1048.58	0.53
Reach 1	2715	28124.00	1264.00	1271.96	1269.97	1272.66	0.007244	7.57	4404.80	895.90	0.51
Reach 1	2325	28124.00	1261.00	1269.22	1266.86	1269.84	0.006585	6.43	4487.54	877.71	0.47
Reach 1	1840	28124.00	1257.00	1266.30	1264.12	1266.77	0.006129	5.60	5139.61	1111.38	0.45
Reach 1	1400	28124.00	1253.90	1262.89	1261.58	1263.61	0.009597	7.22	4438.88	1332.13	0.56
Reach 1	1000	28124.00	1251.80	1259.06	1257.65	1259.59	0.010008	5.95	4790.68	1340.71	0.54

HEC-RAS Plan: San Francisq River: SanFrancisquito Reach: Reach 1

Reach	River Sta	E.G. Elev	W.S. Elev	Vel Head	Frctn Loss	C & E Loss	Q Left	Q Channel	Q Right	Top Width
		(ft)	(ft)	(ft)	(ft)	(ft)	(cfs)	(cfs)	(cfs)	(ft)
Reach 1	3675	1279.88	1279.14	0.74	3.55	0.00	8096.19	16698.88	3328.93	814.63
Reach 1	3215	1276.33	1275.57	0.76	3.65	0.02	12796.46	13434.06	1893.48	1048.58
Reach 1	2715	1272.66	1271.96	0.70	2.80	0.02	6047.53	16991.73	5084.74	895.90
Reach 1	2325	1269.84	1269.22	0.62	3.03	0.05	72.14	19711.82	8340.04	877.71
Reach 1	1840	1266.77	1266.30	0.47	3.13	0.03	2.17	22948.90	5172.93	1111.38
Reach 1	1400	1263.61	1262.89	0.73	3.96	0.06	1723.49	24114.21	2286.30	1332.13
Reach 1	1000	1259.59	1259.06	0.54			4299.46	23790.71	33.82	1340.71

Plan: San Francisq River: SanFrancisquito Reach:Reach 1 Riv Sta: 1000 Profile: PF 1

E.G. Elev (ft)	1259.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.54	Wt. n-Val.	0.060	0.060	0.060
W.S. Elev (ft)	1259.06	Reach Len. (ft)			
Crit W.S. (ft)	1257.65	Flow Area (sq ft)	768.61	4001.17	20.91
E.G. Slope (ft/ft)	0.010008	Area (sq ft)	768.61	4001.17	20.91
Q Total (cfs)	28124.00	Flow (cfs)	4299.46	23790.71	33.82
Top Width (ft)	1340.71	Top Width (ft)	226.12	1075.00	39.60
Vel Total (ft/s)	5.87	Avg. Vel. (ft/s)	5.59	5.95	1.62
Max Chl Dpth (ft)	7.26	Hydr. Depth (ft)	3.40	3.72	0.53
Conv. Total (cfs)	281133.3	Conv. (cfs)	42978.3	237816.9	338.1
Length Wtd. (ft)		Wetted Per. (ft)	226.55	1076.14	39.61
Min Ch El (ft)	1251.80	Shear (lb/sq ft)	2.12	2.32	0.33
Alpha	1.01	Stream Power (lb/ft s)	11.86	13.81	0.53
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: San Francisq River: SanFrancisquito Reach:Reach 1 Riv Sta: 1400 Profile: PF 1

E.G. Elev (ft)	1263.61	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.73	Wt. n-Val.	0.060	0.060	0.060
W.S. Elev (ft)	1262.89	Reach Len. (ft)	450.00	400.00	370.00
Crit W.S. (ft)	1261.58	Flow Area (sq ft)	575.93	3341.09	521.85
E.G. Slope (ft/ft)	0.009597	Area (sq ft)	575.93	3341.09	521.85
Q Total (cfs)	28124.00	Flow (cfs)	1723.49	24114.21	2286.30
Top Width (ft)	1332.13	Top Width (ft)	467.20	650.00	214.93
Vel Total (ft/s)	6.34	Avg. Vel. (ft/s)	2.99	7.22	4.38
Max Chl Dpth (ft)	8.99	Hydr. Depth (ft)	1.23	5.14	2.43
Conv. Total (cfs)	287081.8	Conv. (cfs)	17592.9	246151.0	23337.9
Length Wtd. (ft)	404.12	Wetted Per. (ft)	467.24	651.16	215.05
Min Ch El (ft)	1253.90	Shear (lb/sq ft)	0.74	3.07	1.45
Alpha	1.17	Stream Power (lb/ft s)	2.21	22.19	6.37
Frctn Loss (ft)	3.96	Cum Volume (acre-ft)	6.94	33.71	2.31
C & E Loss (ft)	0.06	Cum SA (acres)	3.58	7.92	1.08

Plan: San Francisq River: SanFrancisquito Reach:Reach 1 Riv Sta: 1840 Profile: PF 1

E.G. Elev (ft)	1266.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.47	Wt. n-Val.	0.060	0.060	0.060
W.S. Elev (ft)	1266.30	Reach Len. (ft)	520.00	425.00	320.00
Crit W.S. (ft)	1264.12	Flow Area (sq ft)	3.98	4099.80	1035.83
E.G. Slope (ft/ft)	0.006129	Area (sq ft)	3.98	4099.80	1035.83
Q Total (cfs)	28124.00	Flow (cfs)	2.17	22948.90	5172.93
Top Width (ft)	1111.38	Top Width (ft)	26.77	835.00	249.61
Vel Total (ft/s)	5.47	Avg. Vel. (ft/s)	0.54	5.60	4.99
Max Chl Dpth (ft)	9.30	Hydr. Depth (ft)	0.15	4.91	4.15
Conv. Total (cfs)	359246.6	Conv. (cfs)	27.7	293141.6	66077.3
Length Wtd. (ft)	413.99	Wetted Per. (ft)	26.78	835.71	250.56
Min Ch El (ft)	1257.00	Shear (lb/sq ft)	0.06	1.88	1.58
Alpha	1.01	Stream Power (lb/ft s)	0.03	10.51	7.90
Frctn Loss (ft)	3.13	Cum Volume (acre-ft)	10.41	70.01	8.03
C & E Loss (ft)	0.03	Cum SA (acres)	6.53	15.16	2.79

Plan: San Francisq River: SanFrancisquito Reach:Reach 1 Riv Sta: 2325 Profile: PF 1

E.G. Elev (ft)	1269.84	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.62	Wt.n-Val.	0.060	0.060	0.060
W.S. Elev (ft)	1269.22	Reach Len. (ft)	400.00	485.00	450.00
Crit W.S. (ft)	1266.86	Flow Area (sq ft)	49.99	3065.47	1372.08
E.G. Slope (ft/ft)	0.006585	Area (sq ft)	49.99	3065.47	1372.08
Q Total (cfs)	28124.00	Flow (cfs)	72.14	19711.82	8340.04
Top Width (ft)	877.71	Top Width (ft)	82.15	535.00	260.56
Vel Total (ft/s)	6.27	Avg. Vel. (ft/s)	1.44	6.43	6.08
Max Chl Dpth (ft)	8.22	Hydr. Depth (ft)	0.61	5.73	5.27
Conv. Total (cfs)	346569.2	Conv. (cfs)	889.0	242906.8	102773.5
Length Wtd. (ft)	476.48	Wetted Per. (ft)	82.16	535.61	260.85
Min Ch El (ft)	1261.00	Shear (lb/sq ft)	0.25	2.35	2.16
Alpha	1.02	Stream Power (lb/ft s)	0.36	15.13	13.14
Frctn Loss (ft)	3.03	Cum Volume (acre-ft)	10.65	109.90	20.46
C & E Loss (ft)	0.05	Cum SA (acres)	7.03	22.79	5.42

Plan: San Francisq River: SanFrancisquito Reach:Reach 1 Riv Sta: 2715 Profile: PF 1

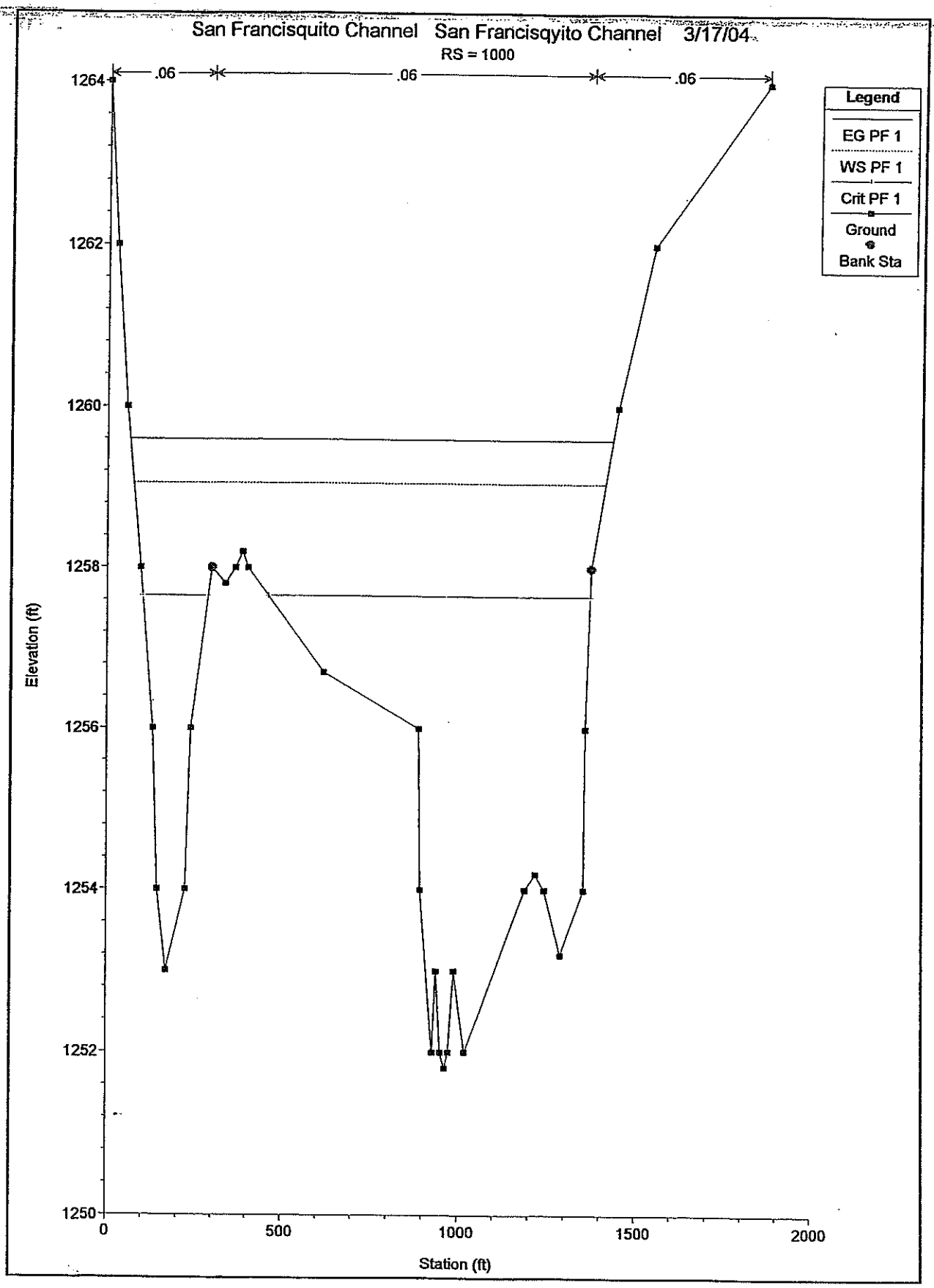
E.G. Elev (ft)	1272.66	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.70	Wt. n-Val.	0.060	0.060	0.060
W.S. Elev (ft)	1271.96	Reach Len. (ft)	400.00	390.00	450.00
Crit W.S. (ft)	1269.97	Flow Area (sq ft)	1121.79	2245.73	1037.28
E.G. Slope (ft/ft)	0.007244	Area (sq ft)	1121.79	2245.73	1037.28
Q Total (cfs)	28124.00	Flow (cfs)	6047.53	16991.73	5084.74
Top Width (ft)	895.90	Top Width (ft)	273.53	330.00	292.37
Vel Total (ft/s)	6.38	Avg. Vel. (ft/s)	5.39	7.57	4.90
Max Chl Dpth (ft)	7.96	Hydr. Depth (ft)	4.10	6.81	3.55
Conv. Total (cfs)	330436.4	Conv. (cfs)	71054.0	199640.4	59742.0
Length Wtd. (ft)	405.41	Wetted Per. (ft)	274.26	330.21	292.47
Min Ch El (ft)	1264.00	Shear (lb/sq ft)	1.85	3.08	1.60
Alpha	1.11	Stream Power (lb/ft s)	9.97	23.27	7.86
Frctn Loss (ft)	2.80	Cum Volume (acre-ft)	16.03	133.68	32.91
C & E Loss (ft)	0.02	Cum SA (acres)	8.66	26.66	8.28

Plan: San Francisq River: SanFrancisquito Reach:Reach 1 Riv Sta: 3215 Profile: PF 1

E.G. Elev (ft)	1276.33	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.76	Wt. n-Val.	0.060	0.060	0.060
W.S. Elev (ft)	1275.57	Reach Len. (ft)	430.00	500.00	450.00
Crit W.S. (ft)	1273.69	Flow Area (sq ft)	1808.96	1847.15	625.23
E.G. Slope (ft/ft)	0.008332	Area (sq ft)	1808.96	1847.15	625.23
Q Total (cfs)	28124.00	Flow (cfs)	12796.46	13434.06	1893.48
Top Width (ft)	1048.58	Top Width (ft)	325.49	320.00	403.09
Vel Total (ft/s)	6.57	Avg. Vel. (ft/s)	7.07	7.27	3.03
Max Chl Dpth (ft)	7.57	Hydr. Depth (ft)	5.56	5.77	1.55
Conv. Total (cfs)	308113.6	Conv. (cfs)	140192.2	147177.4	20744.1
Length Wtd. (ft)	470.35	Wetted Per. (ft)	326.78	320.08	403.20
Min Ch El (ft)	1268.00	Shear (lb/sq ft)	2.88	3.00	0.81
Alpha	1.13	Stream Power (lb/ft s)	20.37	21.83	2.44
Frctn Loss (ft)	3.65	Cum Volume (acre-ft)	30.50	157.17	41.50
C & E Loss (ft)	0.02	Cum SA (acres)	11.62	30.39	11.87

Plan: San Francisq River: SanFrancisquito Reach:Reach 1 Riv Sta: 3675 Profile: PF 1

E.G. Elev (ft)	1279.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.74	Wt. n-Val.	0.060	0.060	0.060
W.S. Elev (ft)	1279.14	Reach Len. (ft)	520.00	460.00	350.00
Crit W.S. (ft)	1277.01	Flow Area (sq ft)	1164.12	2274.61	822.17
E.G. Slope (ft/ft)	0.006836	Area (sq ft)	1164.12	2274.61	822.17
Q Total (cfs)	28124.00	Flow (cfs)	8096.19	16698.88	3328.93
Top Width (ft)	814.63	Top Width (ft)	184.00	335.00	295.63
Vel Total (ft/s)	6.60	Avg. Vel. (ft/s)	6.95	7.34	4.05
Max Chl Dpth (ft)	7.34	Hydr. Depth (ft)	6.33	6.79	2.78
Conv. Total (cfs)	340147.3	Conv. (cfs)	97919.9	201965.6	40261.9
Length Wtd. (ft)	472.07	Wetted Per. (ft)	185.98	335.06	295.69
Min Ch El (ft)	1271.80	Shear (lb/sq ft)	2.67	2.90	1.19
Alpha	1.10	Stream Power (lb/ft s)	18.58	21.27	4.80
Frctn Loss (ft)	3.55	Cum Volume (acre-ft)	48.25	178.93	47.31
C & E Loss (ft)	0.00	Cum SA (acres)	14.66	33.85	14.68


San Francisquito Channel San Francisqyito Channel 3/17/04
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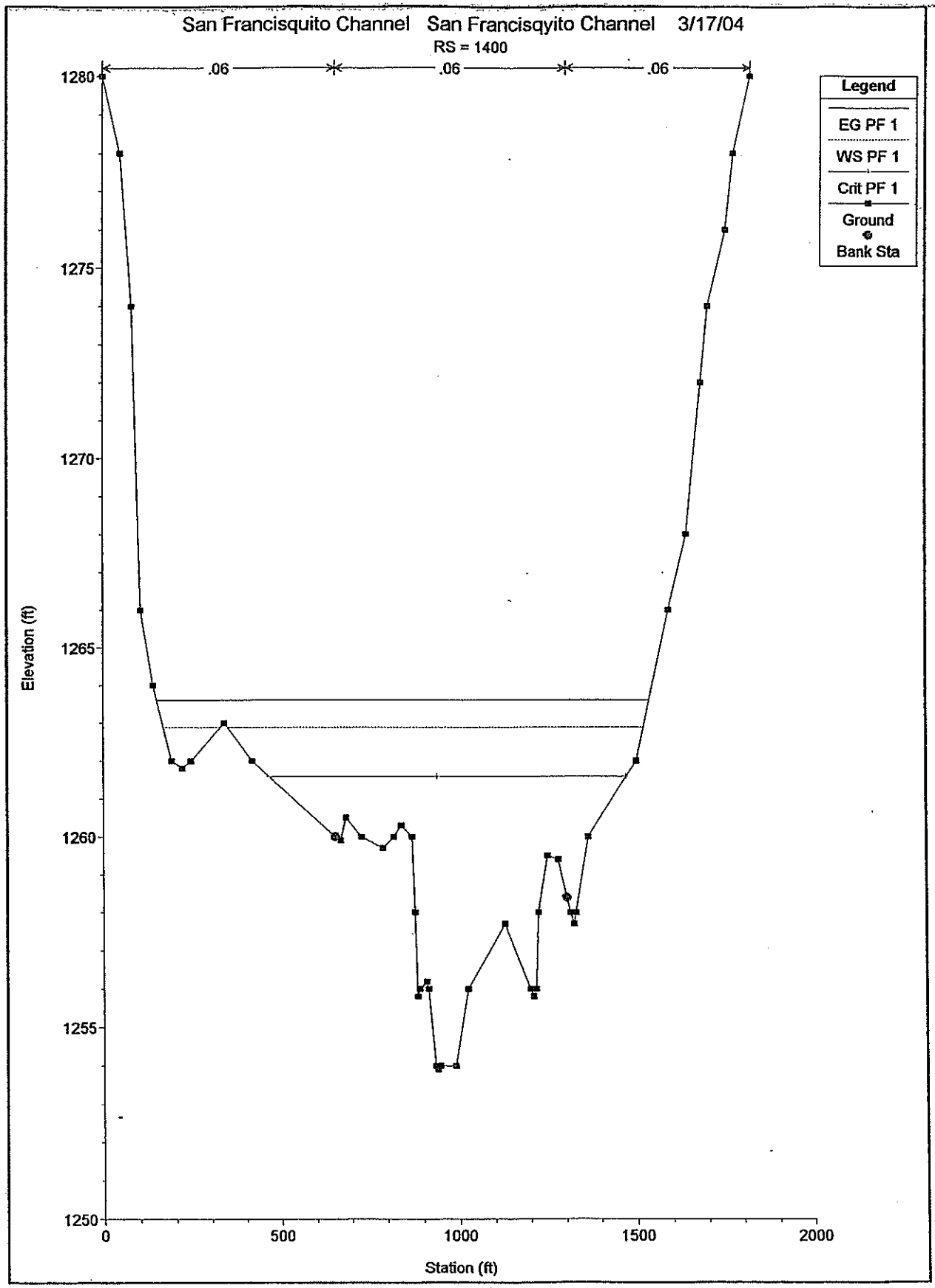
.06
.06
.06
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
1264
1262
1260
1258
1256
1254
1252
1250
Elevation (ft)
0
500
1000
1500
2000
Station (ft)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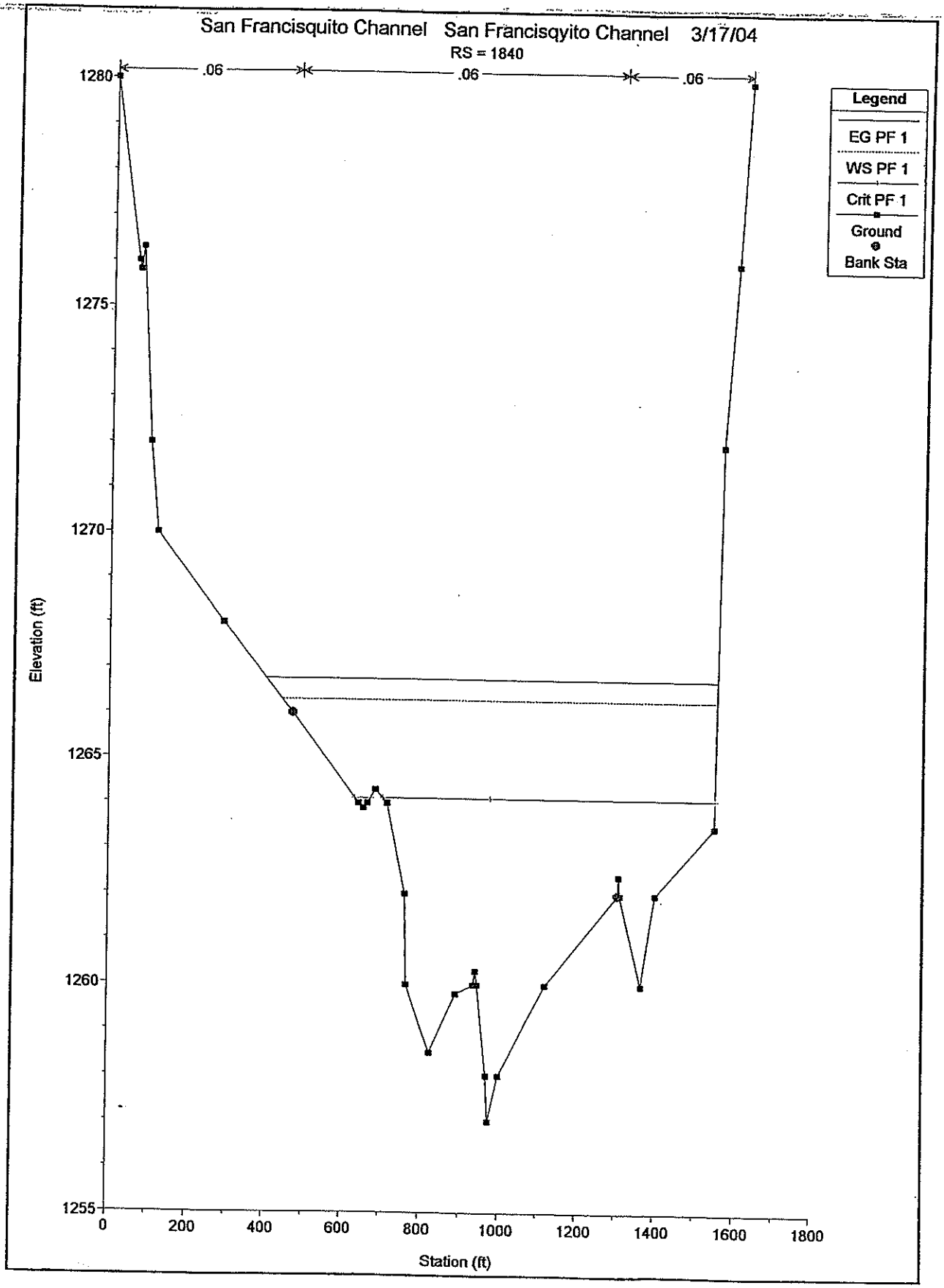
.06
.06
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
1280
1275
1270
1265
1260
1255
1250
0
500
1000
1500
2000
Station (ft)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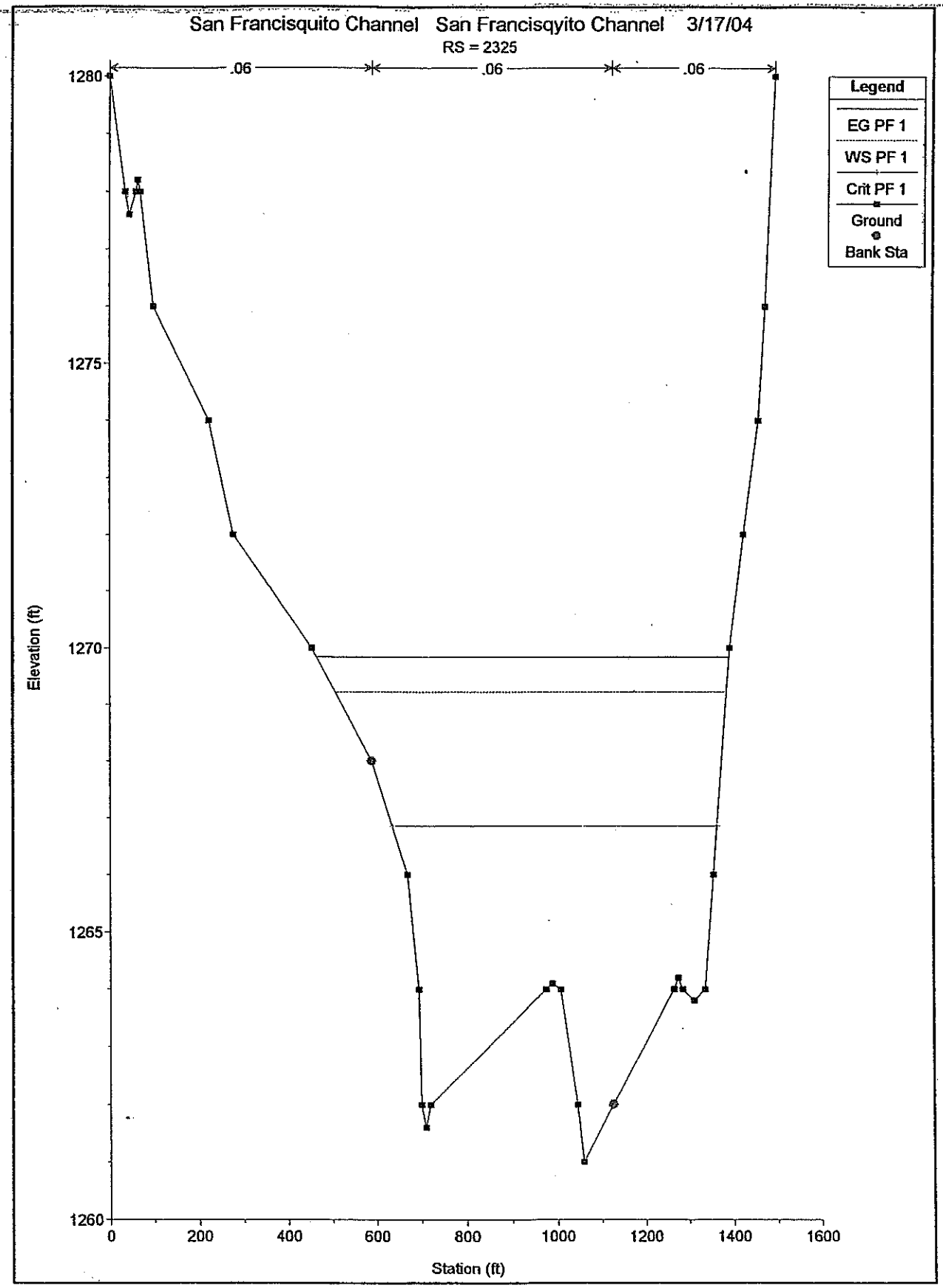
.06
.06
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
1280
1275
1270
1265
1260
1255
Elevation (ft)
0
200
400
600
800
1000
1200
1400
1600
1800
Station (ft)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.06
.06
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
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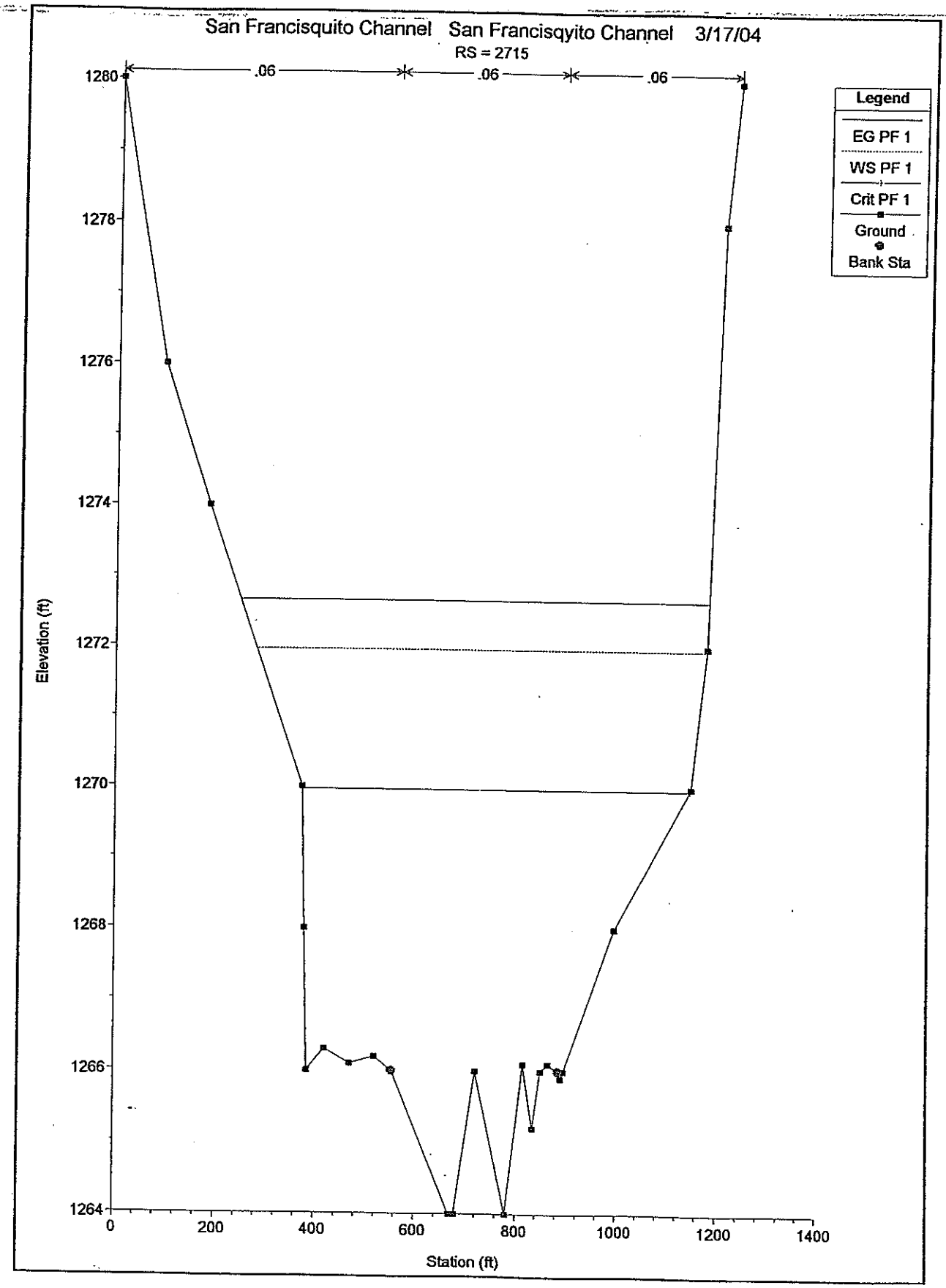
1275
1270
1265
1260
0
200
400
600
800
1000
1200
1400
1600
Station (ft)


San Francisquito Channel San Francisqyito Channel 3/17/04
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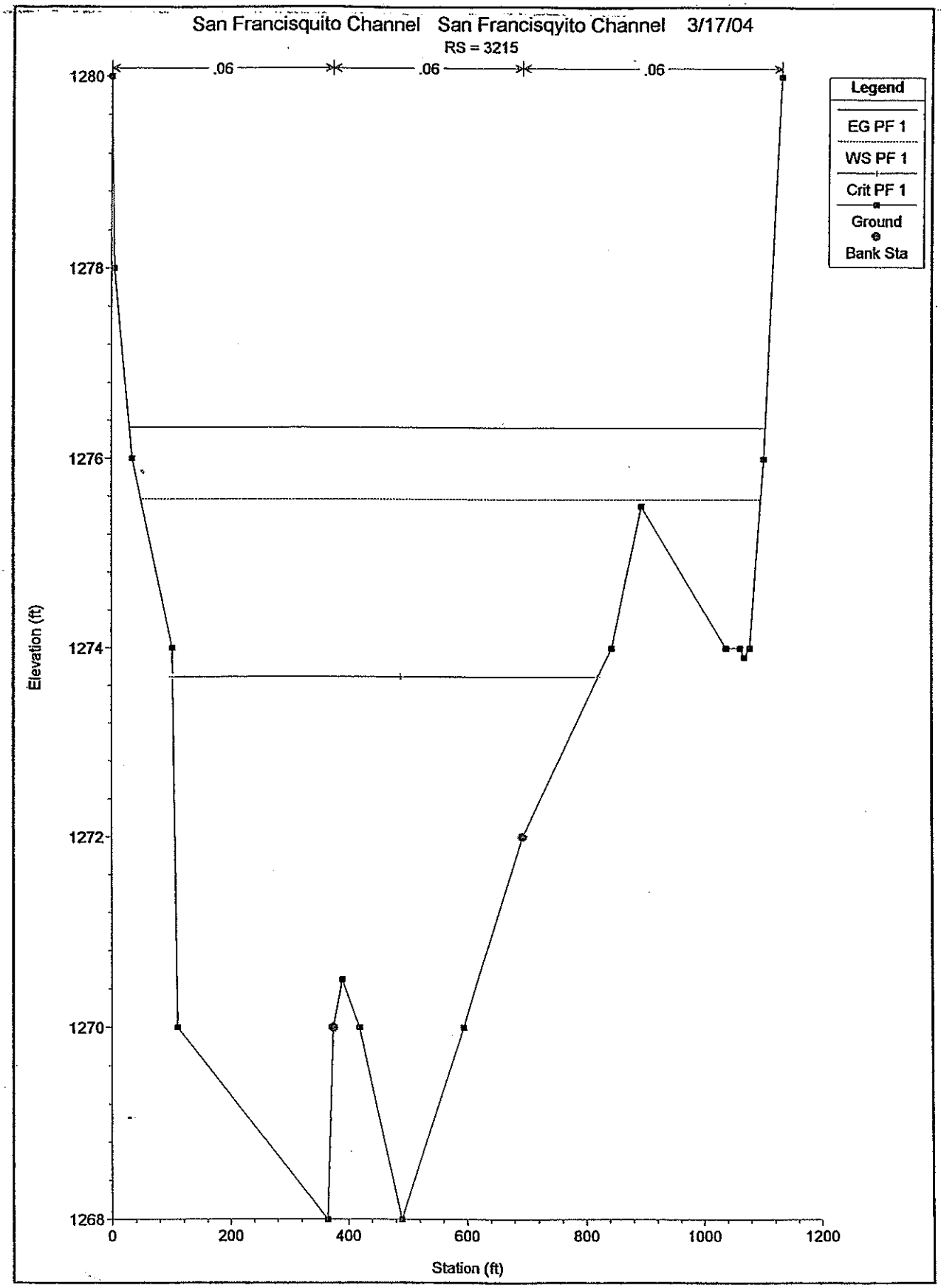
.06
.06
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
1280
1278
1276
1274
1272
1270
1268
1266
1264
0
200
400
600
800
1000
1200
1400
Station (ft)


San Francisquito Channel San Francisqyito Channel 3/17/04
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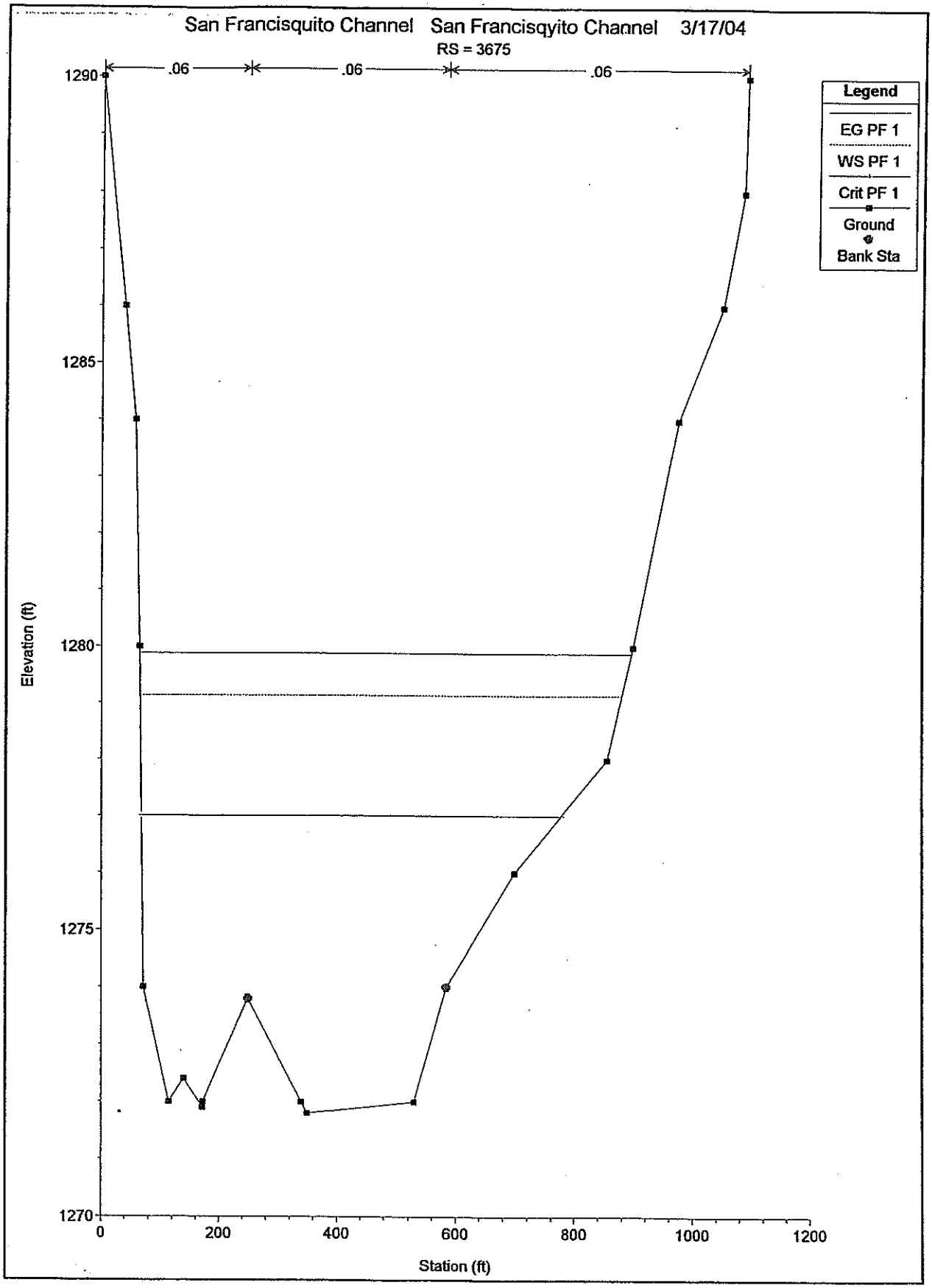
.06
.06
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
1280
1278
1276
1274
1272
1270
1268
Elevation (ft)
0
200
400
600
800
1000
1200
Station (ft)


San Francisquito Channel San Francisqyito Channel 3/17/04
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.06
.06
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
1290
1285
1280
1275
1270
0
200
400
600
800
1000
1200
Station (ft)

FLOOD HAZARD LIMITS CALCS

DRAINAGE COURSE 1

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

B AND E ENGINEERS TR 53189

HEADING LINE NO 2 IS -

WSP OF DRAINAGE COURSE2 (DR2.INP) (ADD 1000 FT.)

HEADING LINE NO 3 IS -

J.N.99628 BY B. RIVERA 8/15/03 REV 12/10/03

DATE: 12/ 9/2003
TIME: 12:40

F0615P

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	5	0	0.00															
CD	2	5	0	0.00															
CD	3	5	0	0.00															
CD	4	5	0	0.00															
CD	5	5	0	0.00															
CD	6	5	0	0.00															
CD	7	5	0	0.00															
CD	8	5	0	0.00															

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	0.00	262.00	1	0.00

ELEMENT NO 2 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	360.00	278.00	2	0.060

ELEMENT NO 3 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	550.00	290.00	3	0.060

ELEMENT NO 4 IS A JUNCTION * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	820.00	310.00	4	4	0	0.060	28.5	0.0	310.00	0.00	1.00	0.00

ELEMENT NO 5 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	1080.00	340.00	5	0.060

ELEMENT NO 6 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	1350.00	380.00	6	0.060

ELEMENT NO 7 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	1660.00	440.00	7	0.060

ELEMENT NO 8 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	1880.00	500.00	8	0.060

ELEMENT NO 9 IS A SYSTEM HEADWORKS * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	1880.00	500.00	8	0.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKS, W.S.ELEV = INV + DC

CARD CODE	SECT NO	NO OF POINTS	X(1) , Y(1) X(8) , Y(8)	X(2) , Y(2) X(9) , Y(9)	X(3) , Y(3) X(10) ,Y(10)	X(4) , Y(4) X(11) ,Y(11)	X(5) , Y(5) X(N) , Y(N)	X(6) , Y(6) X(N+1),Y(N+1)	X(7) , Y(7) X(99) ,Y(99)
PTS	1	6	0.00 272.00	55.00 264.00	100.00 262.00	103.00 263.00	120.00 270.00	122.00 272.00	
PTS	2	5	0.00 284.00	25.00 280.00	120.00 278.00	125.00 280.00	142.00 284.00		
PTS	3	6	0.00 300.00	23.00 296.00	45.00 294.00	100.00 292.00	115.00 290.00	140.00 300.00	
PTS	4	5	0.00 330.00	25.00 320.00	70.00 310.00	90.00 320.00	110.00 330.00		
PTS	5	5	0.00 360.00	20.00 350.00	35.00 340.00	55.00 350.00	70.00 360.00		
PTS	6	5	0.00 400.00	15.00 390.00	35.00 380.00	50.00 390.00	70.00 400.00		
PTS	7	5	0.00 460.00	20.00 450.00	35.00 440.00	55.00 450.00	75.00 460.00		
PTS	8	5	0.00 520.00	15.00 510.00	50.00 500.00	90.00 510.00	120.00 520.00		

WATER SURFACE PROFILE LISTING

B AND E ENGINEERS TR 53189
WSP OF DRAINAGE COURSE2(DR2.INP) (ADD 1000 FT.)
J.N.99628 BY B. RIVERA 8/15/03 REV 12/10/03

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH	HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AWIDTH
L/ELEM	SO					SF AVE	HF		NORM DEPTH			ZR		
0.00	262.00	1.155	263.155	73.4	4.32	0.289	263.444		1.155		1		0	0.00
TRANS STR	0.04444					.043603	15.70							
360.00	278.00	1.080	279.080	73.4	2.52	0.098	279.178		0.883		2		0	0.00
TRANS STR	0.06316													
550.00	290.00	1.566	291.566	73.4	5.99	0.557	292.123		1.680		3		0	0.00
JUNCT STR	0.07407					.071964	19.43							
820.00	310.00	1.640	311.640	44.9	5.14	0.410	312.050		1.640		4		0	0.00
TRANS STR	0.11539													
1080.00	340.00	1.646	341.646	44.9	9.47	1.392	343.038		2.100		5		0	0.00
TRANS STR	0.14815					.145979	39.41							
1350.00	380.00	2.101	382.101	44.9	5.81	0.525	382.626		2.101		6		0	0.00
TRANS STR	0.19355													
1660.00	440.00	1.441	441.441	44.9	12.36	2.370	443.811		2.100		7		0	0.00
TRANS STR	0.27273					.263102	57.88							
1880.00	500.00	1.549	501.549	44.9	5.00	0.388	501.937		1.549		8		0	0.00

DRAINAGE COURSE 2

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

B AND E ENGINEERS TR 53189

HEADING LINE NO 2 IS -

WSP OF DRAINAGE COURSE2(DR2.INP) (ADD 1000 FT.)

HEADING LINE NO 3 IS -

J.N.99628 BY B. RIVERA 8/15/03 REV 12/10/03

DATE: 3/ 5/2004
TIME: 8:18

F0615P

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	5	0	0.00															
CD	2	5	0	0.00															
CD	3	5	0	0.00															
CD	4	5	0	0.00															
CD	5	5	0	0.00															
CD	6	5	0	0.00															
CD	7	5	0	0.00															
CD	8	5	0	0.00															
CD	9	5	0	0.00															

DATE: 3/ 5/2004
TIME: 8:18

F0515P

WATER SURFACE PROFILE - CROSS SECTION POINT LISTING

CARD CODE	SECT NO	NO OF POINTS	X(1) , Y(1) X(8) , Y(8)	X(2) , Y(2) X(9) , Y(9)	X(3) , Y(3) X(10) ,Y(10)	X(4) , Y(4) X(11) ,Y(11)	X(5) , Y(5) X(N) , Y(N)	X(6) , Y(6) X(N+1),Y(N+1)	X(7) , Y(7) X(99) ,Y(99)
PIS	1	5	0.00 302.50	5.00 302.00	20.00 300.00	35.00 302.00	60.00 302.50		
PIS	2	5	0.00 318.50	5.00 318.00	65.00 316.00	90.00 318.00	120.00 318.50		
PIS	3	5	0.00 336.00	6.00 334.00	20.00 332.00	70.00 334.00	110.00 336.00		
PIS	4	5	0.00 354.00	20.00 352.00	75.00 350.00	112.00 352.00	200.00 354.00		
PIS	5	7	0.00 376.00	4.00 374.00	10.00 372.00	20.00 370.00	30.00 372.00	50.00 374.00	100.00 376.00
PIS	6	5	0.00 394.00	35.00 392.00	50.00 390.00	70.00 392.00	120.00 394.00		
PIS	7	5	0.00 410.00	20.00 408.00	40.00 406.00	50.00 408.00	60.00 410.00		
PIS	8	5	0.00 424.00	25.00 422.00	70.00 420.00	110.00 422.00	140.00 424.00		
PIS	9	5	0.00 434.00	30.00 432.00	50.00 430.00	70.00 432.00	90.00 434.00		

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	0.00	300.00	1	0.00

ELEMENT NO 2 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	260.00	316.00	2	0.060

ELEMENT NO 3 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	560.00	332.00	3	0.060

ELEMENT NO 4 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	930.00	350.00	4	0.060

ELEMENT NO 5 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	1065.00	370.00	5	0.060

ELEMENT NO 6 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	1620.00	390.00	6	0.060

ELEMENT NO 7 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1885.00	406.00	7	7	0	0.060	91.2	0.0	406.00	0.00	1.00	0.00

ELEMENT NO 8 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	2065.00	420.00	8	0.060

ELEMENT NO 9 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	2240.00	430.00	9	0.060

ELEMENT NO 10 IS A SYSTEM HEADWORKS * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	2240.00	430.00	9	0.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HOOKS, W.S.ELEV = INV + DC

WATER SURFACE PROFILE LISTING

B AND E ENGINEERS TR 53189
WSP OF DRAINAGE COURSE2 (DP2.INP) (ADD 1000 FT.)
J.N.99628 BY B. RIVERA 8/15/03 REV 12/10/03

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH	HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AWEIR
L/ELEM	SO					SF AVE	HF		NORM DEPTH			ZR		
0.00	300.00	2.536	302.536	309.9	5.67	0.499	303.035		2.564		1		0	0.00
TRANS STR	0.06154					.057850	15.04							
260.00	316.00	1.676	317.676	309.9	5.19	0.419	318.095		1.676		2		0	0.00
TRANS STR	0.05333					.054095	16.23							
560.00	332.00	1.886	333.886	309.9	5.45	0.460	334.346		1.877		3		0	0.00
TRANS STR	0.04865													
930.00	350.00	1.252	351.252	309.9	8.59	1.147	352.399		1.624		4		0	0.00
TRANS STR	0.12903					.136624	21.18							
1085.00	370.00	2.988	372.988	309.9	6.72	0.702	373.690		2.988		5		0	0.00
TRANS STR	0.03738					.036092	19.31							
1620.00	390.00	2.784	392.784	309.9	4.10	0.262	393.046		2.435		6		0	0.00
JUNCT STR	0.06038													
1885.00	406.00	2.054	408.054	218.7	6.91	0.742	408.796		2.211		7		0	0.00
TRANS STR	0.07778					.072142	12.99							
2065.00	420.00	1.416	421.416	218.7	5.13	0.409	421.825		1.458		8		0	0.00
TRANS STR	0.05714					.060661	10.62							
2240.00	430.00	1.971	431.971	218.7	5.64	0.493	432.464		1.971		9		0	0.00

DRAINAGE COURSE 3

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

B AND E ENGINEERS TR 53189

HEADING LINE NO 2 IS -

WSP OF DRAINAGE COURSE3(DR3.INP) (ADD 1000 FT.)

HEADING LINE NO 3 IS -

J.N.996028 BY B. RIVERA 8/18/03 REV 12/10/03

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT		W S ELEV
	0.00	432.00	1		0.00

ELEMENT NO 2 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	170.00	460.00	2	0.060

ELEMENT NO 3 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	330.00	510.00	3	0.060

ELEMENT NO 4 IS A SYSTEM HEADWORKS * *

U/S DATA	STATION	INVERT	SECT		W S ELEV
	330.00	510.00	3		0.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKS, W.S.ELEV = INV + DC

WATER SURFACE PROFILE LISTING

B AND E ENGINEERS TR 53189
WSP OF DRAINAGE COURSE3 (DR3.INP) (ADD 1000 FT.)
J.N.996028 BY B. RIVERA 8/18/03 REV 12/10/03

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH	HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AWEIR
L/ELEM	SO					SF AVE	HF		NORM DEPTH			ZR		
0.00	432.00	0.985	432.985	17.7	3.98	0.246	433.231		0.985		1		0	0.00
TRANS STR	0.16471													
170.00	460.00	0.292	460.292	17.7	6.80	0.718	461.010		0.489		2		0	0.00
TRANS STR	0.31250					.314329	50.29							
330.00	510.00	1.448	511.448	17.7	4.83	0.362	511.810		1.448		3		0	0.00

F0515P

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	5	0	0.00															
CD	2	5	0	0.00															
CD	3	5	0	0.00															

F0515P

WATER SURFACE PROFILE - CROSS SECTION POINT LISTING

CARD CODE	SECT NO	NO OF POINTS	X(1) , Y(1) X(8) , Y(8)	X(2) , Y(2) X(9) , Y(9)	X(3) , Y(3) X(10) ,Y(10)	X(4) , Y(4) X(11) ,Y(11)	X(5) , Y(5) X(N) , Y(N)	X(6) , Y(6) X(N+1),Y(N+1)	X(7) , Y(7) X(99) ,Y(99)
PTS	1	5	0.00 440.00	20.00 432.00	32.00 433.80	60.00 434.00	75.00 440.00		
PTS	2	5	0.00 470.00	20.00 460.00	30.00 460.10	40.00 462.00	50.00 470.00		
PTS	3	5	0.00 530.00	20.00 520.00	35.00 510.00	55.00 520.00	75.00 530.00		

DRAINAGE COURSE 4

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

B AND E ENGINEERS TR 53189

HEADING LINE NO 2 IS -

WSP OF DRAINAGE COURSE4 (DR4.INP) (ADD 1000 FT.)

HEADING LINE NO 3 IS -

J.N.99628 BY B. RIVERA 8/18/03 REV 12/10/03

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT		W S ELEV
	0.00	400.00	1		0.00

ELEMENT NO 2 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	190.00	414.00	2	0.060

ELEMENT NO 3 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	350.00	430.00	3	0.060

ELEMENT NO 4 IS A SYSTEM HEADWORKS * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	350.00	430.00	3	0.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKS, W.S.ELEV = INV + DC

WATER SURFACE PROFILE LISTING

B AND E ENGINEERS TR 53189
WSP OF DRAINAGE COURSE4 (DR4.INP) (ADD 1000 FT.)
J.N.99628 BY B. RIVERA 8/18/03 REV 12/10/03

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH	HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AWEIR
L/ELEM	SO					SF AVE	HF		NORM DEPTH			ZR		
0.00	400.00	0.567	400.567	23.1	3.03	0.142	400.709		0.567		1		0	0.00
TRANS STR	0.07368													
190.00	414.00	0.650	414.650	23.1	4.37	0.297	414.947		0.734		2		0	0.00
TRANS STR	0.10000					.103082	16.49							
350.00	430.00	1.200	431.200	23.1	4.40	0.301	431.501		1.200		3		0	0.00

DATE: 3/ 5/2004
TIME: 7:56

F0615P

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING PAGE 1

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	5	0	0.00															
CD	2	5	0	0.00															
CD	3	5	0	0.00															

F0515P

WATER SURFACE PROFILE - CROSS SECTION POINT LISTING

CARD CODE	SECT NO	NO OF POINTS	X(1) , Y(1) X(8) , Y(8)	X(2) , Y(2) X(9) , Y(9)	X(3) , Y(3) X(10) ,Y(10)	X(4) , Y(4) X(11) ,Y(11)	X(5) , Y(5) X(N) , Y(N)	X(6) , Y(6) X(N+1),Y(N+1)	X(7) , Y(7) X(99) ,Y(99)
PTS	1	5	0.00 410.00	15.00 402.00	67.00 400.00	110.00 402.00	125.00 410.00		
PTS	2	5	0.00 420.00	8.00 416.00	25.00 414.00	58.00 416.00	70.00 420.00		
PTS	3	3	0.00 440.00	23.00 430.00	73.00 440.00				

DRAINAGE COURSE 5

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

B AND E ENGINEERS TR 53189

HEADING LINE NO 2 IS -

WSP OF DRAINAGE COURSES (DR5.INP) (ADD 1000 FT.)

HEADING LINE NO 3 IS -

J.N.99628 BY B. RIVERA 8/18/03 REV 12/10/03

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

	U/S DATA	STATION	INVERT	SECT		W S ELEV
		0.00	374.00	1		0.00

ELEMENT NO 2 IS A TRANSITION * * *

	U/S DATA	STATION	INVERT	SECT	N
		140.00	386.00	2	0.060

ELEMENT NO 3 IS A TRANSITION * * *

	U/S DATA	STATION	INVERT	SECT	N
		340.00	410.00	3	0.060

ELEMENT NO 4 IS A SYSTEM HEADWORKS * *

	U/S DATA	STATION	INVERT	SECT	W S ELEV
		340.00	410.00	3	0.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKS, W.S.ELEV = INV + DC

DATE: 3/ 5/2004
TIME: 8:28

FQ615P

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING PAGE 1

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	5	0	0.00															
CD	2	5	0	0.00															
CD	3	5	0	0.00															

E0515P

WATER SURFACE PROFILE - CROSS SECTION POINT LISTING

CARD CODE	SECT NO	NO OF POINTS	X(1) , Y(1) X(8) , Y(8)	X(2) , Y(2) X(9) , Y(9)	X(3) , Y(3) X(10) ,Y(10)	X(4) , Y(4) X(11) ,Y(11)	X(5) , Y(5) X(N) , Y(N)	X(6) , Y(6) X(N+1),Y(N+1)	X(7) , Y(7) X(99) ,Y(99)
PTS	1	3	0.00 376.00	100.00 374.00	170.00 376.00				
PTS	2	3	0.00 387.00	40.00 386.00	80.00 387.00				
PTS	3	5	0.00 414.00	5.00 412.00	55.00 410.00	65.00 412.00	105.00 414.00		

WATER SURFACE PROFILE LISTING

B AND E ENGINEERS TR 53189
WSP OF DRAINAGE COURSE5 (DR5.INP) (ADD 1000 FT.)
J.N.99628 BY B. RIVERA 8/18/03 REV 12/10/03

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH	HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AWEB
L/ELEM	SO					SF AVE	HF		NORM DEPTH			ZR		
0.00	374.00	0.621	374.621	51.7	3.15	0.155	374.776		0.621		1		0	0.00
TRANS STR	0.08571													
140.00	386.00	0.545	386.545	51.7	4.35	0.294	386.839		0.636		2		0	0.00
TRANS STR	0.12000					.121440	24.29							
340.00	410.00	0.941	410.941	51.7	3.90	0.236	411.177		0.941		3		0	0.00

DRAINAGE COURSE 6

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

B AND E ENGINEERS TR 53189

HEADING LINE NO 2 IS -

WSP OF DRAINAGE COURSE2 (DR6.INP) (ADD 1000 FT.)

HEADING LINE NO 3 IS -

J.N.99628 BY B. RIVERA 8/18/03 REV 12/10/03

DATE: 12/ 9/2003
TIME: 12:45

F0515P

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	5	0	0.00															
CD	2	5	0	0.00															
CD	3	5	0	0.00															
CD	4	5	0	0.00															

CARD CODE	SECT NO	NO OF POINTS	X(1) , Y(1) X(8) , Y(8)	X(2) , Y(2) X(9) , Y(9)	X(3) , Y(3) X(10) ,Y(10)	X(4) , Y(4) X(11) ,Y(11)	X(5) , Y(5) X(N) , Y(N)	X(6) , Y(6) X(N+1),Y(N+1)	X(7) , Y(7) X(99) ,Y(99)
PTS	1	5	0.00 315.00	4.00 313.00	60.00 312.00	105.00 314.00	110.00 315.00		
PTS	2	4	0.00 350.00	30.00 340.00	55.00 342.00	85.00 350.00			
PTS	3	3	0.00 410.00	30.00 400.00	52.00 410.00				
PTS	4	5	0.00 453.00	20.00 452.00	35.00 450.00	70.00 452.00	90.00 453.00		

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	0.00	312.00	1	0.00

ELEMENT NO 2 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	300.00	340.00	2	0.060

ELEMENT NO 3 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	540.00	400.00	3	0.060

ELEMENT NO 4 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	780.00	450.00	4	0.060

ELEMENT NO 5 IS A SYSTEM HEADWORKS * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	780.00	450.00	4	0.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

WATER SURFACE PROFILE LISTING

B AND E ENGINEERS TR 53189
WSP OF DRAINAGE COURSE2(DR6.INP) (ADD 1000 FT.)
J.N.99628 BY B. RIVERA 8/18/03 REV 12/10/03

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH	HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AWPR
L/ELEM	SO					SF AVE	HF		NORM DEPTH			ZR		
0.00	312.00	0.429	312.429	19.0	2.63	0.107	312.536		0.429		1		0	0.00
TRANS STR	0.09333													
300.00	340.00	0.694	340.694	19.0	5.09	0.402	341.096		0.821		2		0	0.00
TRANS STR	0.25000					.252717	60.65							
540.00	400.00	0.943	400.943	19.0	8.21	1.048	401.991		1.271		3		0	0.00
TRANS STR	0.20833					.202855	48.69							
780.00	450.00	0.678	450.678	19.0	3.32	0.171	450.849		0.678		4		0	0.00

DRAINAGE COURSE 7

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

B AND E ENGINEERS TR 53189

HEADING LINE NO 2 IS -

WSP OF DRAINAGE COURSE7 (DR7.INP) (ADD 1000 FT.)

HEADING LINE NO 3 IS -

J.N.99628 BY B. RIVERA 8/18/03 REV 12/10/03

DATE: 3/ 4/2004
TIME: 16:18

#0515P

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING PAGE 1

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	5	0	0.00															
CD	2	5	0	0.00															
CD	3	5	0	0.00															
CD	4	5	0	0.00															
CD	5	5	0	0.00															
CD	6	5	0	0.00															
CD	7	5	0	0.00															

CARD CODE	SECT NO	NO OF POINTS	X(1) , Y(1) X(8) , Y(8)	X(2) , Y(2) X(9) , Y(9)	X(3) , Y(3) X(10) ,Y(10)	X(4) , Y(4) X(11) ,Y(11)	X(5) , Y(5) X(N) , Y(N)	X(6) , Y(6) X(N+1),Y(N+1)	X(7) , Y(7) X(99) ,Y(99)
PIS	1	5	0.00 299.00	10.00 292.00	18.00 290.00	42.00 292.00	55.00 299.00		
PIS	2	4	0.00 308.50	20.00 300.00	35.00 302.00	53.00 308.50			
PIS	3	8	0.00 320.00	32.00 318.00	51.00 316.00	61.00 312.00	80.00 310.00	88.00 312.00	108.00 318.00
PIS			140.00 320.00						
PIS	4	5	0.00 328.50	2.00 328.00	25.00 310.00	90.00 320.00	110.00 330.00		
PIS	5	7	0.00 336.50	15.00 336.00	30.00 334.00	40.00 332.00	45.00 334.00	50.00 336.00	55.00 336.50
PIS	6	4	0.00 348.00	15.00 344.00	25.00 344.20	185.00 346.00			
PIS	7	6	0.00 360.00	8.00 356.00	20.00 354.00	30.00 356.00	48.00 358.00	150.00 360.00	

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	0.00	290.00	1	0.00

ELEMENT NO 2 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	130.00	300.00	2	0.060

ELEMENT NO 3 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	290.00	310.00	3	0.060

ELEMENT NO 4 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	460.00	320.00	4	0.060

ELEMENT NO 5 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	660.00	332.00	5	0.060

ELEMENT NO 6 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	880.00	344.00	6	0.060

ELEMENT NO 7 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	1115.00	354.00	7	0.060

ELEMENT NO 8 IS A SYSTEM HEADWORKS * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	1115.00	354.00	7	0.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKS, W.S.ELEV = INV + DC

WATER SURFACE PROFILE LISTING

B AND E ENGINEERS TR 53189
WSP OF DRAINAGE COURSE7(DR7.INP) (ADD 1000 FT.)
J.N.99628 BY B. RIVERA 8/18/03 REV 12/10/03

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH	HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AWEIR
L/ELEM	SO					SF AVE	HF		NORM DEPTH			ZR		
0.00	290.00	2.544	292.544	505.7	10.13	1.595	294.139		2.994		1		0	0.00
TRANS STR	0.07692					.082031	10.66							
130.00	300.00	3.444	303.444	505.7	9.45	1.387	304.831		3.712		2		0	0.00
TRANS STR	0.06250					.058336	9.33							
290.00	310.00	3.091	313.091	505.7	8.44	1.106	314.197		3.234		3		0	0.00
TRANS STR	0.05882					.063840	10.85							
460.00	320.00	3.666	323.666	505.7	9.68	1.454	325.120		4.021		4		0	0.00
TRANS STR	0.06000					.058830	11.77							
660.00	332.00	4.025	336.025	505.7	7.68	0.915	336.940		4.025		5		0	0.00
TRANS STR	0.05455					.040699	8.95							
880.00	344.00	1.706	345.706	505.7	4.13	0.265	345.971		1.573		6		0	0.00
TRANS STR	0.04255													
1115.00	354.00	3.500	357.500	505.7	7.51	0.876	358.376		3.500		7		0	0.00

DRAINAGE COURSE 8

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

B AND E-ENGINEERS TR 53189

HEADING LINE NO 2 IS -

WSP OF DRAINAGE COURSE8 (DR8.INP) (ADD 1000 FT.)

HEADING LINE NO 3 IS -

J.N.99628 BY B. RIVERA 8/20/03 REV 12/10/03

F0515P

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	5	0	0.00															
CD	2	5	0	0.00															
CD	3	5	0	0.00															
CD	4	5	0	0.00															

F0515P

WATER SURFACE PROFILE - CROSS SECTION POINT LISTING

CARD CODE	SECT NO	NO OF POINTS	X(1) , Y(1) X(8) , Y(8)	X(2) , Y(2) X(9) , Y(9)	X(3) , Y(3) X(10) ,Y(10)	X(4) , Y(4) X(11) ,Y(11)	X(5) , Y(5) X(N) , Y(N)	X(6) , Y(6) X(N+1),Y(N+1)	X(7) , Y(7) X(99) ,Y(99)
PTS	1	3	0.00 276.00	35.00 274.00	95.00 276.00				
PTS	2	5	0.00 284.00	20.00 282.00	65.00 280.00	155.00 282.00	185.00 284.00		
PTS	3	5	0.00 304.00	10.00 302.00	55.00 300.00	70.00 302.00	85.00 304.00		
PTS	4	3	0.00 370.00	35.00 360.00	70.00 370.00				

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT		W S ELEV
	0.00	274.00	1		0.00

ELEMENT NO 2 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	190.00	280.00	2	0.060

ELEMENT NO 3 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	390.00	300.00	3	0.060

ELEMENT NO 4 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	600.00	360.00	4	0.060

ELEMENT NO 5 IS A SYSTEM HEADWORKS * *

U/S DATA	STATION	INVERT	SECT		W S ELEV
	600.00	360.00	4		0.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKIE, W.S.ELEV = INV + DC

WATER SURFACE PROFILE LISTING

B AND E ENGINEERS TR 53189
WSP OF DRAINAGE COURSE8 (DR8.INP) (ADD 1000 FT.)
J.N.99628 BY B. RIVERA 8/20/03 REV 12/10/03

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH	HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AWEPR
L/ELEM	SO					SF AVE	HF		NORM DEPTH			ZR		
0.00	274.00	0.606	274.606	27.2	3.12	0.151	274.757		0.606		1		0	0.00
TRANS STR	0.03158					.039024	7.41							
190.00	280.00	2.187	282.187	27.2	0.17	0.000	282.187		0.526		2		0	0.00
TRANS STR	0.10000													
390.00	300.00	0.507	300.507	27.2	7.05	0.772	301.279		0.728		3		0	0.00
TRANS STR	0.28571					.285568	59.97							
600.00	360.00	1.303	361.303	27.2	4.58	0.326	361.629		1.303		4		0	0.00

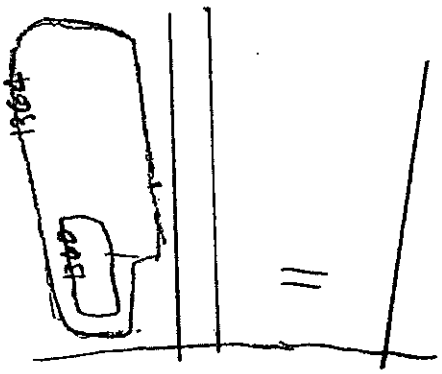
DESILTING INLET CAPACITY CALCS

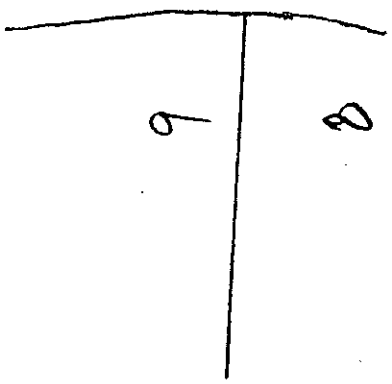
J.N. 99628 TR.NO. 53189 DATE 8/20/03

NO. CALC.BY B. RIVERA SCALE 1"=100' PLANI. AT 10

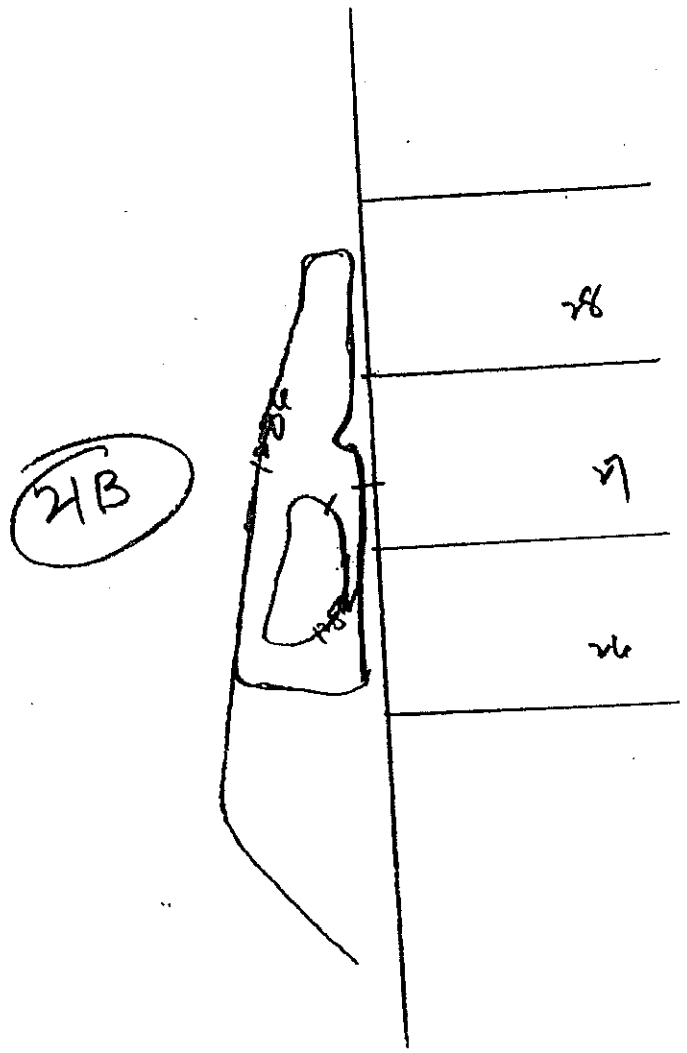
CONTOUR	PLANIMETER READING IN"	AVERAGE	CONTOUR INTERVAL	VOLUME CUT	VOLUME FILL
1264	0.45	1.38	4	55200	CuFT
1268	2.30			= 2044	CY
				> 583 CY	ok
1282	0.30	0.7	4.0	28,000	CuFT
1286	1.10			= 1037	CY
				> 424	CY ok
1360	0.10	0.85	4	22000	CuFT
1364	1.00			= 815	CY
				> 636	CY ok

12C





1" = 100'


24B
1" = 100'

PROJECT DESCRIPTION

The proposed project would develop 60 single-family homes on 186 acres in San Francisquito Canyon, which is in an unincorporated section of Los Angeles County near the City of Santa Clarita. Land totaling 80% of the site, or 149 acres, would be set aside as open space. Construction would involve 246,000 cubic yards of cut and fill, which would be balanced on site. The project site contains a portion of San Francisquito Creek, which has been designated as Significant Ecological Area (SEA) No. 19 by Los Angeles County.

The site is currently vacant and undeveloped except for a few graded dirt roads. Access to the western portion of the property would be from the southwest and northwest through the Tesoro del Valle property.

ENVIRONMENTAL SETTING

The California Air Resources Board (CARB) divides the state into air basins that share similar meteorological and topographical features. Los Angeles County is in the South Coast Air Basin (SCAB), a 6,600- square- mile area comprised of all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The SCAB's climate and topography are highly conducive to the formation and transport of air pollution. Peak ozone concentrations in the Basin over the last two decades have occurred at the base of the mountains around Azusa and Glendora in Los Angeles County and at Crestline in the mountain area above the City of San Bernardino.

Both peak ozone concentrations and the number of days the ozone standards were exceeded decreased everywhere in the SCAB throughout the 1990's. Carbon monoxide concentrations have also dropped significantly throughout the SCAB as a result of strict new emission controls and reformulated gasoline sold in winter months.

Regulatory and Planning Requirements

Federal Attainment Status

The SCAB, which was the nation's only "extreme" O_3 non-attainment area until the EPA "bumped up" the San Joaquin Valley Air Basin from "severe" to extreme" in October 2001, has until 2010 to achieve the national 1-hour ozone standard. Deadlines for CO and PM_{10} attainment in the SCAB are 2000 and 2005, respectively. The deadline for achieving the 8-hour CO standard was not met in 2000. Although no CO standard was exceeded anywhere in the SCAB in 2001, the 8-hour federal standard was exceeded twice in 2000 in the South Central Los Angeles County Source-Receptor Area. The Draft 2003 AQMP states that all federal CO attainment requirements were met in 2002. EPA regulations specify that an area has attained the CO standard when there are two years of data with no more than one exceedance at any one station. The SCAB is currently the only national CO nonattainment area in California and was the last area in the nation still designated an NO_2 non-attainment area when it was redesignated attainment by the EPA in 1998.

In July 1997, the EPA promulgated a new 8-hour standard for ozone and a new standard for smaller particulates ($PM_{2.5}$). The EPA is currently developing an implementation policy for the 8-hour ozone standard, with adoption of the policy anticipated sometime late in 2003 and designation of non-attainment areas now scheduled for early in 2004. Designation of $PM_{2.5}$ non-attainment areas is expected in late 2004 or sometime in 2005. Until these designations are made and the clock for meeting these new standards starts running, the existing federal 1-hour ozone and PM_{10} standards are the only ozone and particulate standards of reference.

State Standards

California standards are generally stricter than national standards, but have no penalty for non-attainment. California and national ambient air standards are shown on Table 1.

Table 1: Ambient Air Quality Standards

Air Pollutant	State Standard	National Standards		Health Effect
		Primary	Secondary	
Ozone (O_3)	0.09 ppm, 1-hr. avg.	0.12 ppm, 1-hr. avg. 0.08 ppm, 8-hr. avg.	0.12 ppm, 1-hr. avg. 0.08 ppm, 8-hr. avg.	Aggravated respiratory and ardiovascular diseases; Impaired cardiopulmonary function
Carbon Monoxide (CO)	9.0 ppm, 8-hr. avg. 20 ppm. 1-hr. avg.	9 ppm, 8-hr. avg. 35 ppm, 1-hr. avg.	None	Aggravated respiratory diseases (asthma, emphysema)
Nitrogen Dioxide (NO_2)	0.25 ppm, 1-hr. avg.	0.0534 ppm, annual avg.	0.0534 ppm, annual avg.	Aggravated respiratory illness
Sulfur Dioxide (SO_2)	.25 ppm 1-hr. 0.04 ppm, 24-hr avg.	0.03 ppm, annual avg. 0.14 ppm, 24-hr. avg.	0.50 ppm, 3-hr. avg.	Aggravated respiratory diseases (asthma, emphysema)
Respirable Particulate Matter (PM_{10})	50 $\mu g/m^3$, 24-hr. avg. 30 $\mu g/m^3$ AGM	150 $\mu g/m^3$, 24-hr. avg. 50 $\mu g/m^3$ AAM	150 $\mu g/m^3$, 24-hr. avg.; 50 $\mu g/m^3$ AAM	Increased cough and chest discomfort; reduced lung function; aggravated respiratory and cardio-respiratory diseases
Fine Particulate Matter ($PM_{2.5}$)	No 24-hr., State std. 12 $\mu g/m^3$ AGM	65 $\mu g/m^3$, 24-hr. avg. 15 $\mu g/m^3$ AAM	65 $\mu g/m^3$, 24-hr. avg. 15 $\mu g/m^3$ AAM	
Sulfates (SO_4)	25 $\mu g/m^3$, 24-hr. avg.			Increased morbidity and mortality in conjunction with other pollutants
Lead (Pb)	1.5 $\mu g/m^3$, monthly avg.	1.5 $\mu g/m^3$, calendar quarter	1.5 $\mu g/m^3$	Impaired blood and nerve function; behavioral and hearing problems in children
Hydrogen Sulfide (H_2S)	0.03 ppm, 1-hr. avg.			Toxic at very high concentrations
Vinyl Chloride	0.010 ppm, 24-hr. avg.			Carcinogenic
Visibility-Reducing Particles	Sufficient to reduce prevailing visibility to less than 10 miles at relative humidity less than 70%, 1 observation			

Note: ppm = parts per million by volume; $\mu g/m^3$ = micrograms per cubic meter
AAM = annual arithmetic mean; AGM = annual geometric mean

Source: California Air Resources Board, January 2003

State Planning

The California Air Resources Board approves regional plans for incorporation in the State Implementation Plan (SIP). It also is responsible for preparing the portions of the plan related to mobile and many area source control measures.

Regional Planning

Regionally, the South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG) prepare the South Coast Air Quality Management Plan (AQMP),

which contains measures to meet state and federal requirements. When approved by CARB and the federal EPA, the AQMP becomes part of the State Implementation Plan (SIP).

The agencies adopted new plans in 1989 to meet national standards and in 1991 to meet state standards. The SCAQMD revised these attainment plans in 1994 and 1997. The EPA approved the 1994 AQMP in 1996 as part of the SIP. Following receipt of comments from the U.S. EPA on the 1997 AQMP, the SCAQMD revised it in 1999 to address EPA concerns. The revised plan, now known as the 1999 AQMP, was approved by the EPA on May 10, 2000 and replaced the 1994 AQMP as the federally enforceable ozone SIP for the air basin.

Progress through the 1990's has slowed as previously adopted controls are fully implemented and are offset by continuing growth in population and vehicle miles traveled. The SCAQMD adopted a new 2003 AQMP on August 1, 2003. The 2003 AQMP will become the SIP following approval by the EPA. The plan relies heavily on actions by CARB and the EPA to adopt new regulations to control emissions from sources that are outside the jurisdiction of the SCAQMD, such as those from ships in coastal waters, trains, and non-road vehicles. It also calls on the state and federal governments to speed up implementation of controls on diesel trucks and sport utility vehicles, as well as possible retrofitting existing sources scheduled for future control. Without such actions, the SCAQMD cannot find sufficient new controls to bring the air basin into compliance with the federal ozone standard by the 2010 deadline.

The 2003 AQMP demonstrates attainment of all state and national carbon monoxide standards everywhere in the Basin. When approved by the EPA, the 2003 AQMP will be the CO attainment and maintenance SIP for the SCAB.

EXISTING AIR QUALITY

The SCAQMD is responsible for monitoring air quality in the SCAB, and for adopting controls, in conjunction with CARB, to improve air quality. Overall air quality has improved considerably throughout the Basin since 1990. In that year, the peak ozone concentration in the Santa Clarita Valley was 0.23 ppm and the state ozone standard was exceeded 115 times. In 2000, the peak reading at that same station was 0.13 ppm and the state standard was exceeded 31 times. These improvements have occurred despite extensive population growth throughout the SCAB during the past decade.

The EPA has adopted new standards for 8-hour ozone and fine particulates ($PM_{2.5}$). Neither standard is operational in the South Coast Air Basin until the 1-hour ozone standard is attained and the EPA completes its database on existing $PM_{2.5}$ concentrations. The EPA expects to finalize the 8-hour ozone implementation procedures in 2003 and to designate non-attainment areas in late 2003 or early 2004. The agency expects to designate $PM_{2.5}$ non-attainment areas in 2004 or 2005.

In the interim, the SCAQMD is monitoring levels of both 8-hour concentrations of ozone and of $PM_{2.5}$. Where readings are available, the 8-hour ozone and the $PM_{2.5}$ concentrations are shown in Table 2 and compared to the standards for information purposes only.

Readings for SRA 13 for the past five years, together with the applicable state and national standards, are shown in Table 2. SCAQMD data for 2002 were not available as of July 1, 2003. The California Air Resources Board does not record one-hour CO concentrations, annual NO_2 concentrations, or percentage of PM_{10} samples that exceeded the national standard.

Table 2: Summary of Air Quality Data - Santa Clarita Valley (SRA 13) Air Monitoring Station

Pollutant Standards	1998	1999	2000	2001	2002
Ozone (O_3)					
State standard (1-hr. avg. 0.09 ppm)					
National standard (1-hr avg. 0.12 ppm)					
National standard (8-hr avg. 0.08 ppm)					
Maximum 1-hr concentration (in ppm)	0.18	0.12	0.13	0.18	0.17
Maximum 8-hr concentration (in ppm)	0.15	0.10	0.11	0.13	0.145
Number of days state (1-hr) standard exceeded	38	18	31	49	81
Number of days national 1-hr standard exceeded	16	0	1	9	32
Number of days national 8-hr standard exceeded	35	13	16	27	56
Carbon Monoxide (CO)					
State standard (1-hr. avg. 20 ppm)					
National standard (1-hr avg. 35 ppm)					
State standard (8-hr. avg. 9.0 ppm)					
National standard (8-hr avg. 9 ppm)					
Maximum concentration 1-hr period (in ppm)	8	7	6	6	3
Maximum concentration 8-hr period (in ppm)	3.4	3.6	4.9	3.14	1.9
Number of days state/nat'l 1-hr standards exceeded	0	0	0	0	0
Number of days state/nat'l 8-hr standard exceeded	0	0	0	0	0
Nitrogen Dioxide (NO_2)					
State standard (1-hr avg. 0.25 ppm)					
National standard (0.0534 AAM in ppm)					
Annual arithmetic mean (in ppm)	NM	0.0284	0.0246	0.0239	0.0200
Percent national standard exceeded		0	0	0	0
Maximum 1-hr concentration		0.10	0.10	0.10	0.10
Number of days state 1-hr standard exceeded		0	0	0	0
Fine Particulates (PM_{10})					
State standard (24-hr. avg. 50 $\mu g/m^3$)					
National standard (24-hr avg. 150 $\mu g/m^3$)					
Maximum 24-hr concentration	60	75	64	62	61
Percent samples exceeding state standard	5.5	2.1	7	7	11.7
Percent samples exceeding national standard	0	0	0	0	0
Respirable Particulates ($PM_{2.5}$)					
National standard (24-hr avg. 65 $\mu g/m^3$)					
Maximum 24-hr concentration	NM	NM	NM	NM	NM
Percent samples exceeding national standard					

ppm = parts per million
$\mu g/m^3$ = micrograms per cubic meter
ND = No Data
NM = Not Monitored

Source: SCAQMD Air Quality Data--1998 through 2002

Summary of Existing Air Quality

Although pollutant concentrations vary from year to year, depending on weather conditions, ozone concentrations have stabilized somewhat recently compared to the large improvement in ozone air quality that occurred from 1990 to 2000. Carbon monoxide concentrations are low, varying somewhat from year to year, and the 8-hour concentrations fluctuate more than the 1-hour concentrations PM_{10} concentrations are affected by meteorology, but are relatively stable in SRA 13. The state 24-hour PM_{10} standard is exceeded less than 10% of the time, and the national standard has not been exceeded any time in the period. $PM_{2.5}$ is not monitored in SRA 13.

SIGNIFICANCE THRESHOLDS

A project's air quality impacts can be separated into short-term impacts due to construction and long-term permanent impacts from project operations. Determination of significant impact is the responsibility of the lead agency, which is the County of Los Angeles.

The County relies on significance thresholds recommended by the SCAQMD in its CEQA Air Quality Handbook, as revised in November 1993 and approved by the SCAQMD's Board of Directors. The SCAQMD is currently in the process of preparing a new Air Quality Handbook, to be titled the "AQMD Air Quality Analysis Guidance Handbook." Chapters 2, 3 and 4 related to air quality background information and the roles of regulatory agencies are available on the SCAQMD's web page at www.aqmd.gov. Other chapters will be posted on the web page as they become available. Revisions at the time this analysis was prepared do not include new significance thresholds or analysis methodologies. However, the SCAQMD in October 2003 issued guidance requesting that EIR preparers not use the emission factors, screening tables, and certain models listed in the 1993 Handbook because they are now obsolete. The guidance specified web pages where updated information is available.

The SCAQMD's emission thresholds apply to all federally regulated air pollutants except lead, which is not exceeded in the SCAB. Construction and operational emissions are considered by the SCAQMD to be significant if they exceed the thresholds shown in Table 3.

Table 3: Emission Thresholds of Significance

Pollutant	Construction		Operations
	pounds/day	tons/quarter	pounds/day
Carbon Monoxide (CO)	550	24.75	550
Sulfur Oxides (SO_x)	150	6.75	150
Particulate Matter (PM10)	150	6.75	150
Nitrogen Oxides (NO_x)	100	2.5	55
Volatile organic compounds (ROC)	75	2.5	55

Source: South Coast Air Quality Handbook, 1993

Carbon monoxide concentrations in an area that already exceeds national or state CO standards are also considered significant if the increase exceeds one part per million (ppm) averaged over one hour or 0.45 ppm averaged over eight hours. In addition, the SCAQMD considers potential air quality impacts identified by the California Environmental Air Quality Act (CEQA) Guidelines to also be significant if the project would:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including release in emissions which exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

Ambient air standards are established to protect the average person from health effects associated with air pollution. The standards include an "adequate margin of safety." However, some people are particularly sensitive to some pollutants. These sensitive people include persons with respiratory illnesses or impaired lung function because of other illnesses, the elderly, and children. Facilities and structures where these sensitive people live or spend considerable amounts of time are known as sensitive receptors. Chapter 4 of the SCAQMD's new Air Quality Analysis Guidance Handbook defines land uses considered to be sensitive receptors as long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, child care centers and athletic facilities.

CONSTRUCTION IMPACTS

Air quality impacts of a project may occur during construction on both a regional and local scale. Construction impacts include airborne dust from demolition, grading, excavation and dirt hauling and gaseous emissions from the use of heavy equipment, delivery and dirt hauling trucks, employee vehicles, and paints and coatings. These impacts may affect regional pollutants, such as ozone, or pollutants where the impacts occur very close to the source, such as carbon monoxide or particulate matter (fugitive dust). Construction impacts were assessed in accordance with procedures contained in the SCAQMD CEQA Air Quality Handbook (1993), updated with current California Air Resources Board emission factors. Both construction and operation emissions were analyzed with the California Air Resources Board model, URBEMIS2002. Construction would begin in the fourth quarter of 2004. Default assumptions were used to assess truck and worker emissions in the peak period. Peak day emissions are

shown in Table 4; peak quarter emissions in Table 5. All numbers are rounded to the nearest whole number.

Grading and Excavation

Soil may be disturbed during grading and excavation or while storing project-related equipment. The grading and excavation phase is expected to take 80 days, beginning in the fourth quarter of 2004. The analysis assumes that the 37 acres that would be developed would be disturbed during grading on the peak day and throughout the peak quarter. Table A9-9 of the SCAQMD CEQA Handbook states that there would be 26.4 pounds of PM_{10} for each acre of graded surface

Dirt Moving

The project would require 246,000 cubic yards of cut-and-fill that would be balanced on site. The analysis assumes that this cut and fill occurs over the 66-day peak quarter. No dump trucks are required to move soil and debris onto or off the site.

Equipment

The grading equipment will include one water truck, one dozer, one compactor, and four to five scrapers. The analysis assumes that five scrapers would be operating during the peak day and quarter. The water truck is assumed to operate four hours each day; the other equipment is assumed to operate seven hours each day of the 66-day peak quarter.

Architectural Coatings

The peak period for VOC emissions will occur during building construction. The amount of these emissions will depend on the painting schedule and duration, as well as the season in which painting occurs. These will not occur during the peak construction period, which is the grading phase. Therefore, architectural coatings are not shown on Tables 4 and 5. The project applicant will require that all coatings are SCAQMD-compliant and will use pre-coated materials to the extent feasible.

Table 4: Maximum Construction Emissions (in pounds per day)

Source Category	Pollutant				
	Carbon Monoxide (CO)	Volatile Organic Compounds (VOC)	Oxides of Nitrogen (NOx)	Oxides of Sulfur (SOx)	Particulate Matter (PM_{10})
Earthmoving/ Grading					444
Diesel-Powered Equipment	160	22	169	0	8
Vehicles	3	0	0	0	0
MAXIMUM DAILY CONSTRUCTION EMISSIONS	163	22	169	0	452
SCAQMD Significance Thresholds for Construction	550	75	100	150	150
Significant?	NO	NO	YES	NO	YES

Table 5: Peak Quarter Construction Emissions (in tons per quarter)

Source Category	Pollutant				
	Carbon Monoxide (CO)	Volatile Organic Compounds (VOC)	Oxides of Nitrogen (NOx)	Oxides of Sulfur (SOx)	Particulate Matter (PM_{10})
Earthmoving/ Grading					14.65
Diesel-Powered Equipment	5.28	0.73	5.58	0	0.26
Vehicles	0.11	0.01	0.01	0	0
MAXIMUM QUARTER CONSTRUCTION EMISSIONS	5.39	0.74	5.59	0	14.91
SCAQMD Significance Thresholds for Construction	24.75	2.5	2.5	6.75	6.75
Significant?	NO	NO	YES	NO	YES

Summary of Construction Impacts

Without mitigation, NOx and PM_{10} emissions would be significant on the peak day and in the peak quarter. There are no known sources of odors on the site that would be released during construction.

CONSTRUCTION MITIGATION MEASURES

Particulate Emissions

The SCAQMD prepared a Rule 403 Implementation Handbook to assist project applicants to comply with the rule. Specific requirements are contained on pages 2-26 and 2-27. At a minimum, persons conducting active operations within the boundaries of the South Coast Air Basin shall utilize one or more of the applicable best available control measures to minimize fugitive dust emissions from each fugitive dust source type that is part of the active operation. Bulk material tracked onto paved public roadways should either be prevented or removed within one hour. Additionally, visible roadway dust tracked-out upon public paved roadways as a result of active operations shall be removed at the conclusion of each workday. Large operators, those with an exposed area exceeding 100 acres, are required to file a fugitive dust emissions control plan with the SCAQMD prior to initiating grading. Medium Operations, those with exposed areas exceeding 50 acres are only subject to the grading plan procedure if the SCAQMD is under a contingency order issued by the EPA. No such order is in effect or contemplated. The exposed area is assumed to be only a maximum of 37 acres, with the remainder of the site in permanent open space and not subject to grading. Therefore, the project must comply with the recommended control measures, but would not need to file a grading plan with the SCAQMD.

The following mitigation measures were assumed by the URBEMIS2002 model to be applicable to the project: Together, the model estimates they will reduce PM_{10} fugitive dust emissions by more than 90%.

1. Apply soil stabilizers to inactive areas.
2. Replace ground cover in disturbed areas quickly.
3. Water exposed surfaces three times daily.
4. Cover all stockpiles with tarps.
5. Water all haul roads three times daily.
6. Reduce speed on unpaved roads to 15 miles per hour.

Gaseous Emissions

The following measure would reduce equipment emissions by 10%.

1. Turn off equipment when not in use for longer than 5 minutes.

Table 6: Maximum Daily Construction Emissions After Mitigation (in pounds per day)

Source Category	Pollutant				
	Carbon Monoxide (CO)	Volatile Organic Compounds (VOC)	Oxides of Nitrogen (NOx)	Oxides of Sulfur (SOx)	Particulate Matter (PM_{10})
Total Daily Emissions Before Mitigation	163	22	169	0	452
Earthmoving/ Grading					40
Diesel-Powered Equipment	147	20	152	0	7
Vehicle Emissions	3	0	0	0	0
MAXIMUM DAILY CONSTRUCTION EMISSIONS	150	20	152	0	47
SCAQMD Significance Thresholds for Construction	550	75	100	150	150
Significant?	NO	NO	YES	NO	NO

Table 7: Peak Quarter Construction Emissions After Mitigation (in tons per quarter)

Source Category	Pollutant				
	Carbon Monoxide (CO)	Volatile Organic Compounds (VOC)	Oxides of Nitrogen (NOx)	Oxides of Sulfur (SOx)	Particulate Matter (PM_{10})
Total Peak Quarter Emissions Before Mitigation	5.39	0.74	5.59	0	14.91
Grading and Excavation					1.32
Diesel-Powered Equipment	4.73	0.66	5.02	0	0.23
Vehicle Emissions	0.11	0.01	0.01	0	0
PEAK QUARTER EMISSIONS AFTER MITIGATION	4.84	0.67	5.03	0	1.55
SCAQMD Significance Thresholds for Construction	24.75	2.5	2.5	6.75	6.75
Significant?	NO	NO	YES	NO	NO

Construction Emissions After Mitigation

Emissions of NOx would remain significant on the peak day and in the peak quarter after mitigation. All other emissions would be less than significant.

OPERATION IMPACTS

Regional

When completed, the project would consist of 60 single-family residential units. The primary source of operational emissions would be vehicle travel to and from the project site. The proposed project was evaluated with URBEMIS 2002 for both summer and winter conditions in 2006. The model analyzes both traffic emissions and area source emissions. No emissions were included for wood stoves or

fireplaces. Where concentrations differ slightly between seasons, the higher concentration is shown on Table 8 below.

TABLE 8
OPERATIONAL EMISSIONS
(pounds per day)

Source Category	Pollutant				
	Carbon Monoxide (CO)	Volatile Organic Compounds (VOC)	Oxides of Nitrogen (NOx)	Sulfur Dioxide (SO_2)	Particulate Matter (PM_{10})
Traffic Emissions	77	6	10	0	7
Area Source Emissions	0	3	1	0	0
TOTAL PROJECT EMISSIONS	77	9	11	0	7
SCAQMD Significance Thresholds for Operation	550	55	55	150	150
Significant?	NO	NO	NO	NO	NO

Emissions calculated with CARB model, URBEMIS 2002.

Operation of the project would not result in significant emissions of any pollutant on a regional scale. There are some odors, such as from cooking and gardening, associated with residential uses, but these are not considered significant on a regional or local scale. The project is within the growth forecasts for the subarea in which it is located, and regional emissions from anticipated growth have been modeled by the Southern California Association of Governments and the results incorporated in the 2003 Air Quality Management Plan, which the South Coast AQMD Governing Board adopted on August 1, 2003 and forwarded to CARB. When approved by the EPA, the new AQMP will replace previous plans and be the regional State Implementation Plan (SIP). The project, therefore, is consistent with the regional AQMP.

The proposed project would not have a significant adverse impact on regional air quality.

Local

The proposed project would not have a significant adverse impact on local air quality. The URBEMIS model calculates that the project would generate a daily total of 648 trips. These trips would be distributed throughout the day.

Carbon monoxide concentrations in the vicinity are very low. The increment of new trips generated at any one intersection affected by the project would not be sufficient to cause an exceedance of any state or national CO standard, even when background conditions are added to project-induced concentrations. Although the EPA has not reclassified the South Coast Air Basin as an attainment area for all CO standards, the South Coast Air Basin has met requirements for redesignation and is projected to maintain this status in the future.

LIST OF PREPARERS

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BIOLOGICAL REPORT
FOR VESTING TENTATIVE TRACT MAP NO. 53189
IN SAN FRANCISQUITO CANYON
NORTHERN LOS ANGELES COUNTY, CALIFORNIA

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February 1, 2006

TABLE OF CONTENTS

TABLES

ATTACHMENT A

Exhibit No.

ATTACHMENT B

Biological Constraints Analysis Report, San Francisquito Canyon Project - VTTM No. 53189 prepared by Rincon Consultants, Inc. (March 2000)

ATTACHMENT C

Delineation of Jurisdictional Waters Outside of the Significant Ecological Area and Update of the Preliminary Biological Constraints Map, San Francisquito Canyon Property prepared by Rincon Consultants, Inc. (January 2000)

and

Delineation of Jurisdictional Waters, Vesting Tentative Tract Map No. 53189, Los Angeles County, California prepared by RBF Consulting (November 2005)

ATTACHMENT D

Plant and Wildlife Compendia

ATTACHMENT E

Guideline Compliance Checklist

ATTACHMENT F

Table of Special Status Species Impact Matrix

ATTACHMENT G

Initial Study Checklist

ATTACHMENT H

List of Invasive Plant Species to be Prohibited by the Home Owners Association

ATTACHMENT I

Results of Focused Presence/Absence Surveys for the Coastal California Gnatcatcher on the Approximate 181-Acre Burnam Project Site (TT 53189), Los Angeles County, California prepared by BonTerra Consulting (June 2005)

ATTACHMENT J

Results of Special Status Plant Surveys for the Vesting Tentative Tract Map No. 53189 Project Site, Santa Clarita, Los Angeles County, California prepared by BonTerra Consulting (October 2005)

ATTACHMENT K

Results of Focused Presence/Absence Surveys for the Western Spadefoot on the Approximate 181-Acre Burnam Project Site (Tentative Tract No. 53189), Los Angeles County, California prepared by BonTerra Consulting (November 2005)

I. PROJECT DESCRIPTION

The proposed project site, Vesting Tentative Tract Map (VTTM) No. 53189, is currently vacant, undeveloped land located in unincorporated Los Angeles County just north of the City of Santa Clarita. The project site is bordered on the east by San Francisquito Canyon Road, on the north by Lady Linda Lane, and on the south by Lowridge Place. Currently, there is no development west of the project site, although the Tesoro del Valle residential development is located to the south and west of the project site and has begun construction. The nearest highways are Interstate-5 (I-5) and State Route-126 (SR-126) located approximately four miles southwest of the project site. Thoroughfares that provide regional access to the project site via San Francisquito Canyon Road include McBean Parkway, Copper Hill Drive, and Seco Canyon Road. The proposed project's regional location and local vicinity are depicted in Attachment A, Exhibits 1 and 2, respectively. The biological resources on the project site have been previously described in *Biological Constraints Analysis Report, San Francisquito Canyon Project – VTTM No. 53189* prepared by Rincon Consultants, Inc. and dated March 2000 (Rincon 2000b, see Attachment B), and are incorporated into this report by reference.

The proposed project is the construction of 60 residential single-family homes and three large open space lots on the approximately 186-acre project site (see Attachment A, Exhibits 3A and 3B). The 60 residential lots would range in size from 39,336 square feet to 10,075 square feet, or 0.90 to 0.23 acre, respectively. The residential development would be clustered in the western portion of the project site, just west of the San Francisquito Canyon Significant Ecological Area (SEA) No. 19, and has been designed to preserve the majority of the biological resources onsite. The homes would be developed in a sideways "T" shape along two planned roadways; "A" Street will run north-south west of the SEA and parallel to San Francisquito Canyon Road, and "B" Street will run east-west and will connect "A" Street to the Tesoro del Valle project site. Access to the project site will be through the Tesoro del Valle property. The site will not be accessed via San Francisquito Canyon Road due to the desire to minimize impacts to the SEA No. 19.

The majority of the project site, approximately 80 percent, will be preserved as open space. The three open space lots include:

- Lot 61 (approximately 103.5 acres)
- Lot 62 (approximately 29.7 acres)
- Lot 63 (approximately 15.3 acres)

Lot 61 includes the portion of the San Francisquito Canyon SEA No. 19 that traverses the eastern portion of the project site from north to south, which includes parts of the San Francisquito Creek and its associated floodplain. This lot also contains two equestrian/ hiking/biking trails. The Cliffie Stone Trail would be located adjacent to San Francisquito

Canyon Road and the Butterfield Overland Stage Trail would be located further west, but would not impact the SEA No. 19. In the northeast corner of Lot 61, a small portion of the existing dirt road extension of Lady Linda Lane would be paved from San Francisquito Canyon Road. This paved area would be approximately the length of a driveway and would include approximately XX square feet. This small driveway would not impact the SEA No. 19 and would be located over the existing dirt road.

Lot 62 includes property in the southwest portion of the project site that contains holly-leaf cherry woodland, damaged by the "Copper Fire" in June 2002. Lot 63 is located in the northwest corner of the site and includes the steeper hillsides and ridgetops.

Manufactured slopes would be developed on approximately 314,128 square feet, or slightly over seven acres of the project site. The manufactured slopes are designed to transition the graded lots to the natural surrounding environment. Limited grading may occur between Lots 34 and 35 to accommodate storm drain infrastructure (i.e., rip-rap). This impact on the SEA could not be avoided due to the location of the floodbank and the need to convey stormflows from the northernmost drainage to San Francisquito Creek (see Attachment A, Exhibit 8). This would be one of two small impacts on the SEA No. 19 along the western bank of San Francisquito Creek in order to prevent or control possible future erosion of the bank.

A below ground levee has also been incorporated into the proposed project to provide adequate flood protection for the project site. The levee would provide protection for the graded pads in case the San Francisquito Creek was to meander toward the development and erode the supporting soil during a 50-Year Capital Flood event. Because the locations of the graded pads are already significantly above the 50-Year Capital Flood for a bulked and burned flow, the bank stabilization would be located below the graded pads along the existing floodplain boundaries and would extend below ground. The boundaries of the proposed levee system would extend from the northern-most project boundary near Lady Linda Lane southerly to Lot 46 (see Attachment A, Exhibits 3B and 8).

The levee system would contain the following components: 15-foot wide paved service road for flood control systems maintenance adjacent to the manufactured slopes of the graded pads (impervious surface); four-foot wide portion of the levee that would be above ground and visible (two-foot vertical and four-foot horizontal at 2:1 slope), which would provide approximately two feet of free board during a 50-Year Capital Flood event; 20-foot deep levee below ground (2:1 slope), which includes the two feet of vertically visible levee; 15-foot wide horizontal area below ground for construction purposes; and, 20-foot deep temporary backcut towards the eastern boundary of SEA No. 19 to allow for levee construction below ground (2:1 slope).

Levee construction will be conducted outside of the rainy season and will avoid any ponded water potentially present on the project site. Upon completion of the levee construction, the excavation would be entirely backfilled with existing creek soil and only the four horizontal feet

of above ground levee "free board" space would be visible. The levee would be constructed with ungrouted rip-rap, which would allow for percolation of water, accumulation of transported soils, and establishment of plant life. The uneven nature of the rip-rap would mimic the natural environment and would not increase the creek flow rates along the levee or facilitate erosion along the levee.

The project would involve approximately 246,000 cubic yards (cy) of raw excavation, approximately 600,000 cy of alluvium removal, and approximately 86,000 cy of excavation for the bank stabilization levee, for a total of approximately 932,000 cy of grading which would be balanced on-site. Considerable changes to topography, due to grading activities, would be avoided due to the clustered development design that maintains the majority of the natural onsite features.

The future expansion of San Francisquito Canyon Road along the eastern boundary of the project site is evaluated herein as a potential project-related impact that would occur if the County determines that the road realignment is needed. Grading associated with the potential expansion of this roadway may also occur along the eastern bank edge of San Francisquito Creek to prevent future erosion. The specifics of how the bank would be engineered, if necessary, have not been determined at this time; however, the area potentially impacted occurs outside of the boundaries of SEA No. 19.

The project will also include the creation of two equestrian trails through the project site (Cliffie Stone Trail and Butterfield Overland Stage Trail). The 12-foot wide Cliffie Stone Trail is planned to be located adjacent to the western edge of San Francisquito Canyon Road. The Butterfield Overland Stage Trail would be constructed over an existing trail that is located between the SEA No. 19 boundary and the Cliffie Stone Trail. The current alignment of the Butterfield trail crosses the SEA boundary. Upon construction of the trail, the alignment would be altered to avoid all impacts to the SEA. Impacts resulting from these trails are evaluated as a project-related impact.

Fuel Modification for Internal Lots – Fuel modification for fire prevention would occur up to 200 feet around the perimeter of the project development, with the exception of graded pads located along the SEA, which will require 100 feet of fuel modification. For the majority of the project site, the first 20 feet from the residential structure outward would be in Zone A, which would be entirely contained within the graded pads and would consist of irrigated lawn and landscaping flora. The next 30 feet would be within Zone B, which is also a "wet zone" that requires regular irrigation and low-growing landscaping or vegetation. Much of Zone B would also be within the graded pads, depending on the width of the lot and the exact location of the home within the pad area.

Zone C would extend approximately 150 feet away from the edge of Zone B. The combination of Zones A through C would total a maximum of 200 feet. Zone C would involve selective

trimming and/or thinning of the vegetation, including the removal of highly-flammable non-native species and the mowing, trimming, and/or thinning of native vegetation so that the root structures would remain intact. This selective removal of hazardous fuel sources as well as the removal of dead debris for fuel modification activities would minimize the fuel available for a wildfire and reduce the likelihood of damage to the property. Natural vegetation is thinned by reduced amounts as the zone moves away from the development.

Due to the proximity of Lots 1 through 8 to the project boundary, these lots would not be able to maintain all of Zone C within the project boundaries. In cases where offsite fuel modification would be required in order to accommodate the 200-foot buffer zone, the adjacent landowner is legally responsible for maintaining the fuel modification buffer that extends into their property for the protection of neighboring properties. However, another option for these lots would be to develop an alternative means of fire protection, such as a fire wall. In an effort to avoid offsite fuel modification, a six-foot tall solid fire wall will be located along the backyard property boundary of Lots 1 through 8 to provide adequate fire protection for these lots. This fire wall would negate the need for the offsite Zone C fuel modification area.

Fuel Modification for SEA-Adjacent Lots – Fuel modification behind Lots 33 through 51 along the SEA would require a 100-foot buffer zone, per Mr. Ron Durbin of the County of Los Angeles Fire Department on a site visit on July 6, 2004. This reduced fuel modification zone has been set in recognition of the fact that the vegetation within the SEA in this location consists of naturally sparse, low-lying shrubs that would not amount to a significant fuel load in the event of a wildfire. Additional considerations for the reduced fuel modification buffer include the ecologically sensitive nature of the vegetation and wildlife within the SEA. The majority of irrigated Zone A and Zone B (approximately 45 feet of the 50-foot "wet zone") would be located within the graded pads of these lots. In addition to the required 50 feet of irrigated land, the manufactured slopes behind these lots will also be irrigated, thereby extending the irrigation beyond the required 50 feet an additional 10 to 15 feet. This extended "wet zone" in conjunction with vegetation thinning in Zone C would total a minimum of 100 feet from the residential structure.

No other flammable structures would be allowed in the backyards of these lots in order to ensure that the 100-foot fuel modification zone is not extended into the SEA. As currently planned, vegetation thinning associated with fuel modification along this portion of the project site would not impact the SEA. The 100-foot fuel modification area will provide adequate wildfire protection for Lots 33 through 51. The proposed project would also comply with all County Fire Department requirements for fuel modification and landscaping specified in the County Fire Code, Title 32. Potential hazards associated with the project's location within a Very High Fire Hazard Severity Zone (VHFHSZ) would be less than significant to residential structures with the implementation of the mitigation measures.

It is anticipated that the following permits would be requested: Tentative Tract Map, Hillside Conditional User Permit, Density Controlled Conditional Use Permit, and Significant Ecological Area Conditional Use Permit. Additional permits will be requested from the U.S. Army Corps of Engineers (USACE), California Department of Fish and Game (CDFG), and Regional Water Quality Control Board (RWQCB).

- Development on the project site would impact approximately 0.17-acre of intermittent drainage under the jurisdiction of the USACE and CDFG.

- The area of potential effect for the future expansion of San Francisquito Canyon Road, if determined to be necessary by the County, and the Cliffie Stone Trail, would have the potential to impact coastal sage scrub and coast live oak woodland vegetation located in the eastern portion of the project site, outside of the boundary of SEA No. 19.

- Direct permanent impacts on biological resources in SEA No. 19, totaling 0.05-acre, would result from storm drain infrastructure and levee construction.

- Indirect impacts on biological resources in SEA No. 19 would potentially result from noise (construction-related and incidental post-construction), lighting, and human disturbance that would have the potential to degrade the habitat and potentially alter behavior of wildlife.

II. SETTING

Characteristics of the Project Site

San Francisquito Canyon runs north to south through the eastern half of the project site and contains an intermittent stream, San Francisquito Creek, which drains hillside areas in the Angeles National Forest and upper Santa Clarita Valley. The project site currently supports the following vegetation types: ruderal, ornamental, chamise chaparral, non-native grassland/ chamise chaparral, coast live oak woodland, coastal sage scrub, wash, mixed chaparral/ holly-leaf cherry woodland, non-native grassland, and alluvial sage scrub (see Attachment A, Exhibit 4). Photo locations and site photographs are included in Attachment A, Exhibits 9 and 10.

San Francisquito Canyon is classified as SEA No.19 by the County of Los Angeles. The canyon is part of the San Francisquito Creek watershed and contains two populations of the unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), a federally and state-listed Endangered species. The San Francisquito floodplain is included in SEA No. 19 in order to preserve stickleback habitats. Until remanded in November 2002, the project site was included within USFWS designated Critical Habitat for the California red-legged frog (*Rana aurora draytonii*) and the arroyo toad (*Bufo californicus*). The boundary of the SEA No.19, relative to the proposed project footprint, is depicted on Attachment A, Exhibits 4 and 6.

The project site is located on the Newhall U.S. Geological Survey 7.5-minute quadrangle map at Township 5 North, Range 16 West, in portions of Sections 33 and 34. Site topography ranges from 1,250 feet above mean sea level (msl) within the San Francisquito Creek to 1,480 feet above msl in the northwestern edge of the property. The majority of the project site can be characterized as relatively flat, becoming more steeply sloped around the northwestern edge of the project site. Land adjacent to the project site to the north and west contains steep slopes and ridges that drain into San Francisquito Creek.

The entire project site is located within the boundaries of the San Francisquito Creek watershed. Watershed boundaries and drainage patterns on the site are described in *Delineation of Jurisdictional Waters Outside of the Significant Ecological Area and Update of the Preliminary Biological Constraints Map, San Francisquito Canyon Property* prepared by Rincon Consultants, Inc. (Rincon 2000a). A more recent delineation of jurisdictional waters was performed by RBF Consulting and dated November 4, 2005. Both of these reports are included as Attachment C and are incorporated into this report by reference. The investigation to determine the amount and type of jurisdictional "waters of the United States" was conducted based on methods described in the *Corps of Engineers Wetland Delineation Manual (1987)*. A total of six drainage features (A through F) were delineated in the western portion of the project site outside of the boundaries of SEA No. 19. The six drainage features are summarized below and shown in Attachment A, Exhibit 5.

- Drainage A is located in the northwestern portion of the project site in a valley with upland vegetation. The upland habitats consist primarily of chamise chaparral, non-native grassland, and mixed chaparral/holly-leaf cherry woodland. The drainage flows approximately west to east.

- Drainage B flows parallel and to the north of Drainage A. The upland habitat surrounding this drainage is largely mixed chaparral/holly-leaf cherry woodland and non-native grassland.

- Drainage C is southeast of Drainage A in the western portion of the project site and flows in a southeasterly direction towards an existing dirt road and the San Francisquito Creek. The primary vegetation in this drainage consists of mixed chaparral/holly-leaf cherry woodland and non-native grassland.

- Drainages D and E are located in the northwestern portion of the project site, east of Drainage B, and adjacent to an existing dirt road. The primary vegetation surrounding this drainage is non-native grassland. These two drainages flow approximately west to east.

- Drainage F is located at the northern boundary of the project site and west of the existing dirt road leading southwest into the site. Vegetation in this drainage consists of ruderal species. The drainage flows from west to east towards the roadway.

None of these six drainages concurrently meet the federal jurisdictional criteria (i.e., presence of hydrophytic vegetation, hydric soils, and wetland hydrology) that are required for delineation as an USACE jurisdictional wetland. However, the onsite drainages are ephemeral, containing water flow during storm events. Approximately 0.93-acre of USACE "waters of the U.S." is located within the boundaries of the project site. In addition to the presence of USACE jurisdictional areas, the onsite drainages/streambeds are considered jurisdictional by the CDFG. Because no riparian or hydrophytic vegetation is present on the site, the CDFG jurisdiction also totals approximately 0.93-acre. The current drainage flows from the project site run through these intermittent drainages from the western hillsides towards the east into the San Francisquito Creek, which comprises the eastern portion of the project site.

With the exception of the landslide area described in Rincon 2000a, and San Francisquito Canyon, no unusual or significant landforms or geologic features have been identified on the project site. Soil types on the project site include Saugus loam (ScF2), Metz loamy sand (MfC), Hanford sandy loam (HcC), Yolo loam (YoC), and sandy alluvial land (Sa). The Saugus, Metz, and Yolo soil types are all typically associated with alluvial fans and floodplains in the project region. Sandy alluvial land is typically associated with drainage bottoms or floodways in the project region.

Significant Ecological Areas

SEAs were established in 1976 by Los Angeles County to designate areas with sensitive environmental conditions and/or resources in order to preserve biological diversity. The County recently re-evaluated the biological conditions of these SEAs in 2000. The update expanded the original objective to include the future sustainability of biological diversity through the application of current practices in conservation planning, primarily by consolidation into larger interconnected SEAs (County of Los Angeles 2000); the update has not been adopted by the Board of Supervisors. SEA boundaries are general in nature, and broadly outline the biological resources of concern. The Los Angeles County General Plan allows development in SEAs as long as development is "highly compatible" with the identified resources.

The San Francisquito Canyon SEA No. 19 was identified in 1976 as a regionally significant biological resource. The value of this SEA is derived from the inherent value of the wetland habitat and associated species, from its function as a regional wildlife corridor, and because of the threat of loss of suitable habitat for the unarmored threespine stickleback. The vegetation that has previously been identified within SEA No. 19 includes freshwater marsh, alluvial sage scrub, coastal sage scrub, oak woodland, and riparian woodland vegetation types. The broad wash association is unlike that found in steeper mountain canyons and is exceedingly difficult

to find in the Los Angeles basin. Uses normally allowed in the corresponding land use classification will continue to be permitted unless a finding is made that the proposed project would have an adverse affect on the SEA (County of Los Angeles 1990). Exhibit 6 in Attachment A shows the proposed project impact area's proximity to the boundary of the San Francisquito Canyon SEA No. 19 on the project site.

Characteristics of the Surrounding Area

The proposed project site is currently zoned by the County of Los Angeles as R-1-7,000 (Single-Family Residence Zone) and A-2-2 (Heavy Agricultural Zone). The R-1-7,000 is applied to the eastern portion of the project site and indicates a residential zone with a minimum lot size of 7,000 square feet. The A-2-2 zone is applicable to the land in the western portion of the project site and requires a two-acre minimum lot size. The County of Los Angeles General Plan designates the property as non-urban and as SEA No. 19. The non-urban land use designation includes the foothill and high desert areas of the County that are not planned for urban use or scheduled to receive urban service. A wide variety of land uses are allowed within the non-urban land use, including residential development, local highway-oriented commercial and industrial uses, as well as local industrial uses. SEA No. 19 refers to the land use designation within San Francisquito Canyon.

The project site is surrounded by undeveloped vacant land to the north and west. The Angeles National Forest is approximately 0.5 mile from the project site. Directly north of the project site, at the intersection of Las Tunas and Quail Haven Trail, are two residential properties. Another residential property is located further west near the northern boundary of the property. This property is currently accessed through the project site via a dirt road that connects to Lady Linda Lane. The undeveloped hillsides predominate the landscape further north of the project site, although there are a few ranch properties further north along San Francisquito Canyon Road.

To the south and west of the project site is the Tesoro del Valle single-family residential development. The first phase of this project, located in the southern portion of the property, has been constructed. Further south of the project site are single-family homes and ranch properties. There are no land uses to the west of the project site, although the Tesoro del Valle project will eventually develop a large portion of the hillsides in this area.

To the east of the project site are several ranches, many specializing in equestrian activities, and residential land uses. San Francisquito Canyon is on the east edge of the project site and continues to the north into the Angeles National Forest and south through the City of Santa Clarita, where it joins with the Santa Clara River. Further east of the San Francisquito Canyon Road, along Lowridge Place, are new single-family homes and lots currently under construction.

Dirt roads and trails currently exist throughout the project site. These trails are predominately used for recreational equestrian activities. Numerous ranches are located within proximity

to the project site and trails are evident throughout the property. The Tesoro del Valle development, located adjacent to the project site, has incorporated a seven-mile equestrian trail into the project design, named the Cliffie Stone Trail. An extension of the Cliffie Stone Trail has been incorporated into the proposed project design and would be located adjacent to the SEA No. 19 traveling parallel to San Francisquito Canyon Road. The Butterfield Overland Stage Trail will also be constructed between the SEA No. 19 boundary and the Cliffie Stone Trail.

Upland vegetation types in non-developed areas and slopes around the project site are typically similar to those observed on the project site both before and after the Copper Fire and include coastal sage scrub, chamise chaparral, and mixed chaparral, occasionally interspersed with non-native grassland. Canyon bottoms and drainages are vegetated with oak woodland, holly-leaf cherry woodland, alluvial sage scrub, and riparian scrub.

III. GENERAL BIOTA SURVEYS

METHODS

Literature Review

Reports summarizing surveys conducted in 1999 by Rincon Consultants, Inc. (Rincon 2000a and 2000b) and RBF Consulting (2005) are incorporated in their entirety by reference and are presented in Attachments B and C of this document. The literature review also included information from the California Natural Diversity Database (CNDDB) (CDFG 2004 and 2005) and the California Native Plant Society (CNPS) Electronic Inventory (CNPS 2004 and 2005) as well as previous botanical studies in the region including the Liebre Mountains Flora (Boyd 1999).

Methods for Vegetation Mapping and General Plant Surveys

Vegetation types on the project site were mapped by Rincon Consultants, Inc. during their May and early June 1999 survey efforts and were classified according to Holland (1986) as well as Sawyer and Keeler-Wolf (1995). The results of these efforts are in the constraints report dated March 2000 (Rincon 2000b). During June 2002, the majority of the upland vegetation west of the San Francisquito Canyon drainage on the project site was burned during the 20,000-acre Copper Fire (U.S. Department of Agriculture, Forest Service [USFS] 2002).

Vegetation mapping was updated to reflect changes in vegetation following the Copper Fire. Vegetation mapping was conducted by BonTerra Consulting Biologist Jeff Galizio concurrently with general plant and wildlife surveys. Mr. Galizio conducted an additional visit to the project site on September 30, 2003 to map the areas that provided potential habitat for the coastal California gnatcatcher (*Polioptila californica californica*). In addition to describing the vegetation types present, the project site was evaluated for its potential to support special status plant species. Plants were identified using taxonomic keys in Hickman (1993) and Munz (1974). Taxonomy follows Hickman (1993) for scientific and common names.

Methods for General Wildlife Surveys

All wildlife species observed or detected by tracks, scat, burrows, or other diagnostic sign were recorded during general wildlife surveys by Consulting Biologist Michael Couffer and Mr. Galizio. Mr. Couffer visited the project site on May 18, 2003. Mr. Galizio visited the project site on September 30, 2003. Surveys were conducted in sunny, clear, and warm weather. Taxonomy and nomenclature for wildlife generally follows Fisher and Case (1997) and Stebbins (2003) for amphibians and reptiles, American Ornithologists Union (1998) for birds, and Jones *et al.* (1992) for mammals.

A supplemental bird survey was performed on the project site by BonTerra Consulting Senior Biologist Brian Daniels on February 24, 2004 to assess the suitability of the project site to support the coastal California gnatcatcher. Incidental observations of birds present on the project site at the time of the site visit were recorded.

BonTerra Consulting biologists Mike Robson, Ph.D., and Sam Stewart briefly visited the project site in March and April 2004 in order to assess the suitability of the habitat within proposed open space areas to support relocated special status reptile species from another development project in the local vicinity. Surveys were conducted in sunny, clear, and warm weather. Methods included visual observation and some raking of leaf litter within the coast live oak woodland. Incidental observations of reptile and/or amphibian species present at the time of the site visits were noted.

Methods for Special Status Plant Surveys

BonTerra Consulting Botanist Pam De Vries performed focused surveys for special status plant species within the proposed project footprint April 15, 2004 with a follow-up survey for later blooming species on May 6, 2004. The proposed project impact area containing habitats potentially suitable for special status species was surveyed using meandering transects. Field notes were taken during the survey.

Special status plant surveys were also conducted on April 6, 8, and 14, and May 26, 2005 by BonTerra Consulting biologists Pam De Vries, Andrea Warniment, and David Hughes, and consulting biologist Travis Cooper. All areas of the project site containing habitats potentially suitable for special status plant species were surveyed using meandering transects. Locations of special status plant species were mapped, and GPS coordinates were also recorded. This report is included as Attachment J.

Methods for Coastal California Gnatcatcher Surveys

The current U.S. Fish and Wildlife Service (USFWS) coastal California gnatcatcher survey protocol recommends six visits by a biologist holding the necessary federal Endangered Species Act (ESA) survey permit to all potentially occupied habitat areas during the morning hours, for surveys conducted entirely within the breeding season (USFWS 1997b). Following

this protocol, Consulting Biologist Michael Couffer conducted eight focused survey visits during 2004 to all appropriate habitat areas, covering no more than 80 acres of potentially occupied habitat per day. Visits to each potentially occupied habitat polygon were separated by at least a week during the breeding season (March 15 through June 30), and were separated by two weeks when the surveys extended into the non-breeding season (July 1 through March 14). Two surveys were conducted within the breeding season (June 22 and 29, 2004), and six surveys were conducted during the non-breeding season (July 11 and 25, August 8 and 22, and September 5 and 19, 2004).

During 2005, Mr. Couffer conducted six focused survey visits to all appropriate habitat areas, again covering no more than 80 acres of potentially occupied habitat per day. A single morning was adequate for each survey to cover all potentially occupied habitats on the project site. Because all surveys were conducted within the gnatcatcher breeding season, survey visits to each potentially occupied habitat polygon were separated by at least a week. Surveys were conducted on March 20 and 27, and April 3, 10, 17, and 24, 2005. This report is included as Attachment I.

Weather conditions met USFWS survey protocol requirements designed to optimize gnatcatcher detections. Weather conditions that were too cold (less than 55 degrees Fahrenheit), too hot (greater than 95 degrees Fahrenheit), or too windy (greater than 15 miles per hour) were avoided. Surveys were conducted by slowly walking through all appropriate habitats while listening and watching for gnatcatcher activity. Taped recordings of gnatcatcher vocalizations were played as an attempt to elicit responses from any gnatcatchers potentially present. The frequency of vocalization playback varied, depending on site conditions such as habitat patch size, topography, vegetation density, and ambient noise levels.

Methods for Western Spadefoot Surveys

Focused presence/absence surveys for the western spadefoot (*Spea* [=*Scaphiopus*] *hammondii*) were conducted by methodically searching all suitable, or potentially suitable, habitat for all life stages (i.e., adults, metamorphs, larvae and egg masses). Surveys were conducted by BonTerra Consulting Senior Scientist Mike Robson, Ph.D., Biologist Sam Stewart, and Ecologist Jeff Wheater. Surveys for larvae and egg masses were conducted during daylight hours and involved close inspection of any pooled or ponded water present within the project site. Any egg masses or larvae observed were identified to species in the field by a qualified biologist.

Surveys for adults and metamorphs were conducted on six nights with environmental conditions conducive to the activity patterns for this species. Optimally, these conditions are night-time temperatures in excess of 50 degrees Fahrenheit and following heavy rain (in excess of one inch per 24 hours). If the preferred environmental conditions were not met, surveys were conducted under conditions that were determined to be the most favorable for the species.

These surveys were initiated approximately one hour prior to sunset and continued to two hours after sunset. Any amphibian species encountered were identified in the field. Surveys were conducted on April 13, 14, and 29, and May 2, 6, and 27, 2005. During these surveys, air temperatures ranged from 69 to 74 degrees Fahrenheit, and winds ranged from approximately zero to eight miles per hour. This report is included as Attachment K.

Plant and Wildlife Compendia

Lists of all plant species observed on the project site, and of all wildlife species observed, expected, or having the potential to occur on the project site, are included as Attachment D. These lists include species observed during both general and focused biological surveys.

EXISTING CONDITIONS

Vegetation Types

Ten vegetation types occur on the project site (see Attachment A, Exhibit 4). These consist of ruderal (including developed), ornamental, chamise chaparral, non-native grassland/chamise chaparral, coast live oak woodland, coastal sage scrub, wash, mixed chaparral/holly-leaf cherry woodland, non-native grassland, and alluvial sage scrub. Each of these vegetation types is described in detail below.

Ruderal (Including Developed Areas)

Ruderal areas consist of graded and paved roads in addition to areas associated with existing development on the project site. These occur primarily along San Francisquito Canyon Road and Lady Linda Lane. The ruderal vegetation on the project site contains primarily non-native species or native species that occur in highly disturbed areas. Ruderal vegetation and developed areas were mapped on approximately fifteen acres of the site in various soils.

Ornamental

Ornamental vegetation occurs in the north-central portion of the project site and includes approximately one acre of gum trees (*Eucalyptus* sp.). Gum trees were typically planted in old ranch areas in southern California.

Chamise Chaparral

Patches of chamise chaparral occur on the slopes of the project site comprising approximately four acres. These areas are dominated by chamise (*Adenostoma fasciculatum*) and appear to be associated with Saugus soils on the project site. Other species that occur in this vegetation type include white sage (*Salvia apiana*) and shrub mallow (*Malacothamnus marrubioides*).

Non-native Grassland/Chamise Chaparral

An area of approximately three acres of chamise chaparral ecotone with non-native grassland was observed in the northern portion of the project site. Common non-native grassland species within this vegetation type include brome grasses (*Bromus diandrus*, *B. hordeaceus*) and wild oat (*Avena fatua*). The chaparral component of this vegetation type, consisting of chamise, would be expected to increase in the absence of further disturbances during natural post-fire recovery.

Coast Live Oak Woodland

Coast live oak woodland occurs in the northeastern portion of the project site, near the junction of San Francisquito Canyon Road and Lady Linda Lane. This vegetation type is dominated by coast live oak trees (*Quercus agrifolia*), and has an understory of non-native grassland species including brome grasses and wild oats. Coast live oak woodland was mapped on approximately three acres of the site. This vegetation type is considered special status by the CDFG, and individual oak trees are protected by the County of Los Angeles as established by Ordinance 22.56.2050.

Coastal Sage Scrub

Coastal sage scrub occurs within a portion of the upland terrace of San Francisquito Creek in the southern portion of the project site affected by the Copper Fire. Coastal sage scrub was mapped on approximately two acres of the project site and would be expected to increase in area in the absence of further disturbances during natural post-fire recovery on the project site.

Small patches of coastal sage scrub were also identified within alluvial sage scrub vegetation within the San Francisquito Creek floodplain. These areas were not mapped as coastal sage scrub due to their small size and the prevalence of scalebroom (*Lepidospartum squamatum*). Dominant species in the coastal sage scrub vegetation type include California buckwheat (*Eriogonum fasciculatum*) and deerweed (*Lotus scoparius*). Similarly, bush sunflower (*Encelia californica*) was observed on a non-native grassland slope in the northwestern portion of the project site but was not mapped due to its small size.

Wash

Wash comprises approximately 14 acres within the project site. Vegetation is generally absent from within the wash; however, a sparse, generally open cover of scattered herbs and annual grasses, such as red brome *(Bromus madritensis* ssp. *rubens*), is present. Small, scattered mule fat (*Baccharis salicifolia*) and subshrubs, such as California buckwheat, were observed within sand bars, banks, and adjacent floodplain. San Francisquito Creek, within the project site, conveys water for a limited amount of time after rain events. During significant periods of inundation, the wash has the potential to meander.

Mixed Chaparral/Holly-leaf Cherry Woodland

Holly-leaf cherry woodland is described by the presence of holly-leaf cherry (*Prunus ilicifolia*). This vegetation type occurs within a single main drainage on the western side of the project site. Although tree-sized holly-leaf cherries were scattered within the drainage, the Copper Fire burned all of the cherry trees except for a few at the mouth of the drainage. Since the Copper Fire, the damaged cherry trees, as well as other species that are more indicative of mixed chaparral [i.e., bigberry manzanita (*Arctostaphylos glauca*), chaparral nightshade (*Solanum xanti*), and spiny redberry (*Rhamnus crocea*)], have begun to recover or crown sprout. Sprouting of these shrubs was also observed within the remaining interstitial areas covered by non-native grassland forming an early seral mixed chaparral/holly-leaf cherry woodland ecotone. This ecotone was mapped within approximately ten acres of the project site. The holly-leaf cherry woodland and chaparral vegetation would be expected to increase during natural post-fire recovery on the project site.

Non-native Grassland

Non-native grassland is typically the result of disturbances such as grading, discing, off road vehicle use, agricultural practices, or fire. The Copper Fire burned or severely damaged the upland vegetation types west of San Francisquito Creek. Consequently, the dominant upland vegetation type currently remaining on the project site is non-native grassland. Non-native grassland was mapped within approximately 72 acres of the project site.

Common plant species within this vegetation type include brome grasses, wild oat, black mustard (*Brassica nigra*), red-stemmed filaree (*Erodium cicutarium*), doveweed (*Eremocarpus setigerus*), tree tobacco (*Nicotiana glauca*), chaparral nightshade, western ragweed (*Ambrosia psilostachya*), telegraph weed (*Heterotheca grandiflora*), and common fiddleneck (*Amsinckia menziesii*).

Alluvial Sage Scrub

Alluvial sage scrub occurs along the banks and benches of the drainage above the active channel within San Francisquito Canyon. The dominant plant species of this vegetation type is scalebroom. Other plant species occurring at a lower density include thick-leaf yerba santa (*Eriodictyon crassifolium*), chaparral yucca (*Yucca whipplei*), Great Basin sagebrush (*Artemisia tridentata*), and California buckwheat. Non-native grasses have invaded some portions of this vegetation type; however, much of the habitat east of the active channel has not been invaded by non-native grasses and is considered high quality. Alluvial sage scrub was mapped within approximately 65 acres of the project site. Fremont's cottonwood (*Populus fremontii*) also occurs in this vegetation type and on the boundary of this type with non-native grassland.

Fauna

Fish

Most creeks and waterways in southern California are subject to periods of high water flow in winter and spring, and little to no flow in late summer and fall. These creeks and waterways can support a variety of habitats. The herbaceous cover present typically varies by season from little to no cover during periods of high water flow to high coverage in late summer and fall. Native fish species that potentially inhabit this area have adapted to living in the naturally fluctuating conditions. However, additional stressors such as alteration of habitat and introduced species have contributed to the decline of native fish populations in southern California. Although the Copper Fire substantially altered vegetation within the project region (i.e., San Francisquito Canyon watershed), the effects on fish species within the watershed were not considered significant further up the watershed in the Angeles National Forest by the U.S. Forest Service (USFS 2002).

The project site was dry during surveys and no fish species were observed; however, flood conditions would allow for movement of fish species across the project site. This movement would be important to maintain populations of these species.

Native and non-native fish species are present in San Francisquito Creek. Non-native fish species, such as the mosquito fish (*Gambusia affinis*), may occasionally occur within San Francisquito Creek during high water conditions. Native fish species that may occasionally occur within San Francisquito Creek during high water conditions include unarmored threespine stickleback, Santa Ana sucker (*Catostomus santaanae*), and arroyo chub (*Gila orcutti*). The special status fish species are discussed further in Section IV.

Amphibians

Although most of the project site is dry for much of the year, a number of amphibians species occur or are expected to occur on the project site. There are a number of terrestrial species that may or may not require standing water for reproduction. These species are able to survive in dry areas by remaining beneath the soil in burrows or under logs or leaf litter, emerging only when temperatures are appropriate and humidity is high, to breed once the rainy season begins. Soil moisture conditions can remain high throughout the year within some habitat types, depending on factors such as amount of vegetation cover, elevation, and slope aspect. Although the Copper Fire substantially altered vegetation within the project region (i.e., San Francisquito Canyon watershed), the effects on amphibian species within the watershed were not considered significant up the watershed in the Angeles National Forest by the U.S. Forest Service (USFS 2002).

Common amphibian species observed or expected to occur on the project site include the western toad (*Bufo boreas*) and Pacific treefrog (*Hyla regilla*). Other species that may occur

include the black-bellied salamander (*Batrachoseps nigriventris*) and California treefrog (*Hyla cadaverina*).

The project site is within the potential range of the arroyo toad (*Bufo californicus*), California red-legged frog (*Rana aurora draytonii*), and western spadefoot (*Spea hammondii*). Recent general and focused amphibian surveys performed within the general project vicinity have had negative results within or proximal to the project site for the arroyo toad and red-legged frog; western spadefoot toads have been detected on the project site (see Attachment A, Exhibit 4). All three species have been documented within the project region, including Castaic Creek and San Francisquito Canyon. The potential for these species to occur within the project site are discussed further in Section IV.

Reptiles

Reptilian diversity and abundance typically varies with vegetation type and substrate characteristics. Many species occur in only one or two vegetation types; however, most will forage in a variety of habitats. Most species occurring in open areas use rodent burrows or other cavities for cover, protection from predators, and extreme weather conditions. Although the Copper Fire substantially altered vegetation within the project region (i.e., San Francisquito Canyon watershed), the effects on reptile species within the watershed were not considered significant up the watershed in the Angeles National Forest by the U.S. Forest Service (USFS 2002).

Common reptile species observed or expected to occur on the project site include the western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), western skink (*Eumeces skiltonianus*), southern alligator lizard (*Elgaria multicarinata*), gopher snake (*Pituophis catenifer*), red coachwhip (*Masticophis flagellum*), California whipsnake (*Masticophis lateralis*), western rattlesnake (*Crotalus viridis*), and common kingsnake (*Lampropeltis getula*). Other species that may occur include the western blind snake (*Leptotyphlops humilis*), night snake (*Hypsiglena torquata*), and glossy snake (*Arizona elegans*).

Birds

Although the Copper Fire substantially altered vegetation within the project region (i.e., San Francisquito Canyon watershed), the effects on bird species within the watershed were not considered significant up the watershed in the Angeles National Forest by the U.S. Forest Service (USFS 2002). Common bird species observed on the project site during the site visit include common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), California quail (*Callipepla californica*), mourning dove (*Zenaida macroura*), lesser nighthawk (*Chordeiles acutipennis*), western scrub-jay (*Aphelocoma californica*), song sparrow (*Melospiza melodia*), white-crowned sparrow (*Zonotrichia leucophrys*), house finch (*Carpodacus mexicanus*), lesser goldfinch (*Carduelis psaltria*), Costa's hummingbird (*Calypte costae*), northern mockingbird

(*Mimus polyglottos*), spotted towhee (*Pipilo maculatus*), phainopepla (*Phainopepla nitens*), and hooded oriole (*Icterus cucullatus*).

Birds of prey (raptors) observed on the project site during the site visits include turkey vulture (*Cathartes aura*), sharp-shinned hawk (*Accipiter striatus*), Cooper's hawk (*Accipiter cooperii*), red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), barn owl (*Tyto alba*), and great horned owl (*Bubo virginianus*). Others having the potential to occur onsite include the golden eagle (*Aquila chrysaetos*), merlin (*Falco columbarius*), and western screech owl (*Megascops kennicottii*). Large, mature trees such as the scattered Fremont cottonwood trees in San Francisquito Canyon and coast live oaks in the northeastern portion of the site provide potentially suitable nesting habitat for raptors on the project site.

Mammals

Common terrestrial mammal species, or evidence of their presence, observed during the surveys include the desert cottontail (*Sylvilagus audubonii*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), kangaroo rat (*Dipodomys* sp.), raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), coyote (*Canis latrans*), and mule deer (*Odocoileus hemionus*). Several others that are expected to occur as residents or transients include the long-tailed weasel (*Mustela frenata*), bobcat (*Felis rufus*), and mountain lion (*Felis concolor*).

Bats occur throughout southern California and may use any portion of the project site as foraging habitat. Hollows or cavities in some of the older cottonwood or oak trees, particularly within the coast live oak woodland, provide roosting habitat for bat species. Most of the bats that potentially occur on the project site are either inactive during the winter (hibernate) or migrate south of the region to warmer climates. Bats potentially foraging in the project site include long-legged myotis (*Myotis volans*), California myotis (*Myotis californicus*), western pipistrelle (*Pipistrellus hesperus*), big brown bat (*Eptesicus fuscus*), long-eared myotis (*Myoits evotis*), fringed myotis (*Myotis thysanodes*), and the Mexican free-tailed bat (*Tadarida brasiliensis*).

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, will not likely persist over time in fragmented or isolated habitat areas because they prohibit the infusion of new individuals and genetic information. 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 that catastrophic events, such as fire or disease, will result in population or local species extinction; and 3) serving as travel routes for individual animals as they move in their home ranges in search of food, water, mates, and other necessary resources.

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 (e.g., foraging for food or water, defending territories, or searching for mates, breeding areas, or cover). A number of terms such as "travel route," "wildlife corridor," and "wildlife crossing" have been used in various wildlife movement studies to refer to areas in which wildlife move from one area to another. To clarify the meaning of these terms and facilitate the discussion on 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 to 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 for individuals while they move 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 man-made 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, which may impede wildlife movement and increase the risk of predation.

It is important to note that, in a large open space area in which there are few or no man-made 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 (e.g., canyons, ridgelines, trails, riverbeds, and others), wildlife will use these "local" routes while searching for food, water, shelter, and mates and will 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., man-made noise, lighting) that would generally hinder wildlife movement.

San Francisquito Creek is a natural conduit of wildlife movement whether surrounded by open space or development. Where it is surrounded by development, it serves as a wildlife movement corridor as defined above. When wildlife movement corridors provide connections between protected open space areas that have no other linkage, then the wildlife movement corridors become locally or even regionally important. San Francisquito Creek is recognized as a regionally important wildlife movement corridor because it provides linkages between the upstream areas in the Angeles National Forest and the downstream areas in the Santa Clara River. This is expected to be the major conduit of wildlife movement on the project site.

Drainages A, B, and C, as well as the mixed chaparral/holly-leaf cherry woodland vegetation type in between these drainages (see Attachment A, Exhibits 4 and 5) may provide some function as a travel route to wildlife species attempting to reach San Francisquito Canyon to forage, or to continue to explore habitats on the upland slopes to the west. At present, this travel route does not provide much cover for large animals, such as mountain lions and deer. Furthermore, development of future phases of the Tesoro del Valle development to the west and south, as well as the proposed construction of homes in Tapia Canyon (which is directly west over the ridge from the proposed project), would likely constrain wildlife movement between these areas and San Francisquito Canyon. Reptiles, birds and small mammals that use San Francisquito Canyon would not be expected to move beyond the ridgeline at the western boundary when using this travel route between the upland slopes and San Francisquito Canyon. For this reason, development of later phases of the Tesoro del Valle project or further west in Tapia Canyon would not affect the movement of these species within the site boundaries and the areas immediately adjacent. Similarly, a northwest to southeast trending ridgeline connects through the north-central portion of the site to San Francisquito Canyon (see Attachment A, Exhibit 7). This potential travel route is similarly constrained to the route described above. East to west movement within the site would be constrained by project development. Final design of the roadway where it crosses the travel route (e.g., at-grade

crossing or culvert) would allow small mammals and other wildlife on the site to continue to use this travel route.

IV. SPECIAL STATUS SPECIES AND VEGETATION TYPES

The following section addresses special status biological resources observed, reported, or having the potential to occur in the proposed project region (e.g., San Francisquito Canyon and the Santa Clarita Valley). These resources include plant and wildlife species that have been afforded special status and/or recognition by federal and state resource agencies, as well as by 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 limitations of its population size or geographical extent and/or distribution resulting in most cases from habitat loss. Tables 1 and 2 provide a summary of each special status plant and wildlife species potentially occurring in the proposed project area including information on the status, likelihood for occurrence and definitions for the various status designations. 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. These resources have been defined by federal, state, and local government conservation programs. Sources used to determine the special status of biological resources are as follows:

- **Plants** – *Inventory of Rare and Endangered Plants* (CNPS 2004 and 2005); CNDDB (CDFG 2004 and 2005); various Federal Register notices from the USFWS regarding listing status of plant species; List of Special Plants (CDFG 2003b and 2005); and *Vascular Flora of the Liebre Mountains, Western Transverse Ranges, California* (Boyd 1999)

- **Wildlife** – California Wildlife Habitat Relationships Database System (CDFG 1991); CNDDB (CDFG 2004 and 2005); various Federal Register notices from the USFWS regarding listing status of wildlife species; List of Special Animals (CDFG 2003a and 2005)

- **Habitats** – CNDDB (CDFG 2004 and 2005)

Definitions of Special Status Biological Resources

Special status habitats are vegetation types, associations, or subassociations that support concentrations of special status plant or wildlife species, are of relatively limited distribution, or are of particular value to wildlife. 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.

A federally listed Endangered species is one facing extinction throughout all, or a significant portion of, its geographic range. A federally listed 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 listed Threatened or Endangered species on a project 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 lists. Because proposed species may become listed as Threatened or Endangered prior to or during implementation of a proposed development project, they are treated as though they are listed species.

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. The Rare species designation applies only to California native plants. State-listed Threatened and Endangered species are fully protected against take unless an incidental take permit is obtained from the resource agencies.

Federal Species of Concern is an informal designation by the USFWS for those species that the USFWS has determined might be declining or are in need of concentrated conservation actions to prevent decline.

California Species of Special Concern is an informal designation used by the CDFG for wildlife species with declining populations, limited ranges, and/or continued threats that have made them vulnerable to extinction. The goal of designating these species as special status is to halt or reverse their decline by calling attention to their plight and addressing the issues of concern early enough to ensure their long-term viability. Not all Species of Special Concern have declined equally; some species may be just starting to decline, while others may have already reached a point where they meet the criteria for “Threatened” or “Endangered” species under state or federal Endangered Species Acts (CDFG 2003a, 2003b, and 2005). These wildlife species are not state candidates at this time, and 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 and Protected include those protected by special legislation for various reasons, such as the mountain lion and white-tailed kite. Fully Protected species may not be taken or possessed at any time. Protected species include those species that may not be taken or possessed at any time except under special permit from the CDFG issued pursuant to Sections 650 and 670.7 of the California Code of Regulations, or Section 2081 of the Fish and Game Code.

A species that is considered a Special Animal is one that is tracked by the CNDDB. Species of Local Concern are those that have no official status with the resource agencies, but are being

watched because either there is a unique population in the region, or the species is declining in the region.

The CNPS is a local resource conservation organization that has developed an inventory of California's special status plant species (CNPS 2004 and 2005). This inventory is a summary of information on the distribution, rarity, and endangerment of California's vascular plants, and 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. Lists 3 and 4 are defined in the legend below Table 1.

Special Status Vegetation Types

In addition to providing an inventory of special status plant and wildlife species, the CNDDB also provides an inventory of vegetation types that are considered special status by the state and federal resource agencies, academic institutions, and various conservation groups (such as CNPS). Determination of the level of sensitivity is based on The Nature Conservancy Heritage Program Status Ranks that rank both species and vegetation types on a global and statewide basis according to the number and size of remaining occurrences as well as recognized threats (e.g., proposed developments, habitat degradation, and invasion by non-native species).

Special status vegetation types that occur on the project site include: coast live oak woodland, coastal sage scrub, wash, holly-leaf cherry woodland, and alluvial sage scrub.

Wash and stream courses are dynamic systems that create the conditions that result in the mosaic of upland and potential wetland habitats in a natural riparian system in southern California. Regularly scoured areas are generally almost devoid of vegetation, as described previously as wash. In San Francisquito Canyon, and other riparian systems in southern California, as the floodway meanders within the floodplain, areas through which the floodway previously flowed may develop into alluvial sage scrub. These vegetation types are generally considered a high priority for preservation, due to their growing scarcity throughout southern California and their capacity to support Threatened, Endangered, or other special status species.

Special Status Plants

Several special status plant species are known to occur in the project region. These plants and their potential to occur on the project site are listed in Table 1. A full discussion of plant species listed as Threatened or Endangered that are known to occur in the project region follow Table 1.

TABLE 1
SPECIAL STATUS PLANT SPECIES
KNOWN TO OCCUR IN THE PROJECT REGION

Species	Status[1]			Potential for Occurrence
	USFWS	CDFG	CNPS	
Aster greatae Greata's aster	–	–	List 1B	No suitable habitat; not observed on the project site. Occurs in springs in oak woodland understory near Cienaga Campground in Fish Canyon (Boyd 1999); known from chaparral and coast live oak canyons 2,000 to 4,000 feet above msl in Los Angeles County (Munz 1974).
Astragalus brauntonii Braunton's milk-vetch	FE	–	List 1B	Limited potential; not observed on the project site. Not known to occur in the Liebre Mountains vicinity (Boyd 1999, CDFG 2004); known from chaparral on carbonate soils in the Santa Ana, San Gabriel and Santa Monica mountains within Los Angeles, Orange and Ventura counties (CNPS 2004).
Berberis [=*Mahonia*] *nevinii* Nevin's barberry	FE	CE	List 1B	Limited potential; not observed on the project site. Occurs in San Francisquito Canyon, restricted to steep, shaded, rocky slopes and adjacent alluvial benches in the vicinity of Pump House (Boyd 1999); known from sandy or gravelly soils in Los Angeles, Riverside, San Bernardino and San Diego counties (CNPS 2004).
Calochortus clavatus var. *clavatus* club-haired mariposa lily	–	–	List 4	**Observed** during focused surveys; plants observed had characteristics of both varieties, and were probably hybrids. A population of approximately 160 plants was observed in the northern portion of the project site, within the project impact area; in addition, one plant was observed in the northern portion of the site, one plant was observed in the western portion of the site, and approximately 155 plants were observed in a population located outside the project impact area (see Attachment A, Exhibit 6).
Calochortus clavatus var. *gracilis* slender mariposa lily	–	–	List 1B	
Calochortus plummerae Plummer's mariposa lily	–	–	List 1B	Limited potential; not observed on the project site. Occurs in rocky slopes and alluvial fans above Bee Canyon wash near Soledad Canyon in the vicinity of the project site (Boyd 1999); known from chaparral, sage scrub and grasslands in Los Angeles, Orange, Riverside, San Bernardino and Ventura counties (CNPS 2004).
Calystegia peirsonii Peirson's morning-glory	–	–	List 4	**Observed** during focused surveys; this species was observed scattered throughout the project site. Numbers of individuals were not determined for this species due to the low status and relative abundance throughout its range.
Chorizanthe parryi var. *fernandina* San Fernando Valley spineflower	FC	CE	List 1B	Limited potential; not observed on the project site. Occurs in Newhall and Ahmanson Ranch in the project vicinity (Boyd 1999, CDFG 2004); known from sandy soils in sage scrub in Los Angeles County (CNPS 2004).
Deinandra [=*Hemizonia*] *minthornii* Santa Susana tarplant	–	CR	List 1B	No suitable habitat; not observed on the project site. Not known to occur in the Liebre Mountains vicinity or in the vicinity of the project site (Boyd 1999, CDFG 2004); known from rock outcrops in Los Angeles and Ventura counties (CNPS 2004).
Dodecahema leptoceras slender-horned spineflower	FE	CE	List 1B	Limited potential; not observed on the project site. Occurs at the confluence of Bee Canyon and Soledad Canyon (Boyd 1999, CDFG 2004); known from sandy soils in chaparral and sage scrub in Los Angeles, Riverside, and San Bernardino counties (CNPS 2004).

TABLE 1 (Continued)
SPECIAL STATUS PLANT SPECIES
KNOWN TO OCCUR IN THE PROJECT REGION

Species	Status[1]			Potential for Occurrence
	USFWS	CDFG	CNPS	
Harpargonella palmeri Palmer's grapplinghook	–	–	List 4	Limited potential; not observed on the project sitebut limited potential to occur. Occurs in open clay soils in Plum Canyon near Cruzan Mesa, and historically near Saugus (CDFG 2004); known from clay soils in chaparral, sage scrub and grassland in Los Angeles, Orange, Riverside, and San Diego counties (CNPS 2004).
Helianthus nuttallii ssp. *parishii* Los Angeles sunflower	–	–	List 1A	No suitable habitat; not observed on the project site. Not known to occur in the Liebre Mountains vicinity or in the vicinity of the project site (Boyd 1999, CDFG 2004); thought to be extinct; historically known from marshes and swamps in Los Angeles, Orange, and San Bernardino counties (CNPS 2004).
Hordeum intercedens vernal barley	–	–	List 3	Limited potential; not observed on the project site but limited potential to occur. Local on clay soil; known from Grasshopper Canyon in the project vicinity; known from throughout southern California in coastal dunes, sage scrub, and grasslands (CNPS 2004).
Horkelia cuneata ssp. *puberula* mesa horkelia	–	–	List 1B	Limited potential; not observed on the project site. Not known to occur in the Liebre Mountains vicinity or in the vicinity of the project site (Boyd 1999, CDFG 2004); known from sandy soils in chaparral, cismontane woodland, and sage scrub in Los Angeles, Orange, Santa Barbara, San Luis Obispo, and Ventura counties (CNPS 2004).
Juglans californica var. *californica* Southern California black walnut	–	–	List 4	Limited potential; not observed on the project site. Occurs in scrub and woodland of lower Bouquet Canyon; known to occur in chaparral, walnut woodland, and oak woodland in Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, and Ventura counties (CNPS 2004).
Malacothamnus davidsonii Davidson's bush mallow	–	–	List 1B	Limited potential; not observed on the project site. Not known to occur in the Liebre Mountains vicinity or in the vicinity of the project site (Boyd 1999, CDFG 2004); known from sandy washes, sage scrub and riparian areas (Munz 1974, CNPS 2004) in Los Angeles, Monterrey, and San Luis Obispo counties.
Navarettia fossalis spreading navarettia	FT	–	List 1B	No suitable habitat; not observed on the project site. Occurs in vernal pools on Cruzan Mesa and Plum Canyon (Boyd 1999, CDFG 2004); this is the northern-most limit of this species disjunct from the other populations in western Riverside and San Diego counties (CNPS 2004).
Opuntia basilaris var. *brachyclada* short-joint beavertail	–	–	List 1B	Limited potential; not observed on the project site. Not known to occur in the Liebre Mountains vicinity or in the vicinity of the project site (Boyd 1999, CDFG 2004); the more common *Opuntia basilaris* var. *basilaris* was observed on the project site (Boyd 2004 pers. comm.).
Orcuttia californica California orcutt grass	FE	CE	List 1B	No suitable habitat; not observed on the project site. Occurs in vernal pools on Cruzan Mesa and Plum Canyon (Boyd 1999); known from vernal pools in Los Angeles, Riverside, San Diego, and Ventura counties (CNPS 2004).

TABLE 1 (Continued)
SPECIAL STATUS PLANT SPECIES
KNOWN TO OCCUR IN THE PROJECT REGION

Species	Status[1]			Potential for Occurrence
	USFWS	CDFG	CNPS	
Senecio aphanactis rayless ragwort	–	–	List 2	No suitable habitat; not observed on the project site. Not known to occur in the Liebre Mountains vicinity or in the vicinity of the project site (Boyd 1999, CDFG 2004); occurred historically in Newhall; known form chaparral, woodland, and sage scrub in alkaline soils throughout California but rare in Los Angeles, Orange, and Riverside counties (CNPS 2004).

LEGEND

[1]Status Definitions

Federal (USFWS)		**State (CDFG)**	
FE	Endangered	CE	Endangered
FT	Threatened	CT	Threatened
FC	Candidate	R	Rare

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 We Need More Information - A Review List
4	Plants of Limited Distribution - A Watch List

Braunton's Milk-vetch (*Astragalus brauntonii*)

Braunton's milk-vetch is a federally listed Endangered species and a CNPS List 1B species. This perennial milk-vetch typically blooms from March through July. It is often associated with limestone soil or found in down-wash sites associated with chamise, chaparral yucca, Tecate cypress (*Cupressus forbesii*), and chaparral beargrass (*Nolina cismontana*) (USFWS 1997a). This species is found from ten to 2,100 feet above msl, and needs fire or other site perturbations for its survival (CNPS 2004, USFWS 1997a). This species is known from fewer than ten occurrences, with less than 300 total plants in Los Angeles, Orange, and Ventura counties (USFWS 1997a). This species has a limited potential to occur in the project site. Rincon Consultants, Inc. and BonTerra Consulting did not locate this species during focused surveys. This species is not known to occur within the Liebre Mountains (Boyd 1999; CDFG 2004). Braunton's milk-vetch was not observed during the focused surveys performed within the proposed project impact area following the Copper Fire and the species has limited potential to occur elsewhere on the project site.

Nevin's Barberry (*Berberis [=Mahonia] nevinii*)

Nevin's barberry is a federally listed Endangered, state-listed Endangered, and CNPS List 1B species. This species is a large and conspicuous evergreen shrub occurring in sandy and gravelly soils in chaparral cismontane woodland, coastal scrub, and riparian scrub in Los Angeles, Riverside, San Bernardino, and San Diego counties. Its nearest known occurrence is several miles north within U.S. Forest Service land in San Francisquito Canyon proximal to Los Angeles Department of Water and Power (LADWP) Power Plant No. 2 where it occurs on a slope between electric transmission Tower 7A1G and San Francisquito Canyon Road (BonTerra Consulting 2004). Nevin's barberry is readily observable at any time of year, but was not observed by either Rincon Consultants, Inc. or BonTerra Consulting. Nevin's barberry was not observed within the proposed project impact area during the focused surveys and the species has a limited potential to occur elsewhere on the project site.

San Fernando Valley Spineflower (*Chorizanthe parryi* var. *fernandina*)

San Fernando Valley spineflower is a federal Candidate for listing as Threatened or Endangered, state-listed Endangered, and a CNPS List 1B species. This annual herb blooms from April to June. This species occurs in sandy soils along drainages from 490 to 4,000 feet above msl. This species was historically known from the San Fernando Valley, Newhall, Castaic, and Elizabeth Lake areas (Boyd 1999) but was presumed extinct until it was rediscovered at Ahmanson Ranch in Ventura County. This species is currently known from Newhall Ranch and Ahmanson Ranch. San Fernando Valley spineflower was not observed within the proposed project impact area during the focused surveys and the species has a limited potential to occur elsewhere in the project site.

Slender-horned Spineflower (*Dodecahema leptoceras*)

Slender-horned spineflower is federally listed Endangered, state-listed Endangered, and a CNPS List 1B species. This low-growing annual species typically flowers from April to June. This species typically occurs in mature alluvial fan sage scrub in sandy to gravelly soil between approximately 655 and 2,495 feet above msl, but is also known to occur in association with chaparral and coastal sage scrub vegetation types. It is generally found in small isolated areas lacking evidence of frequent surface disturbance. This species occurs in Los Angeles, Riverside, and San Bernardino counties including the confluence of Bee Canyon and Soledad Canyon, the San Fernando Valley, the Santa Ana River Wash, the San Jacinto River floodplain near Hemet, and Temescal Canyon near Elsinore (CDFG 2004). This spineflower was known to historically occur in Mint Canyon and in Newhall in the project region (Boyd 1999). Focused surveys were conducted for this species on adjacent properties and the species was not located. Slender-horned spineflower was not observed on the project site during the focused surveys and the species has a limited potential to occur on in the project site.

Spreading Navarretia (*Navarretia fossalis*)

Spreading navarretia is a federally listed Threatened species and a CNPS List 1B species. This species typically blooms between April and June. This annual herb occurs in chenopod scrub, assorted shallow freshwater marshes and swamps, playas, and vernal pools from 100 to 4,265 feet above msl. This species occurs in the Liebre Mountains and Sierra Peloma (Curzan Mesa and Plum Canyon) in Los Angeles County, and in Riverside and San Diego counties (Boyd 1999). Spreading navarretia was not observed during the focused surveys on the project site and the species is not expected to occur on the project site due to lack of suitable habitat or substrate.

California Orcutt Grass (*Orcuttia californica*)

California Orcutt grass is a federally listed Endangered species, state-listed Endangered species, and a CNPS List 1B species. This species typically flowers between April and August. This annual herb occurs in vernal pools from 50 to 2,165 feet above msl. This grass species historically occurred in Los Angeles, Riverside, San Diego, and Ventura counties, and in Baja California, Mexico. This species is known to occur in vernal pools on Cruzan Mesa and Plum Canyon in the project region (Boyd 1999). California Orcutt grass was not observed during the focused surveys on the project site and the species is not expected to occur on the project site due to lack of suitable habitat or substrate.

Special Status Wildlife

Several special status wildlife species are known to occur in the project region. Those wildlife species listed as Threatened or Endangered are discussed below and summarized in Table 2. Those wildlife species not currently listed as either Threatened or Endangered, but having the potential to be elevated to a higher status in the future, are also discussed in Table 2.

TABLE 2
SPECIAL STATUS WILDLIFE SPECIES
KNOWN TO OCCUR IN THE PROJECT REGION

Species	Status[1]		Potential for Occurrence
	USFWS	CDFG	
Fish			
Gila orcutti Arroyo chub	SOC	CSC	Limited potential to occur when water is flowing in San Francisquito Creek; potentially suitable habitat is not likely to persist within the project boundaries. Native populations are now restricted to the Santa Margarita and Del Luz creeks in San Diego County, Trabuco and San Juan creeks in Orange County, and Malibu Creek in Los Angeles County (Swift et al.. 1993). There are introduced populations elsewhere in southern California. This species is known to be present at the confluence of the Santa Clara River and Castaic Creek (San Marino Environmental Associates 1995).
Catostomus santaanae Santa Ana sucker	FT [2]	CSC	Limited potential to occur when water is flowing in San Francisquito Creek; potentially suitable habitat is not likely to persist within the project boundaries. This species occurs in the Los Angeles, San Gabriel, and Santa Ana river systems and a possibly introduced population in the Santa Clara River (USFWS 2004).
Gasterosteus aculeatus williamsoni Unarmored threespine stickleback	FE	SE/FP	Potential to occur when water is flowing in San Francisquito Creek; potentially suitable habitat is not likely to persist within the project boundaries. The stickleback is known to be a year-round resident of the Santa Clara River from the confluence of the Santa Clara River and Castaic Creek to I-5, and a periodic seasonal resident of tributary streams to the Santa Clara River such as San Francisquito Creek when appropriate aquatic habitat is present due to wet year runoff or sufficient agricultural/urban runoff (San Marino Environmental Associates 1995).
Amphibians			
Spea hammondii Western spadefoot	SOC	CSC/P	**Observed;** suitable habitat. This is primarily a lowland species and is found in washes, river floodplains, alluvial fans, playas, and alkali flats, but also occurs in foothills and mountains (Stebbins 2003). This species breeds in vernal pools and other ponds and is rarely seen outside of the breeding season. Rain-pools can also be used for breeding, but need to last at least three weeks so that the young can metamorphose successfully (Jennings and Hayes 1994).
Bufo californicus Arroyo toad	FE	CSC	Limited potential to occur; potentially suitable foraging habitat, but no breeding habitat. The arroyo toad is generally found in semi-arid regions near washes or intermittent streams (Zeiner et al.. 1988). This species has highly specialized habitat requirements (Jennings and Hayes 1994). It occurs in the Santa Clara River near its confluence with San Francisquito Creek (USFWS 1994, BonTerra Consulting 2003).
Rana aurora draytonii California red-legged frog	FT	CSC	Not expected to occur; no suitable habitat. This species prefers areas with deep ponds in areas of streams that have slow water flow with emergent vegetation at the edge of the banks (Jennings and Hayes 1994). Adults feed on aquatic and terrestrial invertebrates, crustaceans, snails, worms, fish, tadpoles, and smaller frogs (Zeiner et al.. 1988). California red-legged frog occurs upstream on USFS land (USFS 2002) and is in the Piru Creek drainage (Jennings and Hayes 1994, USFWS 2000).

TABLE 2 (Continued)
SPECIAL STATUS WILDLIFE SPECIES
KNOWN TO OCCUR IN THE PROJECT REGION

Species	Status[1]		Potential for Occurrence
	USFWS	CDFG	
Reptiles			
Emmys [=*Clemmys*] *marmorata pallida* Southwestern pond turtle	SOC	CSC	Not expected to occur; no suitable habitat. This turtle inhabits streams, intermittent creeks, ponds, freshwater marshes, and lakes within woodland and scrub habitats (Stebbins 2003, Zeiner et al.. 1988). This species lays its eggs in nests that are dug into the soil in adjacent upland habitats up to 1,320 feet away from water (Jennings and Hayes 1994). The southwestern pond turtle occurs in the Santa Clara River between its confluence with San Francisquito Creek and I-5 (BonTerra Consulting 2003).
Phrynosoma coronatum Coast horned lizard (*blainvillei* or *frontale* populations)	—	CSC	**Observed;** suitable habitat. This species prefers loose friable soil for burrowing. The project site may be in an intergrade zone between the *blainvillei* and *frontale* populations of the coast horned lizard (Jennings and Hayes 1994). Both populations have the same status with the CDFG, but only the *frontale* population is listed as a SOC with the USFWS. Recent taxonomy eliminates subspecies (Stebbins 2003).
Aspidoscelis [=*Cnemidophorus*] *tigris stejnegeri* Coastal western whiptail	SOC	—	**Observed;** suitable habitat. This whiptail occurs in the coastal region of southern California south to central Baja California, Mexico (Stebbins 2003). This lizard is a moderately large, slender lizard that is most common in and around dense vegetation especially where the substrate is sandy or gravelly (Zeiner et al.. 1988). BonTerra Consulting observed this species during surveys.
Anniella pulchra pulchra Silvery legless lizard	SOC	CSC	**Observed;** no suitable habitat. This lizard occurs in the coastal region of southern California from about San Francisco Bay south to northern Baja California, Mexico, but also occurs inland to the San Joaquin Valley and the west slope of the southern Sierra Nevada (Stebbins 2003, Zeiner et al.. 1988). This is a small, secretive lizard that spends most of its life beneath the soil, under stones, logs, and debris, or within leaf litter. The silvery legless lizard inhabits areas with moist sandy soil, including dry washes, woodlands, riparian, and scrub vegetation types (Stebbins 2003).
Diadophis punctatus [=*modestus*] [San Bernardino] ringneck snake	SOC	—	May occur; potentially suitable habitat. This snake has a relatively limited distribution in coastal southern California from about Los Angeles County to San Bernardino County (Stebbins 2003). The ringneck snake is most common in open, relatively rocky areas in chaparral and grassland habitats (Zeiner et al.. 1988). This species can be difficult to detect because of its secretive behavior, but it can be found under bark, rocks, logs, and boards (Stebbins 2003).
Salvadora hexalepis virgultea Coast patch-nosed snake	SOC	CSC	May occur; potentially suitable habitat. This snake occurs from San Luis Obispo County and Kern County south to San Diego County (Zeiner et al.. 1988). This moderate-sized, active snake inhabits open sandy areas with rocky outcrops within scrub, grassland, and woodland vegetation types (Stebbins 2003). The species occurs in the Santa Clara River watershed (Jennings and Hayes 1994).
Thamnophis hammondii Two-striped garter snake	—	CSC	Not expected to occur; no suitable habitat. This snake occurs along the coast from Salinas, Monterey County, south to northwest Baja California, Mexico (Stebbins 2003). This highly aquatic snake occurs in freshwater marsh and riparian habitats with perennial water. This species occurs in the Santa Clara River watershed (Jennings and Hayes 1994).

TABLE 2 (Continued)
SPECIAL STATUS WILDLIFE SPECIES
KNOWN TO OCCUR IN THE PROJECT REGION

Species	Status[1]		Potential for Occurrence
	USFWS	CDFG	
Birds			
Circus cyaneus Northern harrier	—	CSC	May occur; suitable foraging and potentially suitable nesting habitat. This raptor is a fairly common winter resident in southern California but a very scarce and local breeder (Garrett and Dunn 1981). The northern harrier requires open habitats such as grasslands, marshlands, and agricultural fields.
Accipiter striatus Sharp-shinned hawk	—	CSC	**Observed;** suitable foraging habitat, but no suitable breeding habitat. This raptor is a fairly common winter resident in southern California and a rare summer resident in the mountains (Garrett and Dunn 1981). The sharp-shinned hawk prefers woodland habitats but can also be found in virtually any habitat as it passes through the area during the spring and fall migration.
Accipiter cooperii Cooper's hawk	—	CSC	**Observed;** suitable foraging, but a limited amount of potential nesting habitat. This raptor is an uncommon year-round resident in southern California (Garrett and Dunn 1981). The Cooper's hawk prefers woodland habitats but can also be found in virtually any habitat during migration. Typical breeding habitat in southern California consists of riparian and oak woodlands, but it also nests in ornamental woodlands provided by parks and other urban habitats.
Buteo swainsoni Swainson's hawk	SOC	ST	Limited potential to occur for foraging only; limited potentially suitable foraging habitat, but no suitable breeding habitat. This raptor is a very rare migrant along the coast of southern California (Garrett and Dunn 1981). The Swainson's hawk formerly bred along the coast in southern California, but breeding is now mostly limited to the Sacramento and San Joaquin valleys, extreme northeast California, and Mono and Inyo counties (England et al.. 1997). Typical breeding habitat consists of open habitat such as grasslands and agricultural fields with scattered groves of trees.
Buteo regalis Ferruginous hawk	SOC	CSC	May occur; limited potentially suitable foraging habitat, but no suitable breeding habitat. This raptor only occurs as a winter resident in California (Bechard and Schmutz 1995). Along the coast of southern California it is rare to uncommon during the winter season (Garrett and Dunn 1981). The ferruginous hawk occupies open, dry habitats such as grasslands, shrublands, rangelands, and, in winter, plowed agricultural fields.
Aquila chrysaetos Golden eagle	—	CSC/FP	May occur; suitable foraging habitat but no suitable breeding habitat. This raptor is an uncommon year-round resident in southern California (Garrett and Dunn 1981). The golden eagle prefers open habitats such as grasslands, rangelands, and agricultural fields. It typically nests on rocky cliff ledges or trees, but also rarely on the ground (Kaufman 1996, Baicich and Harrison 1998).
Falco columbarius Merlin	—	CSC	May occur; potentially suitable foraging habitat, but no suitable breeding habitat. This raptor occurs in California only during migration and as a winter resident (Grinnell and Miller 1944, Sodhi et al.. 1993). It is an uncommon fall migrant and rare winter resident in southern California (Garrett and Dunn 1981). It prefers open to semi-open habitat for breeding and foraging (Sodhi et al.. 1993).

TABLE 2 (Continued)
SPECIAL STATUS WILDLIFE SPECIES
KNOWN TO OCCUR IN THE PROJECT REGION

Species	Status[1]		Potential for Occurrence
	USFWS	CDFG	
Falco mexicanus Prairie falcon	—	CSC	May occur; potentially suitable foraging habitat, but no suitable breeding habitat. This raptor is an uncommon year-round resident in the interior of southern California (Garrett and Dunn 1981). The prairie falcon is an increasingly scarce winter resident and very rare summer resident along the coast of southern California (Unitt 1984, Lehman 1994, Hamilton and Willick 1996). This falcon prefers dry open habitats such as grasslands, rangelands, and agricultural fields.
Coccyzus americanus occidentalis Western yellow-billed cuckoo	FC	SE	Not expected to occur; no suitable habitat. California's population was once estimated to be over 15,000 pairs, but in less than a hundred years it has declined to less than 30 pairs (Hughes 1999). Along the coast, breeding cuckoos persist along the Santa Ana River, Riverside County, and perhaps the San Luis Rey River, San Diego County (Zeiner et al.. 1990). This species formerly nested in the Santa Clara River until the 1970s, and there has not been a documented breeder there since that time (CDFG and USACE 1999). Two yellow-billed cuckoos observed in the Santa Clara River near the McBean Parkway bridge in 1998 may have been breeders, although the observer considered them to be migrants (Guthrie 1996). The western yellow-billed cuckoo requires broad areas of old-growth riparian habitats dominated by willows and cottonwoods with dense understory vegetation.
Asio flammeus Short-eared owl	—	CSC	Not expected to occur; no suitable foraging or breeding habitat. This owl is an uncommon and local winter resident to coastal habitats of southern California (Garrett and Dunn 1981). In Santa Barbara County, this species is considered to be a rare fall transient and winter resident to areas with extensive grassland and marsh habitats, and to a lesser degree to agricultural habitats (Lehman 1994).
Asio otus Long-eared owl	—	CSC	Not expected to occur; no suitable foraging or breeding habitat. This owl was once considered to be common and even a locally abundant resident in California, although a population decline was noted by the 1940s (Grinnell and Miller 1944). This species is now rare along the southern California coast (Garrett and Dunn 1981, Unitt 1984, Lehman 1994, Hamilton and Willick 1996). Nesting occurs in dense trees such as oaks and willows, where this species occupies stick nests of other species, particularly raptors and corvids (Bloom 1999).
Athene cunicularia Burrowing owl	SOC	CSC	Limited potential to occur; marginal foraging or breeding habitat. This owl was once considered to be a common to locally abundant resident in California, but was already declining by the 1940s (Grinnell and Miller 1944). It is now a scarce year-round resident along the coast of southern California with some influx of birds from the north during the winter (Garrett and Dunn 1981). This ground dwelling owl is active day and night and hunts over grasslands and other open habitats (Haug et al.. 1993). Breeding habitat requires the presence of burrows.

TABLE 2 (Continued)
SPECIAL STATUS WILDLIFE SPECIES
KNOWN TO OCCUR IN THE PROJECT REGION

Species	Status[1]		Potential for Occurrence
	USFWS	CDFG	
Empidonax traillii extimus Southwestern willow flycatcher	FE	SE [3]	Not expected to occur; no suitable habitat. This flycatcher's breeding range includes southern California, Arizona, New Mexico, western Texas and extreme southern parts of Nevada and Utah (USFWS 1993). Although formerly considered to be a common summer resident, it was almost eliminated as a breeder in southern California by the early 1980s (Garrett and Dunn 1981). This species breeds in riparian habitats along rivers, streams, or other wetlands where dense growths of willows, mule fat, or even tamarisk (*Tamarix* sp.) are present, often with a scattered overstory of cottonwood trees (USFWS 1995). A pair reportedly nested in the Santa Clara River near Valencia in 1995 (CDFG and USACE 1999).
Lanius ludovicianus Loggerhead shrike	SOC	CSC	**Observed;** suitable foraging and breeding habitat. This shrike was widely distributed across North America but has declined throughout most of its range in recent decades (Yosef 1996). It was considered to be a fairly common year-round resident in southern California (Garrett and Dunn 1981), but has recently shown declines in its California population (Small 1994, Hamilton and Willick 1996). This species inhabits grasslands and other open habitats (Yosef 1996).
Vireo bellii pusillus Least Bell's vireo	FE	SE	Not expected to occur; no suitable habitat. This vireo was formerly considered to be a common breeder in riparian habitats throughout the Central Valley and other low elevation river systems in California and Baja California, Mexico (Franzreb 1989). It is now considered to be a rare and local summer resident (Garrett and Dunn 1981), although there have been some regional population increases (Hamilton and Willick 1996). The least Bell's vireo breeds primarily in riparian habitats dominated by willows with dense understory vegetation (USFWS 1986). A dense shrub layer two to ten feet above ground is the most important habitat characteristic for this species (Goldwasser 1981, Franzreb 1989). CDFG and USACE (1999) report the occurrences of individual least Bell's vireo in the Santa Clara River between its confluence with Castaic Creek and Interstate 5. Guthrie (1996) reports the occurrence of a nesting pair in the Santa Clara River in 1996.
Eremophila alpestris actia California horned lark	—	CSC	May occur; potentially suitable habitat. This lark is found along the coast of northern California, in the San Joaquin Valley, in the Coast Ranges south of San Francisco Bay, and in southern California west of the deserts (Grinnell and Miller 1944). The horned lark occurs from Alaska and the Canadian arctic south to Mexico, with the northern populations strongly migratory and the southern populations primarily year-round residents (Beason 1995). Along the southern California coast, Garrett and Dunn (1981) found this species to be a common migrant and winter resident that remains to breed locally. This species requires open habitats such as grasslands or agricultural fields that support little to no vegetation or short vegetation.

TABLE 2 (Continued)
SPECIAL STATUS WILDLIFE SPECIES
KNOWN TO OCCUR IN THE PROJECT REGION

Species	Status[1]		Potential for Occurrence
	USFWS	CDFG	
Campylorhynchus brunneicapillus Coastal cactus wren	—	CSC	Not expected to occur; no suitable habitat. This wren is a very local resident along the coast of southern California from San Diego County north to Ventura County (Garrett and Dunn 1981). Except for the Banning Pass west of Palm Springs, the coastal population of cactus wrens appears to be isolated from interior populations. Rea and Weaver (1990) proposed that the cactus wrens from San Diego and Orange counties form a distinct subspecies, the San Diego cactus wren (*C. b. sandiegensis*). This proposed taxonomy has been used in the CDFG's Species of Concern list. However, the taxonomic status of cactus wrens in the southwestern U.S. is considered uncertain by others (Proudfoot et al.. 2000). The coastal cactus wren inhabits coastal sage scrub and alluvial sage scrub habitats that have sufficient amounts prickly pear cactus (*Opuntia* sp.) and/or cholla (*Opuntia* sp.).
Polioptila californica californcia Coastal California gnatcatcher	FT	CSC	Not expected to occur; not observed during focused surveys. This gnatcatcher is considered to be an uncommon and local year-round resident from the coastal slopes of the San Gabriel Mountains and western Riverside County south through San Diego County (Garrett and Dunn 1981). The current range is generally within San Diego, Orange, Los Angeles, and western Riverside counties; however, there are recent records from the northern and western parts of its historical range: Moorpark, Ventura County (BonTerra Consulting 2003), and Santa Clarita and Plum Canyon in Los Angeles County. The coastal California gnatcatcher is an obligate resident of Diegan, Riversidian, and Venturan subassociations of coastal sage scrub (Atwood and Bontrager 2001). It typically occurs at elevations below 820 feet al.ong the coast and below 1,800 feet inland (Atwood and Bolsinger 1992).
Dendroica petechia brewsteri Yellow warbler	—	CSC	Not expected to occur; no suitable breeding habitat (note that migrant yellow warblers are expected to occur). The yellow warbler is one of the most widespread and abundant warblers in North America, but populations in the west have been affected by overgrazing of riparian habitats. The breeding range of this subspecies is along the Pacific coast from northwestern Washington south to western Baja California, Mexico (Dunn and Garrett 1997). Breeding habitat for this subspecies consists of riparian woodlands dominated by willows (Dunn and Garrett 1997).
Icteria virens Yellow-breasted chat	—	CSC	Not expected to occur; no suitable breeding habitat. A widespread species in North America that is declining throughout most of its range (Dunn and Garrett 1997). This large warbler was once a fairly common summer resident in riparian woodlands throughout California but has declined, especially in southern California (Remsen 1978). Breeding habitat typically consists of low dense vegetation without a closed tree canopy (Eckerle and Thompson 2001).

TABLE 2 (Continued)
SPECIAL STATUS WILDLIFE SPECIES
KNOWN TO OCCUR IN THE PROJECT REGION

Species	Status[1]		Potential for Occurrence
	USFWS	CDFG	
Piranga rubra Summer tanager	—	CSC	Not expected to occur; no suitable breeding habitat. This tanager is an uncommon summer resident along the Colorado River and locally elsewhere in the desert riparian habitats of southern California (Garrett and Dunn 1981). It is primarily a rare migrant and winter visitor to the coast of southern California (Garrett and Dunn 1981, Lehman 1994). Breeding habitat for the summer tanager in the west consists of low elevation riparian woodlands dominated by willows and cottonwoods (Robinson 1996). In particular, older dense stands of willows and cottonwoods along rivers and streams provide suitable nesting habitat. There are historical records for the Santa Clara River (CDFG and USACE 1999) that probably pertain to migrants rather than breeding birds. Parts of the Santa Clara River provide potentially suitable breeding habitat for this species.
Aimophila ruficeps canescens Southern California rufous-crowned sparrow	SOC	CSC	**Observed;** suitable habitat. This sparrow is a year-round resident on the coastal slopes of the Transverse and Peninsular mountain ranges from northwest Los Angeles County south to northwest Baja California, Mexico (Collins 1999). The southern California rufous-crowned sparrow prefers slopes, often steep and rocky, with sparse brush, especially coastal sage scrub species, intermixed with grasses (Garrett and Dunn 1981). It is a difficult bird to observe due to its shy, secretive habits and the habitat it occupies (Collins 1999).
Ammodramus savannarum Grasshopper sparrow	SOC	CSC	May occur; potentially suitable habitat. This sparrow is an uncommon and very local summer resident along the coastal slope of southern California (Garrett and Dunn 1981). This is an inconspicuous bird of grasslands with an insect-like song; it is declining throughout North America due to loss of habitat and inhibition of fire (Vickery 1996). In the southwestern part of its breeding range, this sparrow prefers more lush areas with some shrub cover in arid grasslands (Vickery 1996).
Amphispiza belli belli Bell's sage sparrow	SOC	CSC	**Observed;** suitable habitat. This sparrow is an uncommon to common local resident in the Coast Ranges of California from Marin and Trinity counties south through western California to north-central Baja California, Mexico (Martin and Carlson 1998). In southern California, this sparrow is an uncommon to fairly common local resident in the interior foothills (Garrett and Dunn 1981). The Bell's sage sparrow breeds in chaparral and coastal sage scrub habitats (Unitt 1984, Lehman 1994, Hamilton and Willick 1996).
Agelaius tricolor Tricolored blackbird	SOC	CSC	Not expected to occur; marginal foraging habitat, but no suitable breeding habitat. Primarily a California species, the tricolored blackbird is highly gregarious and nests in dense colonies that have been estimated to be more than 200,000 birds (Beedy and Hamilton 1999). In southern California, this blackbird is generally a local resident where it occurs (Garrett and Dunn 1981). Formerly, breeding colonies were most often found in freshwater marshes dominated by cattails or bulrushes, but now breeding habitat includes diverse upland and agricultural areas (Beedy and Hamilton 1999).

TABLE 2 (Continued)
SPECIAL STATUS WILDLIFE SPECIES
KNOWN TO OCCUR IN THE PROJECT REGION

Species	Status[1]		Potential for Occurrence
	USFWS	CDFG	
Mammals			
Antrozus pallidus Pallid bat	—	CSC	May occur; potentially suitable foraging habitat but no roosting habitat. The pallid bat is considered to be a locally common year-round resident at low elevations throughout most of California (Zeiner et al.. 1990). It occurs in a wide variety of habitats including grasslands, shrublands, and woodlands, but is most common in open habitats with rocky areas for roosting (Zeiner et al.. 1990). The foraging behavior of this large bat is unique in that it forages primarily on the ground where it takes large insects such as flightless beetles, crickets, scorpions, and grasshoppers (Whitaker 1980). Roosting habitat consists of caves, crevices, mines, and occasionally hollow trees and buildings (Whitaker 1980, Zeiner et al.. 1990).
Corynorhinus townsendii pallescens Pale big-eared bat	SOC	CSC	May occur for foraging only; potentially suitable foraging habitat, but no suitable roosting habitat. The pale big-eared bat is one of two subspecies of the Townsend's big-eared bat that occurs throughout most of California (Williams 1986). The Townsend's big-eared bat, including both subspecies, is considered to be an uncommon year-round resident throughout much of California (Zeiner et al.. 1990). The pale big-eared bat occurs in the southern part of the state and occupies a variety of habitats including oak woodlands, arid deserts, grasslands, and high-elevation forests and meadows (Hall 1981). Known roosting sites in California include mine tunnels, limestone caves, lava tubes, buildings, and other man-made structures (Williams 1986).
Euderma maculatum Spotted bat	SOC	CSC	May occur; potentially suitable foraging and roosting habitat. The spotted bat has been found at only a few locations, mostly in the foothills, mountains, and desert regions of southern California (Zeiner et al.. 1990). Its habits are poorly known and it may be a year-round resident or migratory (Zeiner et al.. 1990). Roosting habitat is provided by rocky crevices in canyons or on cliffs (Whitaker 1980, Zeiner et al.. 1990). The spotted bat preys primarily on moths, but there is also some evidence that beetles are taken (Whitaker 1980, Zeiner et al.. 1990).
Eumops perotis californicus California mastiff bat	SOC	CSC	May occur for foraging only; potentially suitable foraging habitat, but no suitable roosting habitat. This bat is considered to be an uncommon year-round resident at low elevations in California (Williams 1986, Zeiner et al.. 1990). This, the largest bat in North America, requires relatively large rock crevices that provide at least a ten-foot free fall below for initiating flight (Whitaker 1980, Williams 1986). This species forages over far distances from roost sites and can forage as high as 2,000 feet above ground (Williams 1986). It preys primarily on moths, but also crickets and grasshoppers (Whitaker 1980, Zeiner et al.. 1990). The calls of this bat are very loud and can be heard from more than 1,000 feet away (Whitaker 1980).

TABLE 2 (Continued)
SPECIAL STATUS WILDLIFE SPECIES
KNOWN TO OCCUR IN THE PROJECT REGION

Species	Status[1]		Potential for Occurrence
	USFWS	CDFG	
Lepus californicus bennettii San Diego black-tailed jackrabbit	—	CSC	**Observed;** suitable habitat. The San Diego black-tailed jackrabbit is restricted to the coastal slopes of southern California from Santa Barbara County to northwest Baja California, Mexico (Hall and Kelson 1959). Although this species is considered widespread and common, the subspecies has declined due to loss of habitat. This species is diurnal but generally more active at dawn and dusk or under low-light conditions (e.g., cloudy) (Whitaker 1980, Zeiner et al.. 1990).
Onychomys torridus ramona Southern grasshopper mouse	SOC	CSC	May occur; potentially suitable habitat. This mouse occurs along the coast of southern California from near Mint Canyon, Los Angeles County south through San Diego County (Hall and Kelson 1959). It occurs in a variety of habitats including coastal sage scrub, chaparral, and riparian habitats (Zeiner et al.. 1990). This species is a predator that feeds almost entirely on arthropods, especially scorpions and orthopteran insects (Zeiner et al.. 1990).
Neotoma lepida intermedia San Diego desert woodrat	—	CSC	May occur; potentially suitable habitat. The San Diego desert woodrat occurs along the coastal slopes of southern California from San Luis Obispo County to northwest Baja California, Mexico (Hall and Kelson 1959). They build and occupy stick homes that are situated over a burrow, rock crevice, or base of tree or bush (Zeiner et al.. 1990). These distinctive homes provide protection and food storage (Whitaker 1980).

[1] **Status Definitions**

USFWS

FE: Federally listed as Endangered
FT: Federally listed as Threatened
FC: Candidate Species for Listing as Threatened or Endangered
SOC: Species of Concern

CDFG

SE: State-listed as Endangered
ST: State-listed as Threatened
FP: Fully Protected
P: Protected
SA: Special Animal
CSC: Species of Special Concern

[2] The Santa Ana sucker population is thought to be introduced in the Santa Clara River watershed.
[3] The state listing included all subspecies of willow flycatcher that breed in California.

Fish

Santa Ana Sucker (*Catostomus santaannae*)

Santa Ana sucker is a federally listed Threatened species (outside of the Santa Clara River watershed) and is a California Species of Special Concern. The Santa Ana sucker prefers clear, cool, rocky, and gravelly streams where it feeds on algae, diatoms, detritus, and small insect larvae. The historic range of this species includes low-elevation streams in the Los Angeles, San Gabriel, and Santa Ana river systems. Extant native populations appear to be concentrated within the east, north, and west forks of the San Gabriel River (including Cattle Canyon and Bear Creek), and Big Tujunga Creek. Introduced populations of the Santa Ana sucker are present in the Santa Clara River, Sespe Creek, Piru Creek, and San Francisquito Creek (USFWS 2004). It has a patchy distribution along the Santa Clara River. Persistent surface water was not observed by Rincon Consultants, Inc. (2000b) or during other project surveys. The morphology of the floodway indicates that inundation within San Francisquito Canyon consists of relatively rapid flows of relatively short duration. The Santa Ana sucker is expected to occur when water is flowing in San Francisquito Creek.

Unarmored Threespine Stickleback (*Gasterosteus aculeatus williamsoni*)

Unarmored threespine stickleback species is a federally listed Endangered, state-listed Endangered, and a CDFG Fully Protected species. The stickleback occurs in weedy permanent pools or backwaters, and in slow moving water along the margins of the stream. It primarily occurs in cool and clear water with mud or sand substrates. The unarmored threespine stickleback was once abundant throughout the Los Angeles Basin and is now only known in the upper Santa Clara River system and in San Antonio Creek in northern Santa Barbara County. In the Santa Clara River in Los Angeles County, this species is found from Soledad Canyon downstream to the Ventura County line, whenever there is surface flow. It is also known from Bouquet Creek. In addition, the species is a periodic seasonal resident of San Francisquito Creek, a tributary to the Santa Clara River, particularly upstream from the project site near the confluence with Clearwater Canyon Creek near the LADWP Power Plant No. 1 (USFS 2002). The morphology of the floodway indicates that inundation within San Francisquito Canyon consists of relatively rapid flows of relatively short duration. The unarmored threespine stickleback is expected to occur when water is flowing in San Francisquito Creek.

Amphibians

Arroyo Toad (*Bufo californicus*)

Arroyo toad is a federally listed Endangered species and a California Species of Special Concern. This toad only occurs in streams of southwestern California and northwestern Baja California, Mexico. In California, it primarily occurs along the Coast Ranges from San Luis Obispo County south to San Diego County, but also occurs at a few locations on the western

edge of the desert. The arroyo toad is generally found in semi-arid regions near washes or intermittent streams (Zeiner *et al.*. 1988). This species has highly specialized habitat requirements (Jennings and Hayes 1994). It requires breeding pools within 330 feet of juvenile and adult habitat, which consists of shoreline with stable, sandy terraces. The arroyo toad is known to be present along Castaic Creek, both above and below the dam at Castaic Lake, on LADWP land, and in the Angeles National Forest. In 1994, this species was observed in the Santa Clara River, approximately 750 to 1,000 feet east of I-5 and in 2003 two adult male arroyo toads were observed in the Santa Clara River at its confluence with San Francisquito Creek (BonTerra Consulting 2003). This record is the nearest known occurrence of arroyo toad to the project site and is located several miles south of the project site. White and Leatherman (2000) performed an arroyo toad habitat assessment at the adjacent Tesoro del Valle site and adjacent areas (including the proposed project site) in 2000 where they determined the best potential arroyo toad habitat within San Francisquito Creek occurs upstream near LADWP Power Plant No. 1. This species has a limited potential to occur on the project site due to the presence of potentially suitable foraging habitat, but is not expected to breed on the project site due to the absence of potential breeding habitat.

California Red-legged Frog (*Rana aurora draytonii*)

California red-legged frog is a federally listed Threatened and a California Species of Special Concern. This species requires riparian areas with deep ponds, or slow-moving waters that support dense stands of emergent vegetation such as cattails at the edge of the banks. Adults feed primarily on aquatic and terrestrial invertebrates. The nearest extant population of this species is located upstream within San Francisquito Canyon between the LADWP Power Plant No. 2 and the historic location of the Saint Francis Dam (USFS 2002). Robert Fisher reported that this population numbered approximately 200 during surveys performed in the Summer of 2002 (after the Copper Fire). Other historic records for this species occur in the Santa Clara River watersheds in Soledad and Placerita canyons. The California red-legged frog has not been observed in the Santa Clara River since the 1970s, despite recent survey efforts in support of permitting and permit compliance under the Natural River Management Plan. Focused surveys performed by San Marino Environmental Associates included the proposed project site; however, no tadpoles or adult red-legged frogs were located. The project site does not provide habitat with potential to support the California red-legged frog; therefore, the species is not expected to occur.

Birds

Swainson's Hawk (*Buteo swainsoni*)

Swainson's hawk is a federally listed Species of Concern and a state-listed Threatened species. There are recent observations of this raptor from the Santa Clara Valley and from the project site in 1999. These birds are all considered to have been transients or migrants passing

through the region. The Swainson's hawk formerly bred along the coast in southern California, but breeding is now mostly limited to the Sacramento and San Joaquin valleys, extreme northeast California, and Mono and Inyo counties (England *et al.* 1997). There are recent breeding records for this raptor from the Antelope Valley. Typical breeding habitat consists of open habitat such as grasslands and agricultural fields with scattered groves of trees. Prey consists of small mammals and reptiles in early summer and large insects at other seasons. Rincon (2000b) reported observing a single bird, possibly foraging, on the project site in 1999. The project site provides a limited amount of suitable foraging habitat but no suitable breeding habitat for the Swainson's hawk. The Swainson's hawk is not likely to occur as a breeding resident on the project site, but has limited potential to occur while foraging.

Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*)

Western yellow-billed cuckoo is a federal Candidate for listing as Threatened or Endangered and a state-listed Endangered species. California's population was once estimated to be over 15,000 pairs, but in less than a hundred years it has declined to less than 30 pairs (Hughes 1999). Along the coast, breeding cuckoos persist along the Santa Ana River in Riverside County, and perhaps the San Luis Rey River in San Diego County. This species formerly nested in the Santa Clara River until the 1970s and it has not been a documented breeder here since that time (CDFG and USACE 1999). Two yellow-billed cuckoos observed in the Santa Clara River near the McBean Parkway bridge in 1998 may have been breeders, although the observer considered them to be migrants (Guthrie 1996). The western yellow-billed cuckoo requires broad areas of old-growth riparian habitats dominated by willows and cottonwoods with dense understory vegetation. The project site generally lacks potentially suitable breeding habitat for this species. Based on the absence of potentially suitable habitat, the western yellow-billed cuckoo is not expected to occur on the project site.

Southwestern Willow Flycatcher (*Empidonax traillii extimus*)

Southwestern willow flycatcher is a federally and state-listed Endangered species. This flycatcher's breeding range includes southern California, Arizona, New Mexico, western Texas and extreme southern parts of Nevada and Utah (USFWS 1993). Although formerly considered to be a common summer resident, it was almost eliminated as a breeder in southern California by the early 1980s (Garrett and Dunn 1981). This species breeds in riparian habitats along rivers, streams, or other wetlands where dense growths of willows, mule fat, or even tamarisk (*Tamarix* sp.) are present, often with a scattered overstory of cottonwood trees (USFWS 1995). A pair reportedly nested in the Santa Clara River near Valencia in 1995; however, CDFG and USACE (1999) report that all observations in that area since then have been non-breeding transients and migrants. The project site generally lacks potentially suitable breeding habitat for this species. Based on the absence of potentially suitable habitat, the southwestern willow flycatcher is not expected to occur.

Least Bell's Vireo (*Vireo bellii pusillus*)

Least Bell's vireo is a federally and state-listed Endangered species. This vireo was formerly considered to be a common breeder in riparian habitats throughout the Central Valley and other low elevation river systems in California and Baja California, Mexico (Franzreb 1989). It is now considered to be a rare and local summer resident, although there have been some regional population increases (Garrett and Dunn 1981; Hamilton and Willick 1996). Individual least Bell's vireo have been observed in the Santa Clara River between its confluence with Castaic Creek and I-5 (CDFG and USACE 1999) and at least one pair nested in the Santa Clara River in the project region in 1996 (Guthrie 1996). The least Bell's vireo breeds primarily in riparian habitats dominated by willows with dense understory vegetation (USFWS 1986). A dense shrub layer two to ten feet above ground is the most important habitat characteristic for this species (Goldwasser 1981; Franzreb 1989). The project site generally lacks potentially suitable habitat for the least Bell's vireo; therefore, least Bell's vireo is not expected to occur.

Coastal California Gnatcatcher (*Polioptila californica californica*)

Coastal California gnatcatcher is a federally listed Threatened and a California Species of Special Concern. This gnatcatcher is considered to be an uncommon and local year-round resident from the coastal slopes of the San Gabriel Mountains and western Riverside County south through San Diego County (Garrett and Dunn 1981). The current range is generally within the counties of San Diego, Orange, Los Angeles, and western Riverside; however, there are recent records from the northern and western parts of its historical range: Moorpark, Ventura County (BonTerra Consulting 2003) and Santa Clarita and Plum Canyon in Los Angeles County. The coastal California gnatcatcher is an obligate resident of Diegan, Riversidian, and Venturan subassociations of coastal sage scrub (Atwood and Bontrager 2001). It typically occurs at elevations below 820 feet al.ong the coast and below 1,800 feet inland (Atwood and Bolsinger 1992). The Copper Fire in 2002 burned much of the upland sage scrub vegetation on the project site, but the alluvial sage scrub habitats remained intact during the February 24, 2004 site visit conducted by BonTerra Consulting Senior Biologist Brian Daniels. The coastal sage scrub and alluvial sage scrub vegetation on the project site does provide habitat with potential to support the coastal California gnatcatcher. However, this species was not observed during 2004 and 2005 focused surveys.

V. IMPACTS

The impact section is divided into two sections: Proposed Development Footprint; and Potential Future San Francisquito Canyon Road Expansion and Equestrian Trails. The proposed development and alignment of the potential future San Francisquito Canyon Road expansion is illustrated in Attachment A, Exhibit 6. The estimated project-related impacts to vegetation types that occur on the site, including SEA No. 19, are summarized in 3.

The following sections discuss the proposed development footprint direct and indirect impacts, and then the potential road expansion and trail construction direct and indirect impacts.

Proposed Development Footprint

Direct Impacts

The direct impacts for the proposed development include the impacts from the construction of the graded pads and roadways, as well as all future fuel modification zones. All fuel modification is considered a direct impact to biological resources.

Implementation of the proposed project would impact the following special status vegetation types: coastal sage scrub, mixed chaparral/holly-leaf cherry woodland, and alluvial sage scrub as shown on Table 3. In addition to the impacts listed in Table 3, there is the potential for additional temporary impacts to vegetation within the cherry woodland associated with the re-abandonment of an old oil well, as discussed in Section 6.1, Environmental Safety of the Draft EIR. It is impossible to know how much vegetation would be impacted through this abandonment process, but any impact would be significant prior to mitigation.

Impacts on these vegetation types would be considered significant because these vegetation types are reduced within their range and/or have potential to support special status plant and wildlife species. This impact would be reduced to less than significant with implementation of Mitigation Measure Bio-1.

Implementation of the proposed project would also impact the following vegetation types: ruderal, ornamental, non-native grassland/chamise chaparral, and non-native grassland. Impacts on these vegetation types would be considered less than significant because these vegetation types are considered to have relatively low biological value and are relatively common throughout the region. Therefore, no mitigation would be required.

TABLE 3
PROJECT IMPACTS ON VEGETATION TYPES

Vegetation Type	Existing Vegetation (acres)	Total Impact (acres)
Ruderal	15.2	0.4
Ornamental	1.0	0.8
Chamise Chaparral	4.2	0.0
Non-Native Grassland/Chamise Chaparral	3.3	1.0
Coast Live Oak Woodland[1]	3.2	0.0
Coastal Sage Scrub	2.0	2.0
Wash	14.2	0.0
Mixed Chaparral/ Holly-Leaf Cherry Woodland	10.0	0.8
Non-Native Grassland	72.0	47.7[2]
Alluvial Sage Scrub	65.9	4.7
Total	**191.0**	**57.4**

[1] Individual oak trees may be impacted by project implementation.
[2] 0.05-acre of this impact is in SEA No. 19, which includes permanent impacts from the levee and from the drainage structure.

There would be no impact on the following vegetation types: chamise chaparral, coast live oak woodland, and wash. Therefore, no mitigation would be required.

The project site contains approximately 0.93-acre of jurisdictional non-wetland "waters of the U.S.". Development on the project site would impact approximately 0.17-acre of non-wetland intermittent drainage under the jurisdiction of the USACE and the CDFG, as illustrated in Exhibit 5 in Attachment A. This loss of any USACE or CDFG jurisdiction would represent a potentially significant impact. This impact would be mitigated through implementation of Mitigation Measure Bio-2.

Regarding the flood control levee, the 15-foot maintenance road and four horizontal feet of above ground "free board" area would be the only visible portions of the structure. This area is considered to be a permanent impact to the SEA No. 19 because vegetation and wildlife along this strip would be permanently altered; permanent impacts to SEA No. 19 due to levee construction would total 0.02-acre of non-native grassland, which is included in Table 3 and shown on Attachment A, Exhibit 8. Permanent impacts to the SEA No. 19 would total 0.05-acre, which includes impacts from the levee and from the drainage structure.

The majority of the levee system would be below ground and would not be visible or permanently impact vegetation or wildlife. Therefore, the approximately 91 horizontal feet of underground levee and backcut excavation impacts are considered temporary impacts. Temporary impacts to SEA No. 19 due to levee construction would total 2.22 acres (of which 2.08 acres is non-native grassland), and temporary impacts outside the SEA due to levee construction would total 0.16-acre. Upon completion of the levee system, the excavated soil would be filled into the trench and returned to existing elevations and the impacted area would be reseeded with native plant material appropriate for the area (see Mitigation Measure Bio-17).

Special Status Species and Habitats

Plants

Focused plant surveys were conducted in 2004 and 2005. The results of these surveys will be used to either avoid the species through project design or mitigate for the loss of the species through a Mitigation Program consistent with the terms and conditions of Section 7 consultation with the USACE.

The following federally or state-listed Endangered plant species: Nevin's barberry, San Fernando Valley spineflower, slender-horned spineflower, Santa Susana tarplant, spreading navarettia, and California orcutt grass would not be impacted by implementation of the proposed project because these species are not expected to occur within the project impact area either due to lack of suitable habitat or because they were absent during focused surveys. There would be no impact on these species and no mitigation would be required (see Table 1). Braunton's milk-vetch was not observed during focused surveys. However, Braunton's milk-

vetch is a plant that germinates following soil disturbance or fire. Therefore, it has a limited potential to occur on the project site. Any impact on this species would be considered significant. This impact would be reduced to less than significant with implementation of Mitigation Measure Bio-3.

Slender Mariposa Lily (*Calochortus clavatus* var. *gracilis*)

Slender mariposa lily is a CNPS List 1B species. Slender mariposa lily is known to hybridize with a more common subspecies, club-haired mariposa lily (*Calochortus clavatus* var. *clavatus*). The lilies observed on the project site had characteristics of both slender mariposa lily and club-haired mariposa lily, and were likely intermediate between these two varieties. Representative voucher specimens were collected and will be deposited at Rancho Santa Ana Botanical Garden Herbarium. A total of approximately 317 individuals were observed on the project site during 2005 surveys. Attachment A, Exhibits 4 and 6, show the locations of the slender mariposa lilies observed on the project site during 2005 surveys, some of which are located within the project impact area. Any impact on this species would be considered significant. This impact would be reduced to less than significant with implementation of Mitigation Measure Bio-4.

The following CNPS-listed plant species: Greata's aster, Plummer's mariposa lily, Los Angeles sunflower, mesa horkelia, Southern California black walnut, Davidson's bush mallow, short-joint beavertail, and rayless ragwort would not be impacted by implementation of the proposed project because these species are not expected to occur within the project impact area either due to lack of suitable habitat or because they were absent during focused surveys. There would be no impact on these species and no mitigation would be required (see Table 1).

The following CNPS List 3 or CNPS List 4 plant species: Peirson's morning glory, Palmer's grapplinghook, and vernal barley would have some potential to be impacted by implementation of the proposed project because these species occur or have limited potential to occur within the proposed impact area (see Table 1). Impacts to these species would be adverse, but would not be considered significant because these species are relatively common in the region and due to the limited amount of habitat impacted by the project relative to the amount of habitat available in the project region.

Wildlife

The following federally or state-listed Threatened and/or Endangered wildlife species: Santa Ana sucker, unarmored threespine stickleback, arroyo toad, California red-legged frog, coastal California gnatcatcher, western yellow-billed cuckoo, southwestern willow flycatcher, and least Bell's vireo would not be impacted by implementation of the proposed project because these species are not expected to breed within the project impact area due to lack of suitable habitat or lack of observation during focused surveys. There would be no direct impact on the breeding habitat of these species. Indirect impacts on these species are addressed under Urban

Pollutants and the impact would be further reduced by implementation of Mitigation Measure Bio-6. Three of these species, the Santa Ana Sucker, unarmored threespine stickleback and arroyo toad, have potential to move through the project site during or after periods of inundation. The proposed project would not impact the hydrology of San Francisquito Creek; therefore, the movement of these species would not be expected to be impacted. Assuming project design features avoid impacts on the creek, no mitigation would be required.

The following state-listed Species of Special Concern or federally listed Species of Concern: arroyo chub, southwestern pond turtle, two-striped garter snake, short-eared owl, long-eared owl, coastal cactus wren, yellow warbler, yellow breasted chat, summer tanager, and tricolored blackbird would not be impacted by implementation of the proposed project because these species are not expected to occur within the project impact area due to lack of suitable habitat. There would be no impact on these species and no mitigation would be required. Although there is no suitable breeding habitat, the arroyo chub has potential to move through the project site during periods of inundation. The proposed project would not impact the hydrology of San Francisquito Creek; therefore, the movement of this species would not be expected to be impacted. Therefore, no mitigation would be required.

The following state-listed Species of Special Concern or federally listed Species of Concern: silvery legless lizard, northern harrier, sharp-shinned hawk, Cooper's hawk, ferruginous hawk, golden eagle, merlin, prairie falcon, burrowing owl, California horned lark, southern California rufous-crowned sparrow, grasshopper sparrow, Bell's sage sparrow, pallid bat, pale big-eared bat, spotted bat, California mastiff bat, San Diego black-tailed jackrabbit, southern grasshopper mouse, and San Diego desert woodrat would have potential to be impacted by implementation of the proposed project because these species occur within the proposed impact area and/or suitable habitat occurs within the proposed impact area and the species is known to occur within the project vicinity (see Table 2). Impacts to these species would be potentially adverse, but would not be considered significant because these species are relatively common in the region and due to the limited amount of habitat impacted by the project relative to the amount of habitat available in the project region.

The following state-listed Threatened species: Swainson's hawk would have potential to be impacted by implementation of the proposed project because this species may forage within the proposed impact area (see Table 2). Impacts to this species would be potentially adverse, but would not be considered significant, because this species would only be expected to use the habitat as a rare migrant and there is similar habitat available in the project vicinity. Therefore, impacts on this species would be less than significant and no mitigation would be required.

The western spadefoot, a federally listed Species of Concern and a California Species of Special Concern, was observed at two localities on the project site during 2005 focused surveys. A small, temporary pool is located at the southwestern boundary of the project site and retained sufficient rainfall for the western spadefoot to successfully breed. Several hundred

tadpoles were initially observed in the pool on the April 13, 2005 survey. The second pool is located near the center of the project site and lies within the natural floodplain along the western bank of the creek. Several hundred western spadefoot tadpoles were initially observed in this pool on the April 13, 2005 survey as well. Subsequent surveys detected fresh egg masses and various developmental stages of tadpoles indicating repeated breeding had occurred within both pools. No attempt was made to quantify the total number of tadpoles present. Each of the pond locations would be located within or adjacent to the graded footprint for the project (see Attachment A, Exhibit 6). In addition, although no adults were observed during the surveys, they may occupy suitable habitat elsewhere on the project site. Impacts to the western spadefoot would be significant prior to mitigation. Mitigation for impacts is presented in Mitigation Measure Bio-5.

The following state-listed Species of Special Concern or federally listed Species of Concern: coast horned lizard, coastal western whiptail, [San Bernardino] ringneck snake, coast patch-nosed snake, and loggerhead shrike would have potential to be impacted by implementation of the proposed project because these species occur within the proposed impact area and/or suitable habitat occurs within the proposed impact area and the species is known to occur within the project vicinity (see Table 2). Impacts to these species would be potentially significant, but would be mitigable to below a level of significance. Implementation of Mitigation Measure Bio-6 would avoid and/or minimize impacts on amphibian and reptile species through monitoring and salvage (i.e., capture and relocation to appropriate open space areas on the site) by a qualified biologist during grubbing and grading activities (see Section VI). Implementation of Mitigation Measure Bio-7 would avoid and/or minimize impacts to loggerhead shrike by ensuring that no active nests would be impacted by construction grubbing or grading (see Section VI).

Indirect Impacts

Landscaping

The proposed project includes landscaping adjacent to the proposed residential development. The landscaping would potentially include ornamental species that are known to be particularly invasive (e.g., Japanese honeysuckle [*Lonicera japonica*], fan palm [*Washingtonia* spp.], Peruvian pepper tree [*Schinus molle*], etc.). Seeds from invasive species would potentially escape to natural areas and degrade the adjacent native vegetation in Zone C and beyond. This impact would be considered potentially significant since the project is adjacent to natural open space. Implementation of Mitigation Measure Bio-8 would reduce this impact to less than significant.

In addition, if brush management or landscape activities occur during the breeding season, they have potential to impact nesting bird species. This impact would be considered potentially significant because some of the nesting birds are protected by the Migratory Bird Treaty Act.

Implementation of Mitigation Measure Bio-7 and Bio-8 would reduce this impact to less than significant.

Noise

Noise levels in the study area would increase substantially over present levels during construction of the proposed project. During construction, temporary noise impacts have the potential to disrupt foraging, nesting, roosting, and denning activities for a variety of wildlife species. These impacts are considered adverse, but not significant for most wildlife species, because the proposed project would not impact a substantial population of these species. However, nesting raptors would potentially incur temporary impacts from construction noise if present in the vicinity of the proposed project, and would potentially be temporarily displaced due to these disturbances. Indirect noise impacts would be reduced to less than significant with implementation of Mitigation Measures Bio-7 and Bio-9.

Noise would also increase over present levels with implementation of the proposed project. Therefore, habitat remaining in the study area would be subject to increased disturbance. Wildlife stressed by noise would potentially be extirpated, leaving only wildlife tolerant of human activity. The chronic (i.e., permanent) noise increase would be considered adverse but less than significant because habitat within SEA 19 has been avoided and because landscaping buffers have been incorporated into the project design. Therefore, no mitigation would be required.

Urban Pollutants

Impacts on biological resources in the area would potentially occur as a result of changes in water quality. Improper disposal of petroleum and chemical products from construction equipment (temporary) could adversely affect water quality and, in turn, affect populations of species in San Francisquito Creek and other downstream areas. Water quality would also be adversely affected by runoff of pollutants from landscape features of the proposed project or infrastructure areas (e.g. fertilizers, pesticides, household chemicals, etc.) (permanent). These indirect impacts are considered potentially significant since the project would potentially incrementally contribute to a reduction in water quality in the project region. These impacts would be reduced to less than significant with the implementation of Mitigation Measure Bio-10.

Night Lighting

Lighting of the homes and yards in the proposed development would potentially result in an impact on the behavioral patterns of nocturnal and crepuscular (i.e., active at dawn and dusk) wildlife adjacent to the lighted areas. Of greatest concern is the effect on small-ground-dwelling animals that use the darkness to hide from predators, and on owls, which are specialized night foragers. Because the proposed project impact area is adjacent to SEA No. 19, indirect impacts due to lighting during the evening are of particular concern. Indirect impacts as a result of the

proposed project are considered potentially significant. This impact would be reduced to less than significant with implementation of Mitigation Measure Bio-11.

Human Activity

Recreational or transitory use of the project site after buildout under the proposed plan will be more controlled than at present; however, not all uses can be controlled. Unauthorized uses can have various impacts, including:

- Loss of wildlife habitat from destruction of vegetation
- Loss of individuals from being run over or from destruction of nesting sites
- Disturbance to or destruction of special status habitat types
- Soil compaction and erosion resulting in a loss of vegetative productivity
- Destruction of food, cover, and breeding habitats

Wildlife would potentially be killed by vehicles, cats, dogs, or humans. Mitigation Measure Bio-12 mandates the construction of permanent fencing along the backyards of each lot in order to protect the open space areas, including the SEA, from disturbance or destruction.

Potential Future San Francisquito Canyon Road Expansion and Equestrian Trails

Direct Impacts for San Francisquito Canyon Road Expansion

Although it is not part of the proposed project, this potential future expansion of the San Francisquito Canyon Road has been accommodated at the request of the County in the project design. The estimated impacts to vegetation types that would potentially occur as a result of the potential future expansion of San Francisquito Canyon Road are summarized in Table 4. The County will determine when (or if) this future expansion will occur. The potential expansion of San Francisquito Canyon Road within the existing right-of-way (ROW) would permanently impact approximately 4.3 acres of vegetation, including 0.1-acre of alluvial sage scrub. Potential temporary construction impacts of up to 50 feet on either side of the proposed roadway expansion would impact up to 3.3 acres of vegetation on either side of the roadway.

Implementation of the proposed roadway expansion would impact the following special status vegetation types: coast live oak woodland and alluvial sage scrub.

Impacts on these vegetation types would be considered significant because these vegetation types are reduced within their range and/or have potential to support special status plant and wildlife species. This impact would be reduced to less than significant with implementation of Mitigation Measures Bio-1 and Bio-15.

TABLE 4
VEGETATION TYPE IMPACTS ASSOCIATED WITH THE POTENTIAL EXPANSION OF SAN FRANCISQUITO CANYON ROAD AND CLIFFIE STONE TRAIL

Vegetation Type	Right-of-Way	Road Expansion	Cliffie Stone Trail	Permanent Impacts (acres)
Ruderal	0.6	3.6	0.5	4.7
Ornamental	0.0	0.0	0.0	0.0
Chamise Chaparral	0.0	0.0	0.0	0.0
Non-Native Grassland/Chamise Chaparral	0.0	0.1	0.0	0.1
Coast Live Oak Woodland	0.0	0.0	0.1	0.1
Coastal Sage Scrub	0.0	0.0	0.0	0.0
Wash	0.0	0.0	0.0	0.0
Mixed Chaparral/Holly-Leaf Cherry Woodland	0.0	0.0	0.0	0.0
Non-Native Grassland	0.3	0.5	0.0	0.8
Alluvial Sage Scrub	0.1	0.1	0.1	0.3
TOTAL	**1.0**	**4.3**	**0.7**	**6.0**

In addition, oak trees within the coast live oak woodland and scattered within any other vegetation types would be protected by the County Tree Ordinance. Therefore, any impact on trees large enough to meet ordinance requirements would be considered significant. Impacts on trees could occur by direct removal of trees, as well as trimming of branches or roots, and alteration of hydrology. This impact would be reduced to less than significant with implementation of Mitigation Measure Bio-14.

Implementation of the proposed roadway expansion would also impact the following vegetation types: ruderal, non-native grassland/chamise chaparral, and non-native grassland.

Impacts on these vegetation types would be considered less than significant because these vegetation types are considered to have relatively low biological value and are relatively common. Therefore, no mitigation would be required.

There would be no impact on the following vegetation types: chamise chaparral, coastal sage scrub, and mixed chaparral/holly-leaf cherry woodland. Therefore, no mitigation would be required.

Cliffie Stone Trail

The adjacent Tesoro del Valle project includes development of the Cliffie Stone Trail through the proposed project site, parallel to San Francisquito Canyon Road and near the eastern edge of SEA No. 19. This trail has been accommodated at the request of the County in the project design. It is expected that most residents would use the designated trail rather than traverse through the SEA No. 19, as is currently the case. Construction of the trail would impact 0.1-acre of coast live oak woodland, 0.1-acre of alluvial sage scrub, and 0.5-acre of ruderal. The impact on coast live oak woodland and alluvial sage scrub would be significant.

Implementation of Mitigation Measures Bio-1, Bio-14 and Bio-15, would reduce this impact to less than significant.

Butterfield Overland Stage Trail

In addition to the Cliffie Stone Trail, the Butterfield Overland Stage Trail will be constructed over an existing equestrian trail. This trail is located between San Francisquito Canyon Road and the eastern boundary of the SEA. Currently, a portion of this trail crosses the SEA boundary; however, the construction of the Butterfield Overland Stage Trail would redirect the trail to avoid all impacts to the SEA. Impacts associated with the implementation of the Butterfield Trail are summarized below:

- Floodway- 0.091-acre
- Alluvial Sage Scrub- 0.617-acre
- Ruderal- 0.049-acre

A total of 0.757-acre would be impacted by the trail. Impacts to the alluvial sage scrub would be considered significant, prior to mitigation. Implementation of Mitigation Measure Bio-1 would reduce this impact to less than significant.

Special Status Species for San Fransiquito Road Expansion and Equestrian Trails

Direct impacts on special status plant and wildlife species for the proposed road expansion and trail construction were not determined. This is a potentially significant impact that would be mitigated to a level less than significant by implementation of Mitigation Measure Bio-15, which requires pre-construction special status plant and wildlife surveys.

Indirect Impacts

Indirect impacts resulting from proposed roadway construction and trail construction would be similar to those described for the proposed project, and share some of the same mitigation. These indirect impacts are described below.

Landscaping

The proposed roadway expansion would potentially include adjacent landscaping that could include ornamental species known to be particularly invasive (e.g., Japanese honeysuckle, fan palm, Peruvian pepper tree, etc.). Seeds from invasive species may escape to natural areas and degrade native vegetation. This impact would be considered potentially significant but implementation of Mitigation Measure Bio-8 would reduce this impact to less than significant.

Noise

Noise levels in the study area would increase substantially over present levels during construction of the proposed roadway expansion. During construction, temporary noise impacts have the potential to disrupt foraging, nesting, roosting, and denning activities for a variety of wildlife species. These impacts are considered adverse, but not significant for most wildlife species, because the proposed project would not impact a substantial population of these species. However, nesting raptors would potentially incur temporary short-term impacts from construction noise if present in the vicinity of the proposed project, and would potentially be temporarily displaced due to these disturbances. Indirect noise impacts would be reduced to less than significant with implementation of Mitigation Measures Bio-7 and Bio-9.

Noise would not be expected to substantially increase over present levels with implementation of the proposed roadway expansion because indirect traffic noise is already present along this road. Therefore, the chronic (i.e., permanent) noise increase would be considered adverse but less than significant and no mitigation would be required.

Urban Pollutants

Impacts on biological resources in the area could occur as a result of changes in water quality. Improper disposal of petroleum and chemical products from construction equipment (temporary) could adversely affect water quality and, in turn, affect populations of species in San Francisquito Creek and other downstream areas. Water quality could also be adversely affected by runoff from the proposed roadway expansion (i.e., vehicles, improper disposal of chemicals) (permanent). These indirect impacts are considered potentially significant since the project could incrementally contribute to a reduction in water quality in the project region. These impacts would be reduced to less than significant with the implementation of Mitigation Measure Bio-10.

Night Lighting

Should the County require the installation of lighting along the proposed roadway expansion of San Francisquito Canyon Road, the associated illumination onto the adjacent SEA No. 19 could result in an indirect impact on the behavioral patterns of nocturnal and crepuscular (i.e., active at dawn and dusk) wildlife adjacent to the lighted areas. Of greatest concern is the effect on small-ground-dwelling animals that use the darkness to hide from predators, and on owls that prey on them, which are specialized night foragers. Because the proposed project impact area is adjacent to SEA 19, indirect impacts due to lighting during the evening are of particular concern. Indirect impacts as a result of the proposed project are considered potentially significant. This impact would be reduced to less than significant with implementation of Mitigation Measures Bio-11 and Bio-13.

VI. MITIGATION MEASURES

Mitigation Measure Bio-1 – Special Status Vegetation Types

The loss of coastal sage scrub, holly-leaf cherry woodland, and alluvial sage scrub (i.e., proposed roadway expansion) within the impact area is considered a significant impact. These vegetation types will be restored onsite or, if appropriate, offsite at a ratio of not less than 1:1, as agreed to by the County of Los Angeles Department of Regional Planning and the Project Applicant. A revegetation program will be implemented in accordance with a County-approved landscape palette on all graded areas not utilized for improvements or structures. The revegetation program will be submitted to the County of Los Angeles Department of Regional Planning for review and approval by a qualified biologist prior to issuance of grading permits. Restoration will consist of seeding and container planting of appropriate species. Impacts are considered less than significant after implementation of the following measures:

A detailed restoration program will be developed prior to map recordation and implemented, and will contain the following items:

a. *Responsibilities and qualifications of the personnel to implement and supervise the plan*. The responsibilities of the landowner, specialists, and maintenance personnel that will supervise and implement the plan will be specified.

b. *Site selection*. The site(s) for mitigation will be determined in coordination with the project applicant and the County of Los Angeles Department of Regional Planning. The site will be located in a dedicated open space area and will be contiguous with other natural open space areas.

c. *Site preparation and planting implementation*. The site preparation will include: 1) protection of existing native species, 2) trash and weed removal, 3) native species salvage and reuse (i.e., duff), 4) soil treatments (i.e., imprinting, decompacting), 5) erosion control measures (i.e., rice or willow wattles), and 6) native seed mix application.

d. *Schedule.* Establishment of restoration/revegetation sites will be conducted between October 1 and January 30. Seeding and planting of container plants will take place immediately after preparation of the restoration sites.

e. *Maintenance plan/guidelines*. The maintenance plan will include: 1) weed control, 2) herbivory control, 3) trash removal, 4) irrigation system maintenance, 5) maintenance training, and 6) replacement planting.

f. *Monitoring Plan*. 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 three to five years. The monitoring will be conducted for three to five years, depending upon the performance of the mitigation site.

g. *Long-term preservation.* 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.

h. *Performance standards will be identified and will apply for the revegetation of sage scrub.* Revegetation 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.

In addition, 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 of the construction boundary.

Mitigation Measure Bio-2 – USACE and CDFG Jurisdiction Areas

Upon completion of construction activities, impacts to approximately 0.17-acre of non-wetland USACE and CDFG jurisdictional waters will be mitigated within the project boundaries through the creation of 0.17-acre of non-wetland jurisdictional waters. In addition to this assurance of "no net loss" of USACE and CDFG jurisdictional areas within the project boundaries, another 0.17-acre of non-wetland jurisdictional area will be restored or enhanced on the project site for a total of 2:1 replacement. Acquisition of a Section 404 "dredge and fill" permit from the USACE (possibly through the use of Nationwide Permit No. 39), a Section 1602 "streambed alteration" permit from the CDFG, and a Section 401 water quality certification or waiver will be obtained from the Regional Water Quality Control Board.

Prior to the final submittal of an application for an USACE permit or CDFG agreement, the Project Applicant will develop a mitigation plan for the USACE, CDFG, and County of Los Angeles Department of Regional Planning. The objective of the mitigation is to ensure no net loss of habitat values as a result of the project. The detailed restoration program will contain the following items:

a. *Responsibilities and qualifications of the personnel to implement and supervise the plan*. The responsibilities of the landowner, specialists and maintenance personnel that would supervise and implement the plan will be specified.

b. *Site selection*. The site(s) for the mitigation will be determined in coordination with the Project Applicant and resource agencies. The site will be located in a dedicated open space area and will be contiguous with other natural open space.

c. *Site preparation and planting implementation.* The site preparation will include: 1) protection of existing native species, 2) trash and weed removal, 3) native species salvage and reuse (i.e. duff), 4) soil treatments (i.e., imprinting, decompacting), 5) temporary irrigation installation, 6) erosion control measures (i.e., rice or willow wattles), 7) native seed mix application, and 8) native container species.

d. *Schedule. A* schedule will be developed which includes planting to occur in late fall and early winter, between October 1 and January 30.

e. *Maintenance plan/guidelines.* The maintenance plan will include: 1) weed control, 2) herbivory control, 3) trash removal, 4) irrigation system maintenance, 5) maintenance training, and 6) replacement planting.

f. *Monitoring Plan.* 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 resource agencies, 4) monthly reports for the first year and bimonthly reports thereafter, and 5) annual reports which will be submitted to the resource agencies for three to five years. The site will be monitored and maintained for five years to ensure successful establishment of riparian habitat within the restored and created areas; however, if there is successful coverage prior to five years, the Project Applicant may request from USACE and CDFG to be released from monitoring requirements.

g. *Long-Term Preservation.* 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.

h. Performance standards will be identified and will apply for the restoration of riparian habitat. Revegetation 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 and restored and/or created habitat areas.

This revegetation/enhancement plan may be combined with the revegetation plan required by Mitigation Measure Bio-1, if appropriate.

Mitigation Measure Bio-3 – Braunton's Milk-vetch

Braunton's milk-vetch was not detected during the special status plant surveys. However, prior to issuance of a grading permit, follow-up surveys for this species will be conducted in any area

partially disturbed for surveyor access or geotechnical studies, or areas that may have recently burned in a wildfire. If Braunton's milk-vetch is found in the study area during follow-up surveys, the applicant will be required to consult with the USFWS and CDFG to obtain a permit under Section 7 or 10(a) of the federal Endangered Species Act and a Section 2081 concurrence from CDFG under the state Endangered Species Act to impact this species. The consultation process will include preparation of a mitigation plan to avoid, relocate, or minimize impacts on this species. This plan will be submitted to and approved by the USFWS and CDFG.

Mitigation Measure Bio-4 – Slender Mariposa Lily

Slender mariposa lilies (*Calochortus clavatus* ssp. *gracilis*), possibly hybridized with club-haired mariposa lilies (*Calochortus clavatus* ssp. *clavatus*), have been observed during special status plant surveys on the site. Impacts on the slender mariposa lily population are considered significant under the California Environmental Quality Act (CEQA), but can be mitigated to a level less than significant by the following measures.

a. *Preparation and Submittal of Mitigation Plan*: A Mitigation Plan will be prepared by a qualified biologist. The plan will include: 1) a summary of mitigation area conditions; 2) a discussion of the mitigation program and anticipated success; 3) guidelines for mitigation area preparation; 4) guidelines for bulb collection; 5) guidelines for transporting and replanting salvaged bulbs; 6) guidelines for long-term site maintenance and performance monitoring, 7) site status documentation; and 8) a discussion of site performance standards such as survival rate.

b. *Collection and Transplantation of Bulbs*: Prior to any ground-disturbing activities, the slender mariposa lily population located within the project impact area will be transplanted to an onsite mitigation area. The mitigation area is located in Open Space Lot 62 and is outside of the proposed grading footprint and fuel modification areas (see Attachment A, Exhibit 6). The bulbs will be transplanted directly into the mitigation area on the same day they are collected by a landscape contractor experienced in native habitat maintenance, and the plants will be protected from herbivores by the installation of wire cages.

c. *Supervision and Documentation of Transplantation*: Bulb transplantation efforts will be documented by a biological monitor, who will keep field notes including the number and condition of bulbs transplanted.

d. *Establishment of Maintenance and Monitoring Plan*: Performance criteria and remediation measures will be reviewed and approved by the County. Program monitoring will occur over a five-year period, including qualitative monitoring visits during the first season after transplant, monthly visits during the first lily blooming season (February – June 2006) to assess establishment success, non-native species coverage,

and general site conditions, and additional monitoring visits to assess site conditions that may affect future success of lily establishment. Remedial measures, such as invasive species control or soil amendments, will be recommended as needed in a timely manner to facilitate compliance with required performance standards. Any necessary contingency planting would be performed using seeds collected from adjacent lily populations located on the site, outside the project impact area.

Mitigation Measure Bio-5 – Western Spadefoot

A relocation program for the western spadefoot will be conducted during the spring prior to construction at the height of the breeding season for this species (February through May, and as determined by a qualified biologist monitoring a known location of this species). A detailed methodology for this effort will be submitted and approved by CDFG prior to implementation of the relocation program. Results of the relocation program will be provided to CDFG and the County of Los Angeles.

The intent of the relocation plan will be to capture and relocate as many western spadefoots as possible. Western spadefoots will be relocated to an area of suitable habitat that takes into consideration habitat requirements for all life stages of the toad, as approved by CDFG. The site will be granted to the County of Los Angeles and will be located in an area of preserved open space protected from future development. The relocation breeding pool will be no smaller in size, and similar or better in quality, as the habitat within the project impact area where the western spadefoots are captured.

Mitigation Measure Bio-6 – Reptiles and Amphibians

A qualified biologist, approved by the County, will install pit-fall traps and arrays beginning at least one week prior to the commencement of vegetation removal. The qualified biologist will be present to monitor the traps during vegetation removal and will also opportunistically salvage and relocate the coastal western whiptail, as well as other special status amphibians and reptiles, to similar habitat within proposed open space in San Francisquito Canyon.

Mitigation Measure Bio-7– Nesting Birds

Trimming of some native plants and clearing of non-native invasive species for fuel modification will be monitored by a qualified biologist if it occurs during the peak bird nesting season. If possible, dependent upon the growth cycle of targeted annuals and the requirements of the Fire Department, brush management will be conducted outside of the peak bird nesting season (March 15 to September 15) to ensure that potential impacts to nesting birds are avoided.

Mitigation Measure Bio 8 – Landscape

Prior to the issuance of a grading permit, a Landscape Plan, prepared by HRP LanDesign, will be submitted and approved by the County of Los Angeles Department of Regional Planning. The Landscape Plan requires the planting of native, drought tolerant plant species. Implementation of the Landscape Plan and brush management requirements will be coordinated with the project biologist and approved by the County.

Mitigation Measure Bio-9 – Raptor Nesting

Seven days prior to the start of construction activities, a qualified biologist will conduct a survey to determine if any raptors are nesting in or adjacent to the impact area. If nesting is not occurring, construction work can proceed. If an active nest is present, construction work will be prohibited within 500 feet of the nest (or as otherwise determined by the project biologist) until fledglings have left the nest. Results of the surveys will be provided to CDFG and the County.

Mitigation Measure Bio-10 – Urban Pollutants

Prior to the issuance of a grading permit, the Project Applicant will apply for coverage under the State Water Resources Control Board's General Permit for Storm Water Discharge Associated with Construction Activity (Construction Activities General NPDES Permit) and will comply with all the provisions of the permit, including the development of a Storm Water Pollution Prevention Plan, which includes provisions for the implementation of Best Management Practices and erosion control measures. Best Management Practices will include both structural and non-structural measures. The purpose of this mitigation measure is to ensure that site runoff does not adversely affect SEA No. 19 and downstream biological resources.

Mitigation Measure Bio-11 – Backyard Lighting

The Codes, Covenants and Restrictions (CC&Rs) of the Home Owners' Association (HOA) shall require that all backyard lighting in Lot 33 through Lot 51, which are adjacent to the SEA No. 19, must not be directed into the SEA. For these lots, all backyard lighting must be mounted to the home structure and may not be freestanding or placed on backyard fences.

Mitigation Measure Bio 12 –Human Activity

The portion of SEA No. 19 located within the proposed project site will be recorded as Open Space Lot No. 61 with approval of the Tentative Tract Map. Backyard fencing will be constructed behind all lots to protect open space areas, including the SEA No. 19, upon completion of site preparation and grading. This fencing would be required in order to prevent intrusion by future residents of the development and their pets. The fencing will discourage people and pets from entering the SEA. The fence will include permeable materials (i.e., wrought iron) in order to maintain view from the properties. Signs will be evenly spaced along the fencing on Lots 33 through Lot 51 indicating that areas on the other side of the fence contain sensitive biological resources. The fencing and signs will be installed and maintained

throughout the life of the project by the HOA. The CC&Rs of the HOA shall also disclose the existence of the SEA and the responsibility each homeowner has for ensuring its protection.

Mitigation Measure Bio-13 – Night Lighting

Should lighting be required by the County to illuminate San Francisquito Canyon Road upon widening of the roadway, a lighting plan will be submitted to the County for review prior to approval of the roadway project. The lighting plan shall demonstrate that illumination from the proposed road expansion will be directed away from natural open space areas on and adjacent to the project impact area. If the County determines that the proposed lighting plan would potentially indirectly impact adjacent biological resources, the lighting plan will be redesigned or additional mitigation consistent with Mitigation Measure Bio-15 will be required.

Mitigation Measure Bio-14 – Oak Trees

Prior to the initiation of the San Francisquito Road expansion and/or the Cliffie Stone Trail construction, a tree survey will be conducted within the area of the proposed roadway expansion and trail area. All trees meeting the County Tree Ordinance requirements will be tagged, mapped, and evaluated to determine the approximate number of trees that would be impacted. Project design will be altered to avoid and minimize impacts on oak trees to the extent practicable, particularly if a heritage tree would be impacted. The heritage trees on the project site are adjacent to the proposed road alignment. Upon approval of the final plans for the proposed roadway and trail alignment, the Project Applicant will develop a detailed oak woodland mitigation plan and submit the plan to the County for review and approval. The objective of the mitigation plan is to ensure no net loss of habitat values as a result of the project implementation. Required replacement trees shall be in the ratio of at least 2:1, consistent with the County Tree Ordinance (Ord. 88-0157, adopted September 13, 1988). The mitigation plan shall require that a biological monitor be present during project grading to record the exact number of native trees impacted.

Mitigation Measure Bio-15 – Special Status Species for San Francisquito Road Expansion and Cliffie Trail

Prior to the issuance of a grading permit for the construction of the San Francisquito Road expansion and/or the Cliffie Stone Trail, special status plant and wildlife surveys will be conducted. The results of these surveys and associated mitigation will be submitted to the County of Los Angeles Regional Planning Department for approval.

Mitigation Measure Bio-16 – Restrictions on Development

In order to ensure that the 100-foot fuel modification buffer is maintained for Lots 33-51 along the western edge of the SEA, the HOA CC&Rs shall prohibit construction of flammable structures within the backyards of these properties.

Mitigation Measure Bio-17 – Backfill and Revegetation after Levee Construction

Upon completion of the levee construction, the excavation area shall be entirely backfilled with existing San Francisquito Creek soil and only the four horizontal feet of above ground levee "free board" space would be visible. The impacted area shall be restored onsite with alluvial sage scrub habitat in accordance with the requirements of the County of Los Angeles Department of Regional Planning approved revegetation program. The levee shall be constructed with ungrouted rip-rap, which would allow for percolation of water, accumulation of transported soils, and establishment of plant life.

VII. SEA DESIGN COMPATIBILITY CRITERIA

1. The residential units, new roads, and grading have been designed to avoid encroaching into SEA No. 19, to avoid special status biological resources and to provide open space and movement corridors for biological resources to the maximum extent practicable. The Significant Ecological Area Technical Advisory Committee (SEATAC) recommends altering the design of the tract map to eliminate all impacts to the SEA No. 19. The current tract map design would result in approximately 0.05 acre of permanent impact to the SEA No. 19. Considerations for why the tract map should not be adjusted include the following: (1) the alignment of A Street has been designed according to County Department of Public Works requirements for roadway connections to adjacent properties; (2) moving the alignment of A Street further west to avoid all SEA impacts would require more hillside grading impacts; and (3) the tract map was previously redesigned to substantially reduce SEA impacts. Based on the 0.05 acre of impact to the SEA No. 19, the proposed project is not considered compatible with this criteria.

2. Proposed new development has been designed to avoid impacting the hydrology of San Francisquito Canyon Creek in SEA No. 19. The levee system is required to ensure that the graded pads would be protected in case the Creek changes course in the future. The construction of the project, including the levee system, would not alter the boundaries of the existing natural water course. SEATAC has stated that the "ungrouted rip-rap" would affect creek flow rates, although they believe this impact would be small. The levee system would be designed to minimize impacts to creek flows to the greatest extent feasible by allowing for the percolation of water, accumulation of transported soils, and establishment of plant life. However, because the rip-rap has the potential to slightly impact the creek flow, the proposed project is not considered compatible with this criteria.

3. The wildlife corridor through SEA No. 19 could be impacted by the construction of the underground levee because 0.05-acre of permanent SEA impacts would

occur due to implementation of the proposed project. The large majority of wildlife movement in the SEA would be undisturbed, indirect impacts would be minimized, and SEA No. 19 would be placed within a dedicated open space parcel.

4. The proposed project development footprint would retain approximately 80 percent of the site in open space parcels.

5. Development will be set back from the SEA No. 19 boundary through backyard fencing and landscaping buffers.

6. No new roads or utilities would occur within SEA No. 19 in order to avoid impacts on special status biological resources and wildlife movement in San Francisquito Canyon.

VIII. RECOMMENDED MONITORING PROGRAM

The boundaries of SEA No. 19 will be noted and flagged in the field prior to the initiation of construction activities. The project proponent will provide a qualified biological monitor during grubbing and grading activities to ensure that unapproved encroachment into the SEA does not occur.

The three proposed open space parcels (Nos. 61, 62, and 63) will be shown on the proposed Tentative Tract Map for dedication as open space upon its approval by the County of Los Angeles. Backyard fencing will be constructed at the rear of each lot at the conclusion of site preparation and grading. Signs will be placed at adequate intervals on the fencing adjacent to the SEA informing those reading that the area is biologically sensitive and should be avoided. The fencing and signs will be installed and maintained throughout the life of the project by the Project Applicant or their designee.

Revegetation or enhancement (according to Mitigation Measure Bio-1) of coastal sage scrub, holly-leaf cherry woodland, or alluvial sage scrub vegetation, within or adjacent to areas where it previously occurred, in proposed open space parcels, would commence upon completion of site preparation and grading as soon as possible. Monitoring would occur quarterly during the first year, and twice a year thereafter until success of the mitigation can be demonstrated by a qualified biologist. Success criteria would include the rehabilitation or expansion of coastal sage scrub and holly-leaf cherry woodland which have become established and self sustaining. The amount of coastal sage scrub rehabilitation or expansion would be subject to change depending upon the determination of the area of potential effect for the potential future expansion of San Francisquito Canyon Road. This would be the responsibility of the County.

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ATTACHMENT A

Exhibits

Regional Location

Exhibit 1

VTTM 53189

N W E S

10 5 0 10 Miles

Bonterra CONSULTING

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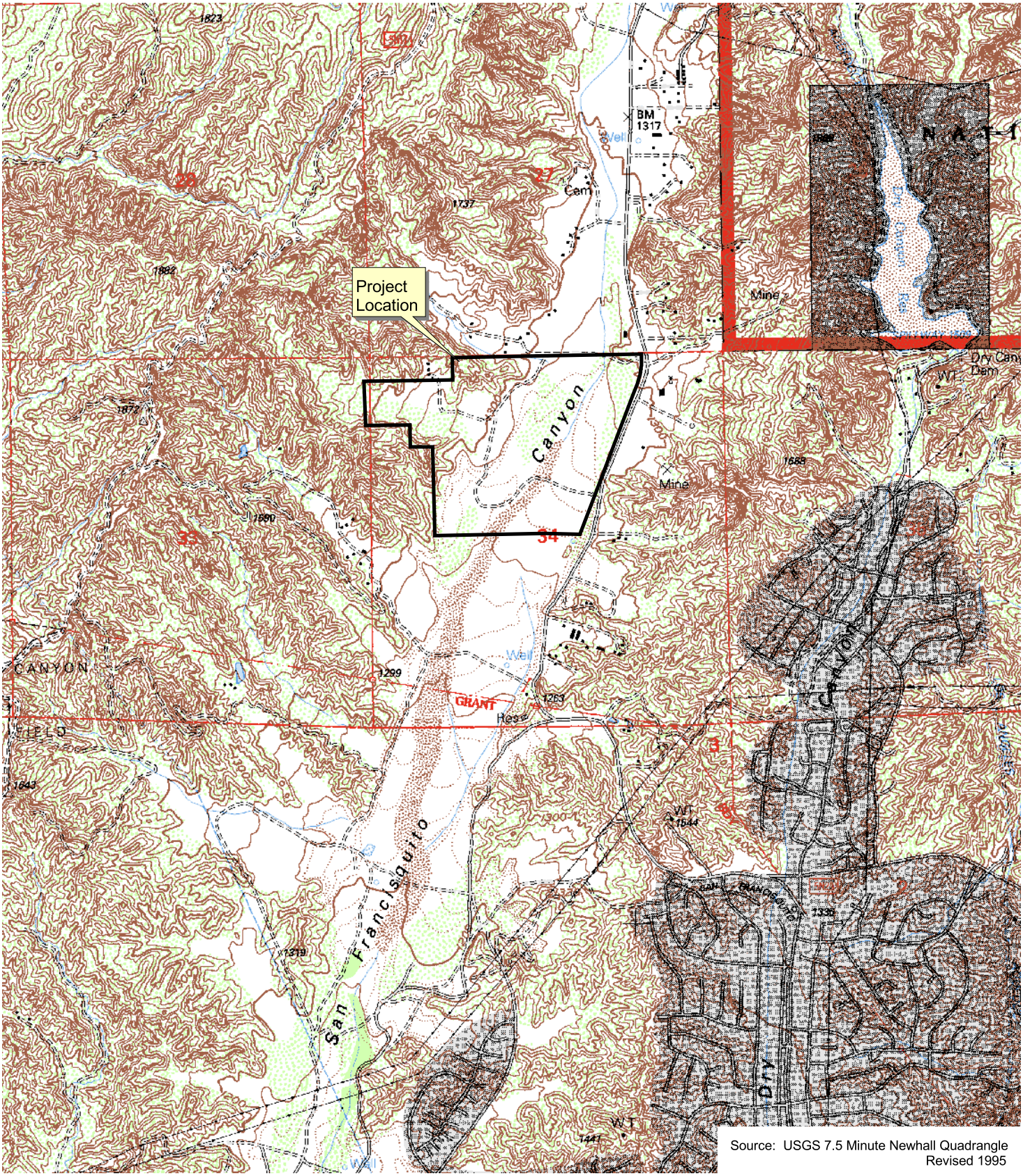

Source: USGS 7.5 Minute Newhall Quadrangle
Revised 1995

Local Vicinity

Exhibit 2

VTTM 53189

N
W E
S

1000 0 1000 2000 Feet

BonTerra CONSULTING

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Vesting Tentative Tract Map 53189

VTTM 53189

Exhibit 3A

Source: B & E Engineers

BonTerra CONSULTING

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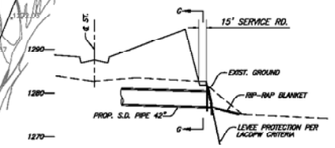
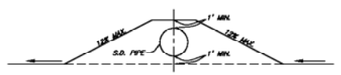


SECTION E-E
SCALE: HORIZ. 1"=100'
VERT. 1"=10'



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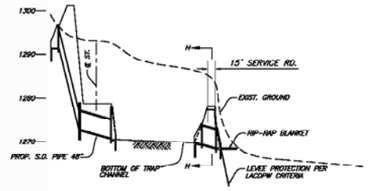

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SECTION H-H
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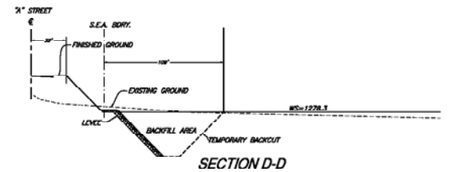

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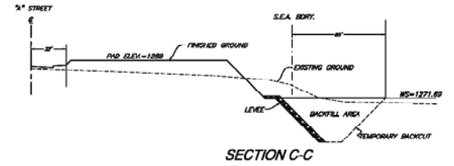

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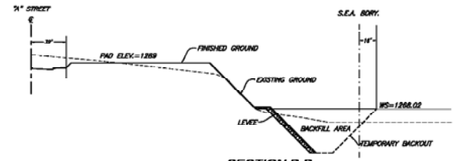
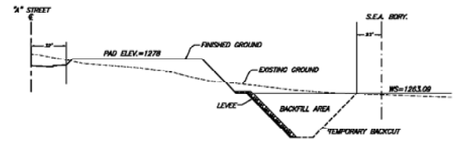
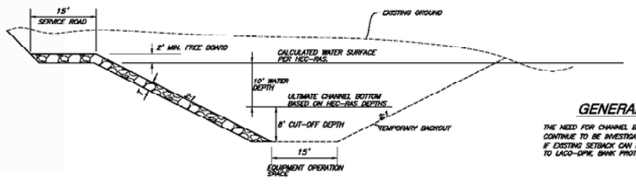


SECTION B-B



SECTION A-A

SECTIONS SCALE
HORIZ 1"=40'
VERT. 1"=20'



TYPICAL LEVEE SECTION

① T PER LACO-DPW REQUIREMENTS DURING FINAL DESIGN.
② DETAILS OF LEVEE TYPE (i.e. RIP-RAP, SOIL CEMENT, GUNITE, ETC.) TO BE DETERMINED DURING FINAL DESIGN AND APPROVED BY LACO-DPW.

GENERAL NOTE:

THE NEED FOR CHANNEL BANK PROTECTION WILL CONTINUE TO BE INVESTIGATED.
IF EXISTING SETBACK CAN BE DEMONSTRATED SATISFACTORY TO LACO-DPW, BANK PROTECTION WILL BE MODIFIED.

Slope Protection Model – Tract Map

Exhibit 3B

VTTM 53189

N W E S

Source: B & E Engineers

BonTerra CONSULTING

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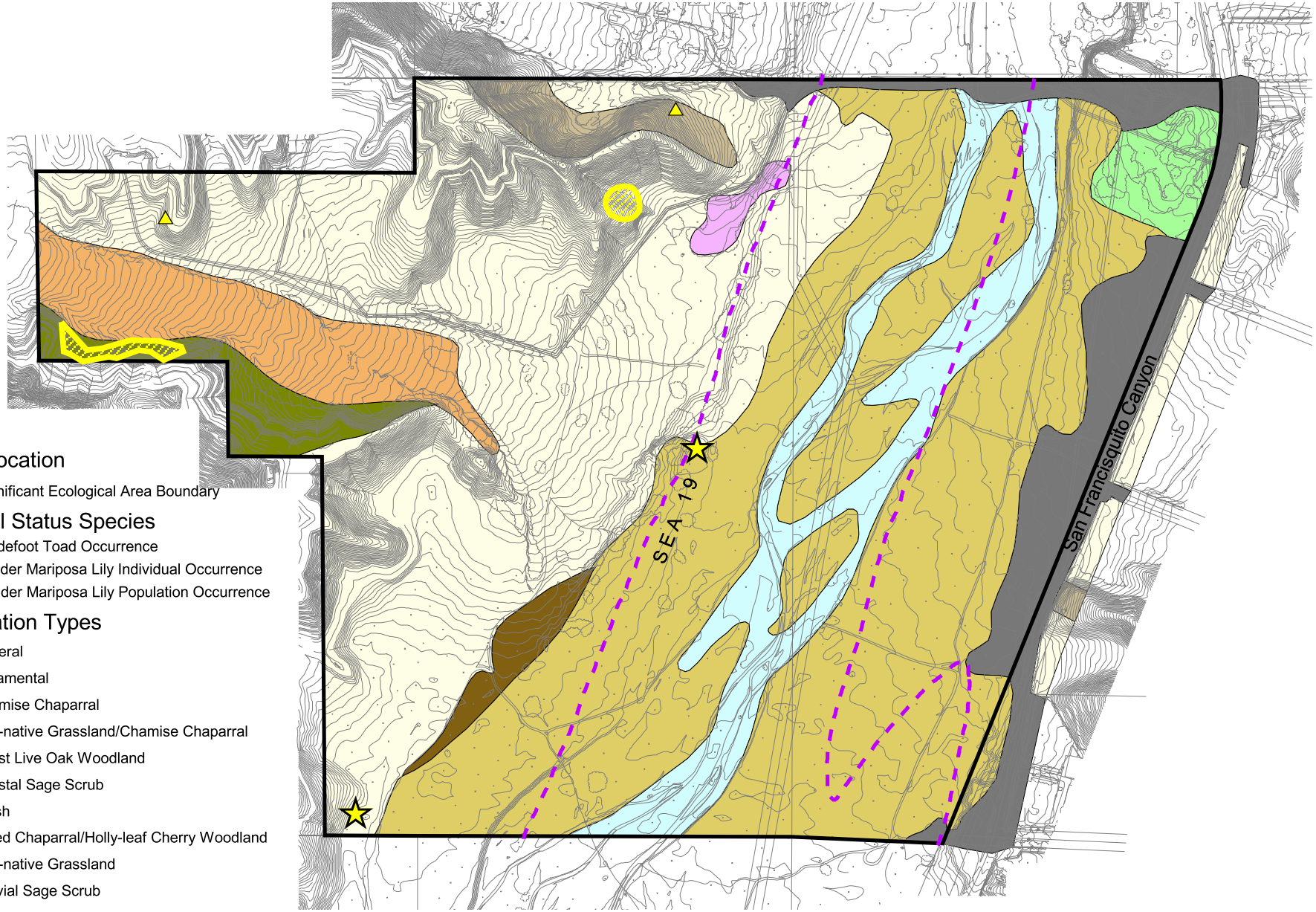

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Biological Resources

Exhibit 4

VTTM 53189

N
W
E
S

500 0 500 Feet

BonTerra CONSULTING

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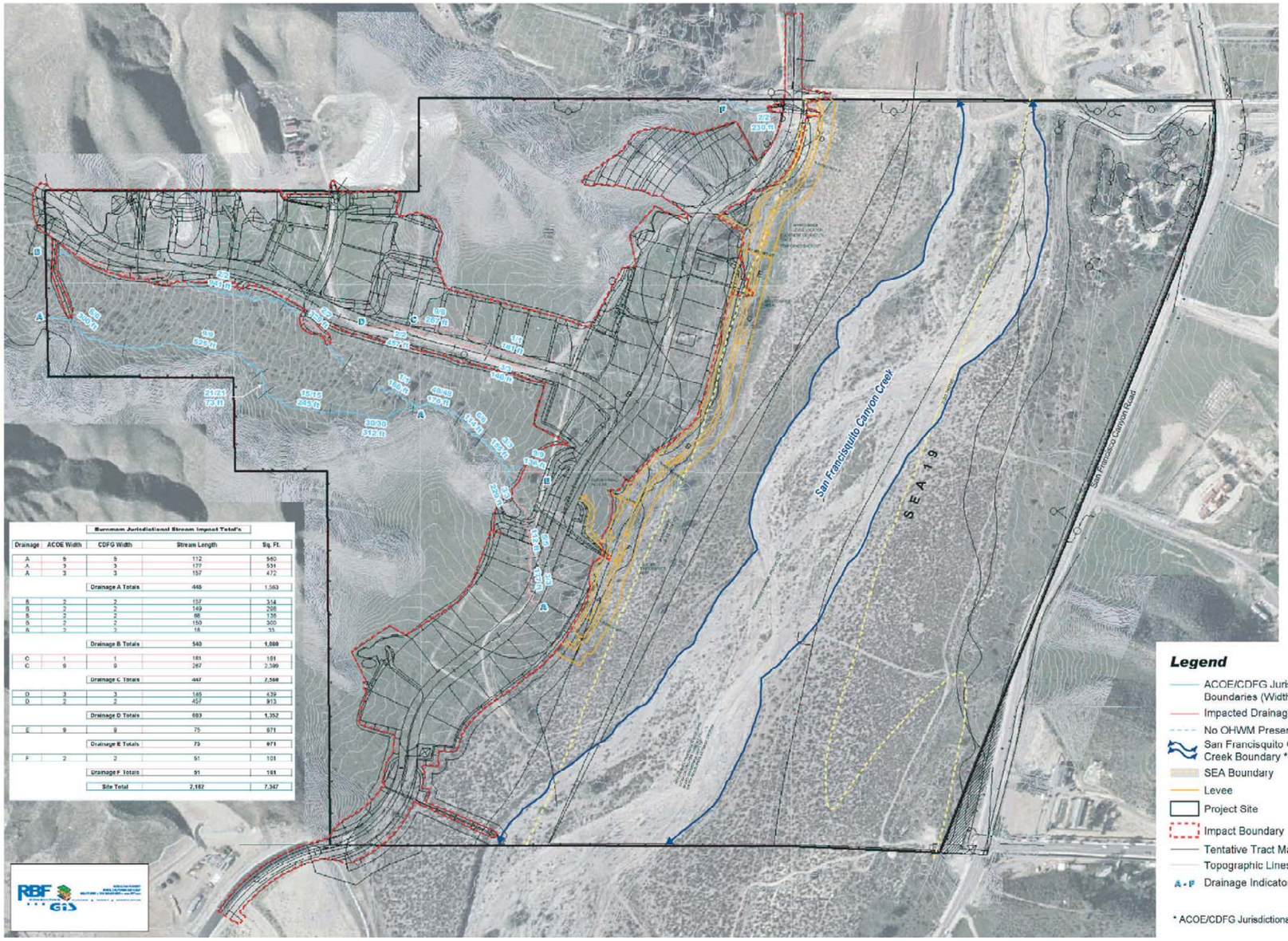

Burnham Jurisdictional Stream Impact Total's

Drainage	ACOE Width	CDFG Width	Stream Length	Sq. Ft.
A	9	9	112	560
A	3	3	177	531
A	3	3	157	472
		Drainage A Totals	446	1,563
B	2	2	157	314
B	2	2	149	298
B	2	2	68	136
B	2	2	150	300
B	2	2	18	33
		Drainage B Totals	540	1,080
C	1	1	181	181
C	9	9	287	2,399
		Drainage C Totals	467	2,580
D	3	3	146	439
D	2	2	457	913
		Drainage D Totals	603	1,352
E	9	9	75	671
		Drainage E Totals	75	671
F	2	2	51	101
		Drainage F Totals	51	101
		Site Total	2,182	7,347

Jurisdictional Delineation and Impacts

Exhibit 5

VTTM 53189

N W E S

Source: RBF Consulting, November 2005

Bonterra CONSULTING

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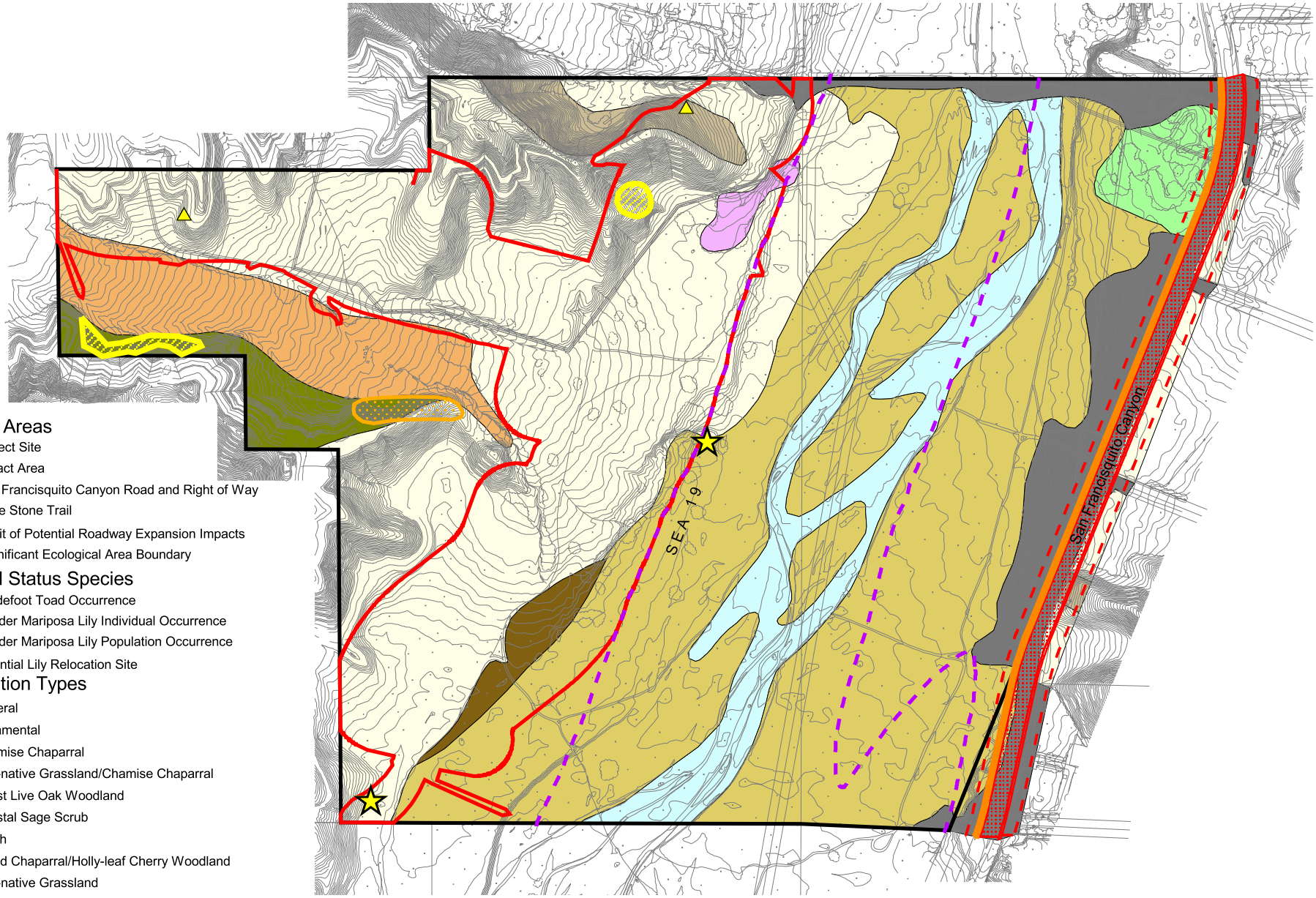

Impact Areas

- Project Site
- Impact Area
- San Francisquito Canyon Road and Right of Way
- Cliffie Stone Trail
- Limit of Potential Roadway Expansion Impacts
- Significant Ecological Area Boundary

Special Status Species

- Spadefoot Toad Occurrence
- Slender Mariposa Lily Individual Occurrence
- Slender Mariposa Lily Population Occurrence
- Potential Lily Relocation Site

Vegetation Types

- Ruderal
- Ornamental
- Chamise Chaparral
- Non-native Grassland/Chamise Chaparral
- Coast Live Oak Woodland
- Coastal Sage Scrub
- Wash
- Mixed Chaparral/Holly-leaf Cherry Woodland
- Non-native Grassland
- Alluvial Sage Scrub

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Biological Impacts

Exhibit 6

VTTM 53189

N W E S

500 0 500 Feet

Bonterra CONSULTING

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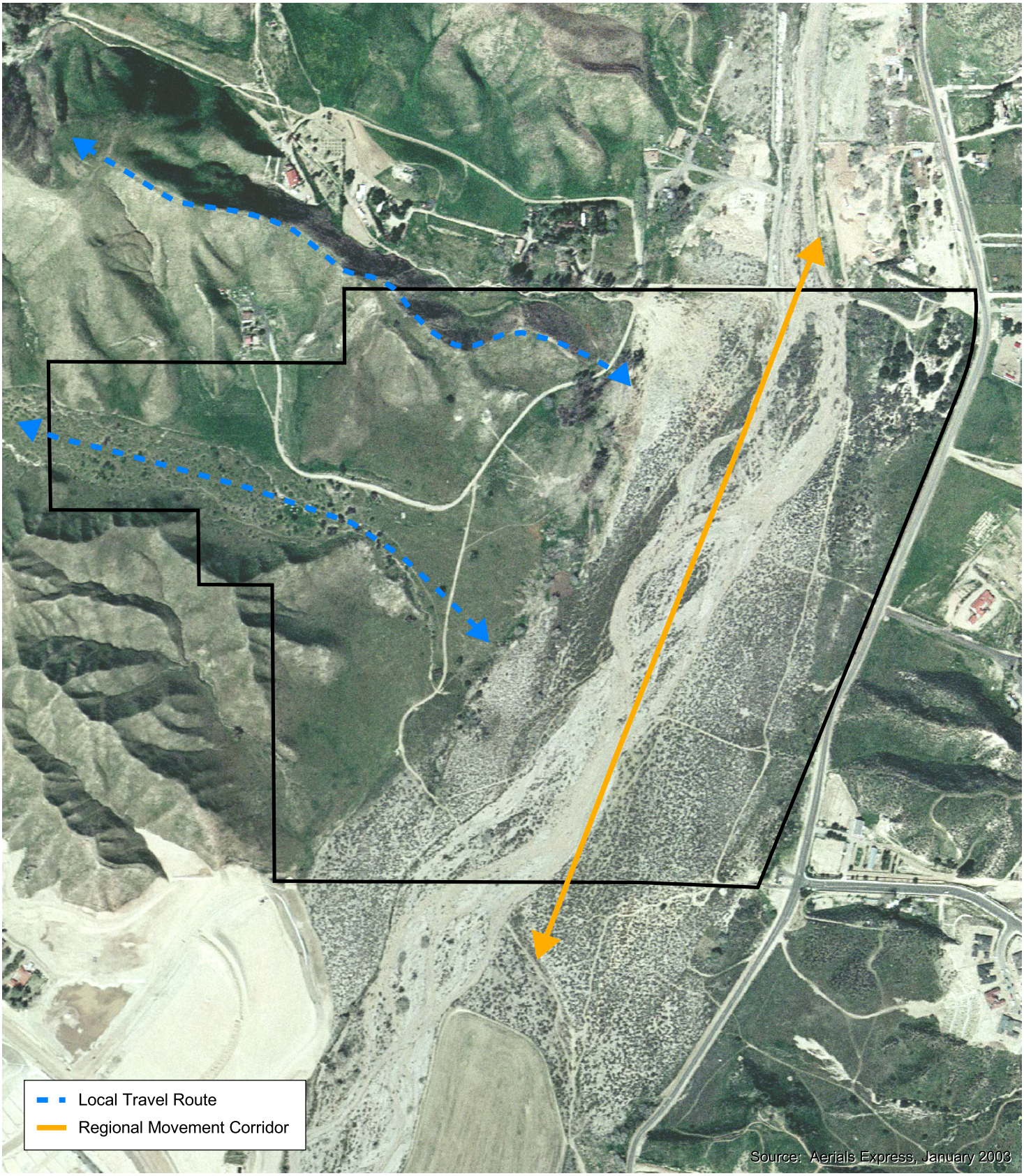

Aerial Location and Potential Wildlife Movement

Exhibit 7

VTTM 53189

N
W
E
S

600 0 600 Feet

BonTerra CONSULTING

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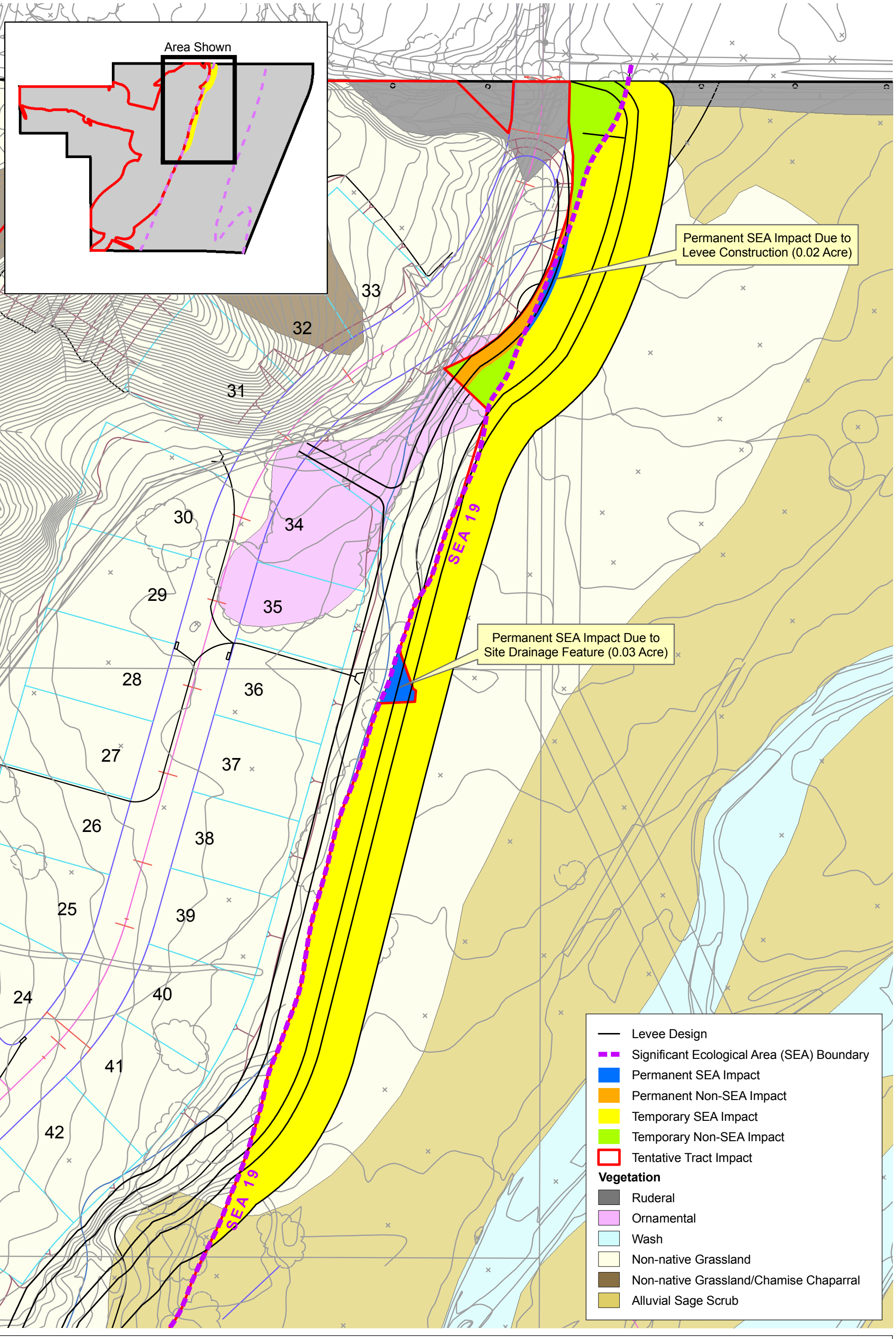

SEA and Levee Construction Impacts

Exhibit 8

VTTM 53189

BonTerra CONSULTING

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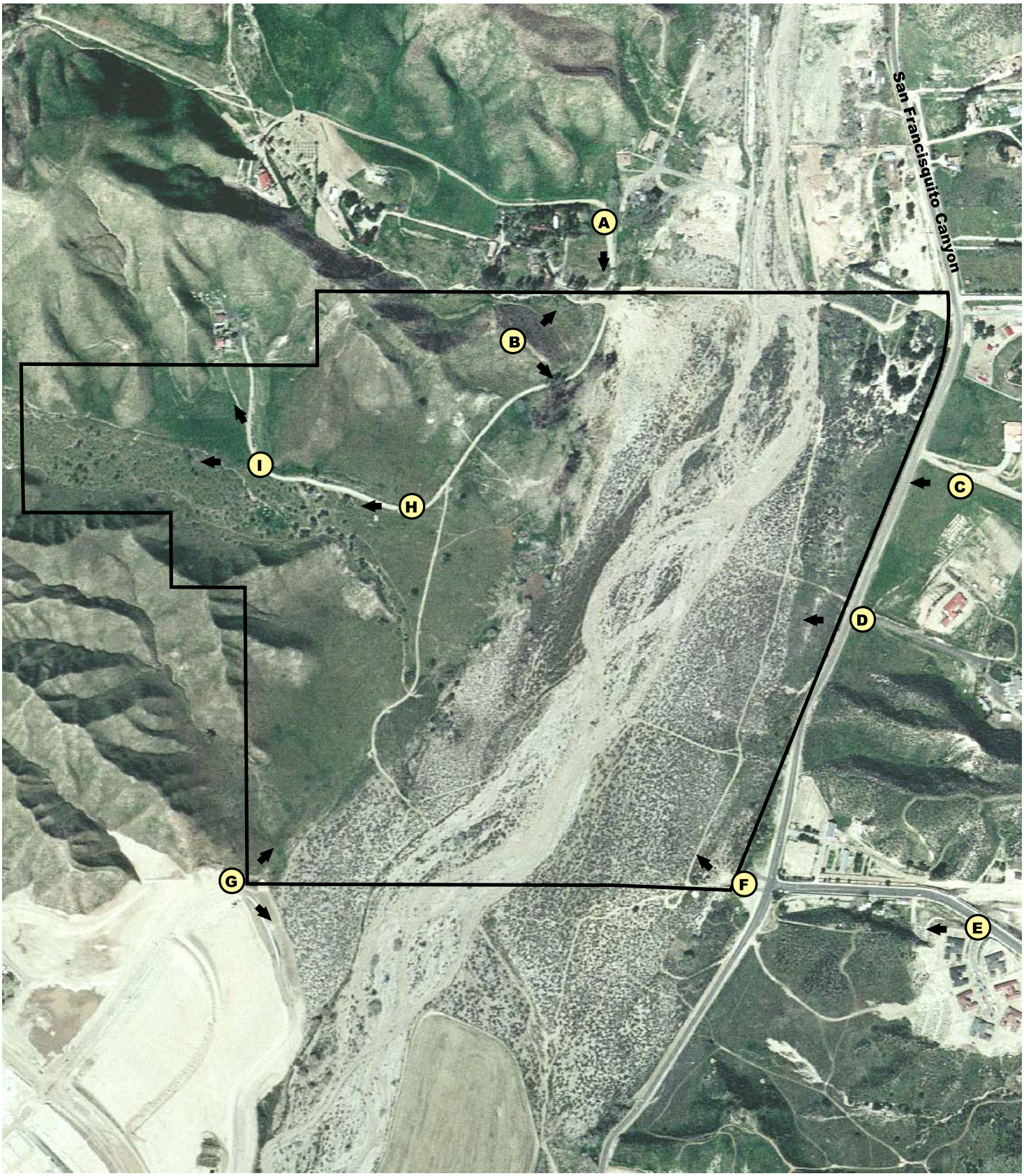

Photo Locations

Exhibit 9

VTTM 53189

N
W
E
S

300 0 300 600 Feet

BonTerra CONSULTING

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Location A (facing South)

Site Photo

Exhibit 10A

VTTM 53189

BonTerra CONSULTING

Source: BonTerra Consulting

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Location B (facing North to East)

Location B (facing East to South)

Site Photos

Exhibit 10B

VTTM 53189

BonTerra CONSULTING

Source: BonTerra Consulting

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Location C (facing West)

Location D (facing Southwest to Northwest)

Site Photos

Exhibit 10CD

VTTM 53189

BonTerra CONSULTING

Source: BonTerra Consulting

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Location E (facing West)

Location F (facing West to North)

Site Photos

Exhibit 10EF

VTTM 53189

BonTerra CONSULTING

Source: BonTerra Consulting

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Location G (facing North to East)

Location G (facing East to South)

Site Photos

Exhibit 10G

VTTM 53189

BonTerra CONSULTING

Source: BonTerra Consulting

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Location H (facing West)

Location I (facing Southwest to Northwest)

Site Photos

Exhibit 10HI

VTTM 53189

BonTerra CONSULTING

Source: BonTerra Consulting

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ATTACHMENT B

Biological Constraints Analysis Report, San Francisquito Canyon Project - VTTM No. 53189

Prepared by Rincon Consultants, Inc.

(March 2000)

Biological Constraints Analysis Report

San Francisquito Canyon Project - VTT No. 53189 Los Angeles, California

Prepared for:
The Larwin Company
16633 Ventura Boulevard, Suite 1300
Encino, CA 91436

Contact: Paul Dashevsky
Telephone: (818) 986-8890 ext. 144

For submittal to:
County of Los Angeles
Department of Regional Planning
320 West Temple Street
Los Angeles, CA 90012

Prepared by:
Rincon Consultants, Inc.
790 East Santa Clara Street
Ventura, CA 93001

March 2000

BIOLOGICAL CONSTRAINTS ANALYSIS REPORT FOR SAN FRANCISQUITO CANYON PROPERTY VESTING TENTATIVE TRACT No. 53189 County of Los Angeles, CA

The purpose of this report is to provide a first technical identification and community-level assessment of the biological resources and sensitivities on the site and in the surrounding area. This analysis will serve to assist the Department of Regional Planning and the Significant Ecological Area Technical Advisory Committee (SEATAC) in decisions regarding the SEA and sensitive biological resources onsite and will serve as a prescription for the future Biota Report. Additionally, prior versions of this analysis were used to assist in the design of the proposed project with respect to avoiding encroachment into the SEA, avoiding and protecting sensitive biological resources, planning for and providing open space areas and wildlife movement corridors. A copy of this report is included with the Initial Study for the proposed project.

CHARACTERISTICS OF THE SITE

Description of the Project Site. The project site is located in a developing portion of Los Angeles County east of the Golden State Freeway (Interstate Highway 5) and north of the Saugus area of the Santa Clarita Valley. Figures 1 and 2, in Attachment B, show the regional and vicinity locations of the project site. The site is bordered on the east by San Francisquito Canyon Road and is approximately between Lady Linda Lane, at the north, and Lowridge Place, to the southeast. Photograph 1A, in Attachment C, shows an overview of the project site from San Francisquito Canyon Road. The key-shaped western border basically follows the topography of the canyons and hills. San Francisquito Canyon Creek runs north to south through the eastern half of the project site and is one of the largest tributaries of the Santa Clara River. The project site can be located on the USGS Newhall topographical map (T.5N., R.16W. Section 34). Elevation onsite ranges from approximately 1,250 feet mean sea level (msl) in San Francisquito Canyon wash to 1,480 feet msl above the western canyon.

The Larwin Company is interested in developing the 186-acre San Francisquito Canyon Property, in Los Angeles County, with 46 single-family homes on a western portion of the site and up to 14 single-family homes on the east (Figure 3). Paved areas and structures account for approximately 11.5 acres and open space and landscaping account for approximately 174 acres of the site. Grading for development and roads would include 912,000 cubic yards± (cy), balanced onsite. Of that total, 750,000 cy of alluvium within pad areas will be subject to removal and replacement for compaction and there will be an alteration of 162,000 cy. The project site contains a portion of San Francisquito Canyon Creek, which has been designated as Significant Ecological Area (SEA) No. 19 by Los Angeles County. The two open space lots proposed for the site include the SEA (Lot 61) and a wildlife corridor (Lot 62). The site is currently undeveloped except for a few graded dirt roads. Access to the western portion of the site would be from the southwest and northwest through the Tesoro del Valle property. Also, two cul-de-sacs fronting San Francisquito Canyon Road would provide access to eastern lots adjacent to the road.

Permits requested for the site include a Tentative Tract Map, Hillside Conditional Use Permit (CUP), Density Controlled CUP, and SEA CUP.

Methodology. Rincon Consultants, Inc performed a biological field reconnaissance of the site on May 25, June 3, and June 8, 1999. Prior to initiation of the site visit, aerial photography and USGS topographical maps were reviewed along with state and federally listed flora, fauna and habitats occurring in this portion of Los Angeles County (CDFG, 1998 and 1999). Updated versions of federal and state lists have been reviewed (January 2000). Other documentation pertinent to the biological resources on the proposed project site and SEA No. 19 were compiled, reviewed and analyzed and are included in references. The California Natural Diversity Database (CNDDB) was queried for known or potential locations of sensitive resources in the vicinity (CDFG 2000). Dominant vegetation and the location of unique biological resources at the site were noted. Plant communities were identified in the field on a one-inch equals approximately 150-feet scale aerial photograph (Figure 4) of the project area enlarged from a color reproduction of the original aerial photography (date unknown) provided by Larwin Company. Wildlife were observed during the reconnaissance and an active search was conducted for sensitive wildlife species or their habitat, in particular, the coast horned lizard (*Phrynosoma coronatum*), Quino checkerspot butterfly (*Euphydryas editha quino*), and the California gnatcatcher (*Polioptila californica*).

The Newhall USGS topographical quadrangle map (revised 1988) was used for site reference. The 100-year flood plain within the project area was mapped according to a figure provided from the Los Angeles County Public Works Department.

Dominant vegetation was used to determine community classification according to Holland (1986) and Sawyer and Keeler-Wolf (1995). These communities or habitat types are recognized by the California Department of Fish and Game (CDFG).

Watershed Boundaries and Drainage Patterns. The project site is within the San Francisquito Creek Watershed between ridgelines offsite to the west and east. San Francisquito Canyon Creek originates in the Angeles National Forest north of the project site, runs south through the eastern half of the project site, and continues to the southwest to its confluence with the Santa Clara River. Smaller drainages originate in a series of smaller canyons extending from the ridgelines and continue toward San Francisquito Canyon Creek. Figure 5 illustrates the watershed boundaries and drainage patterns onsite.

Soils. Soils onsite include Saugus loam (ScF2), Metz loamy sand (MfC), Hanford sandy loam (HcC), Yolo loam (YoC), and Sandy Alluvial Land (Sa) (U.S. Department of Agriculture, 1970). Figure 6 illustrates onsite soil types. Saugus loam, 30 to 50 percent slopes, is a well-drained soil found on uplands. Metz loamy sand, 2 to 9 percent slopes, consists of somewhat excessively drained soils found on alluvial fans along the Santa Clara River and its major tributaries. Hanford sandy loam, 2 to 9 percent slopes, is found on alluvial fans in side canyons. Yolo loam soil, 2 to 9 percent slopes, is found on fairly narrow alluvial fans. Sandy Alluvial Land is unconsolidated alluvium found mostly on flooded plains along the Santa Clara River and its larger tributaries. These soil descriptions are consistent with conditions found onsite. The site contains alluvial and colluvial deposits that will require removal and recompaction in areas of building pads and roads found primarily in non-sensitive habitats.

Significant Landforms and Geological Features. One small landslide was identified onsite, located along an existing unimproved road in the northern portion of the site (Geolabs, 1999). This failure appears to be a rotational slump-type failure within the Saugus Formation. Figure 7 illustrates the location of this landslide, shown as "A". Additionally, Figure 7 illustrates that

this landslide will likely be removed by the planned cut. Area "B" on Figure 7 may have problems due to slope instability, which may be designated as a Restricted Use Area. Further studies of this area will determine slope stability and corrective measures, if needed.

Vegetation. The project site contains native vegetation and habitat types including Scalebroom Scrub, Riversidean Alluvial Fan Sage Scrub, Riversidean Sage Scrub, Chamise Chaparral, Cottonwood-Mulefat-Giant Reed riparian habitat, Mainland Hollyleaf Cherry Woodland, and Coast Live Oak Woodland (Figure 8). The site also contains non-native vegetation and habitat types including Non-native Grassland, Ruderal habitat and Eucalyptus/Exotic Tree groves. Scalebroom scrub and Non-native Grasslands are the dominant onsite habitats. The plant communities onsite typically lack distinct boundaries and intergrade, exhibiting a mix of more than one habitat type.

Scalebroom Scrub (CDFG Element Code 32.070.02) is located on the upper terraces within and adjacent to the 100-year flood zone land and is dominated by scalebroom (*Lepidospartum squamatum*), hairy yerba santa (*Eriodictyon crassifolium*), and chaparral yucca (*Yucca whippeli*) (Photograph 1B). The California Department of Fish and Game (CDFG) recognizes this habitat type as a sensitive habitat.

Riversidean Sage Scrub (CDFG Element Code 32.005.00, Holland 32700) is found on the steeper slopes of the site and intergrades with Chamise Chaparral. Riversidean Alluvial Fan Sage Scrub (Element Code 32720, Holland, 1986) is located at the edge of the 100-year flood zone and is dominated by scalebroom and hairy yerba santa, as above. This habitat type also includes vegetation found in Riversidean Sage Scrub such as California buckwheat (*Eriogonum fasiculatum*), deerweed (*Lotus scoparius*), brittle bush (*Encelia farinosa*), and everlasting (*Gnaphalium* spp.). Non-native species in both habitat types include red brome (*Bromus rubens)* and wild oat (*Avena fatua)* grasses and ruderal mustard. Small stands of Great Basin sagebrush (*Artemisia tridentata* var. *parishii*) also occur within the edge of the flood zone. Riversidean Alluvial Fan Sage Scrub is recognized as a sensitive habitat by CDFG.

Fremont Cottonwood (*Populus freemonti*) (CDFG Element Code 61.130.06), Mulefat (*Baccharis viminea*) (CDFG Element Code 63.510.00), and Giant Reed (*Arundo donax*) are found in patches on the braided terraces of San Francisquito Canyon Creek and are recognized as riparian plant series according to Sawyer and Keeler-Wolf (1995). Fremont cottonwood trees are also found scattered at the western edge of the 100-year flood zone (Photograph 2A). Fremont cottonwood and mulefat are also considered riparian plants according to CDFG.

Chamise Chaparral is dominated by its namesake, chamise (*Adenostoma fasciculatum*), and has a few species, previously listed, in common with the scrub community. Also present in the chaparral component is squaw bush (*Rhus trilobata*), occasional white sage (*Salvia apiana*) and chaparral mallow (*Malacothamnus fasciculatus*). This habitat type can be found on the steeper slopes found primarily in the western half of the site.

Coast Live Oak Woodland has a canopy cover of coast live oaks (*Quercus agrifolia*) and an understory of non-native annual grasses. Oak woodland occurs at the entrance to the property south of Lady Linda Lane (Photograph 2B). Also, an individual mature oak tree occurs in the far northwestern canyon. Approximately 20 mature coast live oaks occur onsite. Coast Live Oak Woodland is considered sensitive by CDFG and Los Angeles County protects individual oak trees through its oak tree permit process.

Mainland Hollyleaf Cherry Woodland is dominated by tree-size specimens of hollyleaf cherry (*Prunus ilicifolia*). This habitat type can be found in a stand extending out of the canyon mouth in the northwest quadrant of the site (Photograph 3A). The cluster can be seen in the aerial photography and has a color signature similar to coast live oak due to its size and deep-green leaf color. Hollyleaf cherry is also scattered south of this stand and down San Francisquito Canyon. A large specimen also occurs north of the road leading into the western canyon (Figure 7). Mainland Hollyleaf Cherry Woodland is considered sensitive by the CDFG.

Non-native Grassland is dominant in the western half of the site and occurs in the level broad areas adjacent to the dirt roads and paths. These areas are dominated by non-native weedy species such as black mustard (*Brassica nigra*), wild oat (*Avena fatua*), brome grasses (*Bromus rubens; B. mollis; and B. diandrus)*, and various other grasses (Photograph 1B). Ruderal disturbed areas along roads and paths and mixed in within grassland include red-stemmed filaree (*Erodium cicutarium*), yellow star thistle, dove weed (*Eremocarpus setigerus*), and scattered deer weed (*Lotus scoparius*) and Indian tobacco (*Nicotiana glauca*). Native purple nightshade (*Solanum xantii*) and fiddleneck (*Amsinkia intermedia)* are occasional in the grassland and elderberry shrubs (*Sambucus mexicana*) can be found scattered throughout the grassland.

As the road through the site turns south off Lady Linda Lane, Eucalyptus/Exotic Tree groves are found to the east of the dirt road (Figure 8). Eucalyptus sp. occurs in two stands, one along the road and one further to the east on the terrace above the floodplain (Photograph 2A). Exotic trees within the eucalyptus include Peruvian pepper (*Schinus mollis*) and olive (*Olea europaea*). There is also a mature native sycamore tree (*Platanus racemosa*) in the line of eucalyptus above the floodplain.

Wildlife. A number of wildlife species were observed or are expected to occur onsite. Common species are discussed here while a discussion of sensitive wildlife species will follow.

Fish. No water was observed in San Francisquito Canyon Creek during the May and June 1999 site visits although matted algae was evidence of previous water flows. Common fish species expected in the creek during periods of sufficient water flow may include mosquito fish (*Gambusia affinis*), fathead minnow (*Pimephales promelas*) and speckled dace (*Rhinichthys osculus*).

Amphibians. In the creek and moist areas species expected would include the California toad (*Bufo boreas*), Pacific chorus frog (*Psuedacris regilla*), garden slender salamander (*Batrachoseps pacificus major*), and black-bellied salamander (*Batrachoseps nigriventris*).

Reptiles. Reptiles observed onsite in scrub and grassland habitats include the Great Basin fence lizard (*Sceloporus occidentalis biseriatus*), side-blotched lizard (*Uta stansburiana*), and San Diego alligator lizard (*Gerrhonotus muliticarintus webbi*). Other non-sensitive reptile species expected within any of the habitats onsite include the western skink, Pacific rattlesnake, San Diego gopher snake, red coachwhip, chaparral striped racer, and California common kingsnake.

Birds. Bird species observed in grassland and ruderal habitat include mourning dove, Say's phoebe, American crow, common raven, northern mockingbird, house finch, and white-crowned sparrow. Other birds expected to utilize these areas include rock dove, greater

roadrunner, western kingbird, western bluebird, European starling, Lazuli bunting, vesper sparrow, lark sparrow, western meadowlark, and Brewer's blackbird. Raptors observed foraging over grassland include turkey vulture and red-tailed hawk.

Red-tailed hawks were observed roosting in eucalyptus trees along with barn owls. Hooded orioles and scrub jays were observed among the eucalyptus trees. American kestrel, and American goldfinch would be expected within the trees. A barn owl was also observed roosting within the large singular hollyleaf cherry in the northern canyon.

Birds observed in the scrub and chaparral habitat include lesser nighthawk, California quail, mourning dove, scrub jay, bushtit, blue-grey gnatcatcher, and California and rufous-sided towhees. Additional birds expected in these habitats include several of those previously mentioned plus common poorwill, ash-throated flycatcher, rock wren, Bewick's wren, wrentit, and sage sparrow.

Birds observed in woodland habitats not previously mentioned include phainopepla, acorn woodpecker, northern flicker, and black phoebe. Additional birds expected here include great horned owl, Nutall's woodpecker, ruby-crowned kinglet, and house wren.

Mammals observed or detected in various habitats onsite include desert cottontail, California ground squirrel, Botta's pocket gopher, domestic dog, and coyote. Western harvest mouse and deer mouse holes and runs were observed in the grassland. Expected species onsite include Pacific kangaroo rat, California pocket mouse, gray fox, raccoon, American badger, stripped skunk, bobcat, and mule deer.

Sensitive Resources. A "sensitive biological resource" refers to any rare, threatened or endangered plant or animal species, or those species considered regionally declining by local authorities. Habitats are also considered sensitive if they exhibit a limited distribution, have high wildlife value, contain sensitive species, or are particularly susceptible to disturbance. This section lists those rare or otherwise sensitive species and habitats that were found on the site, or that have the potential to occur in the project vicinity. The potential for occurrence of sensitive resources is based on site characteristics and the known regional distribution and habitat affinities of the species. Lists of sensitive plants and animals as published by the California Department of Fish and Game (April 1998, April 1999, March 1998) and the United States Fish and Wildlife Service (April 1999) and recent review of current lists (January 2000) were used in the preparation of this section.

Significant Ecological Area. Los Angeles County has designated the floodplain of San Francisquito Canyon Creek as Significant Ecological Area (SEA) No. 19. The project site contains a portion of SEA No. 19 (Photograph 3B). According to the North Valencia Specific Plan, the SEA boundaries are generally defined as being the same as the boundary of the 100-year flood plain (Hogle-Ireland, Inc. 1997).

Habitats. Sensitive communities located within the project site include Scalebroom Scrub, Riversidean Alluvial Fan Sage Scrub, Coast Live Oak Woodland, and Mainland Hollyleaf Cherry Woodland. Additionally, Los Angeles County specifically protects individual oak trees. Some of these habitat types are found within the SEA boundary (Figure 8).

Eucalyptus woodland is not considered a sensitive community, but the raptors they may host are protected under the Migratory Bird Treaty Act (MBTA) and Fish and Game Code.

Wetlands. After evaluation of aerial photography of the site and the USGS Newhall topographical map, it was determined that San Francisquito Canyon Creek is the solitary blue-line stream onsite. While San Francisquito Canyon Creek may or may not be defined as a wetland, it would nonetheless be under U.S. Army Corps of Engineers (USACE) jurisdiction as "waters of the United States". San Francisquito Creek and associated riparian habitat would also be subject to CDFG jurisdiction. A wetland delineation was performed outside of the boundaries of the SEA onsite and six drainages were identified (Rincon Consultants, 2000) Figure 8 illustrates the location of the six drainages. It was determined that these drainages do not meet the USACE criteria to be considered a wetland as one or two of three criteria for wetland determination were lacking: hydrophytic vegetation; or hydric soils. They are under the jurisdiction of USACE as "waters of the United States" and subject to CDFG jurisdiction.

Flora. No state or federally listed rare, threatened, or endangered plants were found at the project site during 1999 site visits. Additionally, directed surveys will be performed spring 2000 to determine whether the following sensitive plant species occur onsite:

- Slender-horned spineflower;
- Peirson's morning glory; and
- Nevin's barberry.

The following plants were considered to be potentially located at the site and were searched for during 1999 surveys:

Nevin's barberry (*Berberis nevenii*) is listed Federal-proposed endangered and State endangered. Nevin's Barberry is known from San Diego, San Bernardino, Riverside and Los Angeles Counties, occurring in chaparral, coastal sage scrub and alluvial fan sage scrub communities, most often seen below 2,000 feet. The distinctive, prickly compound leaves of this shrub can be recognized at any time of year. Nevin's barberry (*Berberis nevinii*), is shown on the CDDB Newhall Quad Overlay (February, 2000) but in reviewing the record report for this occurrence, it appears that the location is mapped incorrectly. CNDDB will be contacted regarding this oversight with a request for written response. The outcome will be included in the Biota Report. This species was not observed during the May and June 1999 field surveys. It is probable that this species does not exist at the project site.

Slender mariposa lily (*Calochortus clavatus* var. *gracilis*) is a Federal-Species of Concern and has no State listing. Slender Mariposa Lily is a perennial, bulbiferous herb found in chaparral and sage scrub communities. It has been located in Los Angeles County, along the south slope of the Transverse Ranges, and more recently, at the confluence of Bee Canyon and Soledad Canyon Road. While potentially present at the site, no residual bulb stalks were seen on the project site during 1999 surveys.

Plummer's mariposa lily (*Calochortus plummerae*) is a Federal-Species of Concern and has no state listing. Its distribution is somewhat limited, but it has been found commonly in the Santa Clarita region (Rincon Consultants, Inc., 1996). While potentially present at the site, no residual bulb stalks were seen on the project site during 1999 surveys.

California Orcutt grass (*Orcuttia californica*) is a federal and state endangered species that is associated with vernal pools. This species was searched for at the site; however, no vernal pools are present in the area and this species is unlikely to be present at the site. An associate of this plant, prostrate navarretia (*Navarretia fossalis*) similarly does not occur at the site.

Slender-horned spineflower (*Dodecahema leptoceras* [*Centrostegia leptoceras*]) is a state and federal listed endangered species that is known to occur locally in Soledad Canyon and Big Tujunga Wash. This species occurs in chaparral and coastal scrub (alluvial fan) habitats. While potentially present onsite, the May and June 1999 surveys were conducted during the blooming period (April-June) of this species, but no slender-horned spineflowers were observed onsite.

Peirson's morning-glory (*Calystegia peirsonii*) is a Federal-Species of Concern and has no State listing. Peirson's Morning-Glory is a trailing perennial vine found in Los Angeles County. It is common throughout the Santa Clarita area. It has been located in the Mint Canyon quadrangle in several locations including near Bouquet Canyon Road and in Marple Canyon, San Francisquito Canyon and Valencia, adjacent to Highway 5. It occurs in coastal sage scrub and chaparral habitats and is especially common following fires. While it could potentially be present at the site, no residual strands of morning-glory vine were noted during 1999 surveys. This species is presumed to not be present onsite but will continue to be actively searched for during spring 2000 surveys.

Davidson's bush mallow (*Malacothamnus davidsonii*) is a Federal-Species of Concern and has no State listing. Davidson's Bush Mallow is known from sandy flats and washes in the Burbank, Van Nuys, San Fernando, Sunland and Tierra Rodunda Mountains USGS quadrangles in Los Angeles County. The species appears again in northern San Luis Obispo and southern Monterey Counties. It has been found in several locations to the north and south of Route 210, south of the planning area. This shrub was not seen at the site.

Short-joint beavertail cactus (*Opuntia basilaris* var. *brachyclada*) is a Federal-Species of Concern and has no State listing. Short-joint Beavertail is a diminutive cactus found in chaparral, Joshua tree woodland, piñon juniper woodland and Mojave Desert scrub in San Bernardino and Los Angeles Counties. The closest recorded sighting is in the Mint Canyon quadrangle, on the south side of Quigley Canyon, east of the town of Newhall. Cactus was observed onsite, but the short-joint form of this subspecies was not observed onsite.

Fauna. Sensitive vertebrate species possibly found at the site or local vicinity are listed in Table 1. State or federally listed species are accorded the highest protection status. The following further discusses the potential for species listed in Table 1 to occur in the habitats present at the site.

Table 1. Sensitive Wildlife Species Potentially Occurring at Project Site

Species	Scientific Name	State Status	Federal Status
Quino checkerspot butterfly	Euphydryas editha quino	None	FE
San Emigdio blue	Plebulina emigdionis	None*	None*
Unarmored three-spine stickleback	Gasterosteus aculeatus williamsoni	SE	FE
Santa Ana sucker	Catostomus santaanae	CSC	FPT
Arroyo chub	Gila orcutti	CSC	FSC
Arroyo southwestern toad	Bufo microscaphus californicus	CSC	FE
Western spadefoot toad	Scaphiopus hammondi	CSC	FSC
California red-legged frog	Rana aurora draytonii	CSC	FT
Southwestern pond turtle	Clemmys mormorata pallida	CSC	FSC
Coast horned lizard	Phrynosoma coronatum	CSC	FSC
Coastal western whiptail	Cnemidophorus tigris multiscutatus	CSC	FSC
Silvery legless lizard	Aniella pulchra pulchra	CSC	FSC
Rosy boa	Lichanura trivirgata	CSC	FSC
Coastal patch-nosed snake	Salvadora hexalepis virgultea	CSC	FSC
Two-striped garter snake	Thamnophis hammondii	CSC	FSC
San Bernardino ring-necked snake	Diadophis punctatus modestus	None	FSC
San Diego mountain kngsnake	Lampropeltis zonata pulchra	CSC	FSC
San Bernardino mountain kingsnake	Lampropeltis zonata parviruba	CSC	FSC
California Condor	Gymnogyps californianus	FE	SE
Golden eagle	Aquila chrysaetos	CSC	None
Prarie falcon	Falco mexicanus (nesting)	CSC	None
Swainson's hawk	Buteo swainsoni (nesting)	ST	None
Cooper's hawk	Accipiter cooperi	CSC	None
Northern harrier	Circus cyaneus	CSC	None
Sharp-shinned hawk	Accipiter striatus	CSC	None
White-tailed kite	Elanus caeruleus	CSC	None
Long-eared owl	Asio otus	CSC	None
Burrowing owl	Athene cunicularia (burrow sites)	CSC	FSC
California gnatcatcher	Polioptila californica	CSC	FT
Loggerhead shrike	Lanius ludovicianus	CSC	FSC
Least Bell's vireo	Vireo bellii pusillus (nesting)	SE	FE
Southwestern willow flycatcher	Empindonax traillii extimus)	SE	FE
Western yellow-billed cuckoo	Coccyzus americanus occidentalis (nesting)	ST	None
California horned lark	Eremophila alpestris actia	CSC	None
Tri-colored blackbird	Agelaius tricolor (nesting)	CSC	FSC
Bell's sage sparrow	Amphispiza bellii bellii	CSC	FSC
Southern CA rufous-crowned sparrow	Aimophila ruficeps canescens	CSC	FSC
Pallid bat	Antrozous pallidus	CSC	None
California mastiff bat	Eumops perotis californicus	CSC	FSC
Pale big-eared bat	Plecotus townsendii pallescens	CSC	FSC
San Diego black-tailed hare	Lepus californicus bennetti	CSC	FSC
San Diego desert woodrat	Neotoma lepida intermedia	CSC	FSC
Southern grasshopper mouse	Onychomys torridus ramona	CSC	FSC
American badger	Taxidea taxus	CSC	FSC

CSC = California Species of Concern
FE = Federal Endangered
FSC = Federal Species of Concern
FT = Federal Threatened
FPT= Federal Proposed Threatened
SE = State Endangered
ST = State Threatened
None = CNDDB listed G3G4S3S4 – Global and State restricted range, rare; and in some areas apparently secure although some factors exist to cause concern.*

Directed surveys will be performed during spring 2000 to determine whether the following sensitive species occur onsite:

- San Emigdio blue butterfly (and general butterfly survey);
- San Diego horned lizard;
- Burrowing owl; and
- Townsend big-eared bat (survey by chiropterist).

Due to the lack of water onsite most years in San Francisquito Canyon Creek during the amphibian breeding season, discussions with SEATAC will determine if directed surveys will be required for the following species:

- Arroyo toad; and
- Western spadefoot toad.

The **Quino checkerspot butterfly** life cycle is linked with the host plant species, *Plantago erecta*. This plantain is found on sandy, clay, or serpentine soils, grassy slopes and flats, or open woodland in elevations less than 700 meters (2300 feet). The blooming period for the plant species is from March to May. The flight season for the Quino checkerspot butterfly is during the same time period. The checkerspot has suitable or potentially suitable habitat within Los Angeles, Ventura, Riverside, San Diego, and Orange counties. The project site is within the elevational range of the plantain and sandy/rocky soils and grasses exist onsite, therefore habitat is potentially present. A search was made onsite for the host plant species beneath shrubs and in open areas. Although this species is relatively small, the field survey was performed during its blooming period and during the flight period of the butterfly. The host plant species and the endangered Quino checkerspot butterfly were not observed onsite or within the adjacent vicinity. Therefore, no impacts are expected for the Quino checkerspot butterfly.

The **San Emigdio blue** (*Plebulina emigdionis*) was previously a federal Category 2 species and currently CNDDB listed G3G4S3S4. See Table 1 for an explanation of the CNDDB listing. This butterfly is known to occur in several locations along the desert side of the Transverse Ranges where its host plant, the four-winged saltbush (*Atriplex canescens*), is found. There are no records of this species onsite but there are two records of the San Emigdio blue in the vicinity: Bouquet Canyon to the east and Mint Canyon farther east . The butterfly is symbiotic with an ant that tends the catepillar. The San Emigdio blue was not observed onsite during 1999 surveys. Directed surveys for the host plant and butterfly will be conducted by an entemologist during spring 2000.

During 1999 field surveys, no water was observed in San Francisquito Canyon Creek although suitable habitat exists for the **unarmored threespine stickleback, Santa Ana sucker,** and **arroyo chub** during periods when the creek is inundated with water. When fish or other species within the creek are present, they would be afforded protection within SEA No. 19 boundaries.

Arroyo southwestern toad and **California red-legged frog** were not observed and are not expected onsite due to the lack of water within the creek during May when the species would be breeding or have tadpoles present in the creek. Whether there is a need for directed spring surveys for the arroyo toad will be discussed with SEATAC. The species was not observed within the adjacent Tesoro del Valle project.

The southwestern pond turtle, two-striped garter snake, San Bernardino ringed-neck snake, least Bell's vireo, western yellow-billed cuckoo, southwestern willow flycatcher, and tri-colored blackbird were not observed and are not expected due to the lack of sufficient riparian vegetation. Specifically willow riparian woodland is a requirement for the vireo and woodland is required habitat for the cuckoo and flycatcher.

The western spadefoot toad occupies grassland areas that contain shallow, temporary pools that form after winter rains. These pools are critical for the breeding success of this species (Jennings and Hayes, 1988). The project site lacks such vernal pools since the hillsides at the site drain relatively quickly and suitable vernal pool habitat for this species is not present. There is a potential for the spadefoot toad to utilize backwater pools and riparian habitat in San Francisquito Canyon Creek. Whether there is a need for directed spring surveys for the spadefoot toad will be discussed with SEATAC. The species was not observed within the adjacent Tesoro del Valle project.

The **coast horned lizard** occurs in open, sandy areas of coastal sage scrub, chaparral, and other habitats, especially where harvester ants, their primary food source, are present. Harvester ant colonies were observed onsite along roads, paths, and within open areas beneath shrubs. While no horned lizards were found onsite there is sufficient habitat and the species is known to exist on adjacent property in similar habitats (Michael Brandman and Associates, 1995). The species has a high potential to exist onsite and directed surveys will continue for this species during spring 2000.

Western whiptail, California Condor, sharp-shinned hawk, prairie falcon, Bell's sage sparrow, California rufous crowned sparrow, San Diego woodrat, San Diego blacktailed jackrabbit and **badger** were observed on an adjacent site (Michael Brandman and Associates, 1995) and while were not observed during May and June 1999 surveys, suitable habitat exists onsite for these species. It is anticipated that the site may be used only occasionally for foraging by the condor. Additionally, while not observed onsite or observed during surveys for the adjacent Tesoro del Valle property (Michael Brandman and Associates, 1995), suitable habitat exists onsite for **silvery legless lizard, coastal rosy boa, coast patch-nosed snake, San Bernardino Mountain kingsnake, burrowing owl, long-eared owl, California horned lark, southern grasshopper mouse.**

The **pallid, California mastiff and pale big-eared bat** species may occasionally forage at the site. The **northern harrier** would be a winter visitor only and would not breed here, which is the time when they are considered sensitive. Directed surveys for bat species will be conducted by a chiropterist during spring 2000 surveys.

The birds of prey (**golden eagle, white-tailed kite, northern harrier, sharp-shinned hawk, Cooper's hawk,** and **long-eared owl**) all have extensive ranges that cover many habitats, and can be expected as rare to common transients at the project site and most of these are not expected to breed at the site.

The **loggerhead shrike** was observed perching onsite within the Scalebroom scrub habitat. The shrike is also known to inhabit sage scrub and was also observed during surveys adjacent to the site (Michael Brandman and Associates, 1995). The **loggerhead shrike** is known to nest in the

vicinity and is a probable breeder at the site. Shrikes are rarely common anywhere and their populations have seriously declined in California.

Swainson's hawk was observed onsite flying over grasslands near the eucalyptus trees and perched on a telephone pole onsite. The hawk may use the site for foraging.

California gnatcatcher is associated with coastal or alluvial sage scrub habitats, but its status as a breeding bird in either area is questionable. This bird has very specific habitat and elevational requirements for population distribution, and is becoming increasingly rare throughout its range due to destruction and fragmentation of lowland coastal sage scrub. It is generally found in fog belt areas below 900 feet elevation. While alluvial sage scrub habitat exits onsite, the project site is at a higher elevational range (primarily above 1700 feet) than expected for the California gnatcatcher. Its occurrence on the property would be extraordinary but not absolutely impossible, as wandering individuals might find their way into the area. Their use of the site would be expected to be transitory, foraging or sheltering briefly during movement from or between other habitats.

CHARACTERISTICS OF THE SURROUNDING AREA

Existing Land Uses. Surrounding land uses include single-family homes, the approved and developing Tesoro del Valle project and TR 46564, and the Angeles National Forest. Privately owned single-family homes on rural lots exist to the north and east of the project site. The Tesoro del Valle project consists of a master planned development of approximately 3,000 residential units on 1,795 acres surrounding the propose project site on three sides, with the exclusion of the east side. Tesoro del Valle also includes a 5-acre commercial site, two elementary schools, 40 acres of park, a fire station, and onsite recreational amenities. Approximately 670 acres of the Tesoro del Valle site would be retained as undeveloped natural open space.

TR 46564 is being developed with over 320 units 0.25 miles to the east of the project site. Angeles National Forest, public land, is located approximately 0.25 miles northeast and 1.5 miles north of the project site. Figure 9 and 10, from the Tesoro del Valle DEIR (1995), illustrate the existing or approved land uses surrounding to the proposed project site.

Surrounding Vegetative Communities. Vegetative communities found directly to the east of San Francisquito Canyon Road are within developed rural residential properties and consist of agricultural and ruderal fields along the bases of the canyons intergrading with coastal sage scrub on the slopes (Figure 11). East and southeast of these properties, the land is actively being graded for development, as can be currently observed from the proposed project site. According to the Tesoro del Valle Project DEIR (1995), vegetative communities found on the Tesoro del Valle site are similar to those found within the proposed project site. Figure 12 illustrates the plant communities and sensitive species of the Tesoro del Valle Project.

Surrounding Open Space. The San Francisquito Canyon Creek corridor onsite is a part of SEA No. 19 (Photograph 3B). This SEA was established to ensure the protection of the unarmored threespine stickleback and its habitat. Although some encroachment has occurred within the floodplain, SEA No. 19 is the primary open space within the proposed project site and in the surrounding area. Open space in SEA No. 19 originates in the Angeles National Forest, to the

north, and continues south through private property, through the proposed project site, offsite through Tesoro del Valle, and eventually to the Santa Clara River.

According to the Tesoro del Valle Project DEIR (1995), approximately 670 acres of open space is planned within that project, to the west, southwest, and north of the proposed project site. The Angeles National Forest, public land, exists approximately 1.5 miles north and 0.25 miles northeast, but is not contiguous with the proposed project site. The Forest provides a large area of open space in the vicinity. Figure 13 illustrate the surrounding open space and wildlife movement corridors.

Wildlife Corridors. Wildlife corridors link together suitable wildlife habitat, providing a mix of topography and vegetative cover that provide safety, pathways, food and water. Wildlife corridors link fragmented habitats and allow plants and animals to move between habitats and replenish depleted populations, avoid genetic inbreeding, provide escape from catastrophic events, and reduce the risk of extinction. Often canyon bottoms and ridgelines serve as natural wildlife movement corridors. These areas should have minimal human influence, encompass a mix of habitats to encourage a diversity of species, and should be able to sustain wildlife beyond providing a travel corridor.

Collectively, San Francisquito Canyon Creek and its floodplain is a primary migration corridor for fish and wildlife (Photograph 3B). This wildlife movement corridor exist between the Angeles National Forest, private holdings north of the proposed project site, the site itself, south through private properties to the Santa Clara River, and to the Santa Susana or San Gabriel mountains. Figure 13, base map from the Tesoro del Valle Project DEIR (1995), illustrates the wildlife movement corridors adjacent to and concurrent with the proposed project from the west. The ridgeline to the west on the Tesoro property is also probably a primary wildlife corridor.

Secondary corridors can be found in the canyons leading down from the ridgeline toward San Francisquito Canyon. A canyon exists in the northwest portion of the proposed project site that probably functions as a secondary wildlife corridor (Photograph 3A). Although Tesoro del Valle is developing, open space and wildlife movement corridors planned for that project would connect to the proposed project site at the southwest corner of the site and feed into the secondary corridor onsite.

A wildlife movement corridor is not expected from the east as San Francisquito Canyon Road; existing residential development east of the road, and developing residential units approximately 0.25 miles east of the project site would provide a barrier to wildlife movement.

Biological Value of the Surrounding Area. A great portion of the remaining undisturbed chaparral and sage scrub of the surrounding area is within approved residential project areas that are actively being developed at this time. Although the surrounding area to the west and south may currently have a high biological value, grading, development and the introduction of humans and domestic pets will isolate remnant communities into patches of habitat. The rural residential properties north and east of the proposed site have landscaping and non-native vegetation, generally of lower biological value to wildlife and displacing native vegetation. Grazing livestock and domestic pets can be found on many of these adjacent properties.

ATTACHMENT A

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REFERENCES

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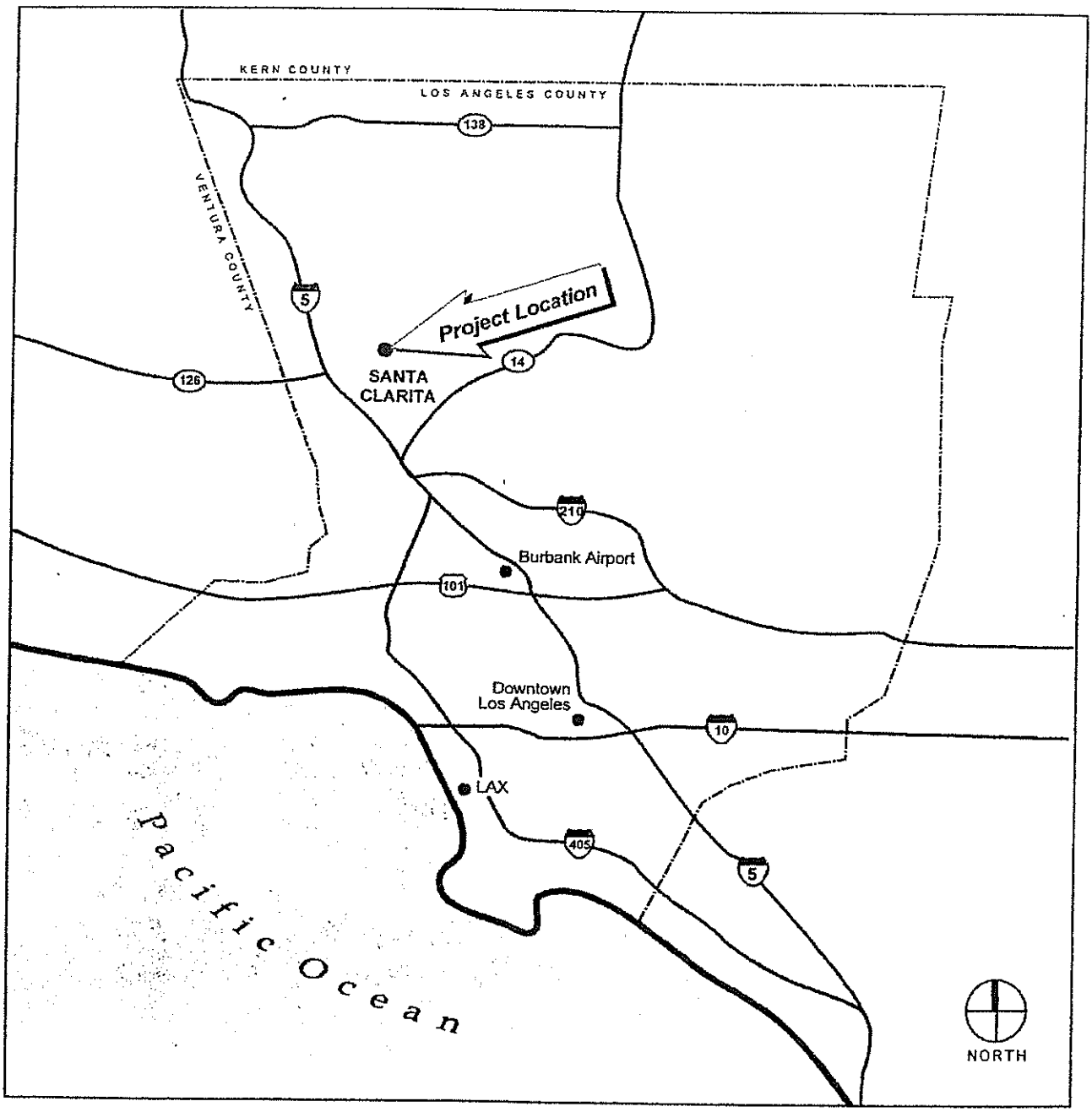
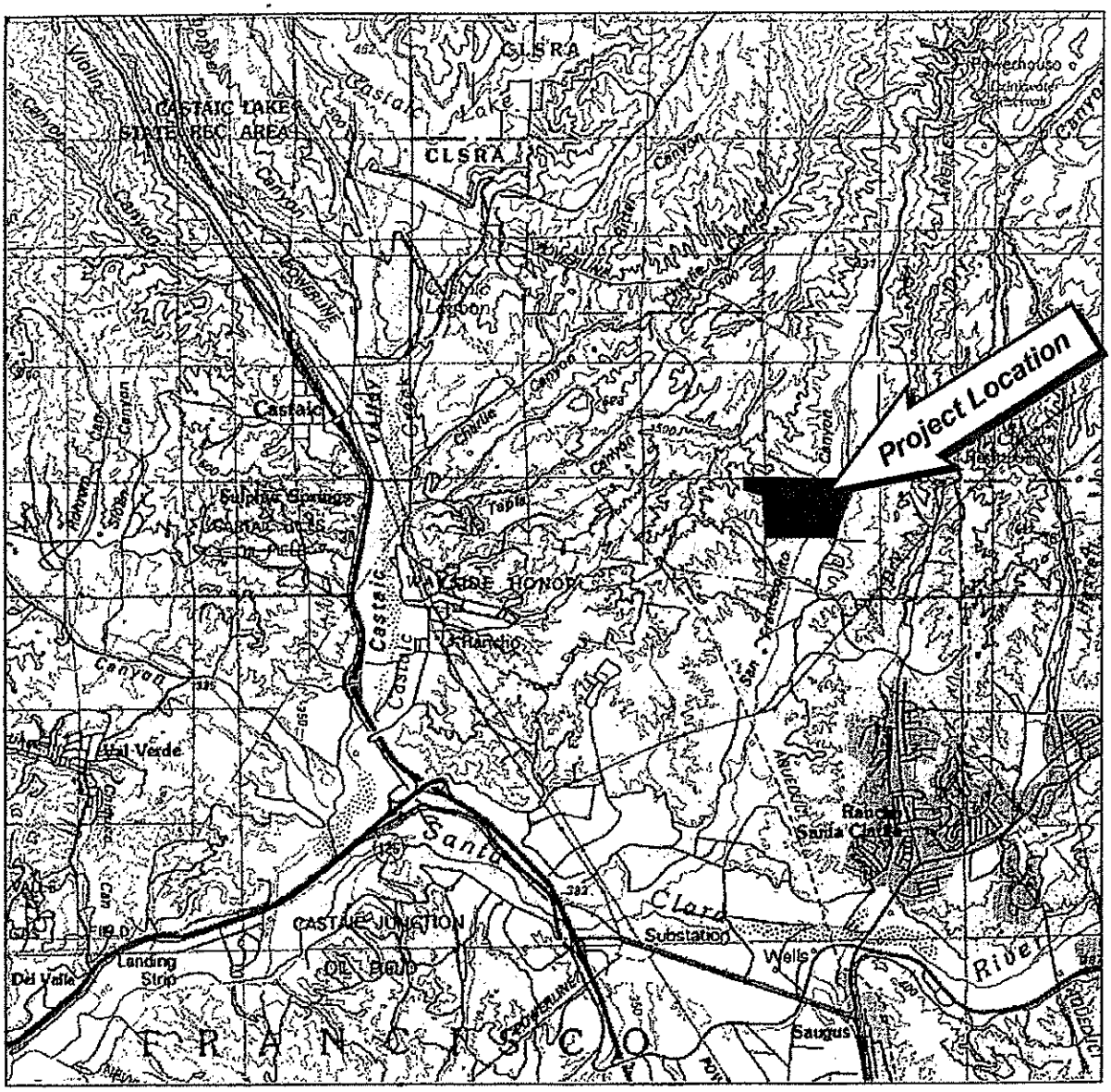
ATTACHMENT B

FIGURES

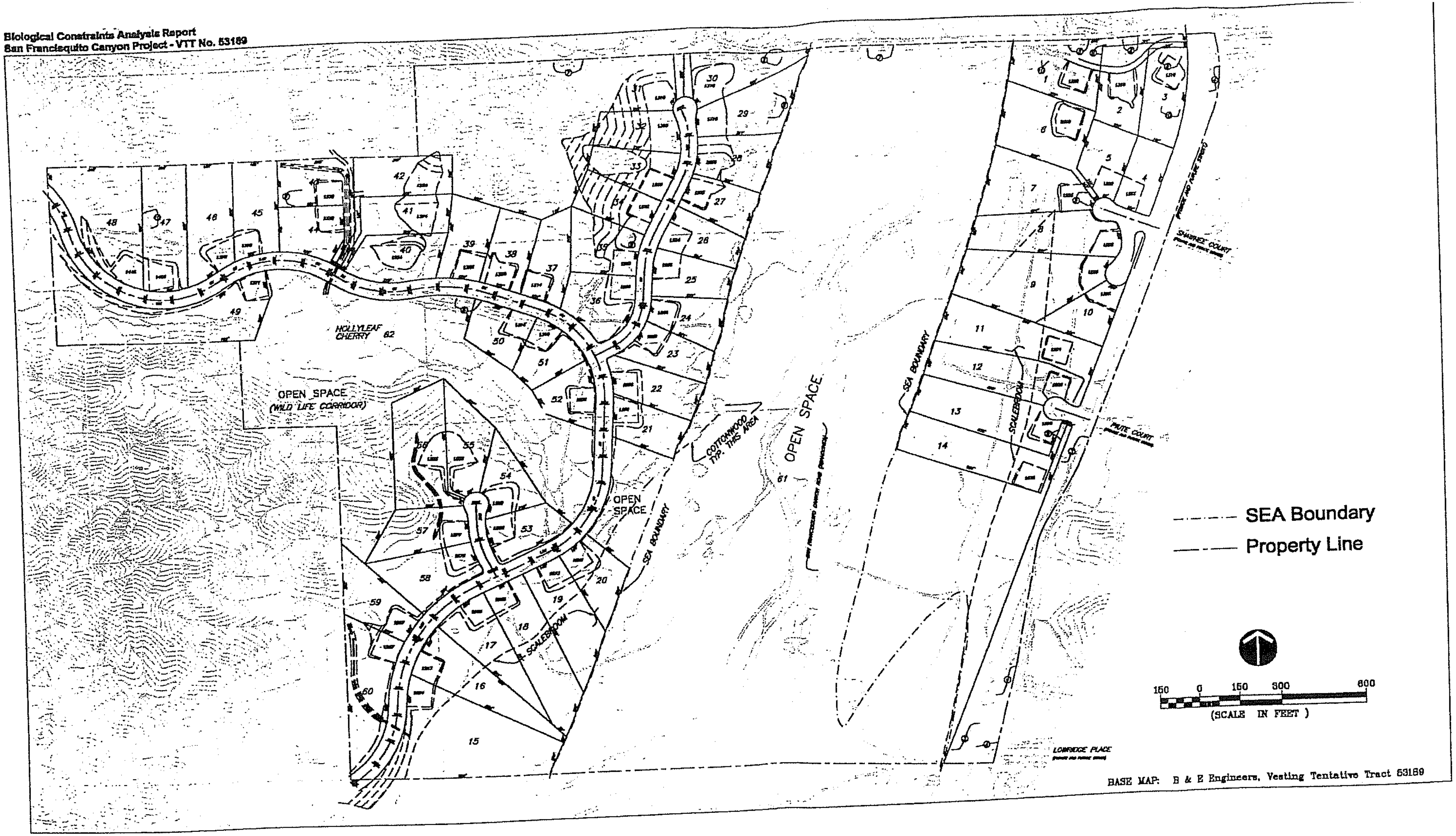


Regional Location

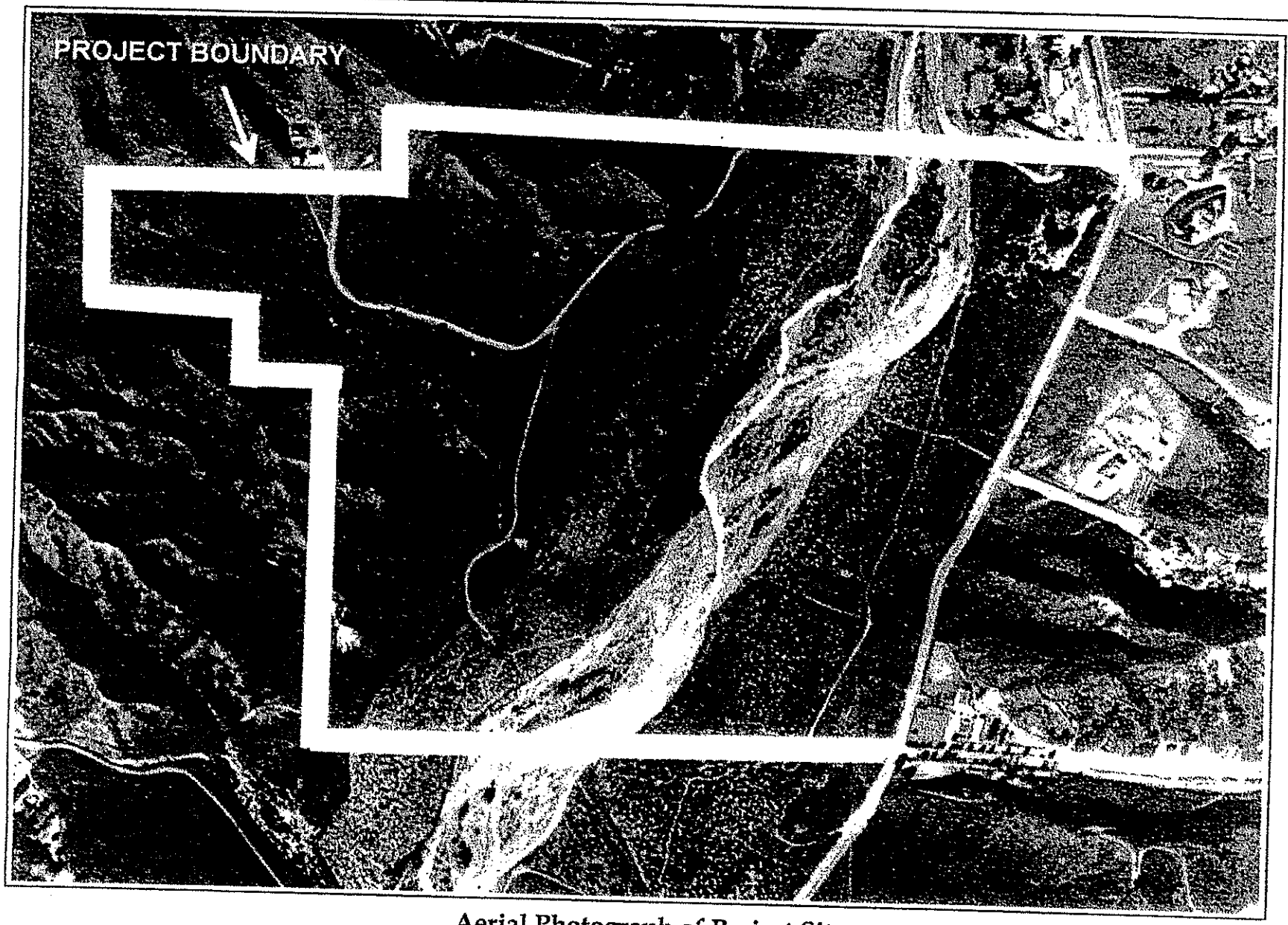
Figure 1



Project Vicinity On USGS Newhall Topographic Map Figure 2

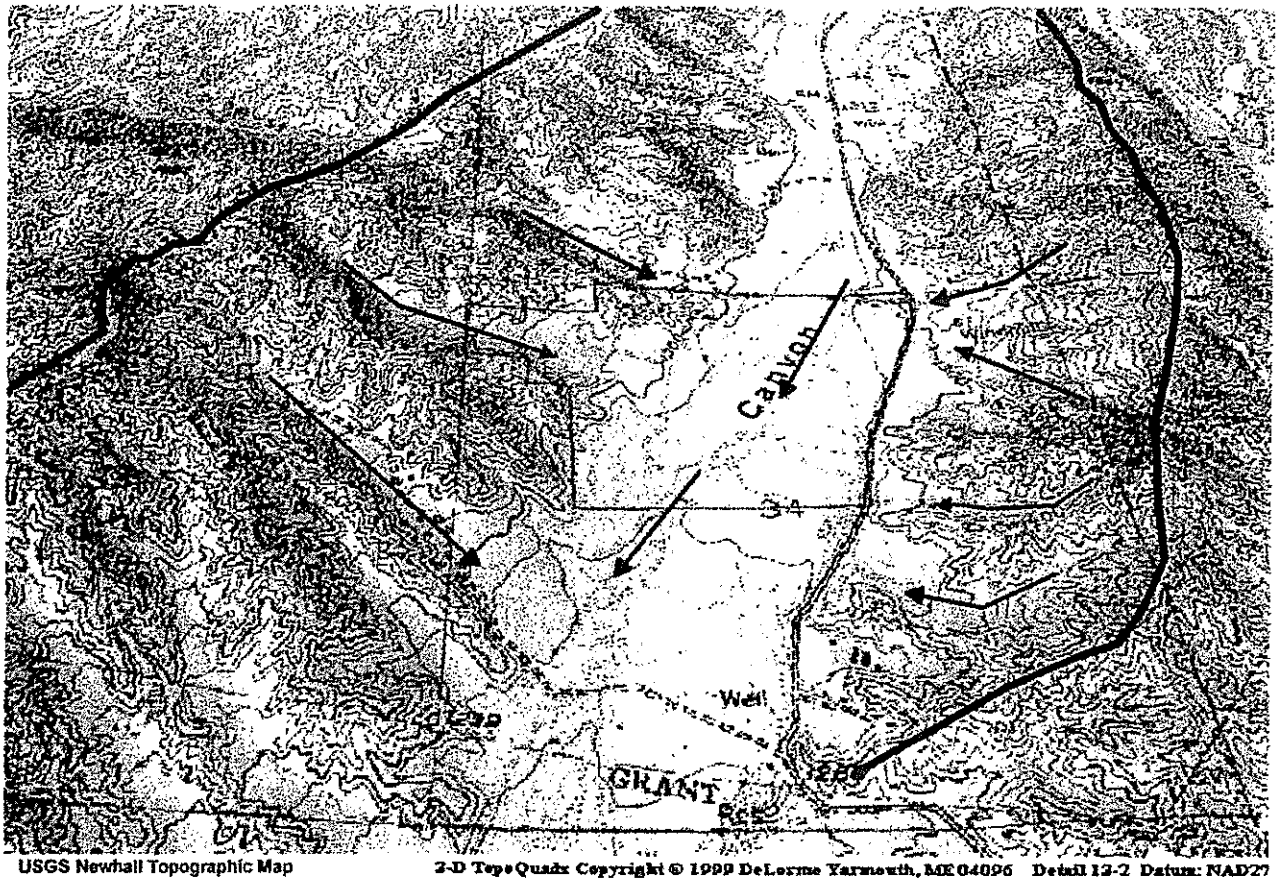


Site Plan Figure 3



Aerial Photograph of Project Site

Figure 4



USGS Newhall Topographic Map

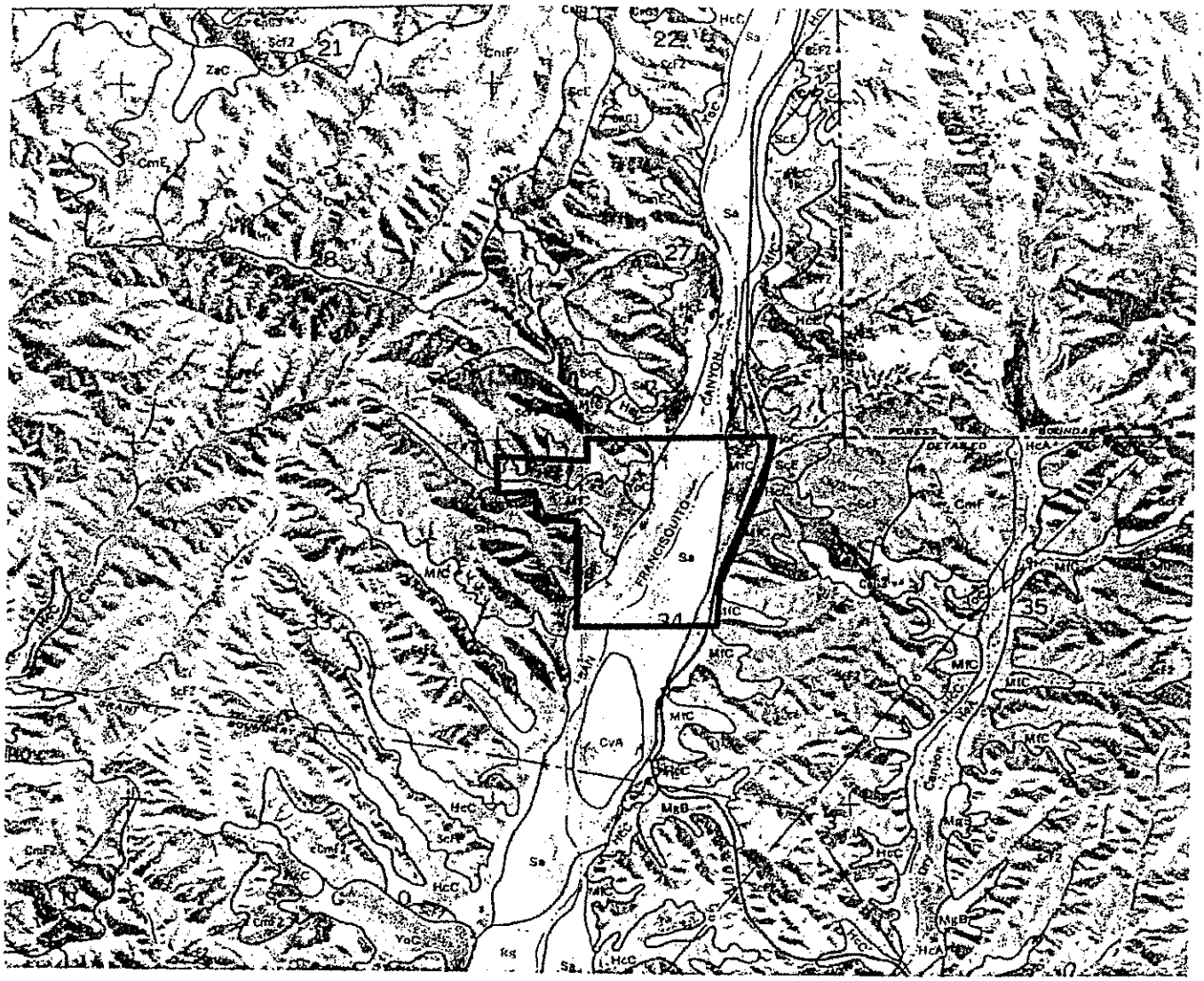
Watershed Boundary

Drainage Pattern

Project Boundary

NORTH

San Francisquito Canyon Watershed and Drainage Figure 5



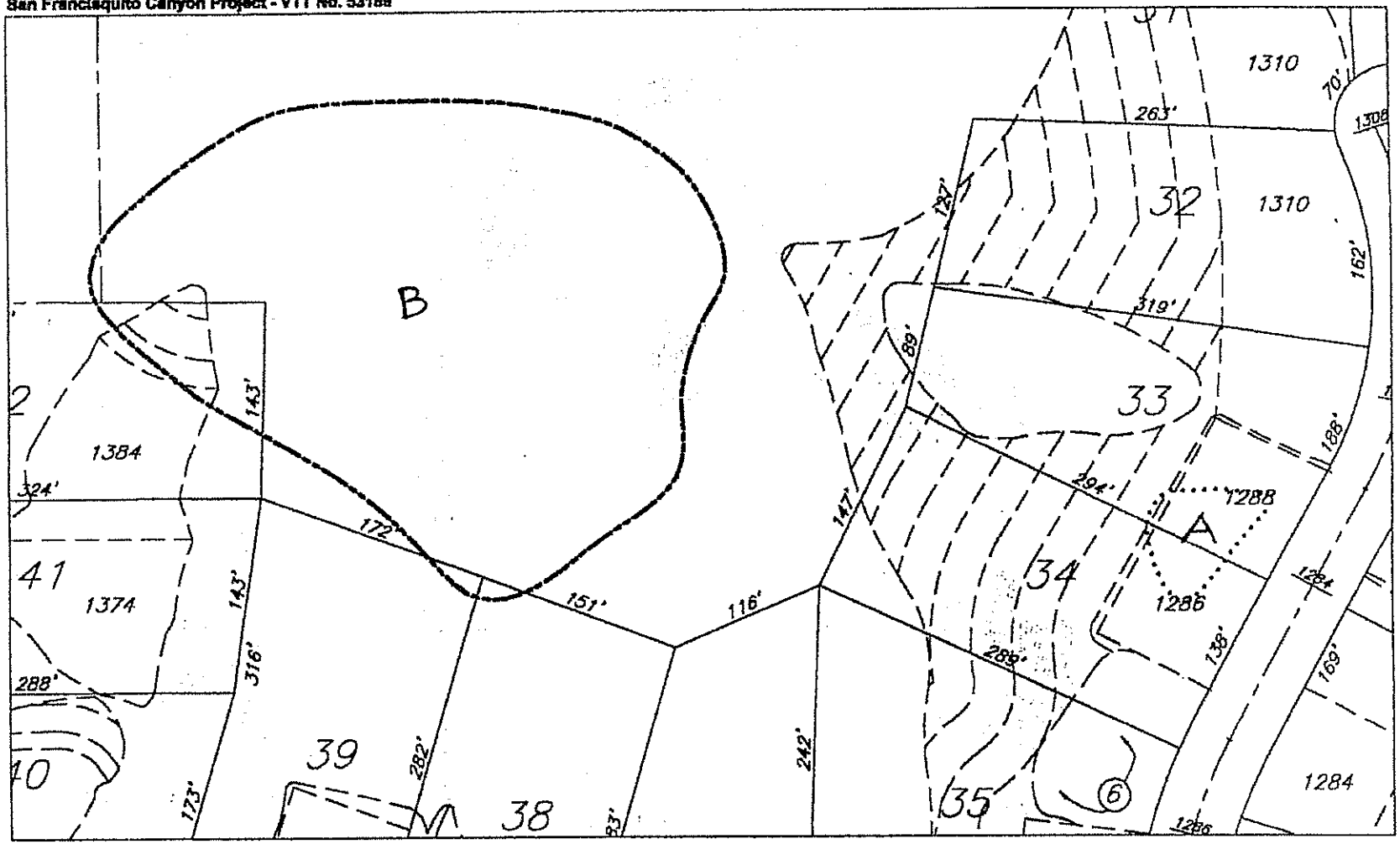
Map Source: USDA Soil Survey Antelope Valley Area, California

Project Boundary

NORTH

Soils Map

Figure 6



A Landslide Area

B Slope Instability

Significant Land Forms and Geologic Features

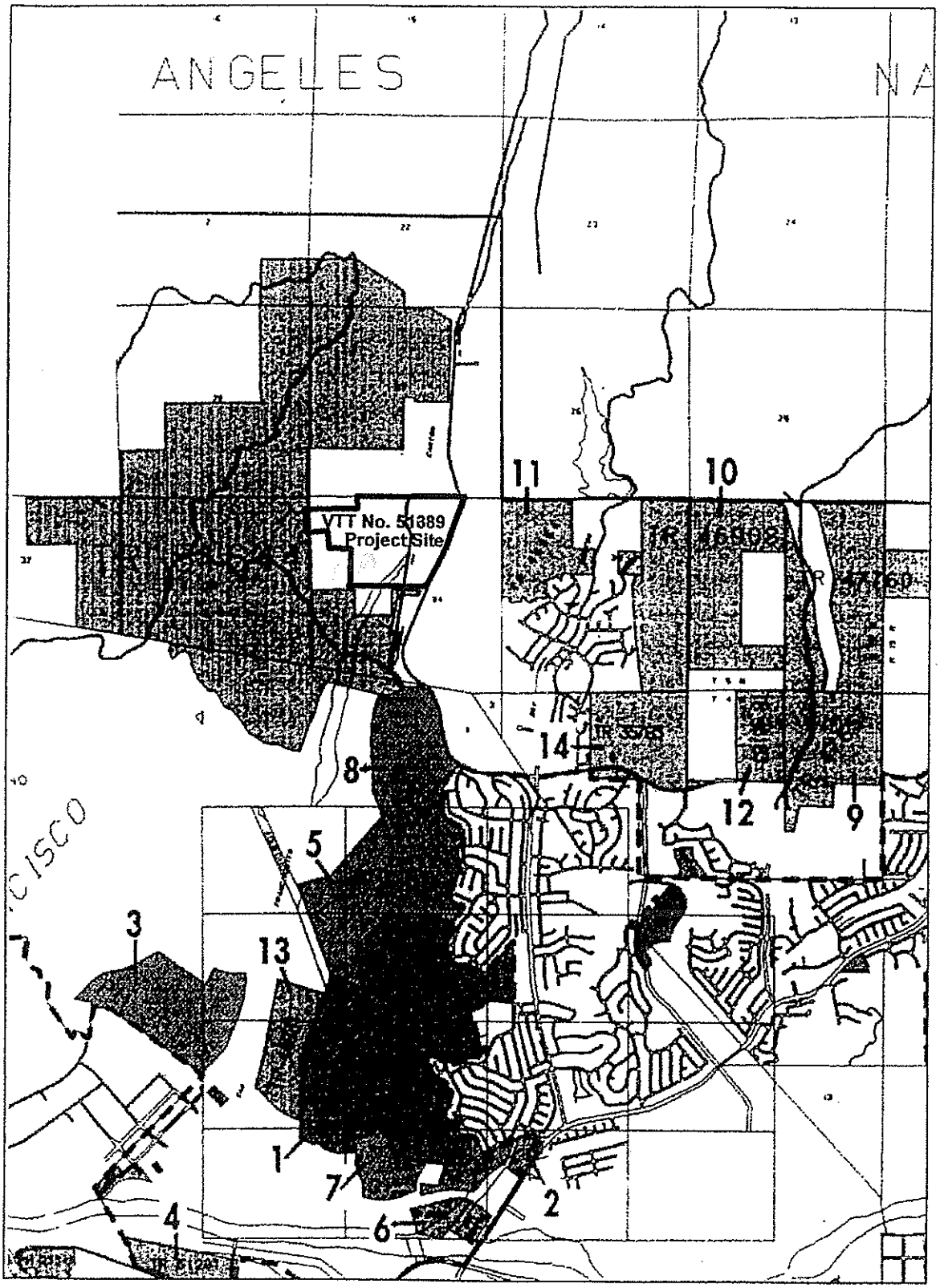
Figure 7

Larwin Company

Base map provided by The Larwin Company. 06/19/99

Vegetation Map Figure 8

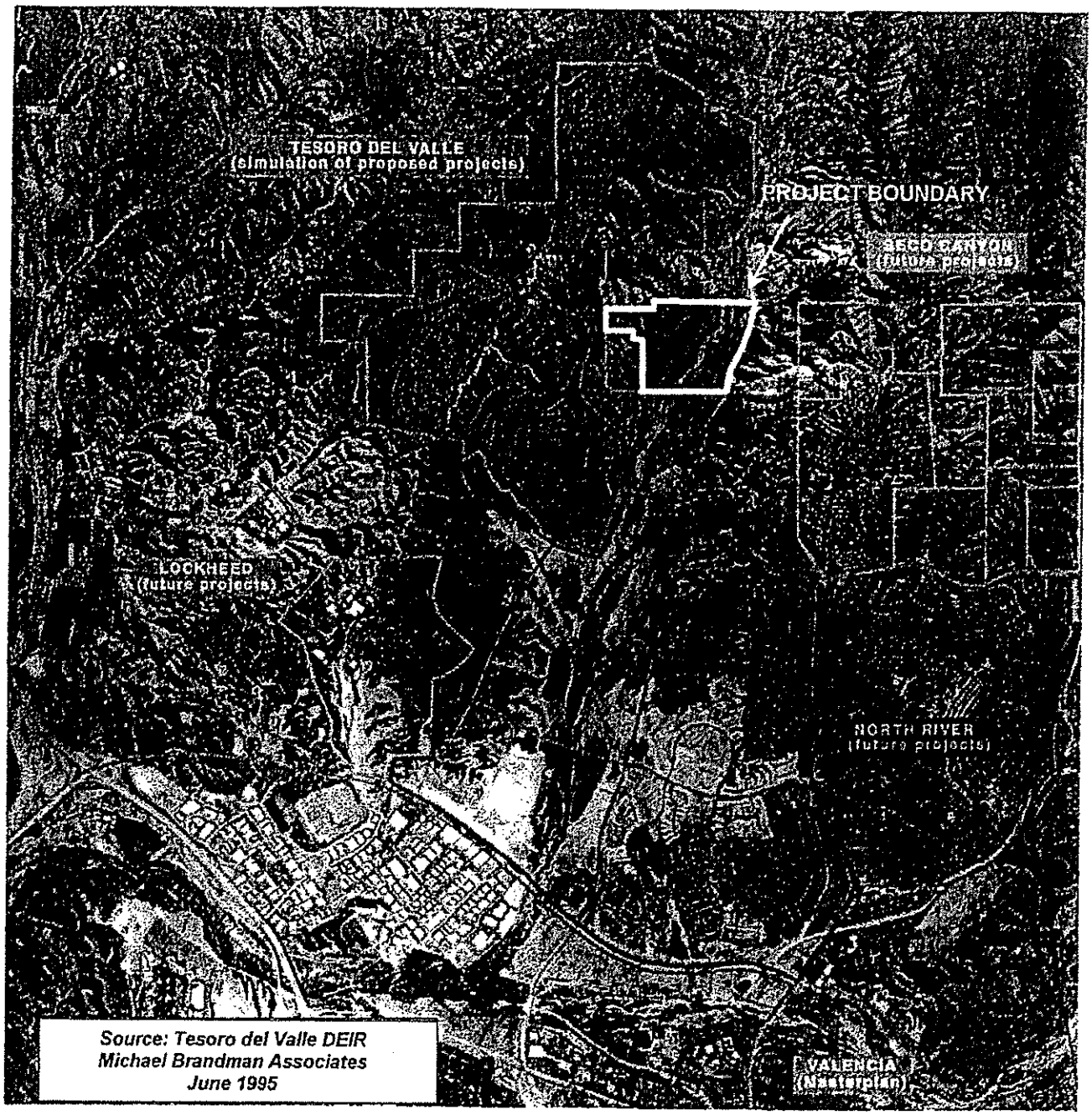
Larwin Company



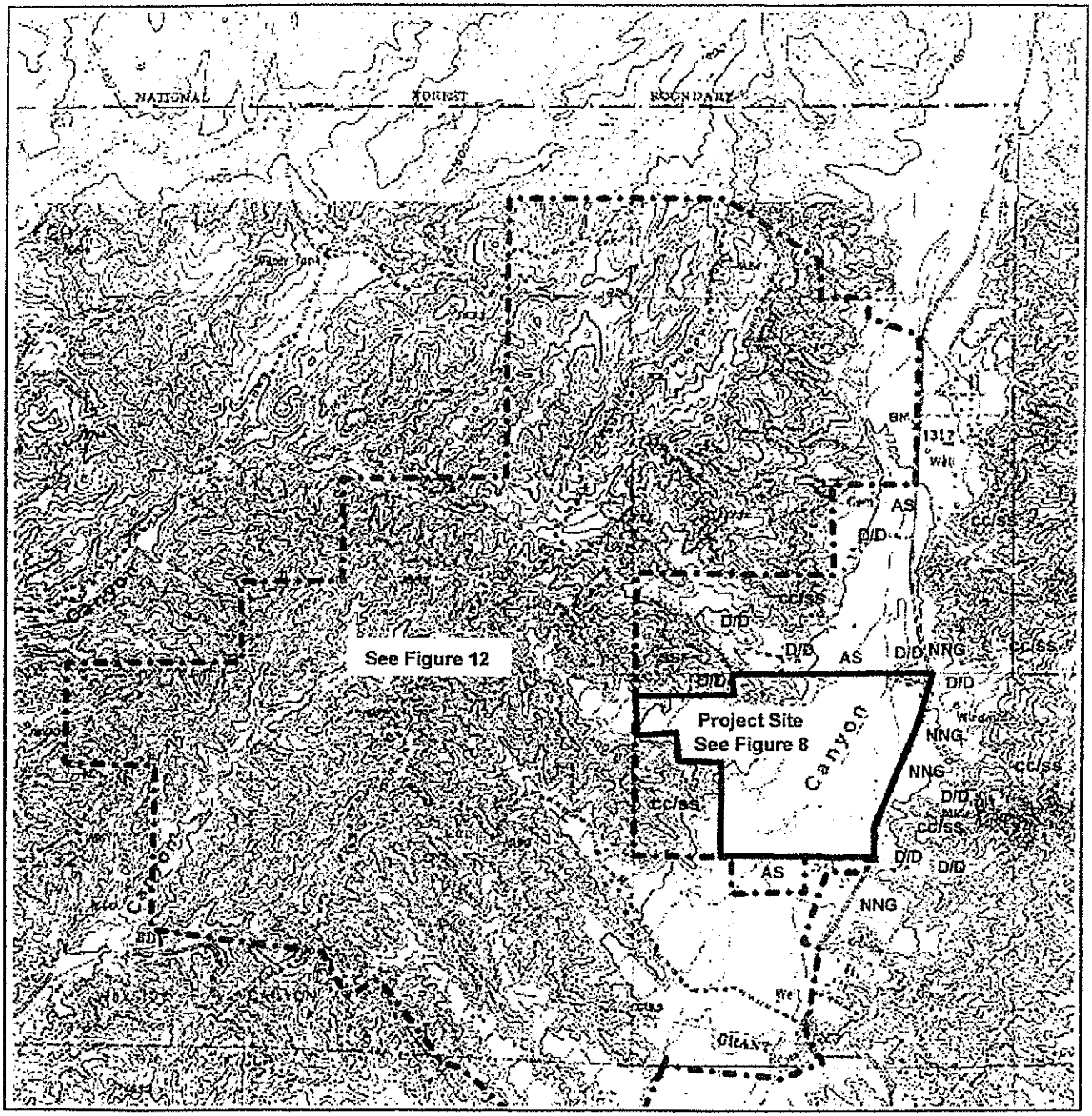
Map Source: Tesoro del Valle DEIR - Michael Brandman Associates (1995)

Land Use of Surrounding Area

Figure 9



Aerial View of Project Site - VTT No. 53189 and Related Projects Figure 10



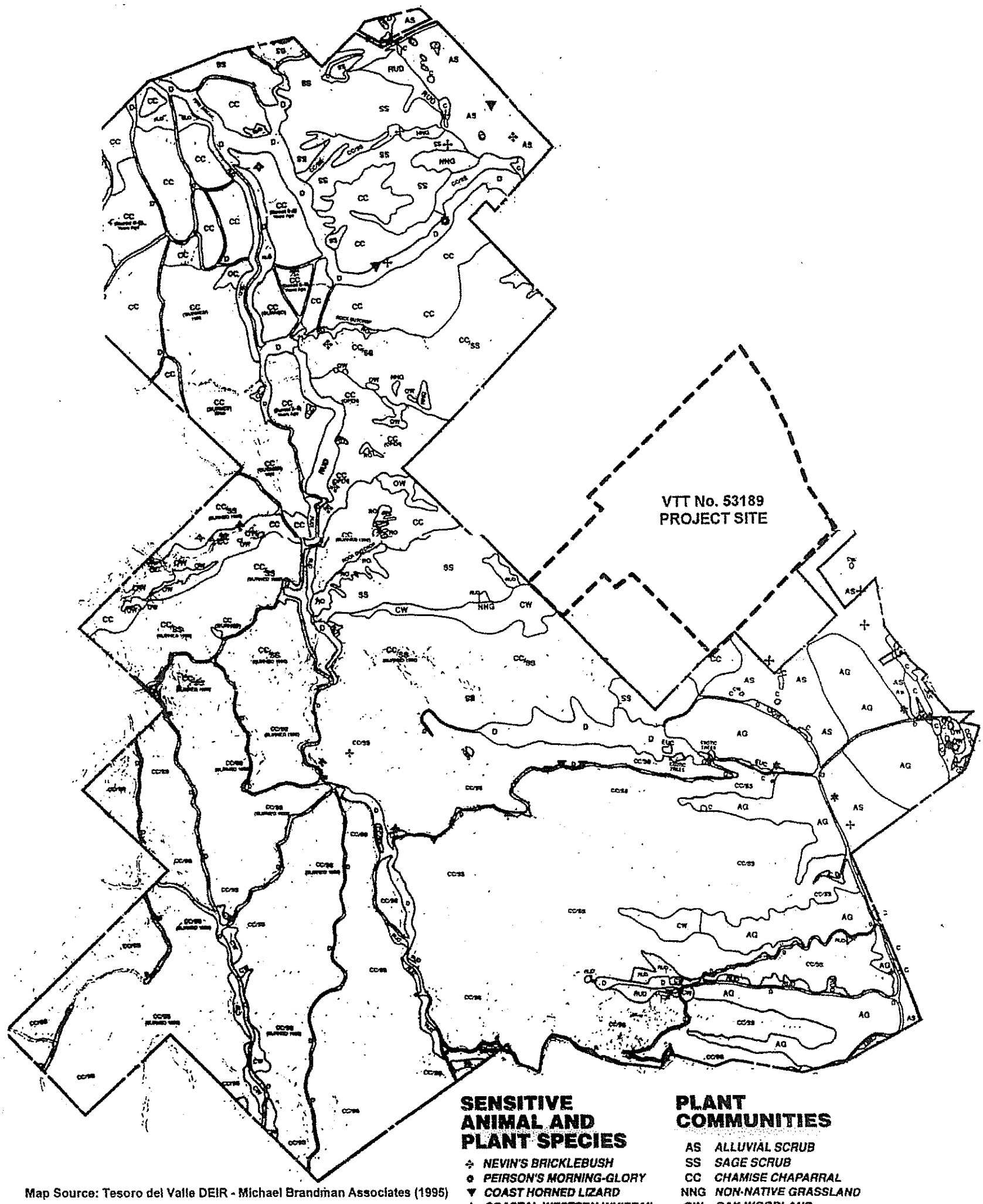
Plant Communities:

AS	Alluvial Scrub
cc/ss	Chamis Chaparral/Sage Scrub
D/D	Disturbed/Developed
NNG	Non-native Grassland
ss	Sage Scrub

NORTH

0 0.25 0.5 1
SCALE IN MILES

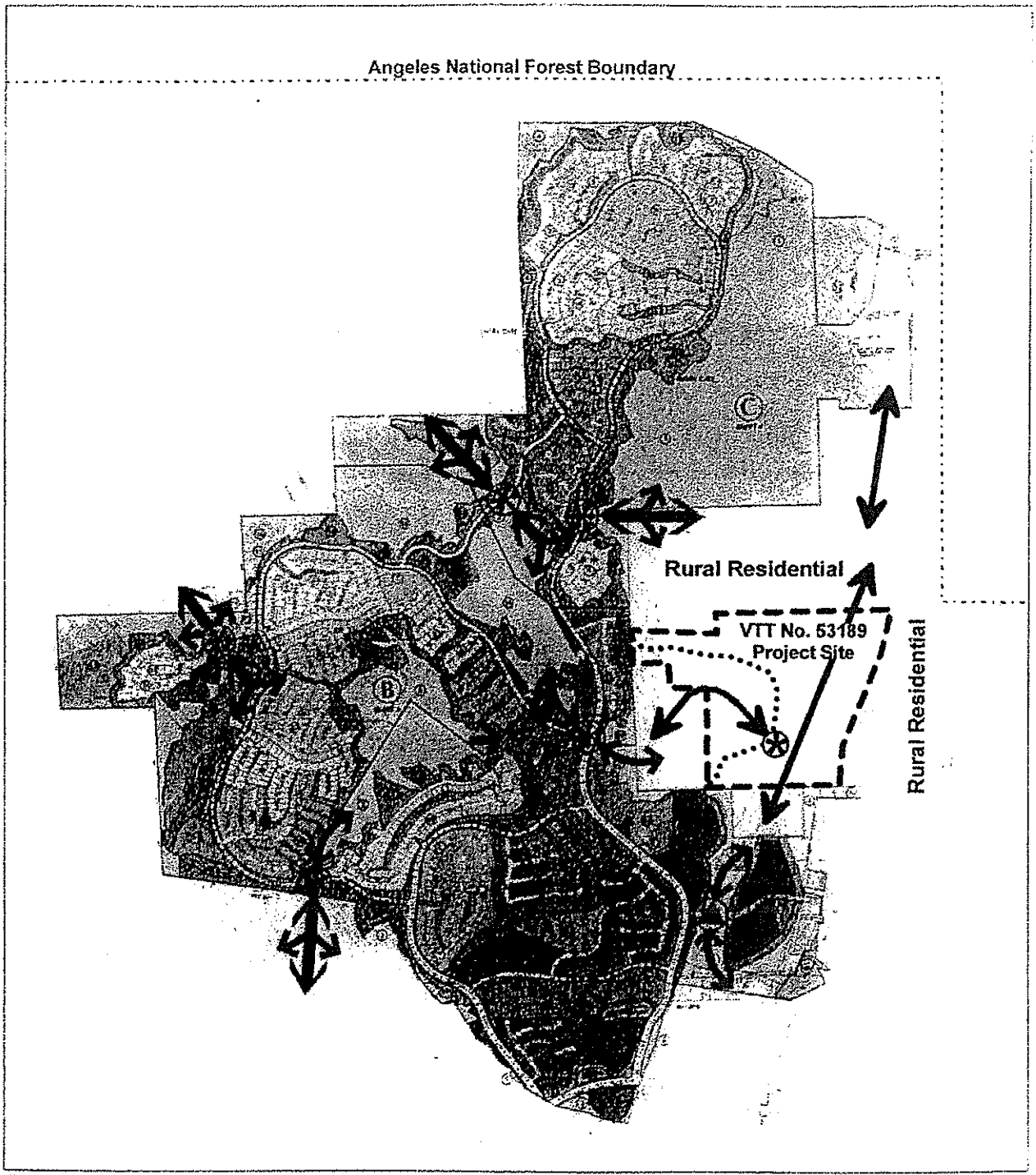
Vegetation Map of Surrounding Area Figure 11



Map Source: Tesoro del Valle DEIR - Michael Brandman Associates (1995)

Plant Communities and Sensitive Species of Tesoro del Valle

Figure 12



Surrounding Open Space and Wildlife Corridors

Figure 13

LEGEND

- Scalebroom Scrub
- Riversidean Alluvial Fan Sage Scrub
- Mainland Hollyleaf Cherry Woodland
- Coast Live Oak Woodland
- Cottonwood
- Sycamore
- Olive Trees
- Eucalyptus Grove
- Cottonwood-Mulefat-Giant Reed
- Riversidean Sage Scrub
- Chamise Chaparral
- Non-Native Grassland
- SEA Boundary
- Project Boundary
- Fuel Modification Zone
- ② Jurisdictional Waters Width in Feet

150 0 150 300 600
(SCALE IN FEET)

BASE MAP: B & E Engineers, Vesting Tentative Tract 53189

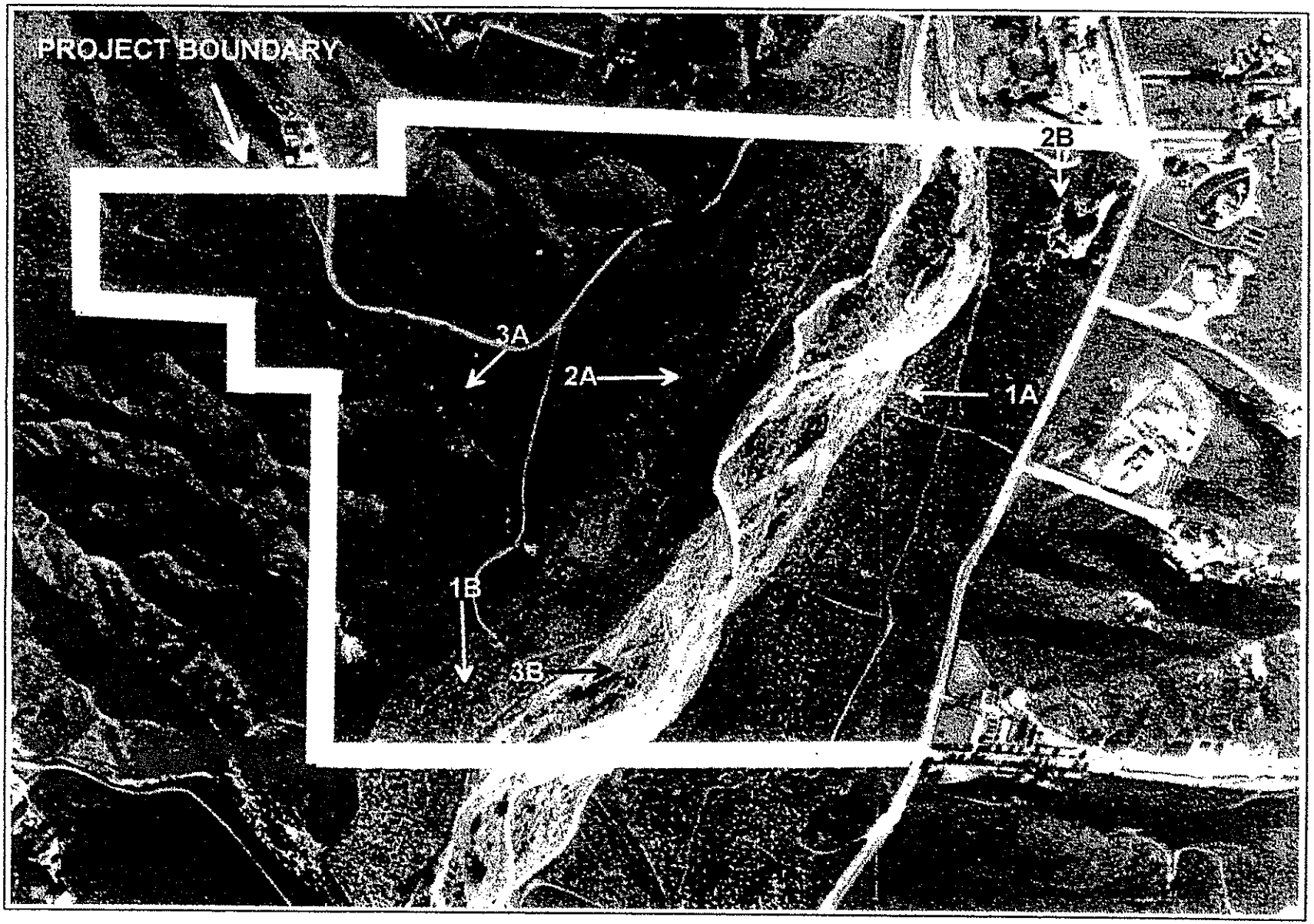
Preliminary Fuel Modification Plan Map

Figure 14

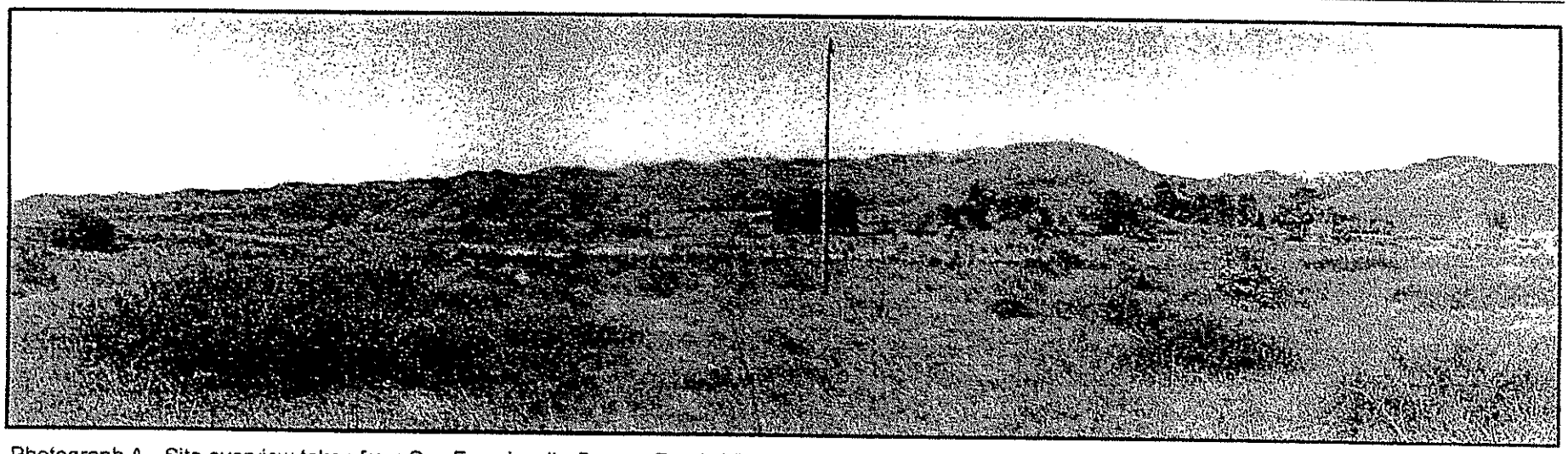
Larwin Company

ATTACHMENT C

PHOTOGRAPHS



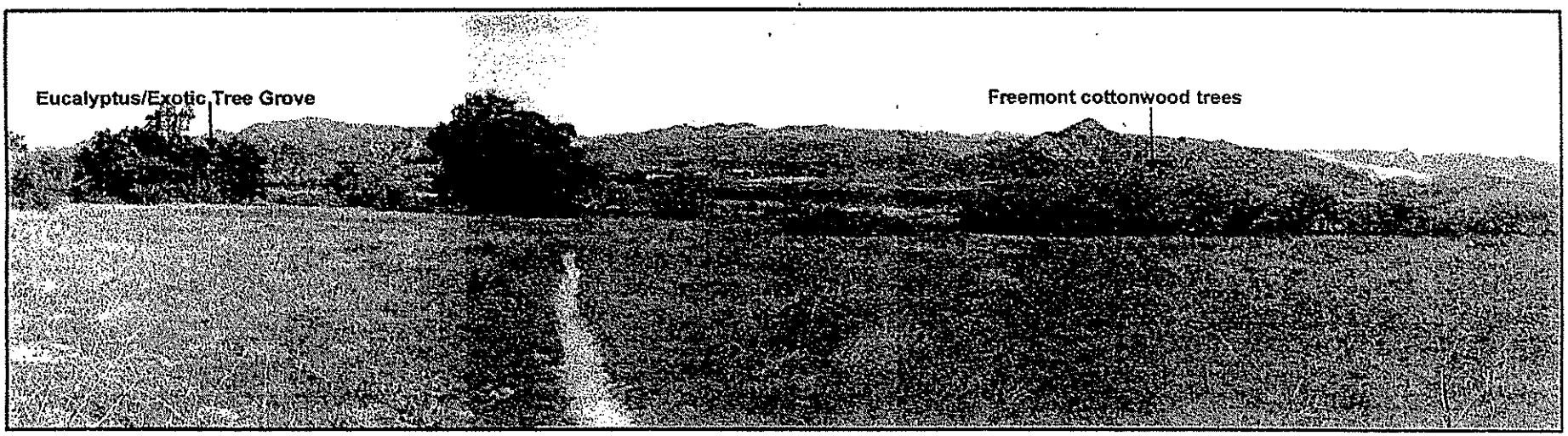
Photograph Locations



Photograph A - Site overview taken from San Francisquito Canyon Road. View pans from southwest to northwest (left to right).

Photograph B - Scalebroom Scrub and Non-native Grassland taken from dirt road. View pans from southeast to southwest (left to right).

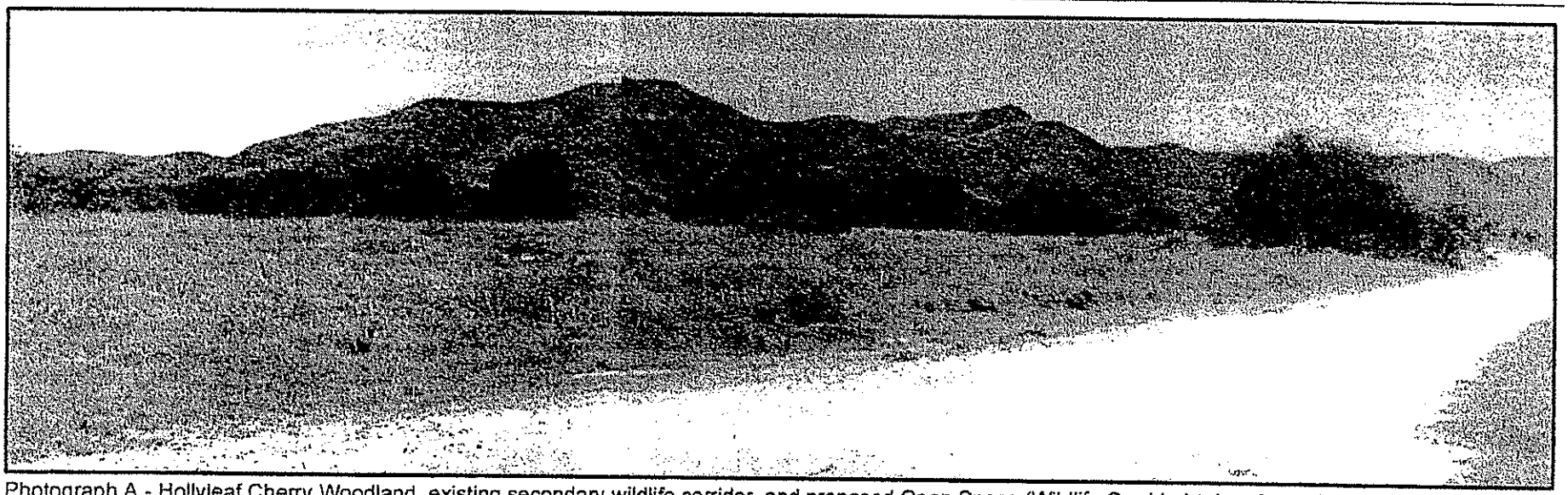
Photographs of Project Site



Photograph A - Eucalyptus/Exotic Tree Grove and Freemont cottonwoods trees taken from midsite. View pans from north to southeast (left to right).

Photograph B - Coast Live Oak Woodland taken from north of entry road. View pans from east to south (left to right).

Photographs of Project Site



Photograph A - Hollyleaf Cherry Woodland, existing secondary wildlife corridor, and proposed Open Space (Wildlife Corridor) taken from dirt road. View pans from south to west (left to right).

Photograph B - San Francisquito Canyon Creek, SEA No. 19, taken from edge of floodplain in south of site. View pans from northeast to south (left to right).

Photographs of Project Site

FAUNAL COMPENDIA	
Species	**Observed**
REPTILES	
PHRYNOSOMATIDAE - ZEBRA-TAILED, FRINGE-TOED, SPINY, TREE, SIDE-BLOTCHED, AND HORNED LIZARDS	
Sceloporus occidentalis	
western fence lizard	O
Uta stansburiana	
side-blotched lizard	O
ANGUIDAE - ALLIGATOR LIZARDS	
Elgaria multicarinata	
southern alligator lizard	O
BIRDS	
ODONTOPHORIDAE - QUAILS	
Callipepla californica	
California quail	O
CATHARTIDAE - NEW WORLD VULTURES	
Cathartes aura	
turkey vulture	O
ACCIPITRIDAE - HAWKS	
Accipiter striatus	
sharp-shinned hawk	O
Accipiter cooperi	
Cooper's hawk	O
Buteo swainsoni	
Swainson's hawk	O
Buteo jamaicensis	
red-tailed hawk	O
COLUMBIDAE - PIGEONS & DOVES	
Zenaida macroura	
mourning dove	O
TYTONIDAE - BARN OWLS	
Tyto alba	
barn owl	O
CAPRIMULGIDAE - GOATSUCKERS	
Chordeiles acutipennis	
lesser nighthawk	O
TROCHILIDAE - HUMMINGBIRDS	
Calypte anna	
Anna's hummingbird	O
Calypte costae	
Costa's hummingbird	O

BIRDS (continued)	
PICIDAE - WOODPECKERS	
Melanerpes formicivorus	
acorn woodpecker	O
Picoides nuttallii	
Nuttall's woodpecker	O
Colaptes auratus	
northern flicker	O
TYRANNIDAE - TYRANT FLYCATCHERS	
Sayornis nigricans	
black phoebe	O
Sayornis saya	
Say's phoebe	O
Tyrannus vociferans	
Cassin's kingbird	O
Tyrannus verticalis	
western kingbird	O
LANIIDAE - SHRIKES	
Lanius ludovicianus	
loggerhead shrike	O
CORVIDAE - JAYS & CROWS	
Aphelocoma californica	
western scrub-jay	O
Corvus brachyrhynchos	
American crow	O
Corvus corax	
common raven	O
HIRUNDINIDAE - SWALLOWS	
Tachycineta thalassina	
violet-green swallow	O
Stelgidopteryx serripennis	
northern rough-winged swallow	O
Petrochelidon pyrrhonota	
cliff swallow	O
AEGITHALIDAE - BUSHTITS	
Psaltriparus minimus	
bushtit	O
TROGLODYTIDAE - WRENS	
Thryomanes bewickii	
Bewick's wren	O
SYLVIIDAE - GNATCATCHERS	
Polioptila caerulea	
blue-gray gnatcatcher	O
MIMIDAE - THRASHERS	
Mimus polyglottos	
northern mockingbird	O
Toxostoma redivivum	
California thrasher	O

BIRDS (continued)	
STURNIDAE - STARLINGS	
Sturnus vulgaris	
European starling *	O
PTILOGONATIDAE - SILKY-FLYCATCHERS	
Phainopepla nitens	
phainopepla	O
PARULIDAE - WARBLERS	
Dendroica coronata	
yellow-rumped warbler	O
EMBERIZIDAE - SPARROWS & JUNCOS	
Pipilo maculatus	
spotted towhee	O
Pipilo crissalis	
California towhee	O
Calamospiza melanocorys	
lark bunting	O
Amphispiza belli	
sage sparrow	O
Pooecetes gramineus	
vesper sparrow	O
Chondestes grammacus	
lark sparrow	O
Passerculus sandwichensis	
savannah sparrow	O
Melospiza melodia	
song sparrow	O
Melospiza lincolnii	
Lincoln's sparrow	O
Zonotrichia leucophrys	
white-crowned sparrow	O
ICTERIDAE - BLACKBIRDS	
Sturnella neglecta	
western meadowlark	O
Icterus cucullatus	
hooded oriole	O
FRINGILLIDAE - FINCHES	
Carpodacus mexicanus	
house finch	O
Carduelis psaltria	
lesser goldfinch	O
Carduelis lawrencei	
Lawrence's goldfinch	O

MAMMALS	
LEPORIDAE - HARES & RABBITS	
Sylvilagus audubonii	
desert cottontail	O
Lepus californicus	
black-tailed jackrabbit	O
SCIURIDAE - SQUIRRELS	
Spermophilus beecheyi	
California ground squirrel	O
GEOMYIDAE - POCKET GOPHERS	
Thomomys bottae	
Botta's pocket gopher	O
MURIDAE - MICE, RATS, AND VOLES	
Peromyscus maniculatus	
deer mouse	O
Reithrodontomys megalotis	
western harvest mouse	O
CANIDAE - WOLVES & FOXES	
Canis latrans	
coyote	O
CERVIDAE - DEERS	
Odocoileus hemionus	
mule deer	O

OCCURANCE LEGEND
O = Observed during surveys of project site by Rincon in 1999 and/or BonTerra in 2003 and 2004..
* = Introduced species

ATTACHMENT C

Delineation of Jurisdictional Waters Outside of the Significant Ecological Area and Update of the Preliminary Biological Constraints Map, San Francisquito Canyon Property
Prepared by Rincon Consultants, Inc.

(January 2000)

and

Delineation of Jurisdictional Waters
Vesting Tentative Tract Map No. 53189
Los Angeles County, California
Prepared by RBF Consulting

(November 2005)

Rincon Consultants, Inc.

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January 19, 2000

Larwin Company
16633 Ventura Boulevard, Suite 1300
Encino, California 91436

Attention: Paul Dashevsky

DELINEATION OF JURISDICTIONAL WATERS OUTSIDE OF THE SIGNIFICANT ECOLOGICAL AREA AND UPDATE OF THE PRELIMINARY BIOLOGICAL CONSTRAINTS MAP SAN FRANCISQUITO CANYON PROPERTY
County of Los Angeles, CA

Rincon Consultants, Inc. has conducted a delineation of jurisdictional waters outside of the Significant Ecological Area (SEA) for the San Francisquito Canyon Property, in Los Angeles County. This property is being considered for development of 50-60 single-family homes on a 96-acre portion of the site and up to 20 additional large lots (2 acre) in the remaining portion. The 176-acre site is currently undeveloped except for a few graded dirt roads.

The purpose of this report is to provide a delineation of the jurisdictional water boundaries of the San Francisquito Canyon property (outside of the SEA) in order to update the preliminary biological constraints map. This report is also intended to provide jurisdictional information for wetland permitting and to aid the County of Los Angeles in its decisions regarding the project. Permitting is not a part of this report. This report also discusses the refinement of the sensitive habitat boundary in the vicinity of road "LL".

STUDY AREA

The project site is located in a developing portion of Los Angeles County east of the Golden State Freeway (Interstate Highway 5) and north of the Saugus area of the Santa Clarita Valley (Figure 1 and 2). The site is bordered on the east by San Francisquito Canyon Road and is approximately between Lady Linda Lane, at the north, and Lowridge Place, to the southeast. The key-shaped western border basically follows the topography of the canyons and hills. San Francisquito Canyon Creek runs north to south through the eastern half of the project site and is one of the largest tributaries of the Santa Clara River.

METHODOLOGY

A delineation of drainages onsite, outside of the SEA, was performed on December 20, 1999. Prior to initiation of the site visit aerial photography and the Newhall USGS topographical quadrangle map (revised 1988) were reviewed. Drainages were identified in the field on a one-inch equals 100-feet scale topographical map provided by the Larwin Company (June 16, 1999).

The investigation to determine the amount and type of jurisdictional "waters of the United States" was conducted based on methods described in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987). Delineation of jurisdictional area was determined in the study area on December 20, 1999 by Kathy Frye and Jason Kirschenstein of Rincon Consultants, Inc.

The USACE routine onsite method of wetland delineation was used at one sampling station in drainage "B". A soil pit 16 inches deep was dug and field indicators for the three parameters of hydrophytic vegetation, hydric soils, and wetland hydrology were examined. According to the routine method, hydrophytic vegetation is indicated when more than 50 percent of the dominant species at the station is obligate, facultative wetland, or facultative species (Reed, 1988). Testing for hydric soils was performed by looking for one or more of the various indicators such as: chroma (Munsell Color, 1990); mottling; gleying; or presence of sulfidic odors. As the site contains sandy soil, evidence of organic material, such as streaking, was also looked for in the soil. The soil series were noted (U.S. Department of Agriculture, 1970). Wetland hydrology typically is indicated when soils are inundated or saturated within 12 inches of the surface for at least 2 to 3 weeks during the growing season. The indicators for hydrology used were drainage patterns and topography. Due to the lack of two (hydrophytic vegetation and hydric soil) of three wetland parameters in the drainages observed, soil was observed but pits were not dug according to the routine method. Drainage boundaries for "waters of the United States "were delineated in the field and mapped in the office based on evidence of drainage and topographical features (hydrology) from a 1" = 100' foot map of the site (contour interval = 2 feet).

The CDFG uses the Cowardin system for delineating wetlands. This system delineates wetlands based on positive evidence of at least one of three parameters, as listed above in the discussion of USACE methodology (Cowardin et al, 1979). Hydrophytic vegetation, hydric soils, or wetland hydrology could be used to determine CDFG jurisdiction and in this case, hydrology was used to determine jurisdiction.

BIOLOGICAL CONDITIONS AT THE SITE

Six drainages were identified for delineation purposes (Areas A-F) as discussed below. See Figures 3 and 4 for vegetation and drainage locations, respectively. After evaluation of aerial photography of the site and the USGS Newhall topographical map, it was determined that there are no blue-line streams in the area to be surveyed. Soils onsite include Saugus loam, Metz loamy sand, Hanford sandy loam, Yolo loam, and Sandy Alluvial (U.S. Department of Agriculture, 1970). None of the drainages for this project site meet the criteria for hydrophytic vegetation or hydric soils.

Area A and B. This area is located in the northwestern portion of the project site and consists of two drainages in a valley with upland vegetation. The upland habitats consist primarily of Chamise Chaparral but the area does contain non-native grasses and sensitive hollyleaf cherry and scattered scalebroom. The drainages run approximately west to east.

Area C. This drainage is east of drainage "A", in the western portion of the site, and runs southeast toward an existing dirt road. The primary vegetation in this drainage consists of native and non-native upland vegetation. This drainage also runs through the Mainland

Hollyleaf Cherry Woodland, as illustrated on the constraints map (Figure 4), and into grassland dominated by non-native grasses and mustard. Mainland Hollyleaf Cherry Woodland is a sensitive habitat.

Area D and E. These drainages are located in the northwestern portion of the site, east of drainage "B" and adjacent to an existing dirt road. The primary vegetation to the north of the road and in these drainages consists of non-native grasses and ruderal vegetation. There is a singular hollyleaf cherry at the western end of the drainages. These two drainages run approximately west to east.

Area F. This drainage is at the northern boundary of the site and west of the existing dirt road leading southwest into the site. Vegetation in this drainage consists of Riversidean Alluvial Fan Sage Scrub. The drainage runs from west to east and toward the road onsite.

RESULTS

All six drainages observed onsite, outside of the SEA, consisted of upland vegetation and sandy soils. None of the drainages meet the three parameters of hydrophytic vegetation, hydric soils, and wetland hydrology criteria required for USACE wetland determination. However, all six drainages have positive evidence of at least one of three parameters (hydrology) required for USACE jurisdiction and are considered "waters of the United States". With one of three parameters met, these drainages are also meet CDFG jurisdiction. Width for USACE jurisdiction was based on the width of the channel at the ordinary high water mark and CDFG jurisdiction is concurrent with that area (Figure 4). The resulting USACE and CDFG jurisdictions are illustrated on the constraint map that is attached to this report (Figure 4). Jurisdictional area is summarized below and in the following table:

1. USACE jurisdiction = 9,150 square feet or 0.2 acres, and

2. CDFG jurisdiction = 9,150 square feet or 0.2 acres

Summary of Jurisdictional Area

Drainage	Length (ft)		Width (ft)	Square Feet	
	Section	Total		Section	Total (acres)
A	950	950	1	950	950 (0.02)
B	1,000 200	1,200	1 2	1,000 400	1,400 (0.03)
C	300 300 150 400	1,150	1 3 5 2.5	300 900 750 1,000	2,950 (0.07)
D	500	500	3	1,500	1,500 (0.03)
E	450	450	4	1,800	1,800 (0.04)
F	275	275	2	550	550 (0.01)
Totals		**4,525**			**9,150 (0.2)**

CONSTRAINTS DUE TO BIOLOGICAL RESOURCES AT THE SITE

Constraints due to biological resources are ranked from low to high and assigned a numerical value of 1 to 5, respectively, as follows:

- 1. Minimum biological restrictions regarding proposed development;
- 2. An adverse effect would occur due to the disturbance or loss of the resource and minor mitigation may be required;
- 3. Significant effects would occur due to disturbance or loss of the resource and the action(s) would require mitigation;
- 4. Significant effects would occur due to the disturbance or loss of the resource and the action may or may not be mitigable to less than significant. The cost of mitigation may be high, if at all achievable; and
- 5. Significant unavoidable impacts due to the disturbance of loss of the resource and the action would not be mitigable. This is generally areas where no encroachment or loss of species should occur.

Levels 4 and 5 are areas that you would want to avoid disturbing due to the sensitive nature of the habitat. The updated biological constraints map is attached as Figure 4.

Wetlands. A preliminary biological constraints report and map were prepared December 2, 1999. The results of the jurisdictional delineation, as described above, supplement the preliminary report and updates the map (Figure 4) with respect to "waters of the United States". Potential wetland habitat may occur in San Francisquito Canyon Creek or the SEA but a delineation of that area is not a part of this report.

"Waters of the United States" in the six drainages have a constraint level of 2 as they do not contain wetland vegetation and are not wetlands by definition although mitigation may be required for USACE and CDFG jurisdictional areas that are disturbed. It should be noted that areas within drainages that contain sensitive habitat, such as hollyleaf cherry, would have constraints associated with that habitat. The nature and extent of the "waters of the United States" and bank habitats disturbed can be determined with a final site plan.

Scalebroom Scrub. Among the sensitive communities located within the project site is Scalebroom Scrub. The majority of this sensitive plant community is found within the SEA. As stated in the preliminary constraint report, the accuracy of mapping sensitive habitat types may be increased by having more intensive field mapping and surveying performed. Daryl Koutnik, biologist for the County of Los Angeles, was contacted prior to the December 20, 1999 field visit to discuss mapping the sensitive Scalebroom Scrub habitat. Mr. Koutnik advised that mapping the habitat should include areas currently dominated by scalebroom in addition to disturbed areas that could potentially support the habitat, such as areas within the floodplain with the required water regime.

During the December 20, 1999 site visit, the western boundary of Scalebroom Scrub habitat was staked in field with pink pin flagging from the southern border north to the cottonwood stand in the SEA. The habitat boundary appears to approximately follow the preliminary constraints map, but as stated in the preliminary report, an engineering firm

should survey these stakes to create a more refined map of habitat boundaries. The constraints map attached to this report has not been updated with respect to Scalebroom Scrub.

Coast Live Oak. The topographical map (June 16, 1999) was not available during the original biological assessment and vegetation mapping. With the aid of the topographical features of this map, it was determined that the lone coast live oak, originally mapped in the northwest corner of the site, is actually outside of the project boundaries. The current biological constraints map (Figure 4) reflects this change.

Significant Ecological Area (SEA). The Vegetation Map, Figure 3, and the Constraints Map, Figure 4, have been updated to reflect the SEA boundary as provided by the County of Los Angeles in an engineered map.

If you have any questions regarding this report or the constraints map, please do not hesitate to call.

Sincerely,

RINCON CONSULTANTS, INC.

Kathy Frye
Senior Biologist

Duane Vander Pluym, D. ESE
Vice President

Attach: References
Figures

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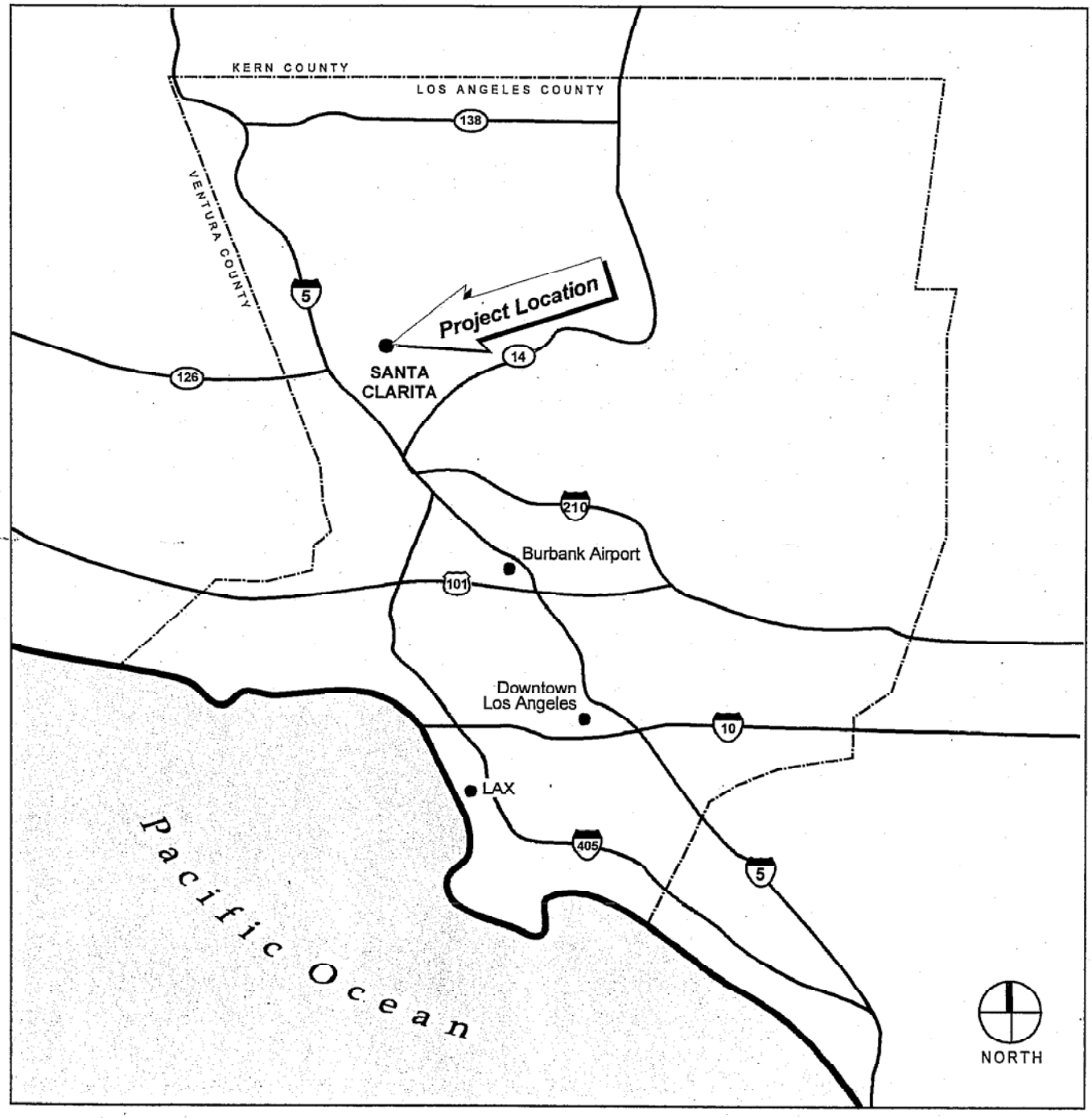
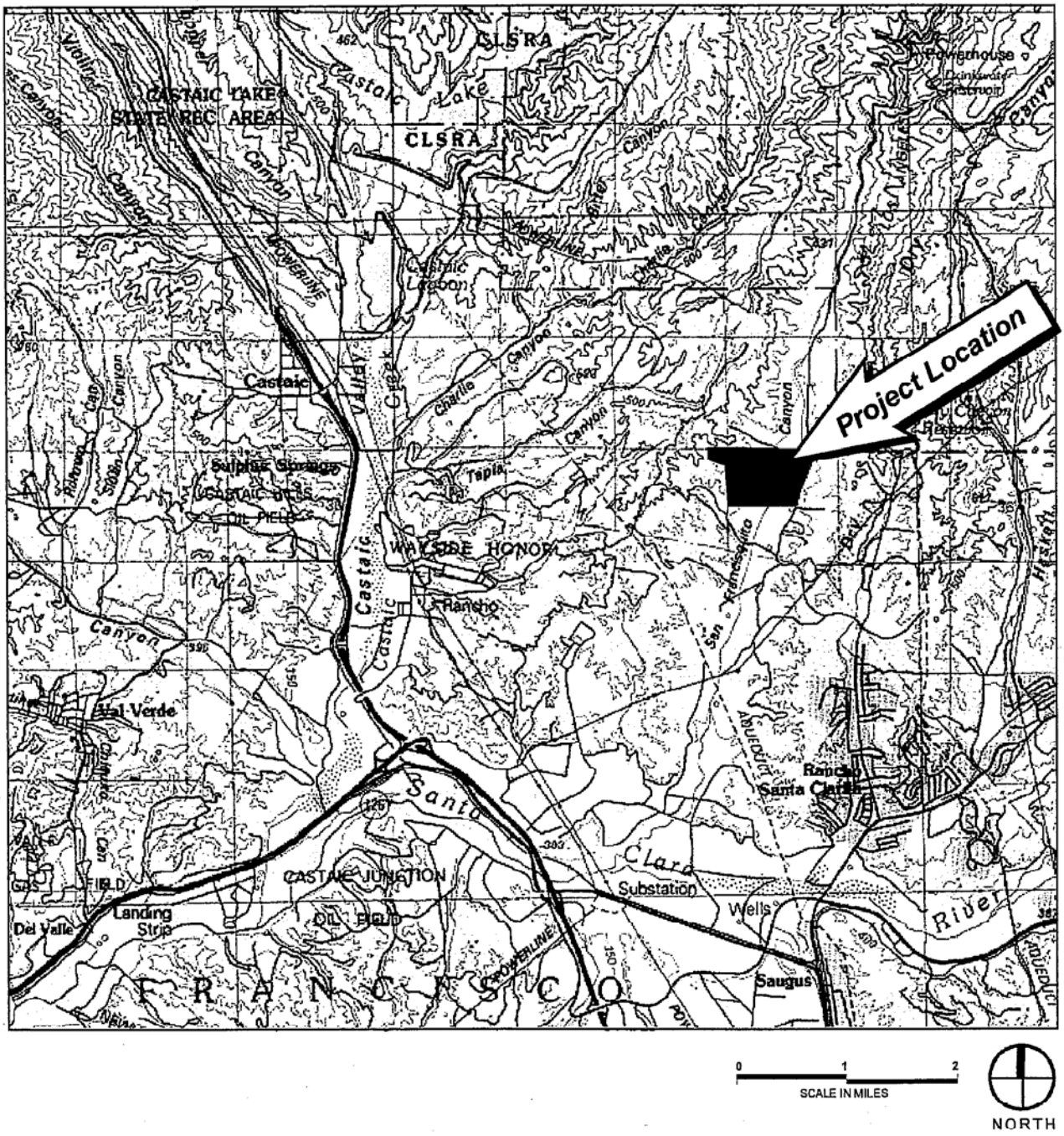
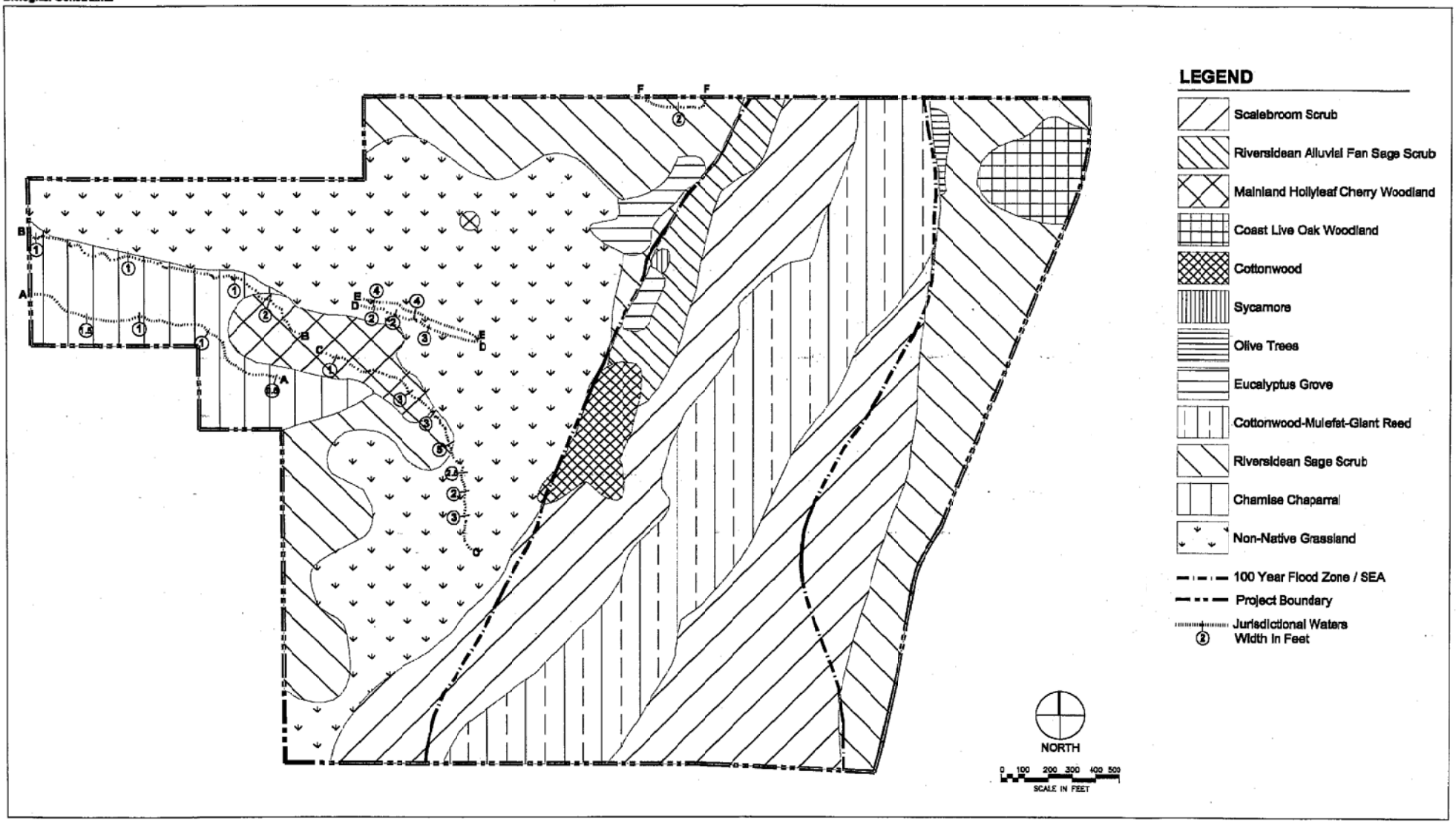


Regional Location Figure 1



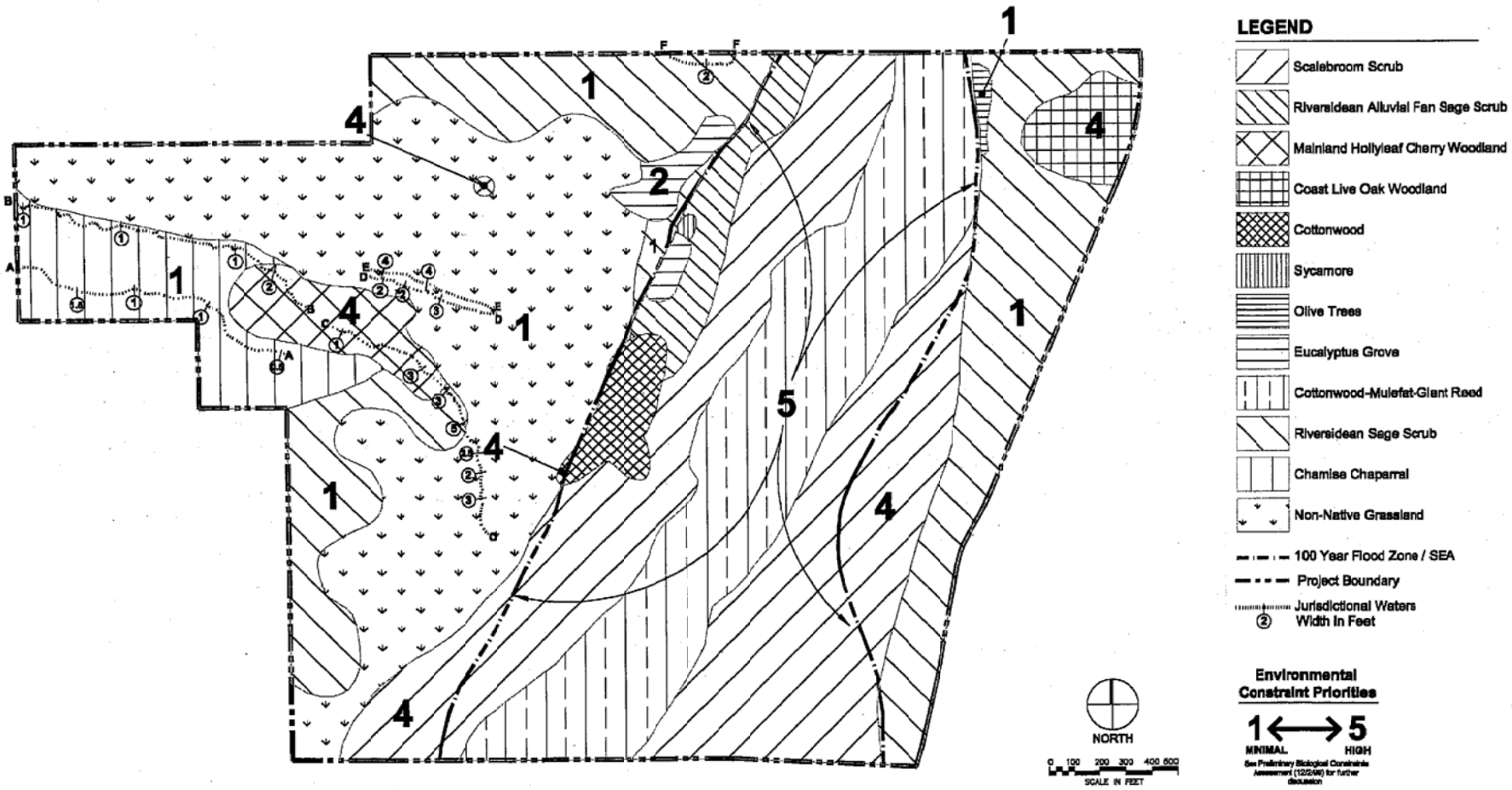
Project Vicinity Figure 2



Basemap Source: The Keith Companies, 1999

Vegetation Map Figure 3

Larwin Company



Basemap Source: The Keith Companies, 1999

Constraints Map Figure 4

Larwin Company

November 4, 2005

Ms. Kristin Keeling
BonTerra Consulting
320 North Halstead Street, Suite 130
Pasadena, California 91107

SUBJECT: DELINEATION OF JURISDICTIONAL WATERS
Vesting Tentative Tract No. 53189

Dear Ms. Keeling:

On behalf of RBF Consulting (RBF), we are pleased to submit this Delineation of Jurisdictional Waters for the above referenced project. The enclosed delineation was conducted on March 24, 2005, to document the regulatory authority of the U.S. Army Corps of Engineers' (ACOE), California Department of Fish and Game (CDFG), and California Regional Water Quality Control Board (RWQCB) pursuant to the Federal Clean Water Act (CWA) and California Fish and Game Code. The project area was surveyed pursuant to the ACOE *1987 Wetland Delineation Manual*, to identify evidence of hydrology, hydrophytic vegetation, and hydric soils.

This report presents RBF's best effort at determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies. However, as with any jurisdictional delineation, only the regulatory agencies can make a final determination of jurisdiction. Generally, this would be a written concurrence in the form of a Jurisdictional Determination (JD) letter.

Please note that based on a detailed review of current site conditions, our research has indicated that it will be necessary for the project applicant to successfully obtain the following permits prior to construction activities within the jurisdictional areas: ACOE CWA Section 404 Permit, RWQCB 401 Water Quality Certification, and a CDFG 1602 Lake and Streambed Alteration Agreement.

Please do not hesitate to contact me at 949/855-3687, or rbeck@rbf.com, should you or your staff has any questions.

Sincerely,

Richard Beck, REA
Regulatory Manager
Planning and Environmental Services

Bruce R. Grove Jr., REA
Senior Associate
Planning and Environmental Services

DELINEATION OF JURISDICTIONAL WATERS

Vesting Tentative Tract Map No. 53189
Los Angeles County, California

Prepared For:

BonTerra Consulting
320 N. Halstead St., Ste 130
Pasadena, CA 91107
Contact: Ms. Kristin L. Keeling
626/351-2000

Prepared By:

RBF Consulting
14725 Alton Parkway
Irvine, California 92618
Contact: Mr. Richard Beck
949/855-3687

November 4, 2005
JN 10-104208

DELINEATION OF JURISDICTIONAL WATERS

Vesting Tentative Tract Map No. 53189
Los Angeles County, California

The undersigned certify that this report is a complete and accurate account of the findings and conclusions of a jurisdictional "waters of the U.S." (including wetlands) and "waters of the State" determination for the above-referenced project.

RBF CONSULTING

Richard Beck
Regulatory Manager
Planning and Environmental Services

Bruce R. Grove, Jr.
Senior Associate, REA
Planning and Environmental Services

November 2005

TABLE OF CONTENTS

Page

1.0 INTRODUCTION AND PURPOSE

This delineation was prepared for BonTerra Consulting (BonTerra) in order to delineate the U.S. Army Corps of Engineers' (ACOE), Regional Water Quality Control Board's (RWQCB), and California Department of Fish and Game's (CDFG) jurisdictional authority for drainages located within a portion of the Vesting Tentative Tract Map No. 53189, herein referred to as the project site.

The project site is located in the unincorporated County of Los Angeles, slightly north of the City of Santa Clarita, California (Sections 27, 28, 33, and 34; T.5N, R.16W; San Bernardino Base and Meridian [SBBM]) (refer to Exhibits 1-2). The project site is accessed regionally by Interstate 5 (I-5) and/or State Route 126 (SR-126) and is located north of Copper Hill Drive between San Francisquito Canyon Road on the east and the Tesoro del Valle residential development to the west. Local access is currently provided via San Francisquito Canyon Road to Lady Linda Lane (unimproved), although upon competition of the project access to the project site will only be possible through the Tesoro del Valle development. Currently the project site consists of vacant land. On-site access is provided via San Francisquito Canyon Road.

This delineation has been designed to document the authority of the regulatory agencies, the methodology undertaken by RBF Consulting (RBF) to document jurisdictional authority, and the findings made by RBF within the boundaries of the project site. This report presents our best effort at determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies; however, only the regulatory agencies can make a final determination of jurisdictional boundaries.

1.1 Project Site Background

The project site consists of a polygon shaped property bounded by Lady Linda Lane to the north and San Francisquito Canyon Road to the east. The approximate 185.8-acre project site is currently undeveloped vacant land with few unimproved dirt roads that traverse the project site. Elevations on-site range from approximately 1,250 feet above mean sea level (msl) to approximately 1,500 feet above msl. The site is bounded by undeveloped vacant land to the north and west. The Angeles National Forest is approximately 0.5-mile north of the project site. Directly north of the project site, at the intersection of Las Tunas and Quail Haven Trail, are two residential properties.

1.2 Project Description

The proposed project site is currently designated by the Santa Clarita Valley Area Plan (SCVAP) as Hillside Management Area (HM), Non-Urban (N-1), and Floodway/Floodplain (W). The proposed project involves the construction of 60 residential single-family homes (ranging in size from 39,336 square feet to 10,075 square feet, or 0.90 to 0.23 acres, respectively), three large open space lots (80% of project site; 103.5-acres, 29.7-acres, and 15.3-acres), and three debris basin lots on the 185.8-acre site. A levee would be constructed within the 100-year flood zone to provide adequate flood protection.

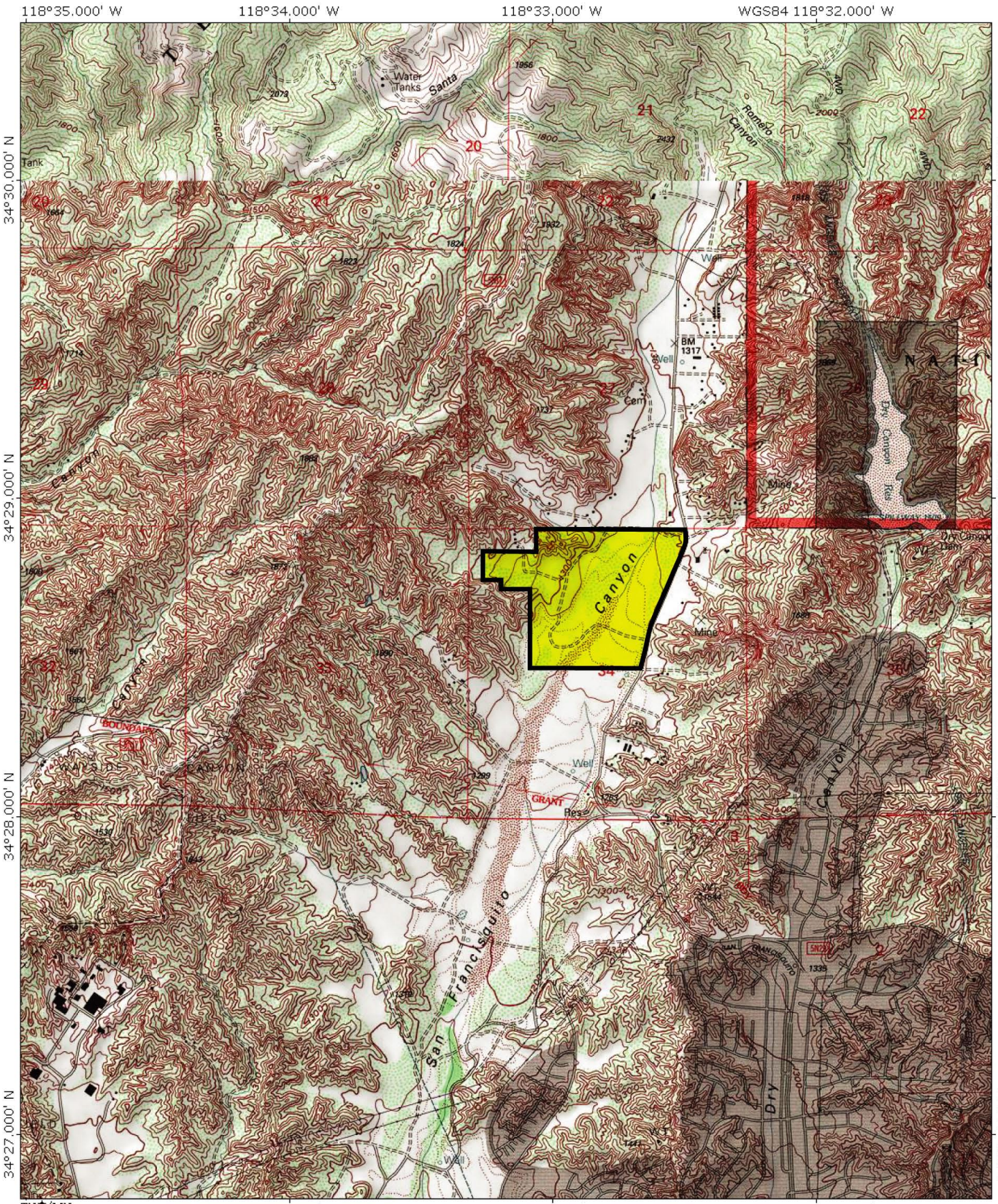
RBF CONSULTING

5/6/05 JN 10-104208-11918

BURNAM TTM 53189 • JURISDICTIONAL DELINEATION

Regional Vicinity

Exhibit 1



RBF CONSULTING

0 2500'
APPROXIMATE

5/6/05 JN 10-104208-11918

BURNAM TTM 53189 • JURISDICTIONAL DELINEATION

Site Vicinity

Exhibit 2

RBF CONSULTING

not to scale

5/11/05 JN 10-104208-11918

BURNAM TTM 53189 • JURISDICTIONAL DELINEATION

Subject Site

Exhibit 3

2.0 SUMMARY OF REGULATIONS

There are three (3) key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The ACOE Regulatory Branch regulates activities pursuant to Section 404 of the Federal Clean Water Act (CWA), and Section 10 of the Rivers and Harbors Act. Of the State agencies, CDFG regulates activities under the Fish and Game Code Section 1600-1616, and the RWQCB pursuant to Section 401 of the CWA and the California Porter-Cologne Act.

2.1 Army Corps of Engineers

The ACOE has regulatory authority over the discharge of dredged or fill material into the waters of the United States under Section 404 of the CWA. The ACOE and Environmental Protection Agency (EPA) recently clarified and simplified the definition of "fill material" to include any "material placed in waters of the United States where the material has the effect of: (i) Replacing any portion of a water of the United States with dry land; or (ii) Changing the bottom elevation of any portion of the waters of the United States." Examples include, but are not limited to sand, rock, clay, construction debris, wood chips, and "materials used to create any structure or infrastructure in the waters of the United States." The term "waters of the United States" includes the following:

(1) all waters that have, are, or may be used in interstate or foreign commerce (including sightseeing or hunting), including all waters subject to the ebb and flow of the tide;

(2) wetlands;

(3) all waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds; the use, degradation or destruction of which could affect interstate or foreign commerce;

(4) all impoundments of water mentioned above;

(5) all tributaries of waters mentioned above;

(6) the territorial seas; and

(7) all wetlands adjacent to the waters mentioned above.

Under this definition, and in the absence of wetlands, the limits of the ACOE's jurisdiction in non-tidal waters extend to the ordinary high water mark (OHWM), which is defined as "*...that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas* (33 CFR §328.3(e))*."*

Wetlands, a subset of jurisdictional waters, are jointly defined by the ACOE and EPA as *"those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions* (33 CFR §328.3(b))*"*. Wetlands generally include swamps, marshes, bogs, and similar areas. The process in which jurisdictional areas (if any) are identified is further discussed in Section 3.0, *Methodology*.

It should be noted that a major change in wetland regulation occurred on January 9, 2001, when the U.S. Supreme Court issued the decision, *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers et al* (SWANCC). The SWANCC decision limited the scope of the ACOE's Section 404 CWA regulatory permitting program as applied to isolated waters. The Supreme Court struck down the ACOE's jurisdictional authority over isolated, non-navigable, intrastate waters that are not tributary or adjacent to navigable waters or tributaries (i.e., wetland conditions). Overall, the Court held that Congress did not intend for isolated, non-navigable water conditions to be covered within Section 404 of the CWA, since they are not considered to be true "waters of the U.S."

2.2 Regional Water Quality Control Board

The RWQCB is the primary agency responsible for protecting water quality in California. The RWQCB regulates discharges to surface waters under the Federal CWA and the California Porter-Cologne Water Quality Control Act. The RWQCB's jurisdiction extends to all waters of the State and to all waters of the United States, including wetlands (isolated and non-isolated conditions).

Section 401 of the CWA gives the RWQCB the authority to regulate through 401 Certification any proposed federally permitted activity, which may affect water quality. Among such activities are discharges of dredged or fill material permitted by the ACOE pursuant to Section 404 of the CWA. Section 401 requires the RWQCB to provide "certification that there is reasonable assurance that an activity which may result in the discharge to waters of the United States will not violate water quality standards." Water Quality Certification must be based on a finding that the proposed discharge will comply with water quality standards, of which are found as numeric and narrative objectives in each of the nine (9) Regional Board's Basin Plan.

The Porter-Cologne Water Quality Control Act gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Porter-Cologne has become an important tool in the post SWANCC era, with respect to the State's authority over isolated waters. Generally, any person proposing to discharge waste into a water body that could affect its water quality must file a Report of Waste Discharge (should there be no Section 404 nexus). Although "waste" is partially defined as any waste substance associated with human habitation, the RWQCB also interprets this to *include fill* discharged into water bodies.

2.3 California Department of Fish and Game

Historically, the State of California regulated activities in rivers, streams, and lakes pursuant to Sections 1600-1607 of the California Fish and Game Code. Legislation that took effect on January 1, 2004 repealed Fish and Game Code sections 1600-1607 and added Fish and Game Code sections 1600-1616. The most important issue to note with this change is that now there is no separation between private/public notifications (previously 1601/1603). Fish and Game Code section 1602 requires any person, state or local governmental agency, or public utility to notify the CDFG before beginning any activity that will do one or more of the following:

1) substantially obstruct or divert the natural flow of a river, stream, or lake;
2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or

3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

This notification process is referred to as a 1602 Streambed Alteration Agreement (SAA). Fish and Game Code section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state.

Jurisdictional limits of the CDFG are not as clearly defined by regulation as those of the ACOE. While they closely resemble the limits described by ACOE regulations, they include riparian habitat supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, the CDFG takes jurisdiction to the top of bank of the stream or to the outer limit of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation.

2.4 Activities Requiring Permits

Any development proposal that involves impacting drainages, streams, or wetlands on the site through filling, stockpiling, conversion to a storm drain, channelization, bank stabilization, road or utility line crossings, or any other modification would require permits from the ACOE, the RWQCB, and the CDFG before any development could commence on the project site. Both *permanent* and *temporary* impacts are regulated and would therefore trigger the need for permits.

There are two (2) different permit categories utilized by the ACOE, which include either a Nationwide Permit (NWP) or Individual Permit (IP). The specific permit required is primarily based on project description and jurisdictional impacts. The ACOE will not issue its authorization until the RWQCB completes the Section 401 Water Quality Certification. Processing of the 401 Certification with the RWQCB and SAA with the CDFG can occur concurrently with the ACOE permit process, since the agencies can utilize the same information and analysis. Applications to both the RWQCB and the CDFG require submittal of a valid California Environmental Quality Act (CEQA) document along with the application.

3.0 METHODOLOGY

Prior to visiting the project site, RBF conducted a review of United States Geological Survey (USGS) topographic maps, *aerial photographs*, the *Draft Environmental Impact Report* (supporting technical studies, Section 3.1 Geotechnical, dated November 2004); and the *State of California Hydric Soils List*, (dated 1995), to identify areas that ***may*** fall under an agency's jurisdiction (refer to Section 3.4, *Literature Review*, for a complete discussion).

ACOE jurisdictional wetlands are delineated using the methods outlined in the *ACOE Wetland Delineation Manual* (1987). The methodology set forth in the 1987 Manual is based on the following **three (3)** indicators that are normally present in wetlands: (1) hydrology providing permanent or periodic inundation by groundwater or surface water, (2) hydric soils, and (3) hydrophytic vegetation. In order to be considered a wetland, an area must exhibit at least minimal hydric characteristics within these three parameters. As described in Section 2.0, ACOE non-wetland waters of the U.S. are delineated based on the limits of the OHWM as determined by erosion, the deposition of vegetation or debris, and changes in the vegetation. The RWQCB shares ACOE jurisdiction, unless isolated conditions are present. In the presence of isolated conditions, the RWQCB takes jurisdiction via the OHWM and/or the 3-parameter wetland methodology utilized by the ACOE. CDFG's jurisdiction is defined to the top of bank of the stream/channel or to the limit of the adjacent riparian vegetation.

Analysis presented in this document consists of field surveys and verification of current conditions conducted on March 24, 2005. While in the field, jurisdictional areas were recorded onto a base map at an approximate scale of 1"= 150' using the topographic contours and visible landmarks as guidelines. Once in the field, vegetation, soils, and evidence of hydrology were examined via the methodology listed below:

3.1 Vegetation

Nearly 5,000 plant types in the United States may occur in wetlands. These plants, known as hydrophytic vegetation, are listed in regional publications of the U.S. Fish and Wildlife Service (USFWS). Cover of vegetation is estimated and is ranked according to their dominance. Species that contribute to a cumulative total of 50% of the total dominant coverage, plus any species that comprise at least 20% (also known as the "50/20 rule") of the total dominant coverage are recorded on a wetland data sheet (included in Appendix A, *Wetland Data Forms)*. Wetland indicator status is assigned to each species using *The List of Plant Species that Occur in Wetlands* (USFWS, 1988). If greater than 50% of the dominant species from all strata were Obligate, Facultative-wetland, or Facultative species, the criteria for wetland vegetation was considered to be met. Plant indicator status categories are described below:

- *Obligate Wetland (OBL):* Plants that occur almost always (estimated >99 percent) in wetlands under natural conditions, but which may also occur rarely (estimated <1 percent) in non-wetlands (i.e., cattail or pickelweed).

- *Facultative Wetland (FACW):* Plants that occur usually (estimated >67 to 99 percent) in wetlands, but also occur (estimated 1 to 33 percent) in non-wetlands (i.e., mulefat or willow).

- *Facultative (FAC):* Plants with similar likelihood (estimated 33 to 67 percent) of occurring in both wetlands and non-wetlands.

- *Facultative Upland (FACU):* Plants that occur sometimes (estimated 1 to <33 percent) in wetlands, but occur more often (estimated >67 to 99 percent) in non-wetlands.

- *Obligate Upland (UPL):* Plants that occur rarely (estimated 1 percent) in wetlands, but occur almost always (estimated >99 percent) in non-wetlands under natural conditions.

3.2 Hydrology

If wetland vegetation criteria is met, the presence of wetland hydrology is evaluated at each transect by recording the extent of observed surface flows, depth of inundation, depth to saturated soils, and depth to free water in the soil test pits. In addition, indicators of wetland or riverine hydrology are recorded including the OHWM, drift lines, rack, debris, and sediment deposits. The lateral extent of the hydrology indicators are used as a guide for locating soil pits for evaluation of hydric soils and jurisdictional areas. In portions of the stream where the flow is divided by multiple channels with intermediate sand bars, the entire area between the channels is considered within the OHWM and the wetland hydrology indicator is considered met for the entire area.

3.3 Soils

There are approximately 2,000 named soils in the United States that occur in wetlands. Such soils, called hydric soils, have characteristics that indicate they were developed in conditions where soil oxygen is limited by the presence of saturated soil for long periods during the growing season.

Once in the field, soil characteristics are verified by digging soil pits along each transect to a depth of at least 16 inches. Soil pit locations are usually placed within the drainage invert or within adjoining vegetation. At each soil pit, the soil texture and color are recorded by comparison with standard plates within a *Munsell Soil Chart* (1994). Munsell Soil Charts aid in designating color labels to soils, based by degrees of three simple variables-hue, value, and chroma. Any indicators of hydric soils, such as redoximorphic features, buried organic matter, organic streaking, reduced soil conditions, gleyed or low-chroma soils, or sulfuric odor are also recorded. A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions (as previously listed) in the upper 16 inches. The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. Soils that are sufficiently wet because of artificial measures are included in the concept of hydric soils. It should also be noted that the limits of wetland hydrology indicators are used as a guide for locating soil pits. If any hydric soil features are located, progressive pits are dug moving laterally away from the active channel until hydric features are no longer present within the top 16 inches of the soil profile.

3.4 Literature Review

As previously mentioned, RBF conducted a review of USGS topographic maps, *Newhall, California Quadrangle, dated 1995*; *aerial photographs*, provided by Eagle Aerial (2004); the *Draft Environmental Impact Report* (November 2004); and the *State of California Hydric Soils*

List, (1995) prior to visiting the site. Review of relevant literature and materials often help preliminarily identify areas that ***may*** fall under an agency's jurisdiction. Examples of relevant information include, USGS blueline streams, vegetation map or aerial photographs, and hydric soils as listed within the U.S. Department of Agriculture (USDA) Soil Surveys. A summary of RBF's literature review is provided below (refer to *Section 7.0*, for a complete list of references used during the course of this delineation):

- *USGS Topographic Quadrangle, Newhall, CA (Photorevised 1995):* The USGS maps show geological formations and their characteristics, describing the physical setting of an area through contour lines and major surface features including lakes, rivers, streams, buildings, landmarks, and other factors that may fall under an agency's jurisdiction. Additionally, the maps depict topography through color and contour lines, which are helpful in determining elevations and latitude and longitude within a project site.

Table 1
Topographic Summary

Map Name	Newhall, California
Map Year	1995
Map Provider	USGS
Property Elevation (feet)	1,500 feet above msl
Property Slope Type	Sloping
Property Slope Direction	Southeast
Map Contour Interval (feet)	25

The project site primarily consists of vacant land located south of Lady Linda Lane and west of San Francisquito Canyon Road. San Francisquito Canyon is located in the eastern section of the Project site; three (3) blueline streams are present on-site. Based on the USGS Newhall California Quadrangle, on-site topography is approximately 1,500 feet above mean sea level (msl) and gently slopes to the southeast. The surrounding uses consist of residential uses and open space. No on-site pits, ponds, or lagoons were noted during the review of the USGS topographic map.

- *Aerial Photograph:* Prior to the March 24, 2005 field visit, RBF reviewed an existing aerial photograph, provided by Eagle Aerial (flown in 2004) for the project site. Aerial photographs can be useful during the delineation process, as the photographs often indicate drainages and vegetation (i.e. riparian vegetation) present within the boundaries of the project site (if any).

  According to the aerial photograph, the project site consists of vacant land covered by grassland and upland habitat. Unimproved dirt roads traverse the project site; natural drainages are visible and appear to be tributary to the adjoining creek to the east. Little to no riparian vegetation appears to be present. No ponded was noted during the aerial photograph review.

- On-site and adjoining soils were researched prior to the March 24, 2005, field visit. Based on existing geotechnical information gathered during the Initial Study (November 2004), the presence of hydric soils is initially investigated by comparing the soil components and materials (descriptions) to the County list of hydric soils.

Six (6) soil components and materials are present on the subject site and are briefly described below:

Artificial Fill (AF): Because the project site is undeveloped vacant land, artificial fill is only present underneath and adjacent to the San Francisquito Canyon Road on the eastern border of the project site.

Alluvial Deposits (Qal and Qal_1): These unconsolidated mixtures of gravel, sand, and silt were encountered within the canyon bottoms and floodplain of the San Francisquito Canyon Creek within the central portion of the site. Notable pebbles, cobbles, and boulders were found within the westerly canyon and are generally loose and dry at the surface, becoming slightly moist and medium dense to dense with increasing depth.

Colluvial Deposits (Qc): Colluvial deposits and slopewash materials mantle the natural slopes and reach the greatest thickness near the toe of the slopes. These materials are likely interlaced with alluvial deposits along the sides of the canyons and are comprised of poorly sorted sand, gravel, and cobbles, which have been shed by bedrock materials upslope.

Landslide Deposits (Qls): One small landslide was identified within the site, located along an existing unimproved road in the northern portion of the site. This failure appears to be a thin rotational slump-type failure within the Saugus Formation.

Saugus Formation (TQs): Within the project limits, the Pliocene to Pleistocene-age Saugus Formation consists of non-marine sandstone, conglomeratic sandstone with subordinate conglomerate, siltstone, and red sandy claystone. These materials are generally poorly cemented and locally friable. Beds are typically several feet thick and exhibit gradational contacts as well as scoured, channelized contacts.

Castaic Formation (Tc): The late Miocene to Pliocene-age marine sandstones and siltstones underlie the Saugus Formation and crop out within the northwestern portion of the site. A small outcrop of Castaic Formation exists within the north-central portion of the site. These materials are generally very fine to fine-grained.

- *Hydric Soils List of California (1995):* RBF reviewed the Hydric Soils List of California, provided by the Natural Resources Conservation Service (NRCS), dated December 15, 1995 in an effort to verify whether or not on-site soils are considered to be hydric. Lists of hydric soils along with soil survey maps are good off-site ancillary tools to assist in wetland determinations, but as expected, they are not a substitute for on-site investigations. According to list, none of the above-mentioned soil series are listed as hydric.

- *Local Climate*: The local climate is typical of a mild Mediterranean climate. Winters are cool and moist with mild wintertime temperatures averaging in the mid 60's. Summers are mild, warm, and dry with average temperatures between the mid 80's or the mid 90's. Light fogs or clouds, or both, are common along the coast late in spring and early in summer, but rarely remain during the entire day. Some fog generally occurs every month of the year. Maximum summer temperatures seldom exceed 90° F, and nights are generally cool throughout the year. Winter temperatures seldom drop below freezing. Average annual rainfall for the region is approximately 14 inches and nearly

all falls in winter. For the purposes of this delineation, the growing season is considered to be 365 days a year. Table 2, below, identifies additional on-site physical setting characteristics.

- *Flood Zone:* According to the County of Los Angeles and existing FEMA flood maps, portions of the project site appear to be within the 100-year flood zone. The proposed project site contains a portion of San Francisquito Canyon Creek and its associated floodplain. Several drainage paths run from west to east through the project site and convey stormwater runoff from within the project site, as well as from areas outside the boundaries of the project site, into the Creek. These minor drainage paths are contained within three subwatersheds that drain into the San Francisquito Canyon Creek. However, based on hydrological evaluations by B & E Engineers, it was found that the FEMA findings were incorrectly depicted. It should be noted that at the time of this delineation, the project site is considered to be within the 100-year flood zone, but the flood zone may change based on a filed Conditional Letter of Map Revision (CLOMR) with FEMA.

Table 2
Project Site Summary

Is the Project Site…	Yes	No	Unknown
within a 100-year floodplain?	X		X
a blue line stream?	X		
within the California Coastal Zone?		X	
reported groundwater level <6 feet bgs?		X	

4.0 SITE CONDITIONS

As described in Section 1.0, the proposed project is located north of the City of Santa Clarita, unincorporated County of Los Angeles. Refer to Sections 4.1 through 4.3, below, for discussion with respect to the three (3) wetland parameters defined in Section 3.0. Exhibit 5, *Jurisdictional Map*, identifies each drainage and appropriate jurisdiction.

4.1 Vegetation

Vegetation on the project site includes coast live oak woodland, riversidian alluvial fan sage scrub, mixed chaparral/holy-leaf cherry woodland, chamise chaparral, coastal sage scrub, eucalyptus woodland, and non-native grassland. No riparian areas were observed; the project site is typically dry year-round and is situated or slightly sloping terrain. Drainages in the northern and western portions of the subject site generally consisted of upland habitat and grasslands, while southern and eastern drainages were disturbed/unvegetated or consisted of non-native grasses

4.2 Hydrology

No flow was noted within the project site during the March 24, 2005, as the on-site drainages contain water only during storm events (ephemeral). The drainages traverse the subject site and are tributary to San Francisquito Canyon Creek to the east. Evidence of an OHWM was noted within the drainages via sediment deposits and erosional cuts. Generally, the OHWM varied in width (1 foot to 150 feet), primarily due to the range of slopes and soils on-site. The OHWM of San Francisquito Creek was defined by a distinct bed and bank and sand deposits within the ordinary flow line.

4.3 Soils

Two (2) soil pits were dug during the March 24, 2005, site visit. Although the soil pits were not warranted (other wetland parameters not present), the samples confirmed soils identified during the literature review. On-site soils consisted of coarse to fine sandy loams and erosion appeared to be moderate to high, especially with the 2005 rainy season. The soils within the boundary of the project site were found to be consistent with those previously mentioned during the literature review in Section 3.4. The soils appeared to be moist as a result of rainfall approximately 2-3 days prior to the site visit. No hydric soil indicators (e.g., streaking, odor) were noted within the soil samples. Due to the lack of dominant riparian and hydrophytic vegetation, no additional “formal’ soil pits were warranted during the March 24, 2005, site visit.

View looking upstream along San Francisquito Canyon Creek.

Typical view of on-site ephemeral drainage.

View looking at Drainage C.

View looking at Drainage A, along the north western portion of the project site.

Burnam

Legend

- ACOE/CDFG Jurisdictional Boundaries (Width in Feet)
- Impacted Drainage
- No OHWM Present
- San Francisquito Canyon Creek Boundary *
- SEA Boundary
- Levee
- Project Site
- Impact Boundary
- Tentative Tract Map
- Topographic Lines
- A - F Drainage Indicator

* ACOE/CDFG Jurisdictional Boundary

NORTH

November 4, 2005

150 75 0 150 Feet

Burnmam Jurisdictional Stream Impact Total's

Drainage	ACOE Width	CDFG Width	Stream Length	Sq. Ft.
A	5	5	112	560
A	3	3	177	531
A	3	3	157	472
		Drainage A Totals	**446**	1,563
B	2	2	157	314
B	2	2	149	298
B	2	2	68	136
B	2	2	150	300
B	2	2	16	33
		Drainage B Totals	**540**	**1,080**
C	1	1	181	181
C	9	9	267	2,399
		Drainage C Totals	**447**	**2,580**
D	3	3	146	439
D	2	2	457	913
		Drainage D Totals	**603**	**1,352**
E	9	9	75	671
		Drainage E Totals	**75**	**671**
F	2	2	51	101
		Drainage F Totals	**51**	**101**
		Site Total	**2,162**	**7,347**

RBF CONSULTING GIS — PLANNING ■ DESIGN ■ CONSTRUCTION

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Exhibit 5
Jurisdictional Impact Map

M:\Master\10104206\GIS\Burnam_ex5.mxd 11/4/2005

5.0 FINDINGS

This delineation was prepared for BonTerra Consulting in order to delineate the ACOE's, RWQCB's, and CDFG's jurisdictional authority for drainages located within the VTTM No. 53189 Project site. This report presents RBF's best effort at determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies. However, as with any jurisdictional delineation, only the regulatory agencies can make a final determination of jurisdictional boundaries within a project site/property. Jurisdictional boundaries are broken down specifically by agency and are described below.

5.1 U.S. Army Corps of Engineers (ACOE)

Wetland Determination:

As previously noted in Section 2.1, an area must exhibit **all three (3)** of the wetland parameters described in the ACOE *Wetland Delineation Manual* to be considered a jurisdictional wetland. Based on the results of the field investigations, it was determined that no portion of the project site contained all three parameters. Based on the literature review and soil samples obtained during the field visit, no hydric soils are present within the project site and hydrophytic vegetation is limited. Based on the site conditions, no ACOE jurisdictional wetlands are present.

"Waters of the U.S." (non-wetland) Determination:

Evidence of hydrology was noted within the project site and consisted of sediment deposits, erosional features, and debris lines. The on-site drainages are ephemeral, containing water flow during storm events. Approximately **0.93-acres** of ACOE "waters of the U.S." (ephemeral drainages) are located within the boundaries of the project site. This number excludes San Francisquito Canyon Creek as it adjoins the project site to the east; however, the OHWM falls outside the current development and is not anticipated to be impacted. Based on the most current design plans, approximately **0.17-acres** would be permanently impacted by the proposed improvements.

5.2 California Regional Water Quality Control Board Determination (RWQCB)

No isolated conditions were observed within the boundaries of the project site; therefore, the RWQCB follows that of ACOE jurisdictional "waters of the U.S."

5.3 California Department of Fish and Game Determination (CDFG)

As with the ACOE, the on-site drainages/streambeds are considered jurisdictional by the CDFG. The CDFG jurisdiction was similar to the ACOE jurisdiction, as the drainages did not have a distinct "top of bank". No riparian resources extended out of the on-site streambeds for additional jurisdictional areas. Approximately **0.93-acres** of CDFG jurisdiction are located within the boundaries of the project site. This number excludes San Francisquito Canyon Creek as it adjoins the project site to the east; however, the OHWM falls outside the current development and is not anticipated to be impacted. Based on the most current design plans, approximately **0.17-acres** would be permanently impacted by the proposed improvements.

6.0 REGULATORY APPROVAL PROCESS

The following is a summary of the various permits, agreements, and certifications required before construction activities take place within the above-mentioned jurisdictional areas.

6.1 U.S. Army Corps of Engineers (ACOE)

The ACOE regulates discharges of dredged fill materials into "waters of the United States" pursuant to Section 404 of the CWA. A federal permit will be required from the ACOE Regulatory Branch-Los Angeles District Office since improvements associated with the proposed channel improvements will result in the discharge of material within the ACOE's jurisdiction.

Based on the amount of jurisdictional area present within the boundaries of the project site, it is anticipated that the proposed improvements can be authorized via Nationwide Permit (NWP) 39, *Residential, Commercial, and Institutional Developments*, prior to ACOE jurisdictional impact. Should ACOE impacts surpass ½-acre (including temporary and permanent impacts), or pursuant to ACOE direction, authorization via a different permit may be required. Refer to Appendix B, for a summary of Nationwide Permit 39.

NWP processing time generally takes 4-6 months and involves a Pre-Application Field Meeting and submittal of a formal application. The application submittal typically includes environmental documentation (e.g., jurisdictional delineation, site plans, project purpose, location, duration, etc.), a Pre-Construction Notification (PCN); and consultations with other agencies (as appropriate). Prior to issuance of the ACOE permit, a CWA Section 401 Water Quality Certification from the RWQCB must be obtained. At this time, no application fee is required for the ACOE permit process.

6.2 Regional Water Quality Control Board (RWQCB)

For the ACOE 404 permit to be approved, a 401 Water Quality Certification from the Los Angeles RWQCB will be required. The RWQCB also requires that CEQA compliance be obtained prior to obtaining the 401 Certification.

Once an application has been deemed complete, the RWQCB has between 60 days and 1 year in which to make a decision. According to regulations of the ACOE, the State has 60 days from the date of receipt of a valid request for water quality standards certification (33 CFR Section 325.2 (b) (1) (ii)). The ACOE district engineer may specify a longer (up to one year) or shorter time, if he or she determines that a longer or shorter time is reasonable (33 CFR Section 325.2 (b) (1) (ii)). If processing and review of the 401 application will take more than 60 days, the RWQCB will request additional time from the ACOE. Please note that even when an application has been deemed complete, the RWQCB has the option of denial without prejudice. This is not a reflection on the project, but a means to stop the clock until the required information has been required.

As required by 23 California Code of Regulations (CCR) § 3858 (a), the RWQCB is required to have a *minimum 21 day public comment period* before any action is taken on a 401 application. The period closes when the RWQCB acts on the 401 application. The public comment period does not close after a certain number of days because proposed projects tend to change through the 401 process and the public is allowed to review and comment on the changed

project. The public comment period starts as soon as an application has been received. Additionally, the RWQCB requires that water quality concerns related to urban storm water runoff be addressed. Any 401 Certification application submitted to the RWQCB should incorporate the use of BMPs for the treatment of pollutants carried by storm water runoff in order to be considered a complete application. The RWQCB also requires a 401 Certification Application Fee, which is dependent on the amount of impacts.

6.3 California Department of Fish and Game (CDFG)

As noted within this delineation, the on-site drainages (streambeds) would be considered jurisdictional by the CDFG. A 1602 Streambed Alteration Agreement (SAA) must be obtained prior to any jurisdictional impact.

After the CDFG is notified, the CDFG will determine whether the notification package (application) is complete. The CDFG will make this determination within 30 calendar days of receiving the notification package if the application is for a regular agreement (i.e., an agreement for a term of five years or less). However, the 30-day time period does *not* apply to notifications for long-term agreements (i.e., agreements for a term greater than five years). Once the notification package is deemed complete, the CDFG will process a Draft Agreement as described below.

If a SAA is required, the CDFG conducts an onsite inspection, if necessary, and prepares a draft agreement. The draft agreement will include measures to protect fish and wildlife resources while conducting the project. For regular agreements, the CDFG will submit a draft agreement to the applicant within sixty (60) calendar days after the notification is deemed complete. Again, the 60-day time period does not apply to notifications for long-term agreements, since these are often large or complex projects.

The applicant then has 30 calendar days to notify the CDFG whether the measures in the draft agreement are acceptable. After the CDFG receives the signed draft agreement, it will make it final by signing it. The CDFG Agreement will require a $1390.50 fee and CEQA compliance is necessary in order for the SAA to be issued.

6.4 Global Recommendations

Agency Concurrence and Pre-Application Field Meeting:

It is highly recommended that the delineation be forwarded to each of the regulatory agencies for their concurrence. Once the delineation is approved, RBF has found it extremely beneficial and pro-active to have an on-site meeting with the ACOE, RWQCB, and CDFG to discuss potential permitting strategies and mitigation opportunities (if any). In short, these Pre-Application Field Meetings often help streamline the permitting process.

7.0 REFERENCES

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Natural Resources Conservation Services, Hydric Soils List of California, 1995. http://soils.usda.gov/soil_use/hydric/main.htm

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U.S. Army Corps of Engineers, Final Summary Report: Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest, June 2001.

U.S. Army Corps of Engineers, Wetland Delineation Manual, 1987.

U.S. Fish and Wildlife Service, http://endangered.fws.gov/consultations/index.html

Appendix

A) Wetland Data Forms

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	VTTM No. 53189	Date	March 24, 2005
Applicant / Owner	County Project No. 00-081	County	Los Angeles
Investigator	R. Beck / K. Hurley	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	—
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	1

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 non-native grass		NI.	9		
2 Sage.	Shrub.	UPL.	10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) < 10%.

Remarks

Upland habitat. Drainage scoured, unvegetated w/ grass and sage along edge of ditch.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs – Reviewed.
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS

Depth of Surface Water	None	(in)
Depth to Free Water in Pit	7/6.0	(in)
Depth to Saturated Soil	7/6.0	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits – ditch
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

SOILS

Map Unit Name (Series and Phase):	Drainage Class: WD.
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? (YES) NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-16	A				Sandy.

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

No hydric soils noted, coarse sandy loams. Moist soils due to recent rains.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES (NO)	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	YES (NO)	

Remarks

Ditch noted with drainage features. Approximately 2-3 Ft in width.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	VFTM No. 53189	Date	March 24, 2005
Applicant / Owner	County Project No. 00-081	County	Los Angeles
Investigator	R. Beck / K. Hurley.	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	—
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	2

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1			9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-)

Remarks

Veg. Similar to pit 1., dominated by non-native grasses..

HYDROLOGY

☐ Recorded Data (Describe in Remarks)

☐ Stream, Lake, or Tide Gauge

☒ Aerial Photographs – Reviewed

☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	None	(in)
Depth to Free Water in Pit	7/6.0	(in)
Depth to Saturated Soil	7/6.0	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:

☐ Inundated

☐ Saturated in Upper 12 Inches

☐ Water Marks

☐ Drift Lines

☒ Sediment Deposits – Often 3-6 Ft.

☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):

☐ Oxidized Root Channels in Upper 12 Inches

☐ Water-Stained Leaves

☐ Local Soil Survey Data

☐ FAC-Neutral Test

☐ Other (Explain in Remarks)

SOILS

Map Unit Name (Series and Phase):	Drainage Class: WD
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? (YES) NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-16	A				Sandy-Fine

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

No hydric indicators; heavy deposition

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES (NO)	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	YES (NO)	

Remarks

OHWM present. Ranges 9-30 FT.

B) Nationwide Permit Summary

U S Army Corps of Engineers
Sacramento District

Nationwide Permit Summary

33 CFR Part 330; Issuance of Nationwide Permits – January 15, 2002 , including Correction – February 13, 2002

39. Residential, Commercial, and Institutional Developments. Discharges of dredged or fill material into non-tidal waters of the US, excluding non-tidal wetlands adjacent to tidal waters, for the construction or expansion of residential, commercial, and institutional building foundations and building pads and attendant features that are necessary for the use and maintenance of the structures. Attendant features may include, but are not limited to, roads, parking lots, garages, yards, utility lines, stormwater management facilities, and recreation facilities such as playgrounds, playing fields, and golf courses (provided the golf course is an integral part of the residential development). The construction of new ski areas or oil and gas wells is not authorized by this NWP.

Residential developments include multiple and single unit developments. Examples of commercial developments include retail stores, industrial facilities, restaurants, business parks, and shopping centers. Examples of institutional developments include schools, fire stations, government office buildings, judicial buildings, public works buildings, libraries, hospitals, and places of worship. The activities listed above are authorized, provided the activities meet all of the following criteria:

a. The discharge does not cause the loss of greater than ½-acre of non-tidal waters of the US, excluding non-tidal wetlands adjacent to tidal waters;

b. The discharge does not cause the loss of greater than 300 linear-feet of a stream bed, unless for intermittent stream beds this criterion is waived in writing pursuant to a determination by the District Engineer, as specified below, that the project complies with all terms and conditions of this NWP and that any adverse impacts of the project on the aquatic environment are minimal, both individually and cumulatively;

c. The permittee must notify the District Engineer in accordance with General Condition 13, if any of the following criteria are met:

(1) The discharge causes the loss of greater than 1/10-acre of non-tidal waters of the US, excluding non-tidal wetlands adjacent to tidal waters; or

(2) The discharge causes the loss of any open waters, including perennial or intermittent streams, below the ordinary high water mark (see Note, below); or

(3) The discharge causes the loss of greater than 300 linear feet of intermittent stream bed. In such case, to be authorized the District Engineer must determine that the activity complies with the other terms and conditions of the NWP, determine adverse environmental effects are minimal both individually and cumulatively, and waive the limitation on stream impacts in writing before the permittee may proceed;

d. For discharges in special aquatic sites, including wetlands, the notification must include a delineation of affected special aquatic sites;

e. The discharge is part of a single and complete project;

f. The permittee must avoid and minimize discharges into waters of the US at the project site to the maximum extent practicable. The notification, when required, must include a written statement explaining how avoidance and minimization of losses of waters of the US were achieved on the project site. Compensatory mitigation will normally be required to offset the losses of waters of the US. (See General Condition 19.) The notification must also include a compensatory mitigation proposal for offsetting unavoidable losses of waters of the US. If an applicant asserts that the adverse effects of the project are minimal without mitigation, then the applicant may submit justification explaining why compensatory mitigation should not be required for the District Engineer's consideration;

g. When this NWP is used in conjunction with any other NWP, any combined total permanent loss of waters of the US exceeding 1/10-acre requires that the permittee notify the District Engineer in accordance with General Condition 13;

h. Any work authorized by this NWP must not cause more than minimal degradation of water quality or more than minimal changes to the flow characteristics of any stream (see General Conditions 9 and 21);

i. For discharges causing the loss of 1/10-acre or less of waters of the US, the permittee must submit a report, within 30 days of completion of the work, to the District Engineer that contains the following information: (1) The name, address, and telephone number of the permittee; (2) The location of the work; (3) A description of the work; (4) The type and acreage of the loss of waters of the US (e.g., 1/12-acre of emergent wetlands); and (5) The type and acreage of any compensatory mitigation used to offset the loss of waters of the US (e.g., 1/12-acre of emergent wetlands created on-site);

j. If there are any open waters or streams within the project area, the permittee will establish and maintain, to the maximum extent practicable, wetland or upland vegetated buffers next to those open waters or streams consistent with General Condition 19. Deed restrictions, conservation easements, protective covenants, or other means of land conservation and preservation are required to protect and maintain the vegetated buffers established on the project site.

Only residential, commercial, and institutional activities with structures on the foundation(s) or building pad(s), as well as the attendant features, are authorized by this NWP. The compensatory mitigation proposal that is required in paragraph (f) of this NWP may be either conceptual or detailed. The wetland or upland vegetated buffer required in paragraph (j) of this NWP will be determined on a case-by-case basis by the District Engineer for addressing water quality concerns. The required wetland or upland vegetated buffer is part of the overall compensatory mitigation requirement for this NWP If the project site was previously used for agricultural purposes and the farm owner/operator used NWP 40 to authorize activities in waters of the United States to increase production or construct farm buildings, NWP 39 cannot be used by the developer to authorize additional activities in waters of the United States on the project site in excess of the acreage limit for NWP 39 (i.e., the combined acreage loss authorized under NWPs 39 and 40 cannot exceed 1/2 acre).

SUBDIVISIONS: For residential subdivisions, the aggregate total loss of waters of US authorized by NWP 39 can not exceed ½-acre. This includes any loss of waters associated with development of individual subdivision lots. (Sections 10 and 404)

Note: Areas where wetland vegetation is not present should be determined by the presence or absence of an ordinary high water mark or bed and bank. Areas that are waters of the US based on this criterion would require a PCN although water is infrequently present in the stream channel (except for ephemeral waters, which do not require PCNs under paragraph (c)(2), above; however, activites that result in the loss of greater than 1/10 acre of ephemeral waters would require PCNs under paragraph (c)(1), above.)

A. General Conditions. The following general conditions must be followed in order for any authorization by an NWP to be valid:

☐ **1. Navigation**. No activity may cause more than a minimal adverse effect on navigation.

☐ **2. Proper Maintenance**. Any structure or fill authorized shall be properly maintained, including maintenance to ensure public safety.

☐ **3. Soil Erosion and Sediment Controls**. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

☐ **4. Aquatic Life Movements**. No activity may substantially disrupt the necessary life-cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

☐ **5. Equipment**. Heavy equipment working in wetlands must be placed on mats, or other measures must be taken to minimize soil disturbance.

☐ **6. Regional and Case-By-Case Conditions**. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state or tribe in its Section 401 Water Quality Certification and Coastal Zone Management Act consistency determination.

☐ **7. Wild and Scenic Rivers**. No activity may occur in a component of the National Wild and Scenic River System; or in a river officially designated by Congress as a "study river" for possible inclusion in the system, while the river is in an official study status; unless the appropriate Federal agency, with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation, or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

☐ **8. Tribal Rights**. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

☐ **9. Water Quality.**

☐ (a) In certain states and tribal lands an individual 401 Water Quality Certification must be obtained or waived (See 33 CFR 330.4(c)).

☐ (b) For NWPs 12, 14, 17, 18, 32, 39, 40, 42, 43, and 44, where the state or tribal 401 certification (either generically or individually) does not require or approve water quality management measures, the permittee must provide water quality management measures that will ensure that the authorized work does not result in more than minimal degradation of water quality (or the Corps determines that compliance with state or local standards, where applicable, will ensure no more than minimal adverse effect on water quality). An important component of water quality management includes stormwater management that minimizes degradation of the downstream aquatic system, including water quality (refer to General Condition 21 for stormwater management requirements). Another important component of water quality management is the establishment and maintenance of vegetated buffers next to open waters, including streams (refer to General Condition 19 for vegetated buffer requirements for the NWPs).

This condition is only applicable to projects that have the potential to affect water quality. While appropriate measures must be taken, in most cases it is not necessary to conduct detailed studies to identify such measures or to require monitoring.

☐ **10. Coastal Zone Management**. In certain states, an individual state coastal zone management consistency concurrence must be obtained or waived (see 33 CFR 330.4(d)).

☐ **11. Endangered Species**.

☐ (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. Non-federal permittees shall notify the District Engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or is located in the designated critical habitat and shall not begin work on the activity until notified by the District Engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that may affect Federally-listed endangered or threatened species or designated critical habitat, the notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. As a result of formal or informal consultation with the FWS or NMFS the District Engineer may add species-specific regional endangered species conditions to the NWPs.

☐ (b) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the USFWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the USFWS and NMFS or their world wide web pages at http://www.fws.gov/r9endspp/endspp.html and http://www.nfms.noaa.gov/prot_res/overview/es.html respectively.

☐ **12. Historic Properties**. No activity which may affect historic properties listed, or eligible for listing, in the National Register of Historic Places is authorized, until the District Engineer has complied with the provisions of 33 CFR Part 325, Appendix C. The prospective permittee must notify the District Engineer if the authorized activity may affect any historic properties listed, determined to be eligible, or which the prospective permittee has reason to believe may be eligible for listing on the National Register of Historic Places, and shall not begin the activity until notified by the District Engineer that the requirements of the National Historic Preservation Act have been satisfied and that the activity is authorized. Information on the location and existence of historic resources can be obtained from the State Historic Preservation Office and the National Register of Historic Places (see 33 CFR 330.4(g)). For activities that may affect historic properties listed in, or eligible for listing in, the National Register of Historic Places, the notification must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property.

☐ **13. Notification**.

☐ (a) Timing; where required by the terms of the NWP, the prospective permittee must notify the District Engineer with a preconstruction notification (PCN) as early as possible. The District Engineer must determine if the notification is complete within 30 days of the date of receipt and can request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the District Engineer will notify the prospective permittee that the notification is still incomplete and the PCN review process will not commence until all of the requested information has been received by the District Engineer. The prospective permittee shall not begin the activity:

☐ (1) Until notified in writing by the District Engineer that the activity may proceed under the NWP with any special conditions imposed by the District or Division Engineer; or

☐ (2) If notified in writing by the District or Division Engineer that an Individual Permit is required; or

☐ (3) Unless 45 days have passed from the District Engineer's receipt of the complete notification and the prospective permittee has not received written notice from the District or Division Engineer. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

☐ (b) Contents of Notification: The notification must be in writing and include the following information:

☐ (1) Name, address and telephone numbers of the prospective permittee;

☐ (2) Location of the proposed project;

☐ (3) Brief description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), Regional General Permit(s), or Individual Permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP (Sketches usually clarify the project and when provided result in a quicker decision.);

☐ (4) For NWPs 7, 12, 14, 18, 21, 34, 38, 39, 40, 41, 42, and 43, the PCN must also include a delineation of affected special aquatic sites, including wetlands, vegetated shallows (e.g., submerged aquatic vegetation, seagrass beds), and riffle and pool complexes (see paragraph 13(f));

☐ (5) For NWP 7 (Outfall Structures and Maintenance), the PCN must include information regarding the original design capacities and configurations of those areas of the facility where maintenance dredging or excavation is proposed;

☐ (6) For NWP 14 (Linear Transportation Projects), The PCN must include a compensatory mitigation proposal to offset permanent losses of waters of the US and a statement describing how temporary losses of waters of the US will be minimized to the maximum extent practicable;

☐ (7) For NWP 21 (Surface Coal Mining Activities), the PCN must include an Office of Surface Mining (OSM) or state-approved mitigation plan, if applicable. To be authorized by this NWP, the District Engineer must determine that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are minimal both individually and cumulatively and must notify the project sponsor of this determination in writing;

☐ (8) For NWP 27 (Stream and Wetland Restoration Activities), the PCN must include documentation of the prior condition of the site that will be reverted by the permittee;

☐ (9) For NWP 29 (Single-Family Housing), the PCN must also include:

☐ (i) Any past use of this NWP by the Individual Permittee and/or the permittee's spouse;

☐ (ii) A statement that the single-family housing activity is for a personal residence of the permittee;

☐ (iii) A description of the entire parcel, including its size, and a delineation of wetlands. For the purpose of this NWP, parcels of land measuring ¼-acre or less will not require a formal on-site delineation. However, the applicant shall provide an indication of where the wetlands are and the amount of wetlands that exists on the property. For parcels greater than ¼-acre in size, formal wetland delineation must be prepared in accordance with the current method required by the Corps. (See paragraph 13(f));

☐ (iv) A written description of all land (including, if available, legal descriptions) owned by the prospective permittee and/or the prospective permittee's spouse, within a one mile radius of the parcel, in any form of ownership (including any land owned as a partner, corporation, joint tenant, co-tenant, or as a tenant-by-the-entirety) and any land on which a purchase and sale agreement or other contract for sale or purchase has been executed;

☐ (10) For NWP 31 (Maintenance of Existing Flood Control Facilities), the prospective permittee must either notify the District Engineer with a PCN prior to each maintenance activity or submit a five year (or less) maintenance plan. In addition, the PCN must include all of the following:

☐ (i) Sufficient baseline information identifying the approved channel depths and configurations and existing facilities. Minor deviations are authorized, provided the approved flood control protection or drainage is not increased;

☐ (ii) A delineation of any affected special aquatic sites, including wetlands; and,

☐ (iii) Location of the dredged material disposal site;

☐ (11) For NWP 33 (Temporary Construction, Access, and Dewatering), the PCN must also include a restoration plan of reasonable measures to avoid and minimize adverse effects to aquatic resources;

☐ (12) For NWPs 39, 43 and 44, the PCN must also include a written statement to the District Engineer explaining how avoidance and minimization for losses of waters of the US were achieved on the project site;

☐ (13) For NWP 39 and NWP 42, the PCN must include a compensatory mitigation proposal to offset losses of waters of the US or justification explaining why compensatory mitigation should not be required. For discharges that cause the loss of greater than 300 linear feet of an intermittent stream bed, to be authorized, the District Engineer must determine that the activity complies with the other terms and conditions of the NWP, determine adverse environmental effects are minimal both individually and cumulatively, and waive the limitation on stream impacts in writing before the permittee may proceed;

☐ (14) For NWP 40 (Agricultural Activities), the PCN must include a compensatory mitigation proposal to offset losses of waters of the US. This NWP does not authorize the relocation of greater than 300 linear-feet of existing serviceable drainage ditches constructed in non-tidal streams unless, for drainage ditches constructed in intermittent non-tidal streams, the District Engineer waives this criterion in writing, and the District Engineer has determined that the project complies with all terms and conditions of this NWP, and that any adverse impacts of the project on the aquatic environment are minimal, both individually and cumulatively;

☐ (15) For NWP 43 (Stormwater Management Facilities), the PCN must include, for the construction of new stormwater management facilities, a maintenance plan (in accordance with state and local requirements, if applicable) and a compensatory mitigation proposal to offset losses of waters of the US. For discharges that cause the loss of greater than 300 linear feet of an intermittent stream bed, to be authorized, the District Engineer must determine that the activity complies with the other terms and conditions of the NWP, determine adverse environmental effects are minimal both individually and cumulatively, and waive the limitation on stream impacts in writing before the permittee may proceed;

☐ (16) For NWP 44 (Mining Activities), the PCN must include a description of all waters of the US adversely affected by the project, a description of measures taken to minimize adverse effects to waters of the US, a description of measures taken to comply with the criteria of the NWP, and a reclamation plan (for all aggregate mining activities in isolated waters and non-tidal wetlands adjacent to headwaters and any hard rock/mineral mining activities);

☐ (17) For activities that may adversely affect Federally-listed endangered or threatened species, the PCN must include the name(s) of those endangered or threatened species that may be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work; and

☐ (18) For activities that may affect historic properties listed in, or eligible for listing in, the National Register of Historic Places, the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property.

☐ (c) Form of Notification: The standard Individual Permit application form (Form ENG 4345) may be used as the notification but must clearly indicate that it is a PCN and must include all of the information required in (b) (1)-(18) of General Condition 13. A letter containing the requisite information may also be used.

☐ (d) District Engineer's Decision: In reviewing the PCN for the proposed activity, the District Engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. The prospective permittee may submit a proposed mitigation plan with the PCN to expedite the process. The District Engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. If the District Engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the District Engineer will notify the permittee and include any conditions the District Engineer deems necessary. The District Engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee is required to submit a compensatory mitigation proposal with the PCN, the proposal may be either conceptual or detailed. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the District Engineer will expeditiously review the proposed compensatory mitigation plan. The District Engineer must review the plan within 45 days of receiving a complete PCN and determine whether the conceptual or specific proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the District Engineer to be minimal, the District Engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

☐ If the District Engineer determines that the adverse effects of the proposed work are more than minimal, then the District Engineer will notify the applicant either:

☐ (1) that the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an Individual Permit;

☐ (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation proposal that would reduce the adverse effects on the aquatic environment to the minimal level; or

☐ (3) that the project is authorized under the NWP with specific modifications or conditions. Where the District Engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation proposal that would reduce the adverse effects on the aquatic environment to the minimal level. When conceptual mitigation is included, or a mitigation plan is required under item (2) above, no work in waters of the US will occur until the District Engineer has approved a specific mitigation plan.

☐ (e) Agency Coordination: The District Engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

☐ For activities requiring notification to the District Engineer that result in the loss of greater than ½-acre of waters of the US, the District Engineer will provide immediately (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy to the appropriate Federal or state offices (USFWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the District Engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the District Engineer will wait an additional 15 calendar days before making a decision on the notification. The District Engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The District Engineer will indicate in the administrative record associated with each notification that the resource agencies' concerns were considered. As required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act, the District Engineer will provide a response to NMFS within 30 days of receipt of any Essential Fish Habitat conservation recommendations. Applicants are encouraged to provide the Corps multiple copies of notifications to expedite agency notification.

☐ (f) Wetland Delineations: Wetland delineations must be prepared in accordance with the current method required by the Corps (For NWP 29 see paragraph (b)(9)(iii) for parcels less than ¼-acre in size). The permittee may ask the Corps to delineate the special aquatic site. There may be some delay if the Corps does the delineation. Furthermore, the 45-day period will not start until the wetland delineation has been completed and submitted to the Corps, where appropriate.

☐ **14. Compliance Certification**. Every permittee who has received NWP verification from the Corps will submit a signed certification regarding the completed work and any required mitigation. The certification will be forwarded by the Corps with the authorization letter and will include:

☐ (a) A statement that the authorized work was done in accordance with the Corps authorization, including any general or specific conditions;

☐ (b) A statement that any required mitigation was completed in accordance with the permit conditions; and (c) The signature of the permittee certifying the completion of the work and mitigation.

☐ **15. Use of Multiple Nationwide Permits.** The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the US authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit (e.g. if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the US for the total project cannot exceed 1/3-acre).

☐ **16. Water Supply Intakes**. No activity, including structures and work in navigable waters of the US or discharges of dredged or fill material, may occur in the proximity of a public water supply intake except where the activity is for repair of the public water supply intake structures or adjacent bank stabilization.

☐ **17. Shellfish Beds**. No activity, including structures and work in navigable waters of the US or discharges of dredged or fill material, may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWP 4.

☐ **18. Suitable Material**. No activity, including structures and work in navigable waters of the US or discharges of dredged or fill material, may consist of unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.) and material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the CWA).

☐ **19. Mitigation**. The District Engineer will consider the factors discussed below when determining the acceptability of appropriate and practicable mitigation necessary to offset adverse effects on the aquatic environment that are more than minimal.

☐ (a) The project must be designed and constructed to avoid and minimize adverse effects to waters of the US to the maximum extent practicable at the project site (i.e., on site).

☐ (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

☐ (c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland impacts requiring a PCN, unless the District Engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. Consistent with National policy, the District Engineer will establish a preference for restoration of wetlands as compensatory mitigation, with preservation used only in exceptional circumstances.

☐ (d) Compensatory mitigation (i.e., replacement or substitution of aquatic resources for those impacted) will not be used to increase the acreage losses allowed by the acreage limits of some of the NWPs. For example, ¼-acre of wetlands cannot be created to change a ¾-acre loss of wetlands to a ½-acre loss associated with NWP 39 verification. However, ½-acre of created wetlands can be used to reduce the impacts of a ½-acre loss of wetlands to the minimum impact level in order to meet the minimal impact requirement associated with NWPs.

☐ (e) To be practicable, the mitigation must be available and capable of being done considering costs, existing technology, and logistics in light of the overall project purposes. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferably in the same watershed.

☐ (f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., easements, deed restrictions) of vegetated buffers to open waters. In many cases, vegetated buffers will be the only compensatory mitigation required. Vegetated buffers should consist of native species. The width of the vegetated buffers required will address documented water quality or aquatic habitat loss concerns. Normally, the vegetated buffer will be 25 to 50 feet wide on each side of the stream, but the District Engineers may require slightly wider vegetated buffers to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the Corps will determine the appropriate compensatory mitigation (e.g., stream buffers or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where vegetated buffers are determined to be the most appropriate form of compensatory mitigation, the District Engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland impacts.

☐ (g) Compensatory mitigation proposals submitted with the "notification" may be either conceptual or detailed. If conceptual plans are approved under the verification, then the Corps will condition the verification to require detailed plans be submitted and approved by the Corps prior to construction of the authorized activity in waters of the US.

☐ (h) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases that require compensatory mitigation, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

☐ **20. Spawning Areas**. Activities, including structures and work in navigable waters of the US or discharges of dredged or fill material, in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., excavate, fill, or smother downstream by substantial turbidity) of an important spawning area are not authorized.

☐ **21. Management of Water Flows**. To the maximum extent practicable, the activity must be designed to maintain preconstruction downstream flow conditions (e.g., location, capacity, and flow rates). Furthermore, the activity must not permanently restrict or impede the passage of normal or expected high flows (unless the primary purpose of the fill is to impound waters) and the structure or discharge of dredged or fill material must withstand expected high flows. The activity must, to the maximum extent practicable, provide for retaining excess flows from the site, provide for maintaining surface flow rates from the site similar to preconstruction conditions, and provide for not increasing water flows from the project site, relocating water, or redirecting water flow beyond preconstruction conditions. Stream channelizing will be reduced to the minimal amount necessary, and the activity must, to the maximum extent practicable, reduce adverse effects such as flooding or erosion downstream and upstream of the project site, unless the activity is part of a larger system designed to manage water flows. In most cases, it will not be a requirement to conduct detailed studies and monitoring of water flow.

This condition is only applicable to projects that have the potential to affect waterflows. While appropriate measures must be taken, it is not necessary to conduct detailed studies to identify such measures or require monitoring to ensure their effectiveness. Normally, the Corps will defer to state and local authorities regarding management of water flow.

☐ **22 Adverse Effects From Impoundments**. If the activity creates an impoundment of water, adverse effects to the aquatic system due to the acceleration of the passage of water, and/or the restricting its flow shall be minimized to the maximum extent practicable. This includes structures and work in navigable waters of the US, or discharges of dredged or fill material.

☐ **23. Waterfowl Breeding Areas**. Activities, including structures and work in navigable waters of the US or discharges of dredged or fill material, into breeding areas for migratory waterfowl must be avoided to the maximum extent practicable.

☐ **24. Removal of Temporary Fills**. Any temporary fills must be removed in their entirety and the affected areas returned to their preexisting elevation.

☐ **25. Designated Critical Resource Waters**. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, National Wild and Scenic Rivers, critical habitat for Federally listed threatened and endangered species, coral reefs, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the District Engineer after notice and opportunity for public comment. The District Engineer may also designate additional critical resource waters after notice and opportunity for comment.

☐ (a) Except as noted below, discharges of dredged or fill material into waters of the US are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, and 44 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters. Discharges of dredged or fill materials into waters of the US may be authorized by the above NWPs in National Wild and Scenic Rivers if the activity complies with General Condition 7. Further, such discharges may be authorized in designated critical habitat for Federally listed threatened or endangered species if the activity complies with General Condition 11 and the USFWS or the NMFS has concurred in a determination of compliance with this condition.

☐ (b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with General Condition 13, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The District Engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

☐ **26 Fills Within 100-Year Floodplains.** For purposes of this General Condition, 100-year floodplains will be identified through the existing Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps or FEMA-approved local floodplain maps**.**

☐ (a) Discharges in Floodplain; Below Headwaters. Discharges of dredged or fill material into waters of the US within the mapped 100-year floodplain, below headwaters (i.e. five cfs), resulting in permanent above-grade fills, are not authorized by NWPs 39, 40, 42, 43, and 44.

☐ (b) Discharges in Floodway; Above Headwaters. Discharges of dredged or fill material into waters of the US within the FEMA or locally mapped floodway, resulting in permanent above-grade fills, are not authorized by NWPs 39, 40, 42, and 44.

☐ (c) The permittee must comply with any applicable FEMA-approved state or local floodplain management requirements.

☐ **27. Construction Period**. For activities that have not been verified by the Corps and the project was commenced or under contract to commence by the expiration date of the NWP (or modification or revocation date), the work must be completed within 12-months after such date (including any modification that affects the project).

☐ For activities that have been verified and the project was commenced or under contract to commence within the verification period, the work must be completed by the date determined by the Corps.

☐ For projects that have been verified by the Corps, an extension of a Corps approved completion date may requested. This request must be submitted at least one month before the previously approved completion date.

B. <u>Further Information</u>

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other Federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.

C. <u>Regional Conditions for Nationwide Permits – Sacramento District</u>

I. Regional Conditions to be applied across the entire Sacramento District:

☐ **1.** Nationwide Permits 14, 29, 39, 40, 41, 42, and 44 are withdrawn from used in histosols, including fens. For the used of all other nationwide permits in fens, project proponents are required to notify the Corps using the notification or PCN procedures of the nationwide permit program (General Condition 13). This will be a “Corps only” notification.

☐ **2.** For all activities using any existing and proposed nationwide permits, mitigation that is required by special condition must be completed before or concurrent with project construction. Where project mitigation involves the use of a mitigation bank or in-lieu fee, payment must be made to the bank or fee-in-lieu program before commencing construction of the permitted activity.

☐ **3.** For all nationwide permits requiring notification, except 27, the applicant must provide a written statement to the district engineer explaining how avoidance and minimization of loses of waters of the United States were achieved on the project site.

II. Regional conditions to be applied in California and Nevada.

☐ All existing and proposed nationwide permits are suspended in the Lake Tahoe basin in favor of using General Permit 16.

III. Regional conditions to be applied in Utah

☐ For use of any nationwide permit with the following attributes, notification of the Corps of Engineers' Utah Regulatory Office, using the "Notification" procedures of the Nationwide Permit Program (General Condition 13), is required, except where certain nationwide permits are restricted and can not be used as indicated in each category. This will be a "Corps only" notification.

☐ 1. All activities that will affect waters of the U.S. below the elevation 4217 feet msl adjacent to the Great Salt Lake and below 4500 feet msl adjacent to Utah Lake.

☐ 2. Bank stabilization in a perennial stream that would affect more than 100 feet of stream length as measured from the upstream portion of the affected bank to the downstream section, narrow the cross-section of the stream, substantially reduce the riparian vegetation, or increase velocities.

☐ 3. All activities that will affect springs. A spring is an aquatic feature caused by ground water being discharged to the surface, creating wetland and/or stream characteristics. Nationwide Permits 14, 16, 18, 29, 33, 36, 40, 42, 43, and 44 can not be used in spring areas.

ATTACHMENT D

Plant and Wildlife Compendia

PLANT COMPENDIUM

FERNS AND ALLIES

PTERIDACEAE - BRAKE FAMILY

Pellaea andromedifolia
coffee fern

FLOWERING PLANTS
CLASS DICOTYLEDONES (DICOTS)

ANACARDIACEAE - SUMAC FAMILY

Rhus trilobata
skunkbush

*Schinus molle**
Peruvian pepper tree

APIACEAE (UMBELLIFERAE) - CARROT FAMILY

Daucus pusillus
rattlesnake weed

ASCLEPIADACEAE - MILKWEED FAMILY

Asclepias californica
California milkweed

Asclepias fascicularis
narrow-leaved milkweed

ASTERACEAE (COMPOSITAE) - SUNFLOWER FAMILY

Acourtia microcephala
sacapellote

Ambrosia acanthicarpa
annual burweed

Artemisia californica
California sagebrush

Artemisia douglasiana
mugwort

Artemisia dracunculus
tarragon

Artemisia tridentata
great basin sagebrush

Baccharis pilularis
coyote brush

Baccharis salicifolia
mule fat

Brickellia californica
California brickellbush

*Centaurea melitensis**
tocalote

Chaenactis glabriuscula var. *glabriuscula*
yellow pincushion

*Chamomilla suaveolens**
common pineapple weed

Cirsium sp.*
thistle

Cirsium occidentale
cobweb thistle

Conyza canadensis
common horseweed

PLANT COMPENDIUM (Continued)

Encelia californica
bush sunflower
Ericameria linearifolia
narrowleaf goldenbush
Erigeron foliosus
fleabane daisy
Eriophyllum confertiflorum
golden yarrow
Filago californica
fluffweed
*Filago gallica**
narrow-leaved filago
Gnaphalium californicum
California everlasting
Gnaphalium palustre
lowland cudweed
Gutierrezia californica
California matchweed
Gutierrezia sarothrae (?)
San Joaquin matchweed
Hazardia squarrosa
saw-toothed goldenbush
Hemizonia fasciculata
fascicled tarweed
Hemizonia kelloggii
Kellogg's tarweed
Heterotheca grandiflora
telegraph weed
Heterotheca sessiliflora
golden aster
Hypochaeris glabra
smooth cat's ear
Isocoma menziesii
goldenbush
Lasthenia californica
California goldfields
Lepidospartum squamatum
scale-broom
Lessingia filaginifolia
cudweed aster
Malacothrix saxatilis
cliff malacothrix
Rafinesquia californica
California chicory
Senecio californicus
California butterweed
Senecio flaccidus var. *douglasii*
sand wash butterweed / groundsel
*Sonchus asper**
rough sow-thistle / prickly sow-thistle

PLANT COMPENDIUM (Continued)

*Sonchus oleraceus**
common sow-thistle

Stephanomeria virgata
tall wreath plant

Stylocline gnaphaloides
everlasting nest straw

Tetradymia comosa
cotton thorn

Uropappus lindleyi
silver puffs

Xanthium strumarium var. *canadense*
cocklebur

BORAGINACEAE - BORAGE FAMILY

Amsinckia menziesii
rancher's fiddleneck

Cryptantha sp.
cryptantha

Cryptantha micrantha (?)
small-flowered cryptantha

Heliotropum curassavicum ssp. *oculatum*
salt heliotrope / alkali heliotrope

Pectocarya linearis ssp. *ferocula*
slender pectocarya

Pectocarya penicillata (?)
winged pectocarya

Plagiobothrys sp.
popcorn flower

BRASSICACEAE (CRUCIFERAE) - MUSTARD FAMILY

*Brassica nigra**
black mustard

*Hirschfeldia incana**
shortpod mustard

Lepidium nitidum var. *nitidum*
peppergrass / shining peppergrass

*Sisymbrium altissimum**
tumble mustard

*Sisymbrium irio**
London rocket

*Sisymbrium orientale**
hare's ear cabbage

Stanleya pinnata
prince's plume

Thysanocarpus curvipes
lacepod

CACTACEAE - CACTUS FAMILY

Opuntia basilaris ssp. *basilaris*
beavertail

*Opuntia ficus-indica**
Indian fig

Opuntia littoralis
coastal prickly pear

PLANT COMPENDIUM (Continued)

CAPRIFOLIACEAE - HONEYSUCKLE FAMILY

Sambucus mexicana
Mexican elderberry

CHENOPODIACEAE - GOOSEFOOT FAMILY

Atriplex canescens
fourwing saltbush / shad scale

Atriplex lentiformis ssp. *breweri*
Brewer's saltbush

*Chenopodium album**
lamb's quarters

Chenopodium californicum
California goosefoot

Salsola tragus
Russian thistle

CONVOLVULACEAE - MORNING-GLORY FAMILY

Calystegia piersonii
Pierson's morning glory

CRASSULACEAE - STONECROP FAMILY

Crassula connata
sand pigmy-stonecrop

Dudleya lanceolata
lance-leaved dudleya

CUCURBITACEAE - GOURD FAMILY

Cucurbita foetidissima
coyote melon

Marah macrocarpus
wild cucumber / cucamonga manroot

CUSCUTACEAE - DODDER FAMILY

Cuscuta californica
California witch's hair

ERICACEAE - HEATH FAMILY

Arctostaphylos glauca
bigberry manzanita

EUPHORBIACEAE -SPURGE FAMILY

Chamaesyce albomarginata
rattlesnake weed / rattlesnake spurge

Eremocarpus setigerus
doveweed

FABACEAE (LEGUMINOSAE) - LEGUME/PEA FAMILY

Lotus scoparius
deerweed

Lotus strigosus
strigose lotus

Lupinus sp.
lupine

Lupinus bicolor
miniature lupine

Lupinus hirsutissimus
stinging lupine

PLANT COMPENDIUM (Continued)

Lupinus succulentus
arroyo lupine
Lupinus truncatus
truncate lupine / collar lupine
*Medicago polymorpha**
bur-clover
*Melilotus indica**
yellow sweet-clover
Trifolium gracilentum
pin-point clover
Trifolium willdenovii
tomcat clover / valley clover
Vicia sp.
vetch

FAGACEAE - OAK / BEECH FAMILY

Quercus agrifolia
coast live oak

GERIANIACEAE - GERANIUM FAMILY

*Erodium cicutarium**
red-stemmed filaree

HYDROPHYLLACEAE - WATERLEAF FAMILY

Emmenanthe penduliflora var. *penduliflora*
whispering bells
Eriodictyon crassifolium
thick-leaf yerba santa
Phacelia sp.
phacelia
Phacelia cicutaria
caterpillar phacelia
Phacelia distans
common phacelia
Phacelia ramosissima
branching phacelia

LAMIACEAE (LABIATAE) - MINT FAMILY

*Lamium amplexicaule**
common henbit
Marrubium vulgare
common horehound
Salvia apiana
white sage
Salvia columbariae
chia
Salvia leucophylla
purple sage
Salvia mellifera
black sage
Trichostema lanatum
woolly blue-curls

PLANT COMPENDIUM (Continued)

LOASACEAE - STICK-LEAF FAMILY

Mentzelia laevicaulis
stick-leaf

MALVACEAE - MALLOW FAMILY

Malacothamnus marrubioides
shrub mallow

*Malva parviflora**
cheeseweed

MYRTACEAE - MYRTLE FAMILY

Eucalyptus sp.*
gum

NYCTAGINACEAE - FOUR-O'CLOCK FAMILY

Mirabilis californica
wishbone bush / California wishbone bush

OLEACEAE - OLIVE FAMILY

*Olea europaea**
olive

ONAGRACEAE - EVENING PRIMROSE FAMILY

Camissonia sp.
suncup

Camissonia bistorta
Southern suncup

Camissonia californica
mustard-like evening primrose

Clarkia sp.
clarkia

Clarkia purpurea
four-spot clarkia

Clarkia unguiculata
elegant clarkia

PAPAVERACEAE (FUMARIACEAE) - POPPY FAMILY

Eschscholzia californica
California poppy

POLEMONIACEAE - PHLOX FAMILY

Eriastrum densifolium ssp. *austromontanum*
perennial woolly-star

Eriastrum sappharinum
annual woolly-star / sapphire woolly-star

Gilia angelensis
Los Angeles phlox / Los Angeles gilia

Gilia australis
Southern gilia

Gilia capitata
ball gilia

POLYGONACEAE - BUCKWHEAT FAMILY

Chorizanthe staticoides
Turkish rugging

Eriogonum elongatum
wand buckwheat

PLANT COMPENDIUM (Continued)

Eriogonum fasciculatum
California buckwheat
Erigonum gracile var. *gracile*
slender buckwheat
*Polygonum persicaria**
lady's thumb
*Rumex crispus**
curly dock
Rumex hymenosepalus
wild rhubarb

PORTULACACEAE - PURSLANE FAMILY

Claytonia parviflora
narrow-leaved miner's-lettuce
Claytonia perfoliata
common miner's-lettuce

RANUNCULACEAE - CROWFOOT FAMILY

Delphinium parryi
Parry's larkspur / blue larkspur

RHAMNACEAE - BUCKTHORN FAMILY

Rhamnus crocea
spiny redberry

ROSACEAE - ROSE FAMILY

Adenostoma fasciculatum var. *fasciculatum*
common chamise
Heteromeles arbutifolia
toyon / christmas berry
Prunus ilicifolia
holly-leaved cherry

RUBIACEAE - MADDER FAMILY

Galium angustifolium
narrow-leaved bedstraw
Galium aparine
common bedstraw

SALICACEAE - WILLOW FAMILY

Populus fremontii
Fremont / Western cottonwood
Salix exigua
narrow-leaved willow
Salix laevigata
red willow

SCROPHULARIACEAE - FIGWORT FAMILY

Antirrhinum coulterianum
white snapdragon
Castilleja exserta
purple owl's clover
Mimulus aurantiacus
bush monkeyflower
Penstemon centranthifolius
scarlet bugler

PLANT COMPENDIUM (Continued)

*Verbascum thapsus**
common mullein

SIMAROUBACEAE - QUASSIA FAMILY

*Ailanthus altissima**
tree of heaven

SOLANACEAE - NIGHTSHADE FAMILY

Datura wrightii
jimsonweed

*Nicotiana glauca**
tree tobacco

Nicotiana quadrivalvis
Wallace's tobacco

Solanum douglasii
Douglas' nightshade

Solanum xanti
chaparral nightshade

TAMARICACEAE - TAMARISK FAMILY

*Tamarix ramosissima**
Mediterranean tamarix

VIOLACEAE - VIOLET FAMILY

Viola pedunculata
johnny jump-ups

CLASS MONOCOTYLEDONES (MONOCOTS)

AGAVACEAE - AGAVE FAMILY

Yucca whipplei
Whipple's yucca

ALLIACEAE - ONION FAMILY

Allium sp.
onion

LILIACEAE - LILY FAMILY

Calochortus clavatus var. *clavatus* (x)
club-haired mariposa lily

Calochortus clavatus var. *gracilis* (x)
slender mariposa lily

Chlorogalum pomeridianum
wavy-leaved soap plant

Dichleostemma capitatum
blue dicks

POACEAE - GRASS FAMILY

Achnatherum coronatum
giant needlegrass

*Arundo donax**
giant reed

*Avena barbata**
slender wild oat

*Avena fatua**
wild oat

*Bromus diandrus**
ripgut brome

PLANT COMPENDIUM (Continued)

*Bromus hordeaceus**
soft chess
Bromus madritensis ssp. *rubens**
foxtail chess
*Bromus tectorum**
cheat grass
*Hordeum murinum**
barley
Leymus condensatus
giant wild rye
Melica imperfecta
small-flowered melic grass
Nassella lepida
foothill needlegrass
*Piptatherum miliaceum**
smilo grass / millett ricegrass
Poa secunda
one-sided bluegrass / malpais bluegrass
*Schismus barbatus**
Mediterranean schismus
*Vulpia myuros**
foxtail fescue

**** Denotes non-native species***

WILDLIFE COMPENDIUM

Species	Potential for Occurrence (O = Observed onsite; E = Expected to occur on or in vicinity of site; P = Potential to occur onsite.)
FISH	
CYPRINIDAE - MINNOWS	
Gila orcutti	
arroyo chub	P
CATOSTOMIDAE - SUCKERS	
Catostomus santaanae	
Santa Ana sucker	P
GASTEROSTERIDAE - STICKLEBACKS	
Gasterosteus aculaetus	
threespine stickleback	P
AMPHIBIANS	
PLETHODONTIDAE - LUNGLESS SALAMANDERS	
Batrachoseps nigriventris	
black-bellied salamander	P
PELOBATIDAE -SPADEFOOT TOADS	
Spea [Scaphiopus] hammondii	
western spadefoot	O
BUFONIDAE - TRUE TOADS	
Bufo boreas	
western toad	O
HYLIDAE - TREEFROGS	
Pseudacris [Hyla] regilla	
Pacific treefrog	O
REPTILES	
PHRYNOSOMATIDAE - ZEBRA-TAILED, FRINGE-TOED, ZPINY, TREE, SIDE-BLOTCHED, AND HORNED LIZARDS	
Sceloporus occidentalis	
western fence lizard	O
Uta stansburiana	
side-blotched lizard	O
Phrynosoma coronatum	
coast horned lizard	O
SCINCIDAE - SKINKS	
Eumeces skiltonianus	
western skink	O
TEIIDAE - WHIPTAIL LIZARDS	
Aspidoscelis [Cnemidophorus] tigris	
western whiptail	O
ANGUIDAE - ALLIGATOR LIZARDS	
Elgaria multicarinata	
southern alligator lizard	O
ANNIELLIDAE - LEGLESS LIZARDS	
Anniella pulchra	
legless lizard	O

WILDLIFE COMPENDIUM (Continued)

Species	Potential for Occurrence (O = Observed onsite; E = Expected to occur on or in vicinity of site; P = Potential to occur onsite.)
LEPTOTYPHLOPIDAE - SLENDER BLIND SNAKES	
Leptotyphlops humilis western blind snake	P
BOIDAE - BOAS AND PYTHONS	
Charina [Lichanura] trivirgata rosy boa	P
COLUBRIDAE - COLUBRID SNAKES	
Diadophis punctatus ringnecked snake	P
Coluber constrictor western yellow-bellied racer	P
Masticophis flagellum coachwhip	O
Masticophis lateralis California whipsnake	O
Salvadora hexalepis western patch-nosed snake	P
Pituophis catenifer gopher snake	O
Arizona elegans glossy snake	P
Lampropeltis getula common kingsnake	E
Rhinocheilus lecontei long-nosed snake	P
Hypsiglena torquata night snake	P
VIPERIDAE - VIPERS	
Crotalus oreganus western rattlesnake	O
BIRDS	
ODONTOPHORIDAE - QUAILS	
Callipepla californica California quail	O
ARDEIDAE - HERONS	
Ardea herodias great blue heron	O
CATHARTIDAE - NEW WORLD VULTURES	
Cathartes aura turkey vulture	O
ACCIPITRIDAE - HAWKS	
Circus cyaneus northern harrier	P
Accipiter striatus sharp-shinned hawk	O

WILDLIFE COMPENDIUM (Continued)

Species	Potential for Occurrence (O = Observed onsite; E = Expected to occur on or in vicinity of site; P = Potential to occur onsite.)
Accipiter cooperi Cooper's hawk	O
Buteo lineatus red-shouldered hawk	O
Buteo swainsoni Swainson's hawk	O
Buteo jamaicensis red-tailed hawk	O
Buteo regalis ferruginous hawk	P
Aquila chrysaetos golden eagle	P
FALCONIDAE - FALCONS	
Falco sparverius American kestrel	O
Falco columbarius merlin	P
Falco peregrinus peregrine falcon	P
Falco mexicanus prairie falcon	P
CHARADRIIDAE - PLOVERS	
Charadrius vociferus killdeer	O
COLUMBIDAE - PIGEONS & DOVES	
Columba livia rock pigeon *	O
Columba fasciata band-tailed pigeon	P
Zenaida macroura mourning dove	O
CUCULIDAE - CUCKOOS & ROADRUNNERS	
Geococcyx californianus greater roadrunner	O
TYTONIDAE - BARN OWLS	
Tyto alba barn owl	O
STRIGIDAE - TRUE OWLS	
Megascops kennicottii western screech-owl	P
Bubo virginianus great horned owl	E
Athene cunicularia burrowing owl	P

WILDLIFE COMPENDIUM (Continued)

Species	Potential for Occurrence (O = Observed onsite; E = Expected to occur on or in vicinity of site; P = Potential to occur onsite.)
CAPRIMULGIDAE - GOATSUCKERS	
Chordeiles acutipennis lesser nighthawk	O
Phalaenoptilus nuttallii common poorwill	P
APODIDAE - SWIFTS	
Chaetura vauxi Vaux's swift	E
Aeronautes saxatalis white-throated swift	E
TROCHILIDAE - HUMMINGBIRDS	
Archilochus alexandri black-chinned hummingbird	P
Calypte anna Anna's hummingbird	O
Calypte costae Costa's hummingbird	O
Selasphorus rufus rufous hummingbird	E
Selasphorus sasin Allen's hummingbird	E
PICIDAE - WOODPECKERS	
Picoides nuttallii Nuttall’s woodpecker	E
Colaptes auratus northern flicker	O
TYRANNIDAE - TYRANT FLYCATCHERS	
Sayornis nigricans black phoebe	O
Sayornis saya Say's phoebe	O
Pyrocephalus rubinus vermillion flycatcher	O
Myiarchus cinerascens ash-throated flycatcher	O
Tyrannus vociferans Cassin’s kingbird	O
Tyrannus verticalis western kingbird	O
LANIIDAE - SHRIKES	
Lanius ludovicianus loggerhead shrike	O
CORVIDAE - JAYS & CROWS	
Aphelocoma californica western scrub-jay	O

WILDLIFE COMPENDIUM (Continued)

Species	Potential for Occurrence (O = Observed onsite; E = Expected to occur on or in vicinity of site; P = Potential to occur onsite.)
Corvus brachyrhynchos American crow	O
Corvus corax common raven	O
ALAUDIDAE - LARKS	
Eremophila alpestris horned lark	P
HIRUNDINIDAE - SWALLOWS	
Tachycineta thalassina violet-green swallow	O
Stelgidopteryx serripennis northern rough-winged swallow	O
Petrochelidon pyrrhonota cliff swallow	O
AEGITHALIDAE - BUSHTITS	
Psaltriparus minimus bushtit	O
TROGLODYTIDAE - WRENS	
Thryomanes bewickii Bewick's wren	O
Troglodytes aedon house wren	O
SYLVIIDAE - GNATCATCHERS	
Polioptila caerulea blue-gray gnatcatcher	E
TURIDIDAE - THRUSHES & ROBINS	
Sialia mexicana western bluebird	O
Sialia currucoides mountain bluebird	P
Catharus ustulatus Swainson’s thrush	P
Catharus guttatus hermit thrush	E
TIMALIIDAE - WRENTITS	
Chamaea fasciata wrentit	O
MIMIDAE - THRASHERS	
Mimus polyglottos northern mockingbird	O
Toxostoma redivivum California thrasher	O
STURNIDAE - STARLINGS	
Sturnus vulgaris European starling *	O

WILDLIFE COMPENDIUM (Continued)

Species	Potential for Occurrence (O = Observed onsite; E = Expected to occur on or in vicinity of site; P = Potential to occur onsite.)
PTILOGONATIDAE - SILKY-FLYCATCHERS	
Phainopepla nitens phainopepla	O
PARULIDAE - WARBLERS	
Dendroica petechia yellow warbler	E
Dendroica coronata yellow-rumped warbler	O
Oporornis tolmiei MacGillivray's warbler	O
Geothlypis trichas common yellowthroat	O
Wilsonia pusilla Wilson's warbler	O
THRAUPIDAE - TANAGERS	
Piranga ludoviciana western tanager	O
EMBERIZIDAE - SPARROWS & JUNCOS	
Pipilo maculatus spotted towhee	O
Pipilo crissalis California towhee	O
Aimophila ruficeps rufous-crowned sparrow	O
Amphispiza belli sage sparrow	O
Pooecetes gramineus vesper sparrow	O
Chondestes grammacus lark sparrow	O
Calmospiza melanocorys lark bunting	O
Passerculus sandwichensis savannah sparrow	O
Ammodramus savannarum grasshopper sparrow	P
Passerella iliaca fox sparrow	E
Melospiza melodia song sparrow	O
Melospiza lincolnii Lincoln's sparrow	O
Zonotrichia atricapilla golden-crowned sparrow	E
Zonotrichia leucophrys white-crowned sparrow	O

WILDLIFE COMPENDIUM (Continued)

Species	Potential for Occurrence (O = Observed onsite; E = Expected to occur on or in vicinity of site; P = Potential to occur onsite.)
CARDINALIDAE - GROSBEAKS & BUNTINGS	
Pheuticus melanocephalus black-headed grosbeak	O
Passerina caerulea blue grosbeak	O
Passerina amoena lazuli bunting	O
ICTERIDAE - BLACKBIRDS	
Sturnella neglecta western meadowlark	O
Euphagus cyanocephalus Brewer's blackbird	O
Molothrus ater brown-headed cowbird	O
Icterus cucullatus hooded oriole	O
Icterus bullockii Bullock's oriole	E
FRINGILLIDAE - FINCHES	
Carpodacus mexicanus house finch	O
Carduelis psaltria lesser goldfinch	O
Carduelis lawrencei Lawrence's goldfinch	P
Carduelis tristis American goldfinch	O
PASSERIDAE - OLD WORLD SPARROWS	
Passer domesticus house sparrow *	O
MAMMALS	
DIDELPHIDAE - NEW WORLD OPOSSUMS	
Didelphis virginiana Virginia opossum *	O
SORICIDAE - SHREWS	
Sorex ornatus ornate shrew	P
Notiosorex crawfordi desert shrew	E
VESPERTILIONIDAE - EVENING BATS	
Antrozous pallidus pallid bat	P
Eptesicus fuscus big brown bat	P
Myotis ciliolabrum small-footed myotis	P

WILDLIFE COMPENDIUM (Continued)

Species	Potential for Occurrence (O = Observed onsite; E = Expected to occur on or in vicinity of site; P = Potential to occur onsite.)
Myotis evotis long-eared myotis	P
Myotis thysandodes fringed myotis	P
Myotis volans long-legged myotis	P
Myotis californicus California myotis	P
Myotis yumanensis Yuma myotis	P
Pipistrellus hesperus western pipistrelle	P
Corynorhinus [Plecotus] townsendii big-eared bat	P
MOLOSSIDAE - MOLOSSID BATS	
Eumops perotis mastiff bat	P
Tadarida brasiliensis Brazilian free-tailed bat	P
LEPORIDAE - HARES & RABBITS	
Sylvilagus audubonii desert cottontail	O
Lepus californicus black-tailed jackrabbit	O
SCIURIDAE - SQUIRRELS	
Spermophilus beecheyi California ground squirrel	O
GEOMYIDAE - POCKET GOPHERS	
Thomomys bottae pocket gopher	O
HETEROMYIDAE - POCKET MICE & KANGAROO RATS	
Chaetodipus californicus California pocket mouse	E
Dipodomys agilis agile kangaroo rat	O
MURIDAE - MICE, RATS, AND VOLES	
Microtus californicus California vole	O
Mus musculus house mouse *	O
Neotoma lepida desert woodrat	P
Onychomys torridus grasshopper mouse	P

WILDLIFE COMPENDIUM (Continued)

Species	Potential for Occurrence (O = Observed onsite; E = Expected to occur on or in vicinity of site; P = Potential to occur onsite.)
Peromyscus boylii brush mouse	E
Peromyscus californicus California mouse	E
Peromyscus eremicus cactus mouse	E
Peromyscus maniculatus deer mouse	O
Reithrodontomys megalotis western harvest mouse	P
CANIDAE - WOLVES & FOXES	
Canis latrans coyote	O
Urocyon cinereoargenteus gray fox	P
PROCYONIDAE - RACCOONS	
Procyon lotor common raccoon	O
MUSTELIDAE - WEASELS, SKUNKS & OTTERS	
Mephitis mephitis striped skunk	O
Mustela frenata long-tailed weasel	E
Spilogale gracilis western spotted skunk	P
Taxidea taxus American badger	E
FELIDAE - CATS	
Puma [Felis] concolor mountain lion	E
Lynx rufus bobcat	E
CERVIDAE - DEERS	
Odocoileus hemionus mule deer	O

**** Denotes non-native species***

ATTACHMENT E

Guideline Compliance Checklist

Appendix A—GUIDELINE COMPLIANCE CHECKLIST

	PAGE	PREPARER'S INITIALS
Setting	_____	_____
Original topographical quad sheet (or color photocopy)	_____	_____
Project site photographs or color photocopies	_____	_____
Color aerial photographs	_____	_____
SEA/SERA map	_____	_____
Biotic survey of the project site	_____	_____
Floral and faunal lists in systematic/alphabetic order	_____	_____
Table of sensitive species impacts matrix	_____	_____
Document showing CNDDB contact	_____	_____
Site/grading plans	_____	_____
Initial study questionnaire	_____	_____
Impacts	_____	_____
Mitigation measures	_____	_____
Mitigation monitoring	_____	_____
Preparer's resume/qualifications	_____	_____

ATTACHMENT F

Table of Special Status Species Impact Matrix

ATTACHMENT F
TABLE OF SENSITIVE SPECIES IMPACTS MATRIX
VESTING TENTATIVE TRACT MAP NO. 53189

Species ***Scientific Name*** **Common Name**	***Astragalus brauntonii*** **Braunton's milk-vetch**	***Berberis nevinii*** **Nevin's barberry**	***Calochortus clavatus var. gracilis*** **Slender mariposa lily**
Habitat present and species is reasonably expected to occur on-site? (YES/NO)[1]	YES[2]	NO	YES
Species impacted directly by habitat loss? (YES/NO)	NO	NO	YES
Habitat loss substantial? (YES/NO)	NO	NO	NO
Species impacted indirectly on adjacent lands by edge effects? (YES/NO)	NO	NO	YES
Potential to eliminate species on-site? (YES/NO)	NO	NO	NO
Potential to reduce population size below self sustaining levels? (YES/NO)	NO	NO	NO
Potential for substantial reduction in numbers of individuals? (YES/NO)	NO	NO	YES
Potential restriction of range of rare or endangered species? (YES/NO)	NO	NO	NO
Impact significant? (YES/NO)	NO	NO	YES
Mitigation	Mitigation Measure Bio-3	None	Mitigation Measure Bio-4

[1] - In some cases, though habitat may be present, the species is not reasonably expected to occur onsite.
[2] - This species may occur onsite following mechanical or fire disturbance. Additional preconstruction surveys are therefore recommended.

ATTACHMENT F (Continued)
TABLE OF SENSITIVE SPECIES IMPACTS MATRIX
VESTING TENTATIVE TRACT MAP NO. 53189

Species ***Scientific Name*** **Common Name**	***Calochortus plummerae*** **Plummer's mariposa lily**	***Chorizanthe parryi* var. *fernandina*** **San Fernando Valley spineflower**	***Dodecahema leptoceras*** **Slender-horned spineflower**
Habitat present and species is reasonably expected to occur on-site? (YES/NO)[1]	NO	NO	NO
Species impacted directly by habitat loss? (YES/NO)	NO	NO	NO
Habitat loss substantial? (YES/NO)	NO	NO	NO
Species impacted indirectly on adjacent lands by edge effects? (YES/NO)	NO	NO	NO
Potential to eliminate species on-site? (YES/NO)	NO	NO	NO
Potential to reduce population size below self sustaining levels? (YES/NO)	NO	NO	NO
Potential for substantial reduction in numbers of individuals? (YES/NO)	NO	NO	NO
Potential restriction of range of rare or endangered species? (YES/NO)	NO	NO	NO
Impact significant? (YES/NO)	NO	NO	NO
Mitigation	None	None	None

[1] - In some cases, though habitat may be present, the species is not reasonably expected to occur onsite.

ATTACHMENT F (Continued)
TABLE OF SENSITIVE SPECIES IMPACTS MATRIX
VESTING TENTATIVE TRACT MAP NO. 53189

Species ***Scientific Name*** **Common Name**	***Navarretia fossalis*** **Spreading navarretia**	***Orcuttia californica*** **California Orcutt grass**	
Habitat present and species is reasonably expected to occur on-site? (YES/NO)[1]	NO	NO	
Species impacted directly by habitat loss? (YES/NO)	NO	NO	
Habitat loss substantial? (YES/NO)	NO	NO	
Species impacted indirectly on adjacent lands by edge effects? (YES/NO)	NO	NO	
Potential to eliminate species on-site? (YES/NO)	NO	NO	
Potential to reduce population size below self sustaining levels? (YES/NO)	NO	NO	
Potential for substantial reduction in numbers of individuals? (YES/NO)	NO	NO	
Potential restriction of range of rare or endangered species? (YES/NO)	NO	NO	
Impact significant? (YES/NO)	NO	NO	
Mitigation	None	None	

[1] - In some cases, though habitat may be present, the species is not reasonably expected to occur onsite.

ATTACHMENT F (Continued)
TABLE OF SENSITIVE SPECIES IMPACTS MATRIX
VESTING TENTATIVE TRACT MAP NO. 53189

Species ***Scientific Name*** **Common Name**	***Catostomus santaanae*** **Santa Ana sucker**	***Gasterosteus aculeatus williamsoni*** **Unarmored threespine stickleback**	***Bufo californicus*** **Arroyo toad**
Habitat present and species is reasonably expected to occur on-site? (YES/NO)[1]	YES	YES	NO
Species impacted directly by habitat loss? (YES/NO)	NO	NO	NO
Habitat loss substantial? (YES/NO)	NO	NO	NO
Species impacted indirectly on adjacent lands by edge effects? (YES/NO)	NO	NO	NO
Potential to eliminate species on-site? (YES/NO)	NO	NO	NO
Potential to reduce population size below self sustaining levels? (YES/NO)	NO	NO	NO
Potential for substantial reduction in numbers of individuals? (YES/NO)	NO	NO	NO
Potential restriction of range of rare or endangered species? (YES/NO)	NO	NO	NO
Impact significant? (YES/NO)	NO	NO	NO
Mitigation	None	None	None

[1] - In some cases, though habitat may be present, the species is not reasonably expected to occur onsite.

ATTACHMENT F (Continued)
TABLE OF SENSITIVE SPECIES IMPACTS MATRIX
VESTING TENTATIVE TRACT MAP NO. 53189

Species ***Scientific Name*** **Common Name**	***Rana aurora draytonii*** **California red-legged frog**	***Scaphiopus hammondii*** **Western spadefoot**	***Anniella pulchra pulchra*** **Silvery legless lizard**
Habitat present and species is reasonably expected to occur on-site? (YES/NO)[1]	NO	YES	YES
Species impacted directly by habitat loss? (YES/NO)	NO	YES	YES
Habitat loss substantial? (YES/NO)	NO	NO	NO
Species impacted indirectly on adjacent lands by edge effects? (YES/NO)	NO	YES	YES
Potential to eliminate species on-site? (YES/NO)	NO	NO	NO
Potential to reduce population size below self sustaining levels? (YES/NO)	NO	NO	NO
Potential for substantial reduction in numbers of individuals? (YES/NO)	NO	NO	NO
Potential restriction of range of rare or endangered species? (YES/NO)	NO	NO	NO
Impact significant? (YES/NO)	NO	NO	NO
Mitigation	None	Mitigation Measure Bio-5	Mitigation Measure Bio-6

[1] - In some cases, though habitat may be present, the species is not reasonably expected to occur onsite.

ATTACHMENT F (Continued)
TABLE OF SENSITIVE SPECIES IMPACTS MATRIX
VESTING TENTATIVE TRACT MAP NO. 53189

Species ***Scientific Name*** **Common Name**	***Cnemidophorus tigris multiscutatus*** **Coastal western whiptail**	***Diadophis puctatus modestus*** **San Bernardino ringneck snake**	***Salvadora hexalepis virgultea*** **Coast patch-nose snake**
Habitat present and species is reasonably expected to occur on-site? (YES/NO)[1]	YES	NO	NO
Species impacted directly by habitat loss? (YES/NO)	YES	NO	NO
Habitat loss substantial? (YES/NO)	NO	NO	NO
Species impacted indirectly on adjacent lands by edge effects? (YES/NO)	YES	NO	NO
Potential to eliminate species on-site? (YES/NO)	NO	NO	NO
Potential to reduce population size below self sustaining levels? (YES/NO)	NO	NO	NO
Potential for substantial reduction in numbers of individuals? (YES/NO)	NO	NO	NO
Potential restriction of range of rare or endangered species? (YES/NO)	NO	NO	NO
Impact significant? (YES/NO)	YES	NO	NO
Mitigation	Mitigation Measure Bio-6	None	None

[1] - In some cases, though habitat may be present, the species is not reasonably expected to occur onsite.

ATTACHMENT F (Continued)
TABLE OF SENSITIVE SPECIES IMPACTS MATRIX
VESTING TENTATIVE TRACT MAP NO. 53189

Species ***Scientific Name*** **Common Name**	***Buteo swainsoni*** **Swainson's hawk**	***Coccyzus americanus occidentalis*** **Western yellow-billed cuckoo**	***Empidonax traillii extimus*** **Southwestern willow flycatcher**
Habitat present and species is reasonably expected to occur on-site? (YES/NO)[1]	NO[3]	NO	NO
Species impacted directly by habitat loss? (YES/NO)	NO	NO	NO
Habitat loss substantial? (YES/NO)	NO	NO	NO
Species impacted indirectly on adjacent lands by edge effects? (YES/NO)	NO	NO	NO
Potential to eliminate species on-site? (YES/NO)	NO	NO	NO
Potential to reduce population size below self sustaining levels? (YES/NO)	NO	NO	NO
Potential for substantial reduction in numbers of individuals? (YES/NO)	NO	NO	NO
Potential restriction of range of rare or endangered species? (YES/NO)	NO	NO	NO
Impact significant? (YES/NO)	NO	NO	NO
Mitigation	None	None	None

[1] - In some cases, though habitat may be present, the species is not reasonably expected to occur onsite.
[3] - Although this species has been observed on the project site, it is still considered a rare migrant in the region and is not expected to occur.

ATTACHMENT F (Continued)
TABLE OF SENSITIVE SPECIES IMPACTS MATRIX
VESTING TENTATIVE TRACT MAP NO. 53189

Species ***Scientific Name*** **Common Name**	***Lanius ludovicianus*** **Loggerhead shrike**	***Vireo bellii pusillus*** **Least Bell's vireo**	***Polioptila californica californica*** **Coastal California gnatcatcher**
Habitat present and species is reasonably expected to occur on-site? (YES/NO)[1]	YES	NO	NO
Species impacted directly by habitat loss? (YES/NO)	YES	NO	NO
Habitat loss substantial? (YES/NO)	NO	NO	NO
Species impacted indirectly on adjacent lands by edge effects? (YES/NO)	YES	NO	NO
Potential to eliminate species on-site? (YES/NO)	NO	NO	NO
Potential to reduce population size below self sustaining levels? (YES/NO)	NO	NO	NO
Potential for substantial reduction in numbers of individuals? (YES/NO)	NO	NO	NO
Potential restriction of range of rare or endangered species? (YES/NO)	NO	NO	NO
Impact significant? (YES/NO)	YES	NO	NO
Mitigation	Mitigation Measure Bio-7	None	None

[1] - In some cases, though habitat may be present, the species is not reasonably expected to occur onsite.

ATTACHMENT G

Initial Study Checklist

2003 INITIAL STUDY

Los Angeles County
Department of Regional Planning

Planning for the Challenges Ahead

James E. Hartl, AICP
Director of Planning

July 22, 2003

RECEIVED
JUL 23 2003
By TES 7/29

Thomas Smith, Jr. AICP
BonTerra Consulting
151 Kalmus Drive, Suite E-200
Costa Mesa, CA 92626

SUBJECT: INITIAL STUDY DETERMINATION LETTER
PROJECT NO. CUP 00-081/ TR53189
State Clearinghouse No. 2000071052

Dear Applicant:

On July 22, 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.**

A Notice of Preparation (NOP) was previously circulated between July 13 and August 11, 2000 for a similar project and the NOP comments have been forwarded to your consultant recently. Thus, you are required to submit two copies of a Screencheck document in the form of a Draft EIR for staff review. 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 additional 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, Section Head
Impact Analysis Section

JEH:DLK:hcc
Attachment(s)

STAFF USE ONLY

PROJECT NUMBER: *00-081*

CASES: *TR 53189*

CUP

****** INITIAL STUDY ******

COUNTY OF LOS ANGELES
DEPARTMENT OF REGIONAL PLANNING

GENERAL INFORMATION

I.A. Map Date: *July 7, 2003* Staff Member: *Hsiao-ching Chen*

Thomas Guide: *4460 F,G1; F,G2* USGS Quad: *Newhall*

Location: *Northwest corner of San Francisquito Canyon Road and Lowridge Place (site is bordered on the east by the San Francisquito Canyon Road and is approximately between Lady Linda Lane and Loweidge Place.)*

Description of Project: *A tract map application to construct 60 units of single family residences (ranging from 0.83 to 0.25 acres) and three open space lots. The application also includes a Conditional Use Permit for density control and for development within Significant Ecological Area (SEA) and hillside management area. Access to the site will be from the southwest and northwest through the Tesoro del Valle property(92-074/TR51644).* Gross Area: *185.8 acres*

Environmental Setting: *Site is located within the County's unincorporated area east of the Golden State Freeway(I-5) and north of the Saugus area of the Santa Clarita Valley. San Francisquito Canyon runs north to south through the eastern half of the project site and maintains riparian woodland. The Canyon possesses two populations of the unarmored threespine stickleback (Gasterosteus aculeatus williamsoni),which is listed as endangered at both the state and federal levels. Site topography is characterized as ranging from 1250 feet MSL in San Francisquito Creek to 1480 MSL above the western canyon of the property. Project site is surrounded by vacant land, large lot sinfle family residences, and residential development under construction to the southwest.*

Zoning: *R-1-7000, A-2-2*

General Plan: *Non-urban, SEA*

Community/Area Wide Plan: *Non-urban 2, Hillside Management, Floodway/Floodplain (SCVAP)*

Major projects in area:

Project Number	Description & Status
92-074/TR51644	*Tesoro Del Valle - 1895 units on 1795 AC (5/18/1999 approved)*
97-088/ TR52302	*11 SF LOTS ON 22.39 AC (9/21/1999 recorded)*
87-194/ PM18717	*2 SF LOTS ON 10 AC (10/11/1989 recorded)*
2510/ TR 43171	*10 SF LOTS ON 98.6 AC (10/1/1986 recorded)*
98-008/TR52455	*West Creek Project - 2545 units on 966 AC (approved and litigated)*

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
- ☒ *Caltrans*

Trustee Agencies

- ☐ None
- ☒ State Fish and Game
- ☒ State Parks
- ☒ *US FWS*
- ☐ _____

Special Reviewing Agencies

- ☐ None
- ☐ Santa Monica Mountains Conservancy
- ☐ National Parks
- ☐ National Forest
- ☐ Edwards Air Force Base
- ☐ Resource Conservation District of the Santa Monica Mtns.
- ☒ *Valencia Water Company*
- ☒ *City of Santa Clarita*
- ☒ *SCOPE*
- ☒ *SCV Historical Society*
- ☒ *William S. Hart SD*
- ☒ *Saugus Union SD*
- ☐ _____

Regional Significance

- ☒ None
- ☐ SCAG Criteria
- ☐ Air Quality
- ☐ Water Resources
- ☐ Santa Monica Mtns Area
- ☐ _____

County Reviewing Agencies

- ☒ Subdivision Committee
- ☒ DPW: *Traffic & Lighting*
- ☐ Health Services: ____
- ☒ *Sanitation Districts*
- ☒ *Parks and Recreation*
- ☒ *Sheriff Dept*

MPACT ANALYSIS MATRIX

CATEGORY	FACTOR	Pg	Less than Significant Impact/No Impact	Less than Significant Impact with Project Mitigation	Potentially Significant Impact	Potential Concern
HAZARDS	1. Geotechnical	5	☐	☐	☒	*Liquefaction, landslides*
	2. Flood	6	☐	☐	☒	*San Francisquito Creek floodplain*
	3. Fire	7	☐	☐	☒	*Fire Zone 4*
	4. Noise	8	☒	☐	☐	
RESOURCES	1. Water Quality	9	☐	☐	☒	*Urban development adjacent to creek*
	2. Air Quality	10	☐	☐	☒	
	3. Biota	11	☐	☐	☒	*SEA#19, oaks*
	4. Cultural Resources	12	☐	☐	☒	*Drainage course, oak trees, oil well loci*
	5. Mineral Resources	13	☒	☐	☐	
	6. Agriculture Resources	14	☒	☐	☐	
	7. Visual Qualities	15	☐	☐	☒	*San Francisquito Canyon Trail*
SERVICES	1. Traffic/Access	16	☐	☐	☒	*Exceed CMP threshold*
	2. Sewage Disposal	17	☐	☐	☒	*Demonstration of sewer capacity*
	3. Education	18	☐	☐	☒	*School Districts have existing capacity problems*
	4. Fire/Sheriff	19	☒	☐	☐	
	5. Utilities	20	☐	☐	☒	*Demonstration of water availability*
OTHER	1. General	21	☒	☐	☐	
	2. Environmental Safety	22	☐	☐	☒	*Two oil wells within the project boundaries*
	3. Land Use	23	☒	☐	☐	
	4. Pop./Hous./Emp./Rec.	24	☒	☐	☐	
	Mandatory Findings	25	☐	☐	☒	*Biota*

ANALYSIS SUMMARY (See individual pages for details)

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: _____

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: _____

☐ 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 thatthe 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: *Hsiao-ching Chen* Date: _____

Approved by: *Daryl Koutnik* Date: 22 July 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.	☒	☐	☐	Is the project site located in an active or potentially active fault zone, Seismic Hazards Zone, or Alquist-Priolo Earthquake Fault Zone? *Site contains earthquake-induced landslides (per Seismic Hazard Zones Map Newhall Quad.); San Francisquito Fault is approximatelt 3 miles south of the project site (Earthquake Fault Zone Map Newhall Quad.)*
b.	☒	☐	☐	Is the project site located in an area containing a major landslide(s)? *One small landslide exists in the northerly portion of the site*
c.	☐	☐	☒	Is the project site located in an area having high slope instability? *Site contains alluvial and colluvial deposits*
d.	☐	☒	☐	Is the project site subject to high subsidence, high groundwater level, liquefaction, or hydrocompaction?
e.	☐	☒	☐	Is the proposed project considered a sensitive use (school, hospital, public assembly site) located in close proximity to a significant geotechnical hazard?
f.	☒	☐	☐	Will the project entail substantial grading and/or alteration of topography including slopes of more than 25%? *Approximately 264,000 cubic yards of grading which will be balanced on site.*
g.	☐	☒	☐	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?
h.	☐	☐	☐	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

Comply with all SCM recommendations from Public Works.

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.	☒	☐	☐	Is a major drainage course, as identified on USGS quad sheets by a dashed line, located on the project site?

San Francisquito Creek

b.	☒	☐	☐	Is the project site located within or does it contain a floodway, floodplain, or designated flood hazard zone?

San Francisquito Creek Floodplain and tributary

c.	☐	☒	☐	Is the project site located in or subject to high mudflow conditions?
d.	☐	☒	☐	Could the project contribute or be subject to high erosion and debris deposition from run off?
e.	☐	☐	☒	Would the project substantially alter the existing drainage pattern of the site or area?

San Francisquito tributary to be blocked

f. ☐ ☐ ☐ Other factors (e.g., dam failure)? _____

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

Comply with all SCM recommendations from Public Works.

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.	☒	☐	☐	Is the project site located in a Very High Fire Hazard Severity Zone (Fire Zone 4)? *(Per Los Angeles County General Plan Safety Element - Plate 7)*
b.	☐	☒	☐	Is the project site in a high fire hazard area and served by inadequate access due to lengths, widths, surface materials, turnarounds or grade?
c.	☐	☒	☐	Does the project site have more than 75 dwelling units on a single access in a high fire hazard area?
d.	☐	☒	☐	Is the project site located in an area having inadequate water and pressure to meet fire flow standards?
e.	☐	☒	☐	Is the project site located in close proximity to potential dangerous fire hazard conditions/uses (such as refineries, flammables, explosives manufacturing)?
f.	☐	☒	☐	Does the proposed use constitute a potentially dangerous fire hazard?
g.	☐	☐	☐	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

Comply with all SCM recommendations from Fire Department.

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.	☐	☒	☐	Is the project site located near a high noise source (airports, railroads, freeways, industry)?
b.	☐	☒	☐	Is the proposed use considered sensitive (school, hospital, senior citizen facility) or are there other sensitive uses in close proximity?
c.	☐	☒	☐	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?
d.	☐	☒	☐	Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels without the project?
e.	☒	☐	☐	Other factors? _____

STANDARD CODE REQUIREMENTS

☐ Noise Ordinance No. 11,778 ☐ Building Ordinance No. 2225--Chapter 35

☐ **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, 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.	☐	☒	☐	Is the project site located in an area having known water quality problems and proposing the use of individual water wells?
b.	☐	☒	☐	Will the proposed project require the use of a private sewage disposal system?
	☐	☐	☐	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?
c.	☒	☐	☐	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? *NPDES permit required; Site is immediately adjacent to drainage course.*
d.	☒	☐	☐	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? *NPDES permit required; Site is immediately adjacent to drainage course.*
e.	☐	☐	☐	Other factors?

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 - 2. Air Quality

SETTING/IMPACTS

	Yes	No	Maybe	
a.	☐	☒	☐	Will the proposed project exceed the State's criteria for regional significance (generally (a) 500 dwelling units for residential uses or (b) 40 gross acres, 650,000 square feet of floor area or 1,000 employees for nonresidential uses)?
b.	☐	☒	☐	Is the proposal considered a sensitive use (schools, hospitals, parks) and located near a freeway or heavy industrial use?
c.	☐	☒	☐	Will the project increase local emissions to a significant extent due to increased traffic congestion or use of a parking structure, or exceed AQMD thresholds of potential significance per Screening Tables of the CEQA Air Quality Handbook?
d.	☐	☒	☐	Will the project generate or is the site in close proximity to sources which create obnoxious odors, dust, and/or hazardous emissions?
e.	☐	☒	☐	Would the project conflict with or obstruct implementation of the applicable air quality plan?
f.	☐	☒	☐	Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?
g.	☐	☒	☐	Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?
h.	☐	☐	☐	Other factors: _____

STANDARD CODE REQUIREMENTS

☐ Health and Safety Code Section 40506

☐ **MITIGATION MEASURES** / ☐ **OTHER CONSIDERATIONS**

☐ Project Design ☐ Air Quality Report

CONCLUSION

Considering the above information, could the project have a significant impact (individually or cumulatively) on, or be impacted by, **air quality**?

☐ Potentially significant ☐ Less than significant with project mitigation ☒ Less than significant/No impact

RESOURCES - 3. Biota

SETTING/IMPACTS

	Yes	No	Maybe	
a.	☒	☐	☐	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?

SEA#19 San Francisquito Canyon

b.	☒	☐	☐	Will grading, fire clearance, or flood related improvements remove substantial natural habitat areas?

Project development will remove some natural habitat areas.

c.	☒	☐	☐	Is a major drainage course, as identified on USGS quad sheets by a blue, dashed line, located on the project site?

San Francisquito Creek runs from north to south through the eastern half of the site

d.	☒	☐	☐	Does the project site contain a major riparian or other sensitive habitat (e.g., coastal sage scrub, oak woodland, sycamore riparian woodland, wetland, etc.)? *Coast Live Oak woodland, Riversidian alluvial fan sage scrub scrub, mulefat. Site previously contain mainland hollyleaf cherry woodland which was destroyed by the recent wildfire.*
e.	☒	☐	☐	Does the project site contain oak or other unique native trees (specify kinds of trees)?

Oak trees, cottonwoods

f.	☒	☐	☐	Is the project site habitat for any known sensitive species (federal or state listed endangered, etc.)? *Red-legged frog, Unarmored three-spined stickleback(Gasterosteus aculeatus williamsoni), arroyo toad, spadefoot toad, Nevin's barbery*
g.	☒	☐	☐	Other factors (e.g., wildlife corridor, adjacent open space linkage)?

Wildlife corridor

☐ **MITIGATION MEASURES** / ☐ **OTHER CONSIDERATIONS**

☐ Lot Size ☐ Project Design ☐ Oak Tree Permit ☒ SEATAC Review

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.	☒	☐	☐	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?
				San Francisquito Creek
b.	☐	☒	☐	Does the project site contain rock formations indicating potential paleontological resources?
c.	☒	☐	☐	Does the project site contain known historic structures or sites?
				Oil well loci (CA-LAN-1455-H)
d.	☐	☒	☐	Would the project cause a substantial adverse change in the significance of a historical or archaeological resource as defined in 15064.5?
e.	☐	☒	☐	Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
f.	☐	☐	☐	Other factors?

☐ **MITIGATION MEASURES** / ☐ **OTHER CONSIDERATIONS**

☐ Lot Size ☐ Project Design ☒ Phase I Archaeology Report of 12/99 on file

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.	☐	☒	☐	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?
b.	☐	☒	☐	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?
c.	☐	☐	☐	Other factors?

☐ **MITIGATION MEASURES** / ☐ **OTHER CONSIDERATIONS**

☐ Lot Size ☐ Project Design

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.	☐	☒	☐	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?
b.	☐	☒	☐	Would the project conflict with existing zoning for agricultural use, or a Willamson Act contract?
c.	☐	☒	☐	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.	☐	☐	☐	Other factors?

☐ **MITIGATION MEASURES** / ☐ **OTHER CONSIDERATIONS**

☐ Lot Size ☐ Project Design

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?
b.	☒	☐	☐	Is the project substantially visible from or will it obstruct views from a regional riding or hiking trail? *San Francisquito Canyon Trail*
c.	☒	☐	☐	Is the project site located in an undeveloped or undisturbed area, which contains unique aesthetic features? *San Francisquito Creek*
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): *Approximately 264,000 cubic yards of grading*

☐ **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.	☐	☐	☒	Does the project contain 25 dwelling units, or more and is it located in an area with known congestion problems (roadway or intersections)?
				Project is proposing 60 units of single family lots
b.	☐	☒	☐	Will the project result in any hazardous traffic conditions?
c.	☐	☒	☐	Will the project result in parking problems with a subsequent impact on traffic conditions?
d.	☐	☒	☐	Will inadequate access during an emergency (other than fire hazards) result in problems for emergency vehicles or residents/employees in the area?
e.	☒	☐	☐	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?
				Project exceeds of CMP threshold for single family residential projects (i.e., 50 units)
f.	☐	☒	☐	Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?
g.	☐	☐	☐	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.	☐	☐	☒	If served by a community sewage system, could the project create capacity problems at the treatment plant?

Site is currently outside of boundaries of the LA Co Sanitation Districts.

b.	☐	☐	☒	Could the project create capacity problems in the sewer lines serving the project site?

Site is currently outside of boundaries of the LA Co Sanitation Districts.

c.	☐	☐	☐	Other factors?

STANDARD CODE REQUIREMENTS

☒ Sanitary Sewers and Industrial Waste Ordinance No. 6130

☒ Plumbing Code Ordinance No. 2269

☐ MITIGATION MEASURES / ☒ OTHER CONSIDERATIONS

Demonstration of sufficient sewer capacity prior to the annexatopm into Districts No. 16 and 32.

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.	☒	☐	☐	Could the project create capacity problems at the district level?

Saugus and William S Hart School Districts have existing capacity problems.

b.	☒	☐	☐	Could the project create capacity problems at individual schools which will serve the project site?

Individual schools at all levels exceed capacity

c.	☐	☒	☐	Could the project create student transportation problems?

d.	☐	☐	☒	Could the project create substantial library impacts due to increased population and demand?

Increased demand

e.	☐	☐	☐	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.	☐	☒	☐	Could the project create staffing or response time problems at the fire station or sheriff's substation serving the project site? *Site is approximately 3.2 miles from the Los Angeles Co Fire Station No. 111; Closest Sheriff Station is located at 23740 Magic Mountain Parkway, Valencia, 91355.*
b.	☐	☒	☐	Are there any special fire or law enforcement problems associated with the project or the general area?
c.	☐	☐	☐	Other factors?

☐ **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.	☐	☒	☐	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?
b.	☐	☒	☐	Is the project site in an area known to have an inadequate water supply and/or pressure to meet fire fighting needs?
c.	☐	☒	☐	Could the project create problems with providing utility services, such as electricity, gas, or propane?
d.	☐	☒	☐	Are there any other known service problem areas (e.g., solid waste)?
e.	☐	☒	☐	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)?
f.	☒	☐	☐	Other factors? *Water availability to be demonstrated. Annexation of property into appropriate water agency's district is necessary.*

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.	☐	☒	☐	Will the project result in an inefficient use of energy resources?
b.	☐	☒	☐	Will the project result in a major change in the patterns, scale, or character of the general area or community?
c.	☐	☒	☐	Will the project result in a significant reduction in the amount of agricultural land?
d.	☐	☐	☐	Other factors?

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.	☐	☒	☐	Are any hazardous materials used, transported, produced, handled, or stored on-site?
b.	☐	☒	☐	Are any pressurized tanks to be used or any hazardous wastes stored on-site?
c.	☐	☒	☐	Are any residential units, schools, or hospitals located within 500 feet and potentially adversely affected?
d.	☒	☐	☐	Have there been previous uses which indicate residual soil toxicity of the site? *Two oil wells within the project boundaries*
e.	☐	☒	☐	Would the project create a significant hazard to the public or the environment involving the accidental release of hazardous materials into the environment?
f.	☐	☒	☐	Would the project emit hazardous emissions or handle hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
g.	☐	☒	☐	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?
h.	☐	☒	☐	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?
i.	☐	☒	☐	Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
j.	☐	☐	☐	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.	☐	☒	☐	Can the project be found to be inconsistent with the plan designation(s) of the subject property?
b.	☐	☒	☐	Can the project be found to be inconsistent with the zoning designation of the subject property?
c.				Can the project be found to be inconsistent with the following applicable land use criteria:
	☐	☒	☐	Hillside Management Criteria?
	☒	☐	☐	SEA Conformance Criteria? *Demonstration of project compatibility with SEA criteria*
	☐	☐	☐	Other? _____
d.	☐	☒	☐	Would the project physically divide an established community?
e.	☐	☐	☐	Other factors? _____

☐ **MITIGATION MEASURES** / ☐ **OTHER CONSIDERATIONS**

To be discussed in conjunction with the Biota Factor.

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.	☐	☒	☐	Could the project cumulatively exceed official regional or local population projections?
b.	☐	☒	☐	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)?
c.	☐	☒	☐	Could the project displace existing housing, especially affordable housing?
d.	☐	☒	☐	Could the project result in a substantial job/housing imbalance or substantial increase in Vehicle Miles Traveled (VMT)?
e.	☐	☒	☐	Could the project require new or expanded recreational facilities for future residents?
f.	☐	☒	☐	Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?
g.	☐	☐	☐	Other factors?

☐ **MITIGATION MEASURES** / ☐ **OTHER CONSIDERATIONS**

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.	☒	☐	☐	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?
				SEA#19
b.	☐	☒	☐	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.
c.	☐	☒	☐	Will the environmental effects of the project cause substantial adverse effects on human beings, either directly or indirectly?

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

2000 INITIAL STUDY

Los Angeles County
Department of Regional Planning
Director of Planning James E. Hartl, AICP

June 12, 2000

Mr. Jim Emerson
B & E Engineers
24 W. St. Joseph St.
Arcadia, CA 91107

SUBJECT: INITIAL STUDY DETERMINATION LETTER
PROJECT NO. CUP 00-817/TR 53189

On June 12, 2000, the staff of the Department of Regional Planning completed its review of the Environmental Questionnaire and other data regarding your project and has determined that an Environmental Impact Report (EIR) is required.

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 24 copies of the items on the attached list to accompany the NOP and submit a $5,000.00 processing fee. **NOTE: This should be done within 30 days from the above date or your file will be considered inactivated.** Additional fees may be required and requested later to cover costs exceeding this amount.

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. You or your consultant should contact staff at your earliest convenience in order to assist us in beginning the NOP process.

If you have any questions regarding the above determination or environmental document preparation, please contact Tabitha Lam of the Impact Analysis Section at (213) 974-6461.

Very truly yours,

DEPARTMENT OF REGIONAL PLANNING
James E. Hartl, AICP
Director of Planning

Kerwin Chih, Acting Section Head
Impact Analysis

KC:TL:lg

STAFF USE ONLY

PROJECT NUMBER: *00-81*

CASES: *TR 53189*

CUP

****** INITIAL STUDY ******

COUNTY OF LOS ANGELES
DEPARTMENT OF REGIONAL PLANNING

GENERAL INFORMATION

I.A. Map Date: *4/25/00* Staff Member: *Tabitha Lam*

Thomas Guide: *4460 F, G1; F, G2* USGS Quad: *Newhall*

Location: *northwest corner of San Francisquito Canyon Road and Lowridge Place, Santa Clarita*

Description of Project: *The proposed project is a request for a tentative tract map, and hillside, density-controlled, and Significant Ecological Area (SEA) conditional use permit for the development of 60 single family residential units.*

Gross Area: *185.8 acres*

Environmental Setting: *The subject property, while vacant, includes the San Francisquito Canyon Creek which is part of SEA #19. Site topography is characterized as ranging from 1250 feet above mean sea level (msl) in San Francisquito wash to 1480 msl above the western canyon of the property. Surrounding uses consist of single and multi-family residential, vacant land, a mobile home, and a warehouse.*

Zoning: *R-1-7000 (Single Family Residence), A-2-2 (Heavy Agriculture)*

General Plan: *Non-Urban, Significant Ecological Area*

Community/Areawide Plan: *SCVAP: Non-Urban 2, Floodway/Floodplain, Hillside Mgmt.*

Major projects in area:

Project Number	Description & Status
97088/TR 52302	*22 SF; approved*
87194/PM 18717	*2 SF; recorded*
247/TR 43171	*10 SF; recorded*
92074/TR51644	*1601 SF, 901 MF, commercial, school site; CUP, OT, ZC, SP;*
	Approved and adopted (Tesoro Del Valle)

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
- ☑ *Caltrans*

Special Reviewing Agencies

- ☐ None
- ☐ Santa Monica Mountains Conservancy
- ☐ National Parks
- ☑ *City of Santa Clarita*
- ☑ *SCOPE*

Regional Significance

- ☑ None
- ☐ SCAG Criteria
- ☐ Air Quality
- ☐ Water Resources
- ☐ Santa Monica Mtns Area

Trustee Agencies

- ☐ None
- ☑ State Fish and Game
- ☑ State Parks
- ☑ *Fish and Wildlife*
- ☐ _____

County Reviewing Agencies

- ☐ Subdivision Committee
- ☑ Public Works _____
- ☑ Health _____
- ☑ Fire _____
- ☐ _____

IMPACT ANALYSIS MATRIX

CATEGORY	FACTOR	Pg	ANALYSIS SUMMARY (See individual pages for details) Less than Significant Impact/No Impact	Less than Significant Impact with Project Mitigation	Potentially Significant Impact	Potential Concern
HAZARDS	1. Geotechnical	5			x	*hillside, liquefaction*
	2. Flood	6			x	*San Francisquito Canyon Creek*
	3. Fire	7			x	*Fire Zone 4, 2nd means of access*
	4. Noise	8	x			
RESOURCES	1. Water Quality	9			x	*potential degradation of water quality*
	2. Air Quality	10	x			
	3. Biota	11			x	*SEA 19, oaks, wildlife corridor*
	4. Cultural Resources	12			x	*oil well loci*
	5. Mineral Resources	13	x			
	6. Agriculture Resources	14	x			
	7. Visual Qualities	15			x	*San Francisquito Canyon trail*
SERVICES	1. Traffic/Access	16			x	*exceeds CMP threshold*
	2. Sewage Disposal	17	x			
	3. Education	18	x			
	4. Fire/Sheriff	19	x			
	5. Utilities	20	x			
OTHER	1. General	21	x			
	2. Environmental Safety	22	x			
	3. Land Use	23	x			
	4. Pop./Hous./Emp./Rec.	24	x			
	Mandatory Findings	25		x		

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: _____

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: _____

☐ 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: _____ Date: 6/12/00

Approved by: _____ Date: 6-12-00

☐ 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.	☐	☑	☐	Is the project site located in an active or potentially active fault zone, Seismic Hazards Zone, or Alquist-Priolo Earthquake Fault Zone?
b.	☐	☑	☐	Is the project site located in an area containing a major landslide(s)?
c.	☐	☐	☑	Is the project site located in an area having high slope instability?
d.	☐	☐	☑	Is the project site subject to high subsidence, high groundwater level, liquefaction, or hydrocompaction? *Liquefaction*
e.	☐	☑	☐	Is the proposed project considered a sensitive use (school, hospital, public assembly site) located in close proximity to a significant geotechnical hazard?
f.	☑	☐	☐	Will the project entail substantial grading and/or alteration of topography including slopes of over 25%? *Hillside; 912,000 c.y. balanced on-site*
g.	☐	☐	☑	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?
h.	☐	☑	☐	Other factors?

STANDARD MITIGATION MEASURES

☐ Building Ordinance No. 2225 — Sections 308B, 309, 310 and 311 and Chapters 29 and 70.

OTHER CONSIDERATIONS/MITIGATIONS

☐ 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

SETTING/IMPACTS

	Yes	No	Maybe	
a.	☑	☐	☐	Is a major drainage course, as identified on USGS quad sheets by a dashed line, located on the project site? *San Francisquito Canyon Creek*
b.	☑	☐	☐	Is the project site located within or does it contain a floodway, floodplain, or designated flood hazard zone?
c.	☐	☑	☐	Is the project site located in or subject to high mudflow conditions?
d.	☐	☑	☐	Could the project contribute or be subject to high erosion and debris deposition from run-off?
e.	☐	☑	☐	Would the project substantially alter the existing drainage pattern of the site or area?
f.	☑	☐	☐	Other factors (e.g., dam failure)?

STANDARD MITIGATION MEASURES

☐ Building Ordinance No. 2225 — Section 308A ☐ Ordinance No. 12,114 (Floodways)

☑ Approval of Drainage Concept by DPW

OTHER CONSIDERATIONS/MITIGATIONS

☐ 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.	☑	☐	☐	Is the project site located in a high fire hazard area (Fire Zone 4)?
b.	☑	☐	☐	Is the project site in a high fire hazard area and served by inadequate access due to lengths, widths, surface materials, turnarounds or grade?
c.	☑	☐	☐	Does the project site have more than 75 dwelling units on a single access in a high fire hazard area?
d.	☑	☐	☐	Is the project site located in an area having inadequate water and pressure to meet fire flow standards?
e.	☑	☐	☐	Is the project site located in close proximity to potential dangerous fire hazard conditions/uses (such as refineries, flammables, explosives manufacturing)?
f.	☑	☐	☐	Does the proposed use constitute a potentially dangerous fire hazard?
g.	☐	☑	☐	Other factors? *Lots 15-62 require 2nd means of access*

STANDARD MITIGATION MEASURES

☑ Water Ordinance No. 7834 ☑ Fire Ordinance No. 2947 ☑ Fire Prevention Guide No. 46

OTHER CONSIDERATIONS/MITIGATIONS

☐ 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

SETTING/IMPACTS

	Yes	No	Maybe	
a.	☐	☑	☐	Is the project site located near a high noise source (airports, railroads, freeways, industry)?
b.	☐	☑	☐	Is the proposed use considered sensitive (school, hospital, senior citizen facility) or are there other sensitive uses in close proximity?
c.	☐	☑	☐	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?
d.	☐	☑	☐	Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels without the project?
e.	☐	☑	☐	Other factors?

STANDARD MITIGATION MEASURES

☐ Noise Ordinance No. 11,778 ☐ Building Ordinance No. 2225--Chapter 35

OTHER CONSIDERATIONS/MITIGATIONS

☐ Lot Size ☐ Project Design ☐ Compatible Use

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.	☐	☑	☐	Is the project site located in an area having known water quality problems and proposing the use of individual water wells?
b.	☐	☑	☐	Will the proposed project require the use of a private sewage disposal system?
	☐	☑	☐	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?
c.	☐	☐	☑	Could the project's associated construction activities significantly impact the quality of groundwater and/or stormwater runoff to the stormwater conveyance system and/or receiving water bodies?
d.	☐	☐	☑	Could the project's post-development activities potentially degrade the quality of stormwater runoff and/or could post-development non-stormwater discharges contribute potential pollutants to the stormwater conveyance system and/or receiving bodies?
e.	☐	☑	☐	Other factors?

STANDARD MITIGATION MEASURES

☐ Industrial Waste Permit

☐ Health Code — Ordinance No. 7583, Chapter 5

☐ Plumbing Code — Ordinance No. 2269

☑ NPDES Permit CAS614001 Compliance (DPW)

OTHER CONSIDERATIONS/MITIGATIONS

☐ 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 - 2. Air Quality

SETTING/IMPACTS

	Yes	No	Maybe	
a.	☐	☑	☐	Will the proposed project exceed the State's criteria for regional significance (generally (a) 500 dwelling units for residential uses or (b) 40 gross acres, 650,000 square feet of floor area or 1,000 employees for non-residential uses)?
b.	☐	☑	☐	Is the proposal considered a sensitive use (schools, hospitals, parks) and located near a freeway or heavy industrial use?
c.	☐	☑	☐	Will the project increase local emissions to a significant extent due to increased traffic congestion or use of a parking structure or exceed AQMD thresholds of potential significance per Screening Tables of the CEQA Air Quality Handbook?
d.	☐	☑	☐	Will the project generate or is the site in close proximity to sources which create obnoxious odors, dust, and/or hazardous emissions?
e.	☐	☑	☐	Would the project conflict with or obstruct implementation of the applicable air quality plan?
f.	☐	☑	☐	Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?
g.	☐	☑	☐	Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?
h.	☐	☑	☐	Other factors:

STANDARD MITIGATION MEASURES

☐ Health and Safety Code — Section 40506

OTHER CONSIDERATIONS/MITIGATIONS

☐ Project Design ☐ Air Quality Report

CONCLUSION

Considering the above information, could the project have a significant impact (individually or cumulatively) on, or be impacted by, **air quality**?

☐ Potentially significant ☐ Less than significant with project mitigation ☑ Less than significant/No impact

RESOURCES - 3. Biota

SETTING/IMPACTS

	Yes	No	Maybe	
a.	☑	☐	☐	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? *SEA 19*
b.	☐	☐	☑	Will grading, fire clearance, or flood related improvements remove substantial natural habitat areas?
c.	☑	☐	☐	Is a major drainage course, as identified on USGS quad sheets by a blue, dashed line, located on the project site? *San Francisquito Canyon Creek*
d.	☑	☐	☐	Does the project site contain a major riparian or other sensitive habitat (e.g., coastal sage scrub, oak woodland, sycamore riparian woodland, wetland, etc.)? *Coast live oak woodland, riversidian alluvial fan sage scrub, mulefat*
e.	☑	☐	☐	Does the project site contain oak or other unique native trees (specify kinds of trees)? *38 oaks; 3 heritage*
f.	☑	☐	☐	Is the project site habitat for any known sensitive species (federal or state listed endangered, etc.)? *Mainland hollyleaf cherry woodland*
g.	☑	☐	☐	Other factors (e.g., wildlife corridor, adjacent open space linkage)? _____ *Wilidlfe corridor*

MITIGATION MEASURES/OTHER CONSIDERATIONS

☐ Lot Size ☐ Project Design ☐ Oak Tree Permit ☑ ERB/SEATAC Review

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/Palaeontological

SETTING/IMPACTS

	Yes	No	Maybe	
a.	☑	☐	☐	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? *San Francisquito Canyon Creek, oaks, knoll*
b.	☐	☑	☐	Does the project site contain rock formations indicating potential palaeontological resources?
c.	☑	☐	☐	Does the project site contain known historic structures or sites? *Oil well loci (CA-LAN-1455-H)*
d.	☐	☑	☐	Would the project cause a substantial adverse change in the significance of a historical or archaeological resource as defined in 15064.5?
e.	☑	☐	☐	Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
f.	☑	☐	☐	Other factors?

MITIGATION MEASURES/OTHER CONSIDERATIONS

☐ Lot Size ☐ Project Design ☑ Archaeology Report *(12/99)*

CONCLUSION

Considering the, above information, could the project leave a significant impact (individually or cumulatively) on **archaeological, historical,** or **palaeontological** resources?

☑ Potentially significant ☐ Less than significant with project mitigation ☐ Less than significant/No impact

RESOURCES - 5.Mineral Resources

SETTING/IMPACTS

	Yes	No	Maybe	
a.	☐	☑	☐	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?
b.	☐	☑	☐	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?
c.	☐	☑	☐	Other factors?

MITIGATION MEASURES/OTHER CONSIDERATIONS

☐ Lot Size ☐ Project Design

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.	☐	☑	☐	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?
b.	☐	☑	☐	Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?
c.	☐	☑	☐	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.	☐	☑	☐	Other factors?

MITIGATION MEASURES/OTHER CONSIDERATIONS

☐ Lot Size ☐ Project Design

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?
b.	☑	☐	☐	Is the project substantially visible from or will it obstruct views from a regional riding or hiking trail? *San Francisquito Canyon trail*
c.	☐	☑	☐	Is the project site located in an undeveloped or undisturbed area which contains unique aesthetic features? *San Francisquito Canyon Creek*
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 obstruct unique views from surrounding residential uses?
f.	☑	☐	☐	Is the project likely to create substantial sun shadow, light or glare problems?
g.	☑	☐	☐	Other factors (e.g., grading or landform 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.	☑	☐	☐	Does the project contain 25 dwelling units, or more and is it located in an area with known congestion problems (mid-block or intersections)?
b.	☑	☐	☐	Will the project result in any hazardous traffic conditions?
c.	☑	☐	☐	Will the project result in parking problems with a subsequent impact on traffic conditions?
d.	☑	☐	☐	Will inadequate access during an emergency (other than fire hazards) result in problems for emergency vehicles or residents/employees in the area?
e.	☑	☐	☐	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? *Exceeds CMP threshold*
f.	☑	☐	☐	Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?
g.	☑	☐	☐	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.	☐	☑	☐	If served by a community sewage system, could the project create capacity problems at the treatment plant?
b.	☐	☑	☐	Could the project create capacity problems in the sewer lines serving the project site?
c.	☐	☑	☐	Other factors?

STANDARD MITIGATION MEASURES

☐ Sanitary Sewers and Industrial Waste — Ordinance No. 6130

☐ Plumbing Code — Ordinance No. 2269

OTHER CONSIDERATIONS/MITIGATIONS

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.	☐	☑	☐	Could the project create capacity problems at the district level?
b.	☐	☑	☐	Could the project create capacity problems at individual schools which will serve the project site?
c.	☐	☑	☐	Could the project create student transportation problems?
d.	☐	☑	☐	Could the project create substantial library impacts due to increased population and demand?
e.	☐	☑	☐	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.	☐	☑	☐	Could the project create staffing or response time problems at the fire station or sheriff's substation serving the project site?
b.	☐	☑	☐	Are there any special fire or law enforcement problems associated with the project or the general area?
c.	☐	☑	☐	Other factors?

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.	☐	☑	☐	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?
b.	☐	☑	☐	Is the project site in an area known to have an inadequate water supply and/or pressure to meet fire fighting needs?
c.	☐	☑	☐	Could the project create problems with providing utility services, such as electricity, gas, or propane?
d.	☐	☑	☐	Are there any other known service problem areas (e.g., solid waste)?
e.	☐	☑	☐	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)?
f.	☐	☑	☐	Other factors?

STANDARD MITIGATION MEASURES

☐ Plumbing Code — Ordinance No. 2269 ☐ Water Code — Ordinance No. 7834

OTHER CONSIDERATIONS/MITIGATIONS

☐ 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.	☐	☑	☐	Will the project result in an inefficient use of energy resources?
b.	☐	☑	☐	Will the project result in a major change in the patterns, scale, or character of the general area or community?
c.	☐	☑	☐	Will the project result in a significant reduction in the amount of agricultural land?
d.	☐	☑	☐	Other factors?

STANDARD MITIGATION MEASURES

☐ State Administrative Code, Title 24, Part 5, T-20 (Energy Conservation)

OTHER CONSIDERATIONS/MITIGATIONS

☐ 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.	☐	☑	☐	Are any hazardous materials used, transported, produced, handled, or stored on-site?
b.	☐	☑	☐	Are any pressurized tanks to be used or any hazardous wastes stored on-site?
c.	☐	☑	☐	Are any residential units, schools, or hospitals located within 500 feet and potentially adversely affected?
d.	☐	☑	☐	Have there been previous uses which indicate residual soil toxicity of the site?
e.	☐	☑	☐	Would the project create a significant hazard to the public or the environment involving the accidental release of hazardous materials into the environment?
f.	☐	☑	☐	Would the project emit hazardous emissions or handle hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
g.	☐	☑	☐	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?
h.	☐	☑	☐	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?
i.	☐	☑	☐	Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
j.	☐	☑	☐	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.	☐	☑	☐	Can the project be found to be inconsistent with the plan designation(s) of the subject property?
b.	☐	☑	☐	Can the project be found to be inconsistent with the zoning designation of the subject property?
c.				Can the project be found to be inconsistent with the following applicable land use criteria:
	☐	☑	☐	Hillside Management Criteria?
	☐	☑	☐	SEA Conformance Criteria?
	☐	☑	☐	Other? _____
d.	☐	☑	☐	Would the project physically divide an established community?
e.	☐	☑	☐	Other factors? _____

MITIGATION MEASURES/OTHER CONSIDERATIONS

_____

_____

_____

_____

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.	☐	☑	☐	Could the project cumulatively exceed official regional or local population projections?
b.	☐	☑	☐	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)?
c.	☐	☑	☐	Could the project displace existing housing, especially affordable housing?
d.	☐	☑	☐	Could the project result in substantial job/housing imbalance or substantial increase in Vehicle Miles Traveled (VMT)?
e.	☐	☑	☐	Could the project require new or expanded recreational facilities for future residents?
f.	☐	☑	☐	Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?
g.	☐	☑	☐	Other factors?

MITIGATION MEASURES/OTHER CONSIDERATIONS

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

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 improvements 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 U.S.G.S. 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. *Detailed 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. *Any supplemental information to aid in reviewing the project must be approved by staff prior to submittal.*

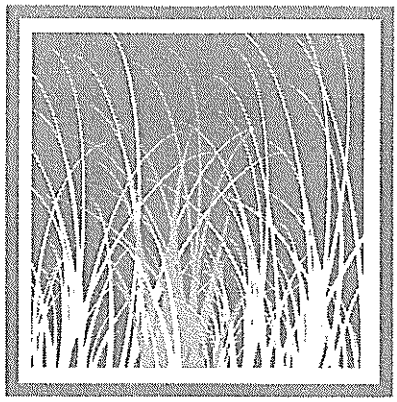
Staff will review these items prior to circulation of the NOP. Inaccurate, self-serving, or poorly prepared submittals will result in delays and costs to the applicant. Questions should be directed to the Impact Analysis Section at (213) 974-6461.

ATTACHMENT H

List of Invasive Plant Species
to be Prohibited by the Home Owners Association

The CalEPPC List: Exotic Pest Plants of Greatest Ecological Concern in California

October, 1999



The CalEPPC list is based on information submitted by our members and by land managers, botanists and researchers throughout the state, and on published sources. The list highlights non-native plants that are serious problems **in wildlands** (natural areas that support native ecosystems, including national, state and local parks, ecological reserves, wildlife areas, national forests, BLM lands, etc.).

List categories include:

List A: Most Invasive Wildland Pest Plants; documented as aggressive invaders that displace natives and disrupt natural habitats. Includes two sub-lists; List A-1: Widespread pests that are invasive in more than 3 Jepson regions (see page 3), and List A-2: Regional pests invasive in 3 or fewer Jepson regions.

List B: Wildland Pest Plants of Lesser Invasiveness; invasive pest plants that spread less rapidly and cause a lesser degree of habitat disruption; may be widespread or regional.

Red Alert: Pest plants with potential to spread explosively; infestations currently small or localized. If found, alert CalEPPC, County Agricultural Commissioner or California Department of Food and Agriculture.

Need More Information: Plants for which current information does not adequately describe nature of threat to wildlands, distribution or invasiveness. Further information is requested from knowledgeable observers.

Annual Grasses: New in this edition; a preliminary list of annual grasses, abundant and widespread in California, that pose significant threats to wildlands. Information is requested to support further definition of this category in next List edition.

Considered But Not Listed: Plants that, after review of status, do not appear to pose a significant threat to wildlands.

Plants that fall into the following categories are not included in the List:

- Plants found mainly or solely in disturbed areas, such as roadsides and agricultural fields.
- Plants that are established only sparingly, with minimal impact on natural habitats.

The CalEPPC list is updated regularly. Please use the form provided to send comments, suggestions or new information to: **Peter Warner, 555 Magnolia Avenue, Petaluma, CA, 94952-2080**, or via email at **peterjwarner@earthlink.net**

Thanks to all those who submitted comments for the 1999 list.

List A-1: Most Invasive Wildland Pest Plants; Widespread

Latin Name[1]	Common Name	Habitats of Concern and Other Comments	Distribution[2]
Ammophila arenaria	European beach grass	Coastal dunes	SCo,CCo,NCo
Arundo donax	giant reed, arundo	Riparian areas	cSNF,CCo,SCo,SnGb,D,GV
Bromus tectorum	cheat grass, downy brome	Sagebrush, pinyon-juniper, other desert communities; increases fire frequency	GB,D
Carpobrotus edulis	iceplant, sea fig	Many coastal communities, esp. dunes	SCo,CCo,NCo,SnFrB
Centaurea solstitialis[C]	yellow starthistle	Grasslands	CA-FP (uncommon in SoCal)
Cortaderia jubata	Andean pampas grass, jubatagrass	Horticultural; many coastal habitats, esp. disturbed or exposed sites incl. logged areas	NCo,NCoRO,SnFrB, CCo,WTR,SCo
Cortaderia selloana	pampas grass	Horticultural; coastal dunes, coastal scrub, Monterey pine forest, riparian, grasslands; wetlands in ScV; also on serpentine	SnFrB,SCo,CCo,ScV
Cynara cardunculus[B]	artichoke thistle	Coastal grasslands	CA-FP, esp. CCo,SCo
Cytisus scoparius[C]	Scotch broom	Horticultural; coastal scrub, oak woodlands, Sierra foothills	NW,CaRF,SNF,GV, SCo,CW
Eucalyptus globulus	Tasmanian blue gum	Riparian areas, grasslands, moist slopes	NCoRO,GV,SnFrB, CCo,SCoRO,SCo,nChI
Foeniculum vulgare	wild fennel	Grasslands; esp. SoCal, Channel Is.; the cultivated garden herb is not invasive	CA-FP
Genista monspessulana[C]	French broom	Horticultural; coastal scrub, oak woodlands, grasslands	NCoRO,NCoRI,SnFrB, CCo,SCoRO,sChI,WTR,PR
Lepidium latifolium[B]	perennial pepperweed, tall whitetop	Coastal, inland marshes, riparian areas, wetlands, grasslands; potential to invade montane wetlands	CA (except KR,D)
Myriophyllum spicatum	Eurasian watermilfoil	Horticultural; lakes, ponds, streams, aquaculture	SnFrB,SnJV,SNH(?); prob. CA
Pennisetum setaceum	fountain grass	Horticultural; grasslands, dunes, desert canyons; roadsides	Deltaic GV,CCo,SCo, SnFrB
Rubus discolor	Himalayan blackberry	Riparian areas, marshes, oak woodlands	CA-FP
Senecio mikanioides (=*Delairea odorata*)	Cape ivy, German ivy	Coastal, riparian areas, also SoCal (south side San Gabriel Mtns.)	SCo,CCo,NCo,SnFrB,SW
Taeniatherum caput-medusae[C]	medusa-head	Grasslands, particularly alkaline and poorly drained areas	NCoR,CaR,SNF,GV,SCo
Tamarix chinensis, T. gallica, T. parviflora & T. ramosissima	tamarisk, salt cedar	Desert washes, riparian areas, seeps and springs	SCo,D,SnFrB,GV,sNCoR, sSNF,Teh,SCoRI,SNE, WTR
Ulex europaeus[B]	gorse	North, central coastal scrub, grasslands	NCo,NCoRO,CaRF, n&cSNF,SnFrB,CCo

[1]Noxious Weed Ratings

F: Federal Noxious Weed, as designated by the USDA; targeted for federally-funded prevention, eradication or containment efforts.

A: CA Dept. of Food & Agriculture, on "A" list of Noxious Weeds; agency policies call for eradication, containment or entry refusal.

B: CA Dept. of Food & Agriculture, on "B" list of Noxious Weeds; includes species that are more widespread, and therefore more difficult to contain; agency allows county Agricultural Commissioners to decide if local eradication or containment is warranted.

C: CA Dept. of Food & Agriculture, on "C" list of Noxious Weeds; includes weeds that are so widespread that the agency does not endorse state or county-funded eradication or containment efforts except in nurseries or seed lots.

Q: CA Dept. of Food & Agriculture's designation for temporary "A" rating pending determination of a permanent rating.

For most species nomenclature follows *The Jepson Manual: Higher Plants of California* (Hickman, J., Ed., 1993).

List A-2: Most Invasive Wildland Pest Plants; Regional

Latin Name[1]	Common Name	Habitats of Concern and Other Comments	Distribution[2]
Ailanthus altissima	tree of heaven	Riparian areas, grasslands, oak woodlands, esp. GV, SCo	CA-FP
Atriplex semibaccata	Australian saltbush	SoCal, coastal grasslands, scrub, "high marsh" of coastal salt marshes	CA (except CaR,c&sSN)
Brassica tournefortii	Moroccan or African mustard	Washes, alkaline flats, disturbed areas in Sonoran Desert	SW,D
Bromus madritensis ssp. *rubens*	red brome	Widespread; contributing to SoCal scrub, desert scrub type conversions; increases fire frequency	CA
Cardaria draba[B]	white-top, hoary cress	Riparian areas, marshes of central coast; also ag. lands, disturbed areas	Problem only in CCo
Conicosia pugioniformis	narrow-leaved iceplant, roundleaf iceplant	Coastal dunes, sandy soils near coast; best documented in San Luis Obispo and Santa Barbara cos.	CCo
Cotoneaster pannosus, C. lacteus	cotoneaster	Horticultural; many coastal communities; esp. North Coast, Big Sur; related species also invasive	CCo,SnFrB,NW
Cytisus striatus	striated broom	Often confused with C. scoparius; coastal scrub, grassland	SnFrB,CCo,SCo,PR
Egeria densa	Brazilian waterweed	Streams, ponds, sloughs, lakes; Sacramento-San Joaquin Delta	n&sSNF,SnJV,SnFrB, SnJt,SNE
Ehrharta calycina	veldt grass	Sandy soils, esp. dunes; rapidly spreading on central coast	CCo,SCoRO,WTR
Eichhornia crassipes	water hyacinth	Horticultural; established in natural waterways, esp. troublesome in Sacramento-San Joaquin Delta	GV,SnFrB,SCo,PR
Elaeagnus angustifolia	Russian olive	Horticultural; interior riparian areas	SnJV,SnFrB,SNE,DMoj
Euphorbia esula[A]	leafy spurge	Rangelands in far no. CA, also reported from Los Angeles Co.	eKR,NCo,CaR,MP,SCo
Ficus carica	edible fig	Horticultural; Central Valley, foothill, South Coast and Channel Is. riparian woodlands	nSNF,GV,SnFrB,SCo
Lupinus arboreus	bush lupine	Native to SCo, CCo; invasive only in North Coast dunes	SCo,CCo,NCo
Mentha pulegium	pennyroyal	Santa Rosa Plain (Sonoma Co.) and Central Valley vernal pools; wetlands elsewhere	NW,GV,CW,SCo
Myoporum laetum	myoporum	Horticultural; coastal riparian areas in SCo	SCo,CCo
Saponaria officinalis	bouncing bet	Horticultural; meadows, riparian habitat in SNE, esp. Mono Basin	NW,CaRH,nSNF,SnFrB, SCoRO,SCo,PR,MP,SNE, GV
Spartina alterniflora	Atlantic or smooth cordgrass	S.F. Bay salt marshes; populations in Humboldt Bay believed extirpated	CCo(shores of S.F. Bay)

[2]Distribution by geographic subdivisions per the Jepson Manual

CA=California
CA-FP=California Floristic Province
CaR=Cascade Ranges
CaRF=Cascade Range Foothills
CCo=Central Coast
ChI=Channel Islands
CW=Central Western CA
D=Deserts
DMoj=Mojave Desert
DSon=Sonoran Desert
GB=Great Basin
GV=Great Valley
KR=Klamath Ranges
MP=Modoc Plateau
NCo=North Coast
NCoRI=Inner NCo Ranges
NCoRO=Outer NCo Ranges
NW=Northwestern CA
PR=Peninsular Ranges
SCo=South Coast
SCoRI=Inner SCo Ranges
SCoRO=Outer SCo Ranges
ScV=Sacramento Valley
SnJV=San Joaquin Valley
SN=Sierra Nevada
SNE=East of SN
SNF=SN Foothills
SNH=High SN
SnFrB=San Francisco Bay Area
SnGb=San Gabriel Mtns
SW=Southwestern CA
Teh=Tehachapi Mtns
WTR=Western Transverse Ranges

List B: Wildland Pest Plants of Lesser Invasiveness

Latin Name[1]	Common Name	Habitats of Concern and Other Comments	Distribution[2]
Ageratina adenophora[F]	eupatory	Horticultural; coastal canyons, coastal scrub, slopes, Marin to San Diego Co; San Gabriel Mtns.	CCo,SnFrB,SCo,SCoRO
Bassia hyssopifolia	bassia	Alkaline habitats	CA (except NW,SNH)
Bellardia trixago	bellardia	Grasslands, on serpentine, where a threat to rare natives	NCoRO,CCo,SnFrB
Brassica nigra	black mustard	Coastal communities, esp. fog-belt grasslands; disturbed areas	CA-FP
Cardaria chalepensis[B]	lens-podded white-top	Wetlands of Central Valley	CA
Carduus pycnocephalus[C]	Italian thistle	Grasslands, shrublands, oak woodlands	sNCo,sNCoR,SNF,CW, SCo,ScV
Centaurea calcitrapa[B]	purple starthistle	Grasslands	NW,sCaRF,SNF,GV,CW,SW
Centaurea melitensis	tocalote, Malta starthistle	Widespread; sometimes misidentified as C. solstitialis; perhaps a more serious invader than currently recognized	CA-FP,D
Cirsium arvense[B]	Canada thistle	Especially troublesome in riparian areas	CA-FP
Cirsium vulgare	bull thistle	Riparian areas, marshes, meadows	CA-FP,GB
Conium maculatum	poison hemlock	Mainly disturbed areas but may invade wildlands; known to poison wildlife; early expanding stage in many areas, esp. San Diego Co. riparian, oak understory	CA-FP
Crataegus monogyna	hawthorn	Horticultural; recent invader, colonizing healthy native forest around Crystal Springs reservoir on S.F. peninsula	SnFrB,CCo,NCo,NCoR
Ehrharta erecta	veldt grass	Wetlands, moist wildlands; common in urban areas; potential to spread rapidly in coastal, riparian, grassland habitats	SnFrB,CCo,SCo
Erechtites glomerata, E. minima	Australian fireweed	Coastal woodlands, scrub, NW forests, esp. redwoods	NCo,NCoRO,CCo,SnFrB, SCoRO
Festuca arundinacea	tall fescue	Horticultural (turf grass); coastal scrub, grasslands in NCo, CCo	CA-FP
Hedera helix	English ivy	Horticultural; invasive in coastal forests, riparian areas	CA-FP
Holcus lanatus	velvet grass	Coastal grasslands, wetlands in No. CA	CA exc. DSon
Hypericum perforatum[C]	Klamathweed, St. John's wort	Redwood forests, meadows, woodlands; invasion may occur due to lag in control by established biocontrol agents	NW,CaRH,n&cSN,ScV, CCo,SnFrB,PR
Ilex aquifolium	English holly	Horticultural; coastal forests, riparian areas	NCoRO,SnFrB,CCo
Iris pseudacorus	yellow water iris, yellow flag	Horticultural; riparian, wetland areas, esp. San Diego, Los Angeles cos.	SnFrB,CCo,sSnJV,SCo
Leucanthemum vulgare	ox-eye daisy	Horticultural; invades grassland, coastal scrub	KR,NCoRO,n&cSNH, SnFrB,WTR,PR
Mesembryanthemum crystallinum	crystalline iceplant	Coastal bluffs, dunes, scrub, grasslands; concentrates salt in soil	NCo,CCo,SCo,ChI
Myriophyllum aquaticum	parrot's feather	Horticultural; streams, lakes, ponds	NCo,CaRF,CW,SCo
Olea europaea	olive	Horticultural and agricultural; reported as invasive in riparian habitats in Santa Barbara, San Diego	NCoR,NCoRO,CCo, SnFrB,SCoRO,SCo
Phalaris aquatica	Harding grass	Coastal sites, esp. moist soils	NW,cSNF,CCo,SCo
Potamogeton crispus	curlyleaf pondweed	Scattered distribution in ponds, lakes, streams	NCoR,GV,CCo,SnFrB, SCo,ChI,SnGb,SnBr,DMoj
Ricinus communis	castor bean	SoCal coastal riparian habitats	GV,SCo,CCo
Robinia pseudoacacia	black locust	Horticultural; riparian areas, canyons; native to eastern U.S.	CA-FP,GB
Schinus molle	Peruvian pepper tree	Horticultural; invasive in riparian habitats in San Diego, Santa Cruz Is.	SNF,GV,CW,SW,Teh

List B: Continued

Latin Name[1]	Common Name	Habitats of Concern and Other Comments	Distribution[2]
Schinus terebinthifolius	Brazilian pepper	Horticultural; riparian areas	sSCo
Senecio jacobaea[B]	tansy ragwort	Grasslands; biocontrol agents established	NCo,wKR,s&wCaR, nSNF, nScV,SW
Spartium junceum	Spanish broom	Coastal scrub, grassland, wetlands, oak woodland, NW forests, esp. redwoods; also roadcuts	NCoRO,ScV,SnFrB, SCoRO,SCo,sChl,WTR
Verbascum thapsus	woolly or common mullein	SNE meadows, sagebrush, pinyon-juniper woodlands; shores of Boggs Lake (Lake Co.)	CA
Vinca major	periwinkle	Horticultural; riparian, oak woodland, other coastal habitats	NCoRO,SnFrB, CCo, sSCoRO,SCo

Red Alert: Species with potential to spread explosively; infestations currently restricted

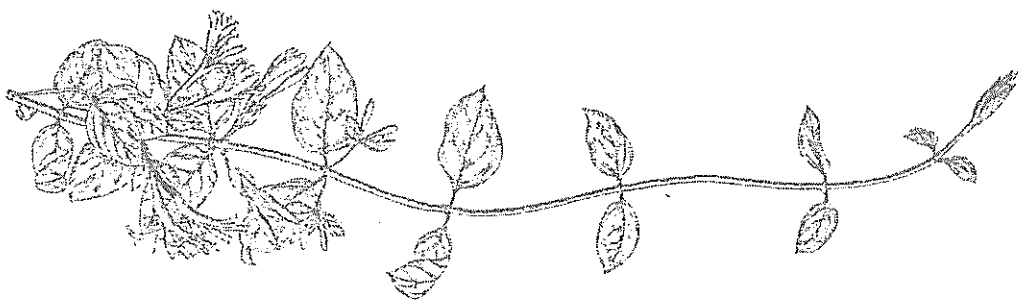
Latin Name[1]	Common Name	Habitats of Concern and Other Comments	Distribution[2]
Alhagi pseudalhagi[A]	camel thorn	Noxious weed of arid areas; most infestations in California have been eradicated	GV,sSNE,D
Arctotheca calendula[A]	Capeweed	Seed-producing types are the problem; most are vegetative only	NCo,SnFrB,CCo
Centaurea maculosa[A]	spotted knapweed	Riparian, grassland, wet meadows, forest habitats; contact CA Food & Ag if new occurrences found	CaR,SN,nScV,nCW,MP, nSNE,sPR,NW
Crupina vulgaris[F,A]	bearded creeper, common crupina	Aggressively moving into wildlands, esp. grassland habitats	NCoR (Sonoma Co.),MP
Halogeton glomeratus[A]	halogeton	Noxious weed of Great Basin rangelands; report locations to CA Food & Ag; goal is exclusion from CA	GB
Helichrysum petiolare	licorice plant	North coastal scrub; one population on Mt. Tamalpais, w. Marin Co.	Not in Jepson
Hydrilla verticillata[F,A]	hydrilla	Noxious water weed; report locations to CA Food & Ag; eradication program in place; found in Clear Lake (Lake Co.) in 1994	NCoRI,n&cSNF,ScV,SCo,D
Lythrum salicaria[B]	purple loosestrife	Horticultural; noxious weed of wetlands, riparian areas	sNCo,NCoRO,nSNF,ScV, SnFrB,nwMP
Ononis alopecuroides[Q]	foxtail restharrow	Eradication efforts underway in San Luis Obispo Co.; to be looked for elsewhere in CA	CCo; not in Jepson
Retama monosperma	bridal broom	First noted at Fallbrook Naval Weapons Station, San Diego Co; could rival other invasive brooms	San Diego Co.; not in Jepson
Salvinia molesta[F]	giant waterfern	Ponds, lakes, reservoirs, canals	Napa, Sonoma cos., lower Colorado River; not in Jepson
Sapium sebiferum	Chinese tallow tree	Horticultural; riparian, wetland habitats, open areas and understory	ScV,SnFrB; not in Jepson
Sesbania punicea	scarlet wisteria tree	Horticultural; riparian areas; American River Parkway, Sacramento Co., Suisun Marsh, San Joaquin River Parkway	ScV,SnJV; not in Jepson
Spartina anglica	cord grass	Scattered in S.F. Bay	Not in Jepson
Spartina densiflora	dense-flowered cord grass	Scattered in S.F. Bay, Humboldt Bay salt marshes	CCo,NCo
Spartina patens	salt-meadow cord grass	One site in S.F. Bay, also Siuslaw Estuary, OR and Puget Sound, WA	CCo

Need More Information

Latin Name[1]	Common Name	Habitats of Concern and Other Comments	Distribution[2]
Acacia dealbata	silver wattle	Aggressive in natural areas?	SnFRB,SCoRO,SCoRI,CCo
Acacia decurrens	green wattle	Sometimes confused with A. dealbata; aggressive in natural areas?	Unknown
Acacia melanoxylon	blackwood acacia	Reported from S.F. Bay area, central coast, Santa Cruz Is.; spreads slowly; other areas?	SnFrB,SCoRO,SCo,CCo
Aeschynomene rudis[B]	rough jointvetch	Princeton area, Colusa Co.; pest of rice crops; potential threat to riparian, wetland habitats?	ScV
Agrostis avenacea	Pacific bentgrass	Invading vernal pools in San Diego area; attempts at manual eradication unsuccessful so far; problem in other areas?	sNCo,sNCoR,SNF, GV,CW,nSCo
Aptenia cordifolia	red apple	Habitats where invasive?	CCo,SCo,sChI
Asphodelus fistulosus	asphodel	Common in SCo highway rights-of-way, other disturbed sites; threats to wildlands?	sSnJV,SCo
Carduus acanthoides[A]	giant plumeless thistle	Threatens wildlands?	NCoRI,nSN,SnFrB, nSCoRO,MP
Cistus ladanifer	gum cistus	Horticultural; invades coastal sage scrub, chaparral; areas where problematic?	sCCo,SnGb
Cordyline australis	New Zealand cabbage	Infestation at Salt Point State Park; bird-dispersed; other problem areas?	Not in Jepson
Cotoneaster spp. (exc. C. pannosus, C. lacteus)	cotoneaster	Horticultural; bird-distributed; which species are problems in wildlands?	Unknown
Cupressus macrocarpa	Monterey cypress	Native only to Monterey Peninsula; planted and naturalized CCo, NCo; threat to wildlands?	CCo
Descurainia sophia	flixweed, tansy mustard	Entering Mojave wildlands through washes; threat to wildlands?	CA
Dimorphotheca sinuata	African daisy, Cape marigold	Horticultural; reported as invasive in w. Riverside Co., Ventura Co.; problem elsewhere?	SnJV,SCoRO,SCo,PR
Echium candicans, E. pininana	pride of Madeira, pride of Teneriffe	Horticultural; riparian, grassland, coastal scrub communities; spreads by seed	CCo,SnFrB,SCo,sNCo
Ehrharta longiflora	veldt grass	Reported from San Diego	Not in Jepson
Erica lusitanica	heath	Threat to wildlands?	NCo (Humboldt Co.)
Euphorbia lathyris	caper spurge, gopher plant	Invades coastal scrub, marshes, dunes; Sonoma, Marin cos.; threat to wildlands?	NCo,CCo,GV,SCo
Gazania linearis	gazania	Horticultural; invades grassland in S.F., coastal scrub?	CCo,SCo
Glyceria declinata		Although reported from Central Valley vernal pools, genetic research is needed to confirm identity; plants that have been called G. declinata key in Jepson to native G. occidentalis	Uncertain; not in Jepson
Hedera canariensis	Algerian ivy	Horticultural; invasive in riparian areas in SoCal?	Not in Jepson
Hirschfeldia incana	Mediterranean or short-pod mustard	Increasing in western, southern Mojave; threat to wildlands?	NCo,SNF,GV,CW,SCo, DMoj
Hypericum canariense	Canary Island hypericum	Reported in San Diego area, coastal sage scrub, grassland; threat to wildlands?	SCo
Hypochaeris radicata	rough cat's-ear	Widespread in coastal grasslands, wetlands; threat to wildlands?	NW,CaRF,nSNF,ScV, CW,SCo
Isatis tinctoria[B]	dyers' woad	Well-known invader in Utah; threat to wildlands?	KR,CaR,nSNH,MP
Ligustrum lucidum	glossy privet	Horticultural; spreading rapidly on Mendocino coast; problem in other areas?	NCo; not in Jepson
Limonium ramosissimum ssp. *provinciale*	sea lavender	Reported spreading in Carpinteria Salt Marsh; problem in other areas?	Not in Jepson

Need More Information: Continued

Latin Name[1]	Common Name	Habitats of Concern and Other Comments	Distribution[2]
Ludwigia uruguayensis (= *L. hexapetala*)	water primrose	Invasive in aquatic habitats; non-native status questioned?	NCo,sNCoRO,CCo, SnFrB,SCo
Malephora crocea	ice plant	Invades margins of wetlands, bluffs along SCo	CCo,SCo,sChI
Maytenus boaria	mayten	Horticultural; scattered in riparian forests, ScV; east SnFrB	ScV,SnFrB
Mesembryanthemum nodiflorum	slender-leaved iceplant	Abundant on Channel Islands; invades wetlands; habitats where problematic?	SnFrB,SCo,ChI
Nicotiana glauca	tree tobacco	Disturbed places; not very competitive with natives in coastal scrub, chaparral; spreading along Putah Creek (Yolo Co.); problems elsewhere?	NCoRI,c&sSNF, GV,CW,SW,D
Oxalis pes-caprae	Bermuda buttercup	Invades disturbed sites; invasive in undisturbed habitats?	NCo,NCoRO,CCo, SnFrB,SCoRO,SCo
Parentucellia viscosa		Threat to NCo (Humboldt Co.) dune swales?	NCo,NCoRO,CCo,SCo
Passiflora caerulea		Horticultural; reported from SoCal; threat to wildlands?	SCo; not in Jepson
Pennisetum clandestinum[F,C]	Kikuyu grass	Disturbed sites, roadsides; threat to wildlands?	NCo,CCo,SnFrB,SCo, Santa Cruz Is.
Phyla nodiflora	mat lippia	Most varieties in CA are native; taxonomy unclear; status of plants in vernal pools, wetlands?	NW(except KR,NCoRH), GV,CCo,SnFrB,SCo, PR,DSon
Pinus radiata cultivars	Monterey pine	Cultivars invading native Monterey, Cambria forests, where spread of pine pitch canker is a concern	CCo
Piptatherum miliaceum	smilo grass	Aggressive in SoCal creeks, canyons; threats to wildlands?	NCo,GV,CW,SCo
Pistacia chinensis	Chinese pistache	Horticultural; invades riparian areas and woodlands in ScV	ScV
Prunus cerasifera	cherry plum	Oak woodland, riparian areas; esp. Marin, Sonoma cos.; bird-distributed; problems elsewhere?	SnFrB,CCo
Pyracantha angustifolia	pyracantha	Horticultural; spreads from seed in S.F. Bay area; bird-distributed; problem elsewhere?	sNCoRO,CCo,SnFrB, SCo
Salsola soda	glasswort	Threat to salt marshes?	nCCo,SnFrB
Salsola tragus[C]	Russian thistle, tumbleweed	Abundant in dry open areas in w. Mojave Desert, Great Basin; not limited to disturbed sites; threats?	CA
Salvia aethiopis[B]	Mediterranean sage	Creates monocultures in E. Oregon grasslands; threat to CA wildlands?	MP
Stipa capensis		Distribution and threats?	Not in Jepson
Tamarix aphylla	athel	Spreading in Salton Sea area; threats to wildlands?	nSnJV,nSCo,D
Tanacetum vulgare	common tansy	Jepson reports as uncommon, escape from cultivation in urban areas; problem in wildlands?	NCo,NCoRO,CaRH, SCoRO
Verbena bonariensis, *V. litoralis*	tall vervain	Horticultural; invades riparian forests, wetlands; extensive along ScV riparian corridors; roadsides (Yuba Co.); elsewhere?	ScV,nSnJV,nSnFrB,CCo



Annual Grasses

Latin Name[1]	Common Name	Habitats of Concern and Other Comments	Distribution[2]
Aegilops triuncialis[B]	barbed goatgrass	Serpentine soils, grasslands	sNCoR,CaRF, n&cSNF, ScV,nCW
Avena barbata	slender wild oat	Lower elev. in SoCal; coastal slopes, coastal sage scrub, disturbed sites	CA-FP,MP,DMoj
Avena fatua	wild oat	Lower elev. in SoCal; coastal slopes, coastal sage scrub on deeper soil, disturbed sites	CA-FP,MP,DMoj
Brachypodium distachyon	false brome	Expanding in SoCal; common in Orange Co.	sNCoR,sCaRF, SNF,GV,CW,SCo,sChI
Bromus diandrus	ripgut brome	Coastal dunes, coastal sage scrub, grasslands	CA
Lolium multiflorum	Italian ryegrass	Wetland areas, esp. vernal pools in San Diego Co.; common in disturbed sites	CA-FP
Schismus arabicus	Mediterranean grass	Threat to Mojave and Colorado desert shrublands?	SnJV,CW,sChI,D
Schismus barbatus	Mediterranean grass	Threat to Mojave and Colorado desert shrublands?	SnJV,SW,D

Considered, but not listed

Latin Name[1]	Common Name	Habitats of Concern and Other Comments
Albizia lophantha	plume acacia	Not invasive
Anthoxanthum odoratum	sweet vernal grass	Disturbed sites on coast; Marin, Sonoma, Mendocino cos.
Carpobrotus chilensis	sea fig	Native status in question; not a threat to wildlands
Centranthus ruber	red valerian	Horticultural; roadcuts in Marin Co.; not a threat to wildlands
Convolvulus arvensis[C]	field bindweed	Disturbed sites; ag lands
Coprosma repens	mirror plant	No evidence of wildland threat
Crocosmia x crocosmiiflora		Generally in disturbed coastal, urban areas, roadsides
Digitalis purpurea	foxglove	Horticultural; scattered in prairies, meadows, disturbed sites; not a major wildland threat
Dipsacus sativus, D. fullonum	wild teasel, Fuller's teasel	Roadsides, disturbed sites
Fumaria officinalis, F. parviflora	fumitory	S.F. Bay area, Monterey Bay salt marshes, sandy disturbed sites
Medicago polymorpha	California bur clover	Grasslands, moist sites; mainly restricted to disturbed sites
Melilotus officinalis	yellow sweet clover	Restricted to disturbed sites in CA
Nerium oleander	oleander	Horticultural; not invasive, although reported from riparian areas in Central Valley, San Bernardino Mtns.
Picris echioides	bristly ox-tongue	Disturbed areas
Silybum marianum	milk thistle	Disturbed areas, especially overgrazed moist pasturelands; may interfere with restoration
Xanthium spinosum	spiny cocklebur	Identified as native in *The Jepson Manual* (Hickman, 1993) and *A California Flora* (Munz and Keck, 1968); restricted to disturbed areas
Zantedeschia aethiopica	calla lily	Horticultural; mainly a garden escape in wet coastal areas
Zoysia cultivars	Amazoy and others	Horticultural; no evidence of wildland threat

Request for Information: Exotic Pest Plants of Greatest Ecological Concern in CA

Please use this form to propose adding a new plant to the CalEPPC list or to provide other comments. Please provide as much detail as possible. Use the second side of this form or attach additional sheets if more space is needed. Please mail completed form to: **Peter Warner, 555 Magnolia Avenue, Petaluma, CA, 94952-2080**. Comments can be submitted by email to **peterjwarner@earthlink.net**

Species Name: _____

Does this weed displace healthy native communities, or
is it mainly restricted to disturbed sites like roadsides, agricultural areas, etc.? _____

_____

In which region(s) of California does this weed infest wildlands?
Indicate county(ies) and/or Jepson regions (see page 3). _____

_____

Which native communities does it infest? _____

List any rare plants, animals or communities threatened by this weed: _____

_____

How does it spread? (Seeds carried by wind, birds, other animals; vegetative runners?) _____

_____

Is this plant a recent invader of California wildlands? Ideas about how it got here? _____

_____

Is this plant sold by nurseries, or used in landscaping, restoration
or other activities that might lead to its further spread in wildlands? _____

_____

Describe any techniques that have been used to eradicate this plant.
Have they been successful? If not, why is the plant difficult to eradicate? _____

_____

Other comments? _____

_____

_____

_____

Name: _____ Affiliation: _____

Address: _____ City: _____ State: _____ Zip: _____

Phone: _____ FAX: _____ email: _____

Notes:

Who We Are:

Throughout California, natural wildlands and parks are under attack from invasive pest plants. As natural habitat is replaced by exotic plants, we also lose many of the state's native birds, insects, fish and other wildlife species. People concerned with the protection, management and enjoyment of our natural areas have become increasingly alarmed about the spread of invasive exotic vegetation. Since its formation in 1992, CalEPPC has been dedicated to finding solutions to problems caused by non-native pest plant invasions of the state's natural areas. The objectives of CalEPPC are to:

- provide a focus for issues and concerns regarding exotic pest plants in California;
- facilitate communication and the exchange of information regarding all aspects of exotic pest plant control and management;
- provide a forum where all interested parties may participate in meetings and share in the benefits from the information generated by this council;
- promote public understanding regarding exotic pest plants and their control;
- serve as an advisory council regarding funding, research, management and control of exotic pest plants;
- facilitate action campaigns to monitor and control exotic pest plants in California; and
- review incipient and potential pest plant management problems and activities and provide relevant information to interested parties.

What We Do:

CalEPPC:

- Holds an annual statewide symposium;
- Co-sponsors regional workshops on control of problem wildland weeds;
- Publishes a quarterly newsletter with timely, practical information;
- Maintains an informative web site at **www.caleppc.org**
- Sponsors rigorous experiments on control methods for French broom, German ivy, pampas grass and other invasive pest plants;
- Advances public and professional awareness of wildland weed problems and solutions by sponsoring illustrated brochures and a soon-to-be published book on California's worst wildland weeds;
- Is recognized as an authoritative source of new information on all aspects of wildland weed management.

1999 CalEPPC Membership Form

If you would like to join CalEPPC, please remit your calendar dues using the form provided below. All members will receive the CalEPPC newsletter, be eligible to join CalEPPC working groups, be invited to the annual symposium and participate in selecting future board members. Your personal involvement and financial support are the keys to success. Additional contributions by present members are welcomed!

Individual		**Institutional**	
☐ Low Income/ Student*	$15.00	N/A	
☐ Regular	$25.00	Regular	$100.00
☐ Family	$40.00	Contributing	$250.00
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Please make an additional contribution in my name to:

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Please make your check payable to **CalEPPC** and mail with this application form to:

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** Students, please include current registration and/or class schedule*

The California Exotic Pest Plant Council is a California 501(c)3 non-profit, public benefit corporation organized to provide a focus for issues and concerns regarding exotic pest plants in California, and is recognized under federal and state tax laws as a qualified donee for tax deducible charitable contributions.

The CalEPPC List:

Exotic Pest Plants of Greatest Ecological Concern in California

October, 1999

Potential uses for this list:

- Informing the public
- Targeting species for control efforts
- Alerting restorationists to potential problem species
- Aiding those who comment on environmental documents
- Soliciting additional information on exotic plants with unknown or changing status

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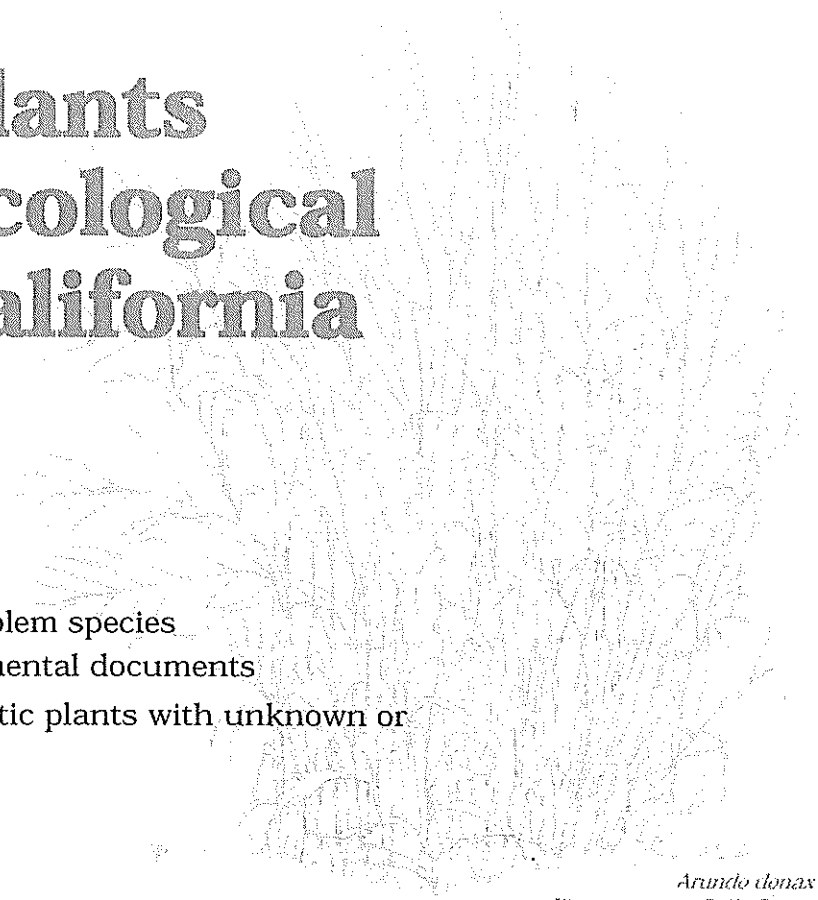

Arundo donax
Illustration by Sally Davis

CALIFORNIA EXOTIC PEST PLANT COUNCIL

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ATTACHMENT I

Results of Focused Presence/Absence Surveys for the Coastal California Gnatcatcher on the Approximate 181-Acre Burnam Project Site (TT 53189), Los Angeles County, California

Prepared by BonTerra Consulting

(June 2005)

BonTerra
CONSULTING
An Environmental Planning/Resource Management Corporation

June 7, 2005

Mr. Rick Farris
U.S. Fish and Wildlife Service
2493 Portola Road, Suite B
Ventura, CA 93003

Subject: Results of Focused Presence/Absence Surveys for the Coastal California Gnatcatcher on the Approximate 181-Acre Burnam Project Site (TT 53189), Los Angeles County, California

Dear Mr. Farris:

This letter report presents the results of focused surveys for the coastal California gnatcatcher (*Polioptila californica californica*) on the approximate 181-acre Burnam Project site (TT 53189) (hereafter referred to as the project site). The project site is located north of the City of Santa Clarita, Los Angeles County, California (Exhibits 1 and 2). The surveys were conducted to determine the presence or absence of the coastal California gnatcatcher on the project site. Surveys were conducted by a biologist holding the necessary federal Endangered Species Act (ESA) survey permit, according to the survey protocol established by the U.S. Fish and Wildlife Service (USFWS).

The project site is bordered to the east by San Francisquito Canyon Road and to the northeast by Lady Linda Road (a dirt road). To the south, west, and northwest, the project site is adjacent to open space (Exhibit 2). Areas to the west are currently undergoing development as part of the Tesoro del Valle project. The project site includes a portion of San Francisquito Creek, which has been designated as Significant Ecological Area (SEA) No. 19 by Los Angeles County. The development footprint is located outside of all portions of SEA No. 19. The project site is located within the U.S. Geological Survey's Newhall, California 7.5-minute quadrangle, within Township 5N, Range 16W, and includes most of the northern half of Section 34. Elevations on the project site range from approximately 1,250 feet above mean sea level (msl) to approximately 1,480 feet above msl. A pre-survey notification was transmitted to the Ventura office of the USFWS.

Survey Area Description

Vegetation types on the project site were mapped by Rincon Consultants, Inc. during 1999 (Rincon 2000) and were classified according to Holland (1986), as well as Sawyer and Keeler-Wolf (1995). During June 2002, the majority of the upland vegetation west of the San Francisquito Canyon drainage on the project site burned during the 20,000-acre Copper Fire (U.S. Forest Service [USFS] 2002). Vegetation mapping was updated by BonTerra Consulting Biologist Jeff Galizio to reflect changes in vegetation following the Copper Fire.

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Ten vegetation types were mapped by Rincon Consultants on the project site. These consisted of ruderal (including developed land), ornamental, chamise chaparral, non-native grassland/chamise chaparral, coast live oak woodland, coastal sage scrub, wash, mixed chaparral/holly-leaf cherry woodland, non-native grassland, and alluvial sage scrub. Approximately 68 acres of shrub habitat, located primarily within the SEA drainage, provided potentially suitable habitat for the gnatcatcher on the project site following the Copper Fire.

Alluvial sage scrub occurs along the banks and benches of the drainage above the active channel within San Francisquito Canyon. The dominant plant species of this vegetation type is scalebroom (*Lepidospartum squamatum*). Other plant species occurring at a lower density include thick-leaf yerba santa (*Eriodictyon crassifolium*), chaparral yucca (*Yucca whipplei*), Great Basin sagebrush (*Artemisia tridentata*), and California buckwheat (*Eriogonum fasciculatum*).

Small patches of coastal sage scrub also exist among other shrub vegetation types on the project site, but were not mapped as coastal sage scrub due to their small size or low density of characteristic species. Dominant plant species included California sagebrush (*Artemisia californica*), purple sage (*Salvia leucophylla*), white sage (*Salvia apiana*), and bush sunflower (*Encelia californica*). Also existing at low density or as small patches of habitat were such species as chamise (*Adenostoma fasciculatum*), deerweed (*Lotus scoparius*), chaparral bushmallow (*Malacothamnus fasciculatus*), mule fat (*Baccharis salicifolia*), holly-leaf cherry (*Prunus ilicifolia*), spiny redberry (*Rhamnus crocea*), and bigberry manzanita (*Arctostaphylos glauca*).

Burned upland vegetation which, prior to 2002 included sage scrub and chaparral species, extends to the west of the project site. Southwest of the project site is the Tesoro del Valle single-family residential development. The first phase of this project has been graded and is currently under construction. To the south, contiguous scrub habitat extends downstream along San Francisquito Creek's bed and banks. North of the project site is burned upland habitat, small ranches and residences; the sage scrub has been historically removed by ranching and other disturbance in this area. East of San Francisquito Canyon Road, which forms the eastern project site boundary, the rolling hills and gradually-sloping ridges are covered by sage scrub dominated by California sagebrush and purple sage.

Background

The California gnatcatcher consists of up to five subspecies that extend from southwestern California to southern Baja California, Mexico (Atwood 1988, 1991; Grinnell 1926; Mellink and Rea 1994; Philips 1991; van Rossem 1931; USFWS 2003). The coastal California gnatcatcher (*Polioptila californica californica*), the northern-most gnatcatcher subspecies, is restricted to lowland areas from central Ventura County through Los Angeles, San Bernardino, Riverside, Orange, and San Diego counties, south to the vicinity of El Rosario in northwestern Baja California, Mexico (American Ornithologist's Union 1957; Atwood 1991; Garrett and Dunn 1981; USFWS 2003). Formerly, this species was common from the San Fernando Valley east along the base of the San Gabriel Mountains to Claremont (Atwood 1990). The coastal California gnatcatcher has been recorded from mean sea level (msl) to approximately 3,000 feet above msl (USFWS 2003); however, greater than 90 percent of gnatcatcher records are from elevations below 820 feet msl along the coast (Atwood and Bolsinger 1992; MBA 1991), and below 1,800 feet above msl inland. The most current estimate is that approximately 2,900 pairs of coastal California gnatcatcher remain in the United States (USFWS 1996).

The coastal California gnatcatcher typically occurs within coastal and inland sage scrub vegetation types. Sage scrub often occurs in a patchy distribution pattern throughout the range of the gnatcatcher. Coastal California gnatcatchers also use chaparral, grassland, and riparian habitats that are in proximity to sage scrub. These non-sage scrub habitats are used for dispersal and foraging (Atwood et al. 1998; Campbell et al. 1998, USFWS 2003). Availability of these non-sage scrub areas is essential during certain times of the year, particularly during drought conditions, for dispersal, foraging, or nesting (USFWS 2003).

The coastal California gnatcatcher was designated a Threatened species by the USFWS on March 25, 1993. On October 24, 2000 USFWS published a final rule designating 207,840 hectares (513,650 acres) of land as critical habitat for the coastal California gnatcatcher in the Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties, California (USFWS October 24, 2000). Following the designation of critical habitat, several lawsuits were filed challenging various aspects of the designation. In response to these lawsuits, the critical habitat designation was vacated and the USFWS was instructed by the court to re-evaluate its previous position. A new proposed critical habitat designation was published on April 24, 2003 covering 200,615 hectares (495,795 acres); however, as of this date this proposed rule has not been finalized; therefore, the October 24, 2000 Final Rule remains in effect. The study area is within areas designated as new proposed critical habitat (2003) for the gnatcatcher; however, it is outside of the previous final critical habitat designation (2000).

Gnatcatcher Survey Methodology

The current USFWS coastal California gnatcatcher survey protocol recommends six visits to all potentially-occupied habitat areas during the morning hours, for surveys conducted entirely within the breeding season (USFWS 1997). Following the USFWS protocols for this species, Consulting Biologist Michael C. Couffer (USFWS Permit # TE-782703-5) conducted six focused survey visits to all appropriate habitat areas, covering no more than 80 acres of potentially-occupied habitat per day. A single morning was adequate to cover all potentially-occupied habitat on the project site. Because all surveys were conducted within the gnatcatcher breeding season (March 15 through June 30), survey visits to each potentially-occupied habitat polygon were separated by at least a week. Surveys were conducted on March 20 and 27, April 3, 10, 17, and 24, 2005.

Weather conditions met USFWS survey protocol requirements designed to optimize gnatcatcher detections. Weather conditions that were too cold (less than 55 degrees Fahrenheit), too hot (greater than 95 degrees Fahrenheit), or too windy (greater than 15 miles per hour) were avoided. Surveys were conducted by slowly walking through all appropriate habitat while listening and watching for gnatcatcher activity. Taped recordings of gnatcatcher vocalizations were played as an attempt to elicit responses from any gnatcatchers present. The frequency of vocalization playback varied, depending on site conditions such as habitat patch size, topography, vegetation density, and ambient noise levels.

Survey Results

No coastal California gnatcatchers were observed on the project site during the 2005 focused surveys. This is consistent with the results of a previous focused coastal California gnatcatcher survey conducted by Mr. Couffer during June, July, August, and September of 2004 when survey results were also negative. Gnatcatchers have recently been documented as occurring in a patchy distribution within the general vicinity of the project site. Because habitat that appears suitable for occupation by the gnatcatcher exists adjacent to the project site, gnatcatchers have the potential to enter the project site, particularly for dispersal purposes.

Please contact Ann Johnston at (714) 444 9199 if you have questions or comments.

Sincerely,

BONTERRA CONSULTING

Ann M. Johnston
Principal, Biological Services

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.

Michael C. Couffer
Consulting Biologist

Attachments: Exhibits 1 and 2

cc: Mr. Bob Barjam, SunCal Companies
Mr. Jerry Schamp, SunCal Companies
Mr. Daryl Koutnik, County of Los Angeles, Dept. of Regional Planning
Mr. Michael Couffer

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Regional Location

Exhibit 1

VTTM 53189

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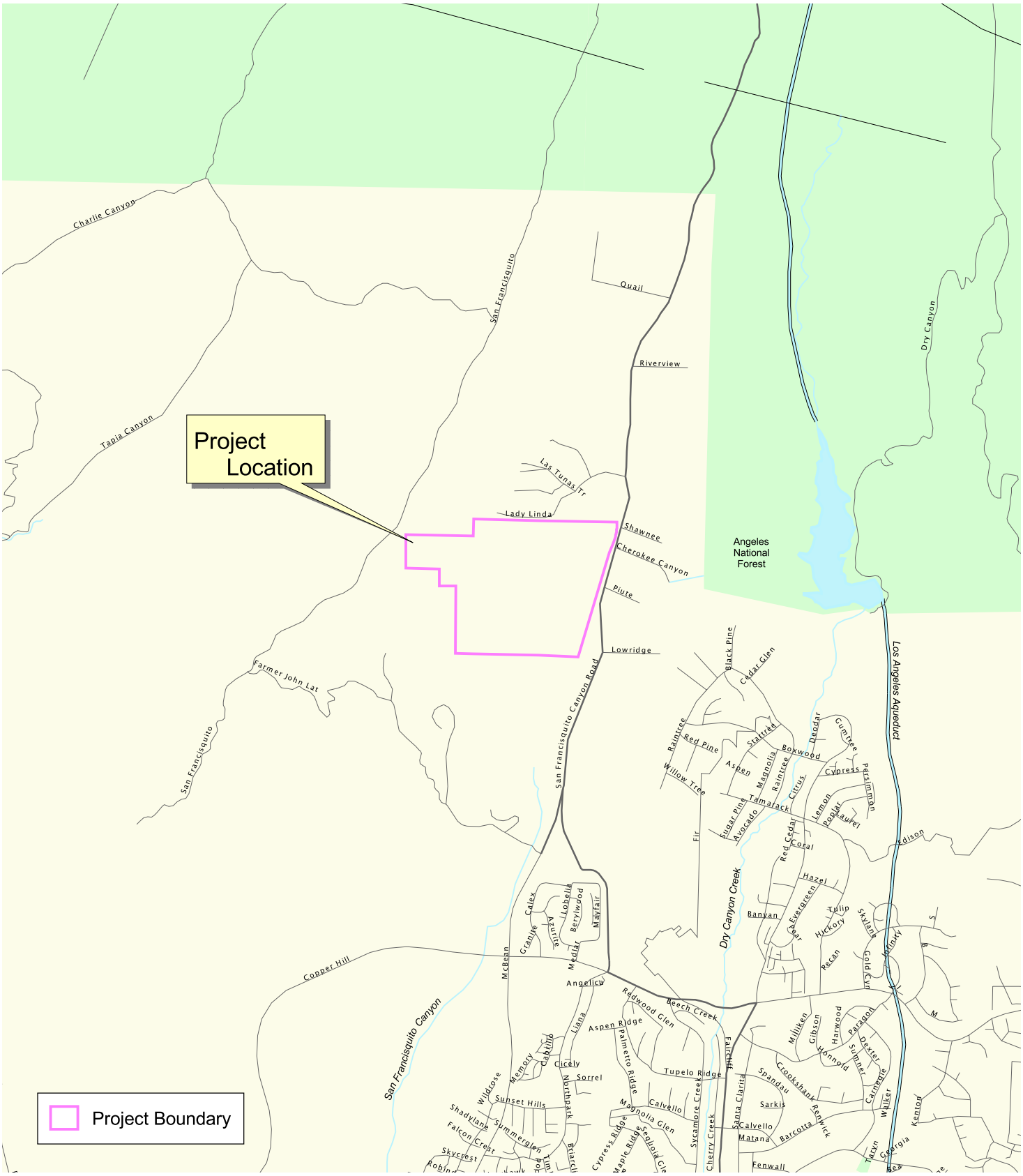

Local Vicinity

Exhibit 2

VTTM 53189

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ATTACHMENT J

Results of Special Status Plant Surveys for the Vesting Tentative Tract Map No. 53189 Project Site, Santa Clarita, Los Angeles County, California

Prepared by BonTerra Consulting

(October 2005)

BonTerra
CONSULTING
An Environmental Planning/Resource Management Corporation

October 4, 2005

Mr. Jerry Schamp
SunCal Companies
21900 Burbank Blvd., Suite 114
Woodland Hills, CA 91367

VIA FACSIMILE AND MAIL
(818) 348-3013

Subject: Results of Special Status Plant Surveys for the Vesting Tentative Tract Map No. 53189 Project Site, Santa Clarita, Los Angeles County, California

Dear Mr. Schamp:

This letter report presents the findings of special status plant surveys conducted on the Vesting Tentative Tract Map No. 53189 (hereafter referred to as the project site). The purpose of the surveys was to document the presence or absence of special status plant species on the project site.

The proposed project site is currently vacant, undeveloped land located in unincorporated Los Angeles County, just north of the City of Santa Clarita. The project site is bordered on the east by San Francisquito Canyon Road, on the northeast by Lady Linda Lane, and to the south by Lowridge Place. The Tesoro del Valle residential development is located to the south of the project site. Undeveloped land is located to the west. The nearest highways are Interstate-5 (I-5) and State Route-126 (SR-126), located approximately four miles to the southwest of the project site. The project site's regional location and local vicinity are depicted in Exhibits 1 and 2, respectively. The project site is located on the U.S. Geological Survey's (USGS) Newhall, California 7.5-minute Quadrangle. Topography on the project site is generally flat in the east and central portions of the project site with low foothills in the west. Elevations range from approximately 1,250 to 1,450 feet above mean sea level (msl).

METHODS

Special status plant surveys were conducted on April 6, 8, and 14, and May 26, 2005 by BonTerra biologists Pam De Vries, Andrea Warniment, and David Hughes, and consulting biologist Travis Cooper. All areas of the project site containing habitats potentially suitable for special status plant species were surveyed using meandering transects.

Prior to the field survey, a literature review was conducted to identify special status plants or vegetation types known from the project site and vicinity. This included a review of the Newhall, Mint Canyon, Green Valley, and Warm Springs Mountain USGS 7.5-minute quadrangles in the California Natural Diversity Database (CNDDB) (CDFG 2005a) and California Native Plant Society's (CNPS) *Inventory* (2005). In addition, the compendium of special status species published by California Department of Fish and Game (CDFG) was reviewed (CDFG 2005b).

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(626) 351-2030 fax
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Regional Location

Exhibit 1

VTTM 53189

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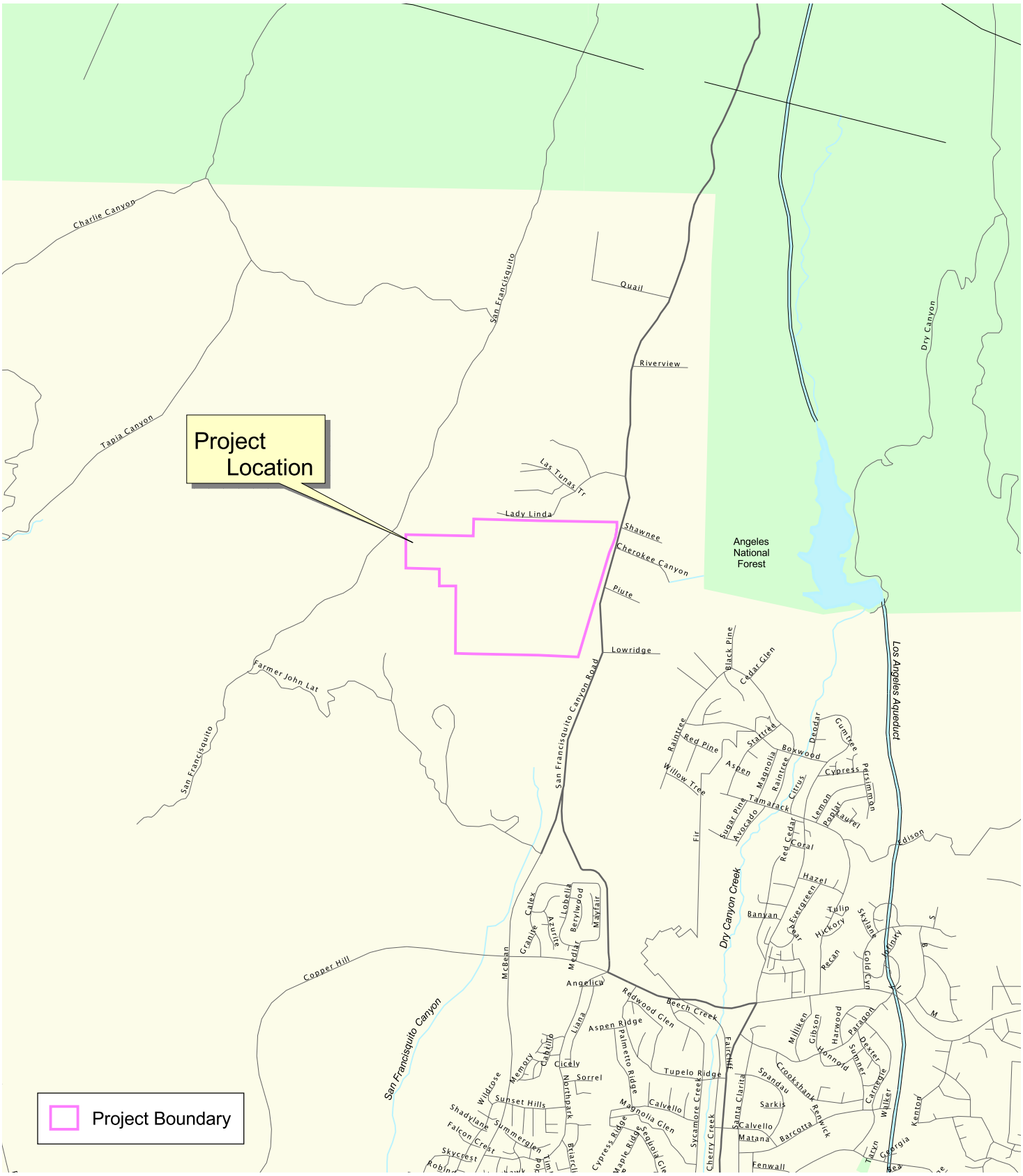

Local Vicinity

Exhibit 2

VTTM 53189

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BonTerra CONSULTING

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All plant species observed were recorded in field notes. Plant species were identified in the field or collected for subsequent identification. Plants were identified using keys in Hickman (1993) and Munz (1974). Taxonomy follows Hickman (1993) and current scientific data (e.g., scientific journals) for scientific and common names. Nomenclature for vegetation types generally follows that of *The Vegetation Classification and Mapping Program: List of California Terrestrial Natural Communities recognized by the CNDDB* (CDFG 2003).

SITE DESCRIPTION

Nine vegetation types occur on the project site. These include ruderal, chamise chaparral, coast live oak woodland, eucalyptus woodland, mixed chaparral/holly leaf cherry woodland, non-native grassland, non-native grassland/alluvial, non-native grassland/chamise chaparral, and alluvial sage scrub. Unvegetated wash areas within San Francisquito Creek (floodway) are also present on the project site.

Soils types previously described on the site include Saugus loam, Metz loamy sand, Hanford sandy loam, Yolo loam, and Sandy alluvial land. The Saugus, Metz, and Yolo soil types are all typically associated with alluvial fans and floodplains in the project region. Sandy alluvial land is typically associated with drainage bottoms or floodways in the project region.

Table 1 lists the special status plants known to occur within the vicinity of the project site (i.e., Newhall, Mint Canyon, Oat Mountain, and San Fernando USGS 7.5-minutue quadrangles). The results column indicates if the species was observed during these surveys.

TABLE 1
SPECIAL STATUS PLANT SPECIES KNOWN
TO OCCUR IN THE VICINITY OF THE PROJECT SITE

Species	Status[1]			Results
	USFW	CDFG	CNPS	
Berberis [=*Mahonia*] *nevinii* Nevin's barberry	FE	CE	List 1B	Not observed.
Calochortus clavatus var. *clavatus* club-haired mariposa lily	–	–	List 4	**Observed during focused surveys.** (Probably hybrids with slender mariposa lily)
Calochortus clavatus var. *gracilis* slender mariposa lily	–	–	List 1B	**Observed during focused surveys.** (Probably hybrids with club-haired mariposa lily)
Calochortus plummerae Plummer's mariposa lily	–	–	List 1B	Not observed.
Calystegia peirsonii Peirson's morning-glory	–	–	List 4	**Observed during focused surveys.**
Chorizanthe parryi var. *fernandina* San Fernandino Valley spineflower	FC	CE	List 1B	Not observed.
Dodecahema leptoceras slender-horned spineflower	FE	CE	List 1B	Not observed.
Galium grande Gabriel bedstraw	-	-	List 1B	Not observed.
Harpargonella palmeri Palmer's grapplinghook	–	–	List 4	Not observed.
Helianthus nuttallii ssp. *parishii* Los Angeles sunflower	–	–	List 1A	Not observed.
Hemizonia [=Deinandra] minthornii Santa Susana tarplant	–	CR	List 1B	Not observed.

TABLE 1 (Continued)
SPECIAL STATUS PLANT SPECIES KNOWN
TO OCCUR IN THE VICINITY OF THE PROJECT SITE

Species	Status[1]			Results
	USFW	CDFG	CNPS	
Juglans californica var. *californica* Southern California black walnut	–	–	List 4	Not observed.
Navarettia fossalis spreading navarettia	FE	–	List 1B	Not observed.
Opuntia basilaris var. *brachyclada* short-joint beavertail	–	–	List 1B	Not observed.
Orcuttia californica California orcutt grass	FE	CE	List 1B	Not observed.
Senecio aphanactis rayless ragwort	–	–	List 2	Not observed.

LEGEND

Status Definitions [1]

Federal (USFWS)		State (CDFG)	
FE	Endangered	CE	Endangered
FT	Threatened	CT	Threatened
FC	Candidate	CR	Rare

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 We Need More Information - A Review List
4	Plants of Limited Distribution - A Watch List

SURVEY RESULTS

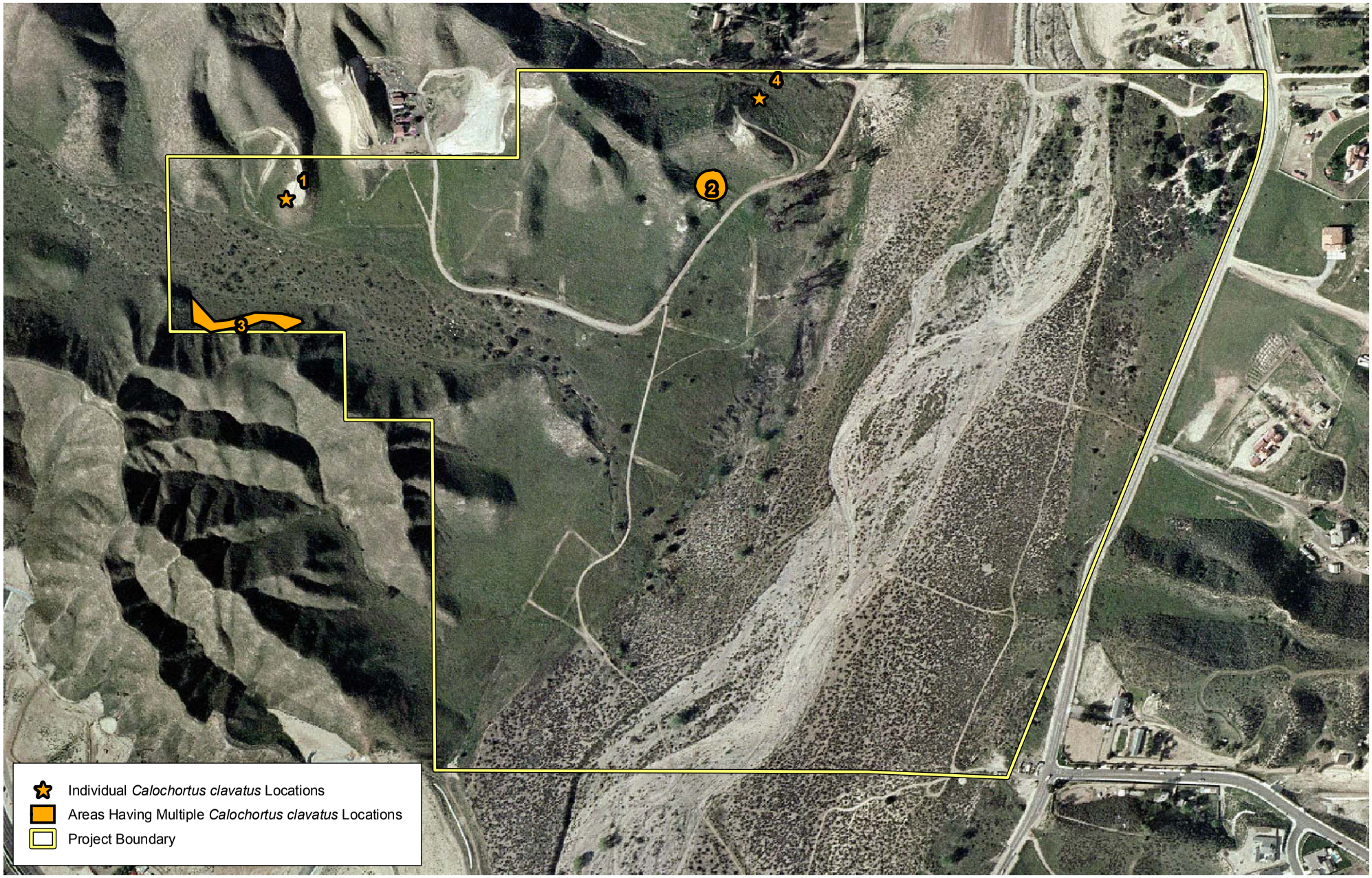
Slender mariposa lily (*Calochortus clavatus* var. *gracilis*) (possibly hybridized with club-haired mariposa lily (*C. clavatus* var. *clavatus*) and Peirson's morning glory (*Calystegia peirsonii*) were the special status plant species observed during surveys. The results of these observations are discussed below. A list of all plants observed during the surveys can be found in Appendix A. CNDDB field survey forms for slender mariposa lily are provided in Appendix B.

Slender Mariposa Lily

Slender mariposa lily is a CNPS List 1B species. It typically blooms during March. This bulbiferous perennial herb grows in openings in chaparral, coastal sage scrub, and native grassland. The lily is known to occur in Los Angeles County. Slender mariposa lily is known to hybridize with a more common subspecies, club-haired mariposa lily (*Calochortus clavatus* var. *clavatus*). The lilies observed on the project site had characteristics of both slender mariposa lily and club-haired mariposa lily, and were likely intermediate between these two varieties. Representative voucher specimens were collected and will be deposited at Rancho Santa Ana Botanical Gardens Herbarium. A total of 317 individuals were observed on the project site. Exhibit 3 shows the locations of the individuals observed within the project site.

Location #1:

Location #1 supported one lily plant that was vegetative (lacking flowers and fruit). This plant was located in the north-western portion of the project site in non-native grassland habitat. Associated species include annual brome grasses (*Bromus madritensis* ssp. *rubens* and *Bromus hordeaceus*), black mustard (*Brassica nigra*), tocalate (*Centaurea melitensis*), and deerweed (*Lotus scoparius*).



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Special Status Plant Locations

Exhibit 3

VTTM 53189

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W E
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500 250 0 500 Feet

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Location #2:

Location #2 supported approximately 160 lily plants in bud and/or flower. These plants were located on a northeast-facing slope in the north-central portion of the project site. Associated species at this location include slender wild oat (*Avena barbara*), deerweed, rancher's fiddleneck (*Amsinckia menziesii*), thick-leaf yerba santa (*Eriodictyon crassifolium*), and miniature lupine (*Lupinus bicolor*).

Location #3:

Location #3 supported approximately155 lily plants in bud and/or flower. These plants were located along a north-facing slope in chamise chaparral habitat in the western portion of the project site. Associated species include chamise (*Adenostoma fasciculatum*), deerweed, sacapellote (*Acourtia microcephala*), one-sided bluegrass (*Poa secunda*), golden yarrow (*Eriophyllum confertiflorum*), California sagebrush (*Artemisia californica*), woolly blue curls (*Trichostema lanatum*), miniature lupine, and non-native brome grasses (*Bromus* spp.)

Location #4:

Location #4 supported one individual plant in flower. This plant was located in non-native grassland habitat in the northern portion of the project site. Associated species include brome grasses, rattlesnake weed (*Chamaesyce albomarginata*), common sow-thistle (*Sonchus oleraceus*), silver puffs (*Uropappus lindleyi*), jimsonweed (*Datura wrightii*), and occasional narrowleaf goldenbush (*Ericameria linearifolia*).

Peirson's Morning Glory

Peirson's morning-glory (*Calystegia peirsonii*) is a CNPS List 4 species. This species is a perennial herb that grows as a vine on the ground or on other plants. It is found in openings in coastal sage scrub and chaparral habitats typically following a burn. This species occurs in Los Angeles County. This species was originally thought to be very rare and was only known from a few collections prior to 1970, but it is now believed to be more abundant in coastal sage scrub throughout the Newhall-Mint Canyon region. Three populations of Peirson's morning-glory were observed on the project site. One large population was observed in the north-central portion of the project site, scattered on slopes and in depressions between the slopes near slender mariposa lily Location No. 2. The second population was small and located in the northeastern portion of the project site along a north-facing slope. A third small population was also small and located on an east-facing slope in the southern portion of the project site near the west boundary.

CNPS List 4 species are considered naturally limited in distribution and have been placed on a "watch list". These species are considered relatively common within their range; although it is important to note the location of their occurrences to assist in identifying a decline in their population should one occur. Although they are considered special status species, impacts on these species often do not meet the significance criteria under the California Environmental Quality Act (CEQA) to require mitigation. Therefore, the observation of CNPS List 4 species during these surveys is noted; however, no detail has been provided on the number of individuals observed, the location of this species within the project site, or the habitat associations where it was observed. This information is included in field notes and can be provided upon request.

RECOMMENDATIONS

Impacts on slender mariposa lily are considered significant under the California Environmental Quality Act (CEQA) per the Los Angeles County Planning Department (Daryl Koutnik 2003).

Mitigation to compensate for such impacts may include avoidance, purchase of off site habitat areas containing the species, or establishment of new populations through propagation. Recommended mitigation measures include the following:

- Avoidance – All populations shall be avoided to the extent possible.

- Compensation – If avoidance is not possible, then offsite purchase of mitigation sites shall be researched to determine the feasibility of this option. The mitigation sites shall be in open spaces that contain substantial populations of this species and shall be dedicated in perpetuity to complement existing open space areas.

- Propagation – If avoidance and compensation are not viable options, then a program will be developed to collect and transplant bulbs to an appropriate mitigation site.

BonTerra Consulting has appreciated the opportunity to assist on this project. If you have any comments or questions, please call Pam De Vries at (626) 351-2000.

Sincerely,

BONTERRA CONSULTING

Pam De Vries
Botanist

Kristin Keeling
Project Manager

Enclosed: Appendix A – Plant Compendium
Appendix B – CNDDB Forms for Slender Mariposa Lily

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APPENDIX A

PLANT COMPENDIUM

PLANT COMPENDIUM

PTERIDOPHYTES - FERNS AND ALLIES

PTERIDACEAE - BRAKE FAMILY

Pellaea andromedifolia
coffee fern

ANACARDIACEAE - SUMAC FAMILY

Rhus trilobata
skunkbush

*Schinus molle**
Peruvian pepper tree

APIACEAE (UMBELLIFERAE) - CARROT FAMILY

Daucus pusillus
rattlesnake weed

ASCLEPIADACEAE - MILKWEED FAMILY

Asclepias californica
California milkweed

Asclepias fascicularis
narrow-leaved milkweed

ASTERACEAE (COMPOSITAE) - SUNFLOWER FAMILY

Acourtia microcephala
sacapellote

Ambrosia acanthicarpa
annual burweed

Artemisia californica
California sagebrush

Artemisia douglasiana
mugwort

Artemisia dracunculus
tarragon

Artemisia tridentata
great basin sagebrush

Baccharis pilularis
coyote brush

Baccharis salicifolia
mule fat

Brickellia californica
California brickellbush

*Centaurea melitensis**
tocalote

Chaenactis glabriuscula var. *glabriuscula*
yellow pincushion

*Chamomilla suaveolens**
common pineapple weed

*Cirsium sp.**
thistle

Cirsium occidentale
cobweb thistle

Conyza canadensis
common horseweed

Encelia californica
bush sunflower

Ericameria linearifolia
narrowleaf goldenbush
Erigeron foliosus
fleabane daisy
Eriophyllum confertiflorum
golden yarrow
Filago californica
fluffweed
*Filago gallica**
narrow-leaved filago
Gnaphalium californicum
California everlasting
*Gnaphalium palustre**
lowland cudweed
Gutierrezia californica
California matchweed
Gutierrezia sarothrae (?)
San Joaquin matchweed
Hazardia squarrosa
saw-toothed goldenbush
Hemizonia fasciculata
fascicled tarweed
Hemizonia kelloggii
Kellogg's tarweed
Heterotheca grandiflora
telegraph weed
Heterotheca sessiliflora
golden aster
Hypochaeris glabra
smooth cat's ear
Isocoma menziesii
goldenbush
Lasthenia californica
California goldfields
Lepidospartum squamatum
scale-broom
Lessingia filaginifolia
cudweed aster
Malacothrix saxatilis
cliff malacothrix
Rafinesquia californica
California chicory
Senecio californicus
California butterweed
Senecio flaccidus var. *douglasii*
sand wash butterweed / groundsel
*Sonchus asper**
rough sow-thistle / prickly sow-thistle
*Sonchus oleraceus**
common sow-thistle
Stephanomeria virgata
tall wreath plant

Stylocline gnaphaloides
everlasting nest straw
Tetradymia comosa
cotton thorn
Uropappus lindleyi
silver puffs
Xanthium strumarium var. *canadense*
cocklebur

BORAGINACEAE - BORAGE FAMILY

Amsinckia menziesii
rancher's fiddleneck
Cryptantha sp.
cryptantha
Cryptantha micrantha (?)
small-flowered cryptantha
Heliotropum curassavicum ssp. *oculatum*
salt heliotrope / alkali heliotrope
Pectocarya linearis ssp. *ferocula*
slender pectocarya
Pectocarya penicillata (?)
winged pectocarya
Plagiobothrys sp.
popcorn flower

BRASSICACEAE (CRUCIFERAE) - MUSTARD FAMILY

*Brassica nigra**
black mustard
*Hirschfeldia incana**
shortpod mustard
Lepidium nitidum var. *nitidum*
peppergrass / shining peppergrass
*Sisymbrium altissimum**
tumble mustard
*Sisymbrium irio**
London rocket
*Sisymbrium orientale**
hare's ear cabbage
Stanleya pinnata
prince's plume
Thysanocarpus curvipes
lacepod

CACTACEAE - CACTUS FAMILY

Opuntia basilaris ssp. basilaris
beavertail
*Opuntia ficus-indica**
Indian fig
Opuntia littoralis
coastal prickly pear

CAPRIFOLIACEAE - HONEYSUCKLE FAMILY

Sambucus mexicana
Mexican elderberry

CHENOPODIACEAE - GOOSEFOOT FAMILY

Atriplex canescens
fourwing saltbush / shad scale

Atriplex lentiformis ssp. *breweri*
Brewer's saltbush

*Chenopodium album**
lamb's quarters

Chenopodium californicum
California goosefoot

Salsola tragus
Russian thistle

CONVOLVULACEAE - MORNING-GLORY FAMILY

Calystegia piersonii
Pierson's morning glory

CRASSULACEAE - STONECROP FAMILY

Crassula connata
sand pigmy-stonecrop

Dudleya lanceolata
lance-leaved dudleya

CUCURBITACEAE - GOURD FAMILY

Cucurbita foetidissima
coyote melon / calabazilla

Marah macrocarpus
wild cucumber / cucamonga manroot

CUSCUTACEAE - DODDER FAMILY

Cuscuta californica
California witch's hair

ERICACEAE - HEATH FAMILY

Arctostaphylos glauca
bigberry manzanita

EUPHORBIACEAE -SPURGE FAMILY

Chamaesyce albomarginata
rattlesnake weed / rattlesnake spurge

Eremocarpus setigerus
doveweed

FABACEAE (LEGUMINOSAE) - LEGUME/PEA FAMILY

Lotus scoparius
deerweed

Lotus strigosus
strigose lotus

Lupinus sp.
lupine

Lupinus bicolor
miniature lupine

Lupinus hirsutissimus
stinging lupine

Lupinus succulentus
arroyo lupine

Lupinus truncatus
truncate lupine / collar lupine

*Medicago polymorpha**
bur-clover

*Melilotus indica**
yellow sweet-clover
Trifolium gracilentum
pin-point clover
Trifolium willdenovii
tomcat clover / valley clover
Vicia sp.
vetch

FAGACEAE - OAK / BEECH FAMILY

Quercus agrifolia
coast live oak

GERIANIACEAE - GERANIUM FAMILY

*Erodium cicutarium**
red-stemmed filaree

HYDROPHYLLACEAE - WATERLEAF FAMILY

Emmenanthe penduliflora var. *penduliflora*
whispering bells
Eriodictyon crassifolium
thick-leaf yerba santa
Phacelia sp.
phacelia
Phacelia cicutaria
caterpillar phacelia
Phacelia distans
common phacelia
Phacelia ramosissima
branching phacelia

LAMIACEAE (LABIATAE) - MINT FAMILY

*Lamium amplexicaule**
common henbit
Marrubium vulgare
common horehound
Salvia apiana
white sage
Salvia columbariae
chia
Salvia leucophylla
purple sage
Salvia mellifera
black sage
Trichostema lanatum
woolly blue-curls

LOASACEAE - STICK-LEAF FAMILY

Mentzelia laevicaulis
stick-leaf

MALVACEAE - MALLOW FAMILY

Malacothamnus marrubioides
shrub mallow
*Malva parviflora**
cheeseweed

MYRTACEAE - MYRTLE FAMILY

Eucalyptus sp.*
gum

NYCTAGINACEAE - FOUR-O'CLOCK FAMILY

Mirabilis californica
wishbone bush / California wishbone bush

OLEACEAE - OLIVE FAMILY

*Olea europaea**
olive

ONAGRACEAE - EVENING PRIMROSE FAMILY

Camissonia sp.
suncup

Camissonia bistorta
Southern suncup

Camissonia californica
mustard-like evening primrose

Clarkia sp.
clarkia

Clarkia purpurea
four-spot clarkia

Clarkia unguiculata
elegant clarkia

PAPAVERACEAE (FUMARIACEAE) - POPPY FAMILY

Eschscholzia californica
California poppy

POLEMONIACEAE - PHLOX FAMILY

Eriastrum densifolium ssp. *austromontanum*
perennial woolly-star

Eriastrum sappharinum
annual woolly-star / sapphire woolly-star

Gilia angelensis
Los Angeles phlox / Los Angeles gilia

Gilia australis
Southern gilia

Gilia capitata
ball gilia

POLYGONACEAE - BUCKWHEAT FAMILY

Chorizanthe staticoides
Turkish rugging

Eriogonum elongatum
wand buckwheat

Eriogonum fasciculatum
California buckwheat

Erigonum gracile var. *gracile*
slender buckwheat

*Polygonum persicaria**
lady's thumb

*Rumex crispus**
curly dock

Rumex hymenosepalus
wild rhubarb

PORTULACACEAE - PURSLANE FAMILY

Claytonia parviflora
narrow-leaved miner's-lettuce

Claytonia perfoliata
common miner's-lettuce

RANUNCULACEAE - CROWFOOT FAMILY

Delphinium parryi
Parry's larkspur / blue larkspur

RHAMNACEAE - BUCKTHORN FAMILY

Rhamnus crocea
spiny redberry

ROSACEAE - ROSE FAMILY

Adenostoma fasciculatum var. *fasciculatum*
common chamise

Heteromeles arbutifolia
toyon / christmas berry

Prunus ilicifolia
holly-leaved cherry

RUBIACEAE - MADDER FAMILY

Galium angustifolium
narrow-leaved bedstraw

Galium aparine
common bedstraw

SALICACEAE - WILLOW FAMILY

Populus fremontii
Fremont / Western cottonwood

Salix exigua
narrow-leaved willow

Salix laevigata
red willow

SCROPHULARIACEAE - FIGWORT FAMILY

Antirrhinum coulterianum
white snapdragon

Castilleja exserta
purple owl's clover

Mimulus aurantiacus
bush monkeyflower

Penstemon centranthifolius
scarlet bugler

*Verbascum Thapsus**
common mullein

SIMAROUBACEAE - QUASSIA FAMILY

*Ailanthus altissima**
tree of heaven

SOLANACEAE - NIGHTSHADE FAMILY

Datura wrightii
jimsonweed

*Nicotiana glauca**
tree tobacco

Nicotiana quadrivalvis
Wallace's tobacco

Solanum douglasii
Douglas' nightshade
Solanum xanti
chaparral nightshade

TAMARICACEAE - TAMARISK FAMILY

*Tamarix ramosissima**
Mediterranean tamarix

VIOLACEAE - VIOLET FAMILY

Viola pedunculata
johnny jump-ups

***MONOCOTYLEDONES* - MONOCOTS**

AGAVACEAE - AGAVE FAMILY

Yucca whipplei
Whipple's yucca

ALLIACEAE - ONION FAMILY

Allium sp.
Unidentified onion

LILIACEAE - LILY FAMILY

Calochortus clavatus var. *clavatus (x)*
club-haired mariposa lily
Calochortus clavatus var. *gracilis (x)*
slender mariposa lily
Chlorogalum pomeridianum
wavy-leaved soap plant
Dichleostemma capitatum
blue dicks

POACEAE - GRASS FAMILY

Achnatherum coronatum
giant needlegrass
*Arundo donax**
giant reed
*Avena barbata**
slender wild oat
*Avena fatua**
wild oat
*Bromus diandrus**
ripgut brome
*Bromus hordeaceus**
soft chess
Bromus madritensis ssp. *rubens**
foxtail chess
*Bromus tectorum**
cheat grass
*Hordeum murinum**
barley
Leymus condensatus
giant wild rye
Melica imperfecta
small-flowered melic grass
Nassella lepida
foothill needlegrass

*Piptatherum miliaceum**
smilo grass / millett ricegrass
Poa secunda
one-sided bluegrass / malpais bluegrass
*Schismus barbatus**
Mediterranean schismus
*Vulpia myuros**
foxtail fescue

**Denotes non-native species*

APPENDIX B

CNDDB FORMS FOR SLENDER MARIPOSA LILY

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95814
Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work *mm/dd/yyyy:* 04/08/2005

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Calochortus clavatus var. gracilis*

Common Name: Slender mariposa lily

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 Subsequent Visit? ☐ yes ☑ no
Is this an existing NDDB occurrence? _____ ☐ no ☑ unk.
Yes, Occ. #

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: A.Warniment&P. DeVries, BonTerra Consulting
Address: 320 N. Halstead Street, Suite 130
Pasadena, California 91107
E-mail Address: awarniment@bonterraconsulting.com
Phone: (626) 351-2000

Plant Information

Phenology: _____ % vegetative 1,100 % flowering _____ % fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ breeding ☐ wintering ☐ burrow site ☐ rookery ☐ nesting ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

County: Los Angeles County Landowner / Mgr.: Private
Quad Name: Newhall, California Elevation: 1250 ft
T____ R __ Sec ____ , ____ ¼ of _____ ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): GPS
T____ R __ Sec ____ , ____ ¼ of _____ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model Geko 301
Datum: NAD27☐ NAD83☑ WGS84☐ Horizontal Accuracy _____ meters/feet
Coordinate System: UTM Zone 10☐ UTM Zone 11☑ *OR* Geographic (Latitude & Longitude) ☐
Coordinates: Easting/Longitude 119.07276006 Northing/Latitude 34.37822230

Habitat Description *(plant communities, dominants, associates, substrates/soils, aspects/slope):*

On a northeast-facing slope in annual grassland habitat. Associated species include annual brome grasses (Bromus spp.), rattlesnake weed (Chamaesyce albomarginata), common sow thistle (Sonchus oleraceus), silver puffs (Uropappus lindleyi), jimsonweed (Datura wrightii), and occasionall narrowleaf goldenbush (Ericameria linearifolia).

Other rare taxa seen at THIS site on THIS date:

Site Information Overall site quality: ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Current / surrounding land use: open space

Visible disturbances: grading on ridgeline immediately adjacent

Threats: Future residential development planned

Comments: May be hybrid with club-haired mariposa lily (Calochortus clavatus var. clavatus).

Determination: *(check one or more, and fill in blanks)*

☑ Keyed (cite reference): Hickman 1993
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: Familiar with species

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☑
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? ☑ yes ☐ no

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95814
Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work *mm/dd/yyyy:* 04/06/2005

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Calochortus clavatus var. gracilis*

Common Name: Slender mariposa lily

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 Subsequent Visit? ☐ yes ☑ no
Is this an existing NDDB occurrence? _____ ☐ no ☑ unk.
Yes, Occ. #

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: A.Warniment&P. DeVries, BonTerra Consulting
Address: 320 N. Halstead Street, Suite 130
Pasadena, California 91107
E-mail Address: awarniment@bonterraconsulting.com
Phone: (626) 351-2000

Plant Information

Phenology: _____ % vegetative 100 % flowering _____ % fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ breeding ☐ wintering ☐ burrow site ☐ rookery ☐ nesting ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

County: Los Angeles County Landowner / Mgr.: Private
Quad Name: Newhall, California Elevation: 1250 ft
T____ R __ Sec ____ , ____ ¼ of _____ ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): GPS
T____ R __ Sec ____ , ____ ¼ of _____ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model Geko 301
Datum: NAD27☐ NAD83☑ WGS84☐ Horizontal Accuracy _____ meters/feet
Coordinate System: UTM Zone 10☐ UTM Zone 11☑ *OR* Geographic (Latitude & Longitude) ☐
Coordinates: Easting/Longitude 118.55398295 Northing/Latitude 34.48031841

Habitat Description *(plant communities, dominants, associates, substrates/soils, aspects/slope):*

Found at the top of a low foothill in annual grassland habitat. Associated species include foxtail chess (Bromus madritensis ssp. rubens), soft chess (Bromus hordeaceus), slender wild oat (Avena barbata), California sagebrush (Artemisia californica), California buckwheat (Eriogonum fasciculatum), deerweed (Lotus scoparius), and Our Lord's candle (Yucca whipplei).

Other rare taxa seen at THIS site on THIS date:

Site Information Overall site quality: ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Current / surrounding land use: open space

Visible disturbances: grading on ridgeline immediately adjacent

Threats: Future residential development planned

Comments: May be hybrid with club-haired mariposa lily (Calochortus clavatus var. clavatus)

Determination: *(check one or more, and fill in blanks)*

☑ Keyed (cite reference): Hickman 1993
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: Familiar with species

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☑
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? ☑ yes ☐ no

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95814
Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work mm/dd/yyyy: 04/06/2005

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Calochortus clavatus var. gracilis*

Common Name: Slender mariposa lily

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 155 Subsequent Visit? ☑ yes ☐ no
Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: A.Warniment&P. DeVries, BonTerra Consulting
Address: 320 N. Halstead Street, Suite 130
Pasadena, California 91107
E-mail Address: awarniment@bonterraconsulting.com
Phone: (626) 351-2000

Plant Information

Phenology: 75 % vegetative 25 % flowering _____ % fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ breeding ☐ wintering ☐ burrow site ☐ rookery ☐ nesting ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

County: Los Angeles County Landowner / Mgr.: Private
Quad Name: Newhall, California Elevation: 1250 ft
T____ R __ Sec ____ , ____ ¼ of _____ ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): GPS
T____ R __ Sec ____ , ____ ¼ of _____ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model Geko 301
Datum: NAD27☐ NAD83☑ WGS84☐ Horizontal Accuracy _____ meters/feet
Coordinate System: UTM Zone 10☐ UTM Zone 11☑ *OR* Geographic (Latitude & Longitude) ☐
Coordinates: Easting/Longitude 119.07267365 Northing/Latitude 34.37815231

Habitat Description *(plant communities, dominants, associates, substrates/soils, aspects/slope):*

On a north-facing slope in chamise chaparral habitat. Associated species include chamise (Adenostoma fasciculatum), deerweed (Lotus scoparius), sacapellote (Acourtia microcephala), one-sided blue grass (Poa secunda), golden yarrow (Eriophyllum confertiflorum), California sagebrush (Artemisia californica), wooly blue curls (Trichostema lanatum), annual brome grasses (Bromus spp.) and miniature lupine (Lupinus bicolor).

Other rare taxa seen at THIS site on THIS date:

Site Information Overall site quality: ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Current / surrounding land use: open space

Visible disturbances: grading on ridgeline immediately adjacent

Threats: Future residential development planned

Comments: May be hybrid with club-haired mariposa lily (Calochortus clavatus var. clavatus). Site burned 2 years prior to this survey.

Determination: *(check one or more, and fill in blanks)*
- ☑ Keyed (cite reference): Hickman 1993
- ☐ Compared with specimen housed at: _____
- ☐ Compared with photo / drawing in: _____
- ☐ By another person (name): _____
- ☑ Other: Familiar with species

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☑
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? ☑ yes ☐ no

FG/WHDAB/1747 Rev.10/20/03

Mail to:
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Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95814
Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work *mm/dd/yyyy:* 04/06/2005

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Calochortus clavatus var. gracilis*

Common Name: Slender mariposa lily

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 160 Subsequent Visit? ☑ yes ☐ no
Is this an existing NDDB occurrence? _____ ☐ no ☑ unk.
Yes, Occ. #

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: A.Warniment&P. DeVries, BonTerra Consulting
Address: 320 N. Halstead Street, Suite 130
Pasadena, California 91107
E-mail Address: awarniment@bonterraconsulting.com
Phone: (626) 351-2000

Plant Information

Phenology: 75 % vegetative 25 % flowering _____ % fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ breeding ☐ wintering ☐ burrow site ☐ rookery ☐ nesting ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

County: Los Angeles County Landowner / Mgr.: Private
Quad Name: Newhall, California Elevation: 1250 ft
T____ R __ Sec ____ , ____ ¼ of _____ ¼, Meridian: H☐ M☐ S☐
T____ R __ Sec ____ , ____ ¼ of _____ ¼, Meridian: H☐ M☐ S☐
Datum: NAD27☐ NAD83☑ WGS84☐
Coordinate System: UTM Zone 10☐ UTM Zone 11☑ *OR* Geographic (Latitude & Longitude)☐
Coordinates: Easting/Longitude 118.54851854 Northing/Latitude 34.48057766
Source of Coordinates (GPS, topo. map & type): GPS
GPS Make & Model Geko 301
Horizontal Accuracy _____ meters/feet

Habitat Description *(plant communities, dominants, associates, substrates/soils, aspects/slope):*

On a northeast-facing slope in annual grassland/sage scrub habitat. Associated species include slender wild oat (Avena barbata), deerweed (Lotus scoparius), rancher's fiddleneck (Amsinckia menziesii), thick-leaf yerba santa (Eriodictyon crassifolium), and miniature lupine (Lupinus bicolor).

Other rare taxa seen at THIS site on THIS date:

Site Information Overall site quality: ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Current / surrounding land use: open space

Visible disturbances: grading on ridgeline immediately adjacent

Threats: Future residential development planned

Comments: May be hybrid with club-haired mariposa lily (Calochortus clavatus var. clavatus)

Determination: *(check one or more, and fill in blanks)*
☑ Keyed (cite reference): Hickman 1993
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: Familiar with species

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☑
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? ☑ yes ☐ no

ATTACHMENT K

Results of Focused Presence/Absence Surveys for the Western Spadefoot on the Approximate 181-Acre Burnam Project Site (Tentative Tract No. 53189), Los Angeles County, California

Prepared by BonTerra Consulting

(November 2005)

BonTerra
CONSULTING
An Environmental Planning/Resource Management Corporation

November 8, 2005

Mr. Jerry Schamp
SunCal Companies
21900 Burbank Boulevard, Suite 114
Woodland Hills, California 91367

VIA FACSIMILE AND OVERNIGHT MAIL
(818) 348-3043

Subject: Results of Focused Presence/Absence Surveys for the Western Spadefoot on the Approximate 181-Acre Burnam Project Site (Tentative Tract No. 53189), Los Angeles County, California

Dear Mr. Schamp:

This letter report presents the results of focused surveys for the western spadefoot (*Spea* [*Scaphiopus*] *hammondii*) on the approximate 186-acre Burnam project site (VTTM 53189) (hereafter referred to as the project site). The project site is located north of the City of Santa Clarita, Los Angeles County, California (Exhibit 1). The surveys were conducted to determine the presence or absence of the western spadefoot on the project site.

The project site is bordered to the east by San Francisquito Canyon Road and to the northeast by Lady Linda Road (a dirt road). To the south and northwest, the project site is adjacent to open space (Exhibit 2). Areas to the west are currently undergoing development as part of the Tesoro del Valle project. The project site includes a portion of San Francisquito Creek, which has been designated as Significant Ecological Area (SEA) No. 19 by Los Angeles County. The project site is located within the U.S. Geological Survey's Newhall, California 7.5-minute quadrangle, within Township 5N, Range 16W, and includes most of the northern half of Section 34. Elevations on the project site range from approximately 1,250 feet above mean sea level (msl) to approximately 1,480 feet above msl.

Nine vegetation types occur on the project site (Exhibit 3). These include ruderal, chamise chaparral, coast live oak woodland, eucalyptus woodland, mixed chaparral/holly leaf cherry woodland, non-native grassland, non-native grassland/ alluvial, non-native grassland/chamise chaparral, and alluvial sage scrub. Unvegetated wash areas within San Francisquito Creek (floodway) are also present on the project site.

Background

The western spadefoot is a California Species of Special Concern. As its name suggests, the western spadefoot has a wedge-shaped, black spade present on each hind foot. It is dusky green or gray dorsally with light colored stripes, whitish ventrally, and the eye is usually pale gold (Stebbins 2003). The western spadefoot has declined substantially throughout its range; greater than 80 percent of

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formerly occupied western spadefoot habitat from the Santa Clara River Valley within Los Angeles and Ventura counties southward has been lost (Jennings and Hayes 1994).

The western spadefoot is a California near endemic ranging from Shasta County southward into Baja California, Mexico (Stebbins 2003). Its known elevation range extends from near sea level to 4,500 feet above msl (Zeiner et al. 1988). The California range of this toad includes the Central Valley and adjacent foothills, and the Coast Ranges from Point Conception, Santa Barbara County south to San Diego County (Stebbins 2003, Zeiner et al. 1988). The western spadefoot is primarily a lowland species and may be found in coastal sage scrub, chaparral, and grasslands habitats, but is most commonly found in washes, river floodplains, alluvial fans, playas, and alkali flats (Stebbins 2003, Holland and Goodman 1998, Zeiner et al. 1988). Within these habitats, it requires rain pools with water temperatures between 48 to 86 degrees Fahrenheit in which to reproduce (Brown 1966, 1967), and that persist with more than three weeks of standing water (Feaver 1971) in which to metamorphose successfully. Rain pools must lack fish, bullfrogs (*Rana catesbeiana*), and crayfish (*Procambarus* sp.) in order for western spadefoot to successfully reproduce and metamorphose (Jennings and Hayes 1994). Western spadefoot aestivate in upland habitats adjacent to potential breeding sites in burrows approximating three feet in depth (Stebbins 1972).

Western spadefoot is almost entirely nocturnal, with most above ground movement and breeding occurring during rainy nights between October and April if enough rain has fallen (Holland and Goodman 1998, Morey and Guinn 1992, Zeiner et al. 1988). Spadefoot toads remain underground eight to ten months of the year (Jennings and Hayes 1994, Holland and Goodman 1998, Storey et al. 1999), following which adults emerge from underground burrows during relatively warm (50 to 55 degrees Fahrenheit) rainfall events to breed. The peak of breeding is typically from January through March; however, they may also emerge in any month between October and April if rainfall and temperatures are sufficient (Holland and Goodman 1998, Morey and Guinn 1992).

After periods of warm rains, spadefoot toads emerge from burrows and form explosive and sometimes large (>1000 individuals) aggregations (Jennings and Hayes 1994). This typically occurs in late-winter and early-spring, but may also occur during the fall (Feaver 1971, Jennings and Hayes 1994). Eggs are deposited in irregular small clusters, approximately one inch in diameter (Holland and Goodman 1998), and attached to vegetation or debris in shallow temporary pools or sometimes ephemeral stream courses (Stebbins 2003, Jennings and Hayes 1994). Complete development can occur rapidly, within three weeks (Holland and Goodman 1998), but may last up to 11 weeks (Burgess 1950, Feaver 1971, Jennings and Hayes 1994).

Survey Methodology

Focused surveys for the western spadefoot were conducted by methodically searching all suitable, or potentially suitable, habitat for all life stages (i.e., adults, metamorphs, larvae, and egg masses). Surveys were conducted by Senior Scientist Mike Robson, Ph.D., Biologist Sam Stewart, and Ecologist Jeff Wheater. Surveys for larvae and egg masses were conducted during daylight hours and involved close inspection of any pooled or ponded water present on the project site. Any egg masses or larvae observed were identified to species in the field.

Surveys for adults and metamorphs were conducted on six nights with conditions conducive to the activity patterns for this species. Optimally, these conditions are night time temperatures in excess of 50 degrees Fahrenheit and following heavy rain, in excess of one inch per 24 hours. If the preferred environmental conditions were not met, surveys were conducted under conditions that were determined to be the most favorable for the species. These surveys were

initiated approximately one hour prior to sunset and continued to two hours after sunset. Any amphibians encountered were identified in the field to species. Survey dates, times, and weather data for the surveys are shown in Table 1.

TABLE 1
SUMMARY OF SURVEY DATA AND CONDITIONS FOR WESTERN SPADEFOOT SURVEYS

Survey Dates	Air Temperature (°F)	Wind (mph)
April 13, 2005	69	4-8
April 14, 2005	73	3-6
April 29, 2005	70	0-3
May 2, 2005	71	1-4
May 6, 2005	74	1-3
May 27, 2005	72	0-3

Survey Results

The western spadefoot was observed at two localities on the project site (Exhibit 4). A small, temporary pool is located at the southwestern boundary of the project site immediately adjacent to the Tesoro del Valle property, and retained sufficient rainfall for the western spadefoot to successfully breed. This pool is located within the non-native annual grassland habitat and lies outside of SEA No. 19 (San Francisquito Creek). The second pool is located approximately in the center of the project site, and lies within the natural floodplain along the western bank of the creek. This pool lies within the boundary of SEA No. 19 in alluvial sage scrub habitat. Several hundred western spadefoot tadpoles were observed in each pool during the April 13, 2005 survey. Subsequent surveys detected fresh egg masses and various developmental stages of tadpoles indicating repeated breeding had occurred within both pools. No attempt was made to quantify the total number of tadpoles present.

Suitable upland habitat is located west of San Francisquito Creek, which is presumed to be the source of most of the adults that bred in these pools. Adults from the east side of San Francisquito Creek were less likely to have reached these pools given the high water flows in the creek; however, adult western spadefoot could occur east of the drainage.

No other temporary pools suitable for breeding were located on the project site despite heavy spring rains and subsequent flooding. Much of the topography of the project site, specifically with respect to the drainages, was dramatically altered by the heavy rainfall and flooding. Changes to drainage features consisted primarily of deeply incised banks and smooth alluvial deposition, which virtually eliminated most natural pooling on the project site at this time.

Although no adults were observed during the surveys, adult western spadefoot may also occupy other suitable habitat elsewhere on the project site and may not have been detected due to the absence of localized breeding activity at a breeding pool. Therefore, all suitable habitat should be considered occupied by the western spadefoot. This includes the chamise chaparral, non-native grassland, non-native grassland/alluvial, non-native grassland/chamise chaparral, and alluvial sage scrub, and unvegetated wash areas within San Francisquito Creek (floodway).

The silvery legless lizard (*Anniella pulchra pulchra*) and the vermillion flycatcher (*Pyrocephalus rubinus*), both CDFG Species of Special Concern, were also observed on the project site during the surveys.

Please contact Tom Smith at (626) 351-2000 if you have questions or comments.

Sincerely,

BONTERRA CONSULTING

Thomas E. Smith, AICP
Principal, Environmental Services

Michael A. Robson, Ph.D.
Senior Scientist

Enclosures: Exhibits 1, 2, 3, and 4
Appendix A

cc: Kristin Keeling

R:\Projects\SunCal\J011\Burnam Spadefoot Survey-110805.doc

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Regional Location

Exhibit 1

VTTM 53189

N W E S

10 5 0 10 Miles

Bonterra CONSULTING

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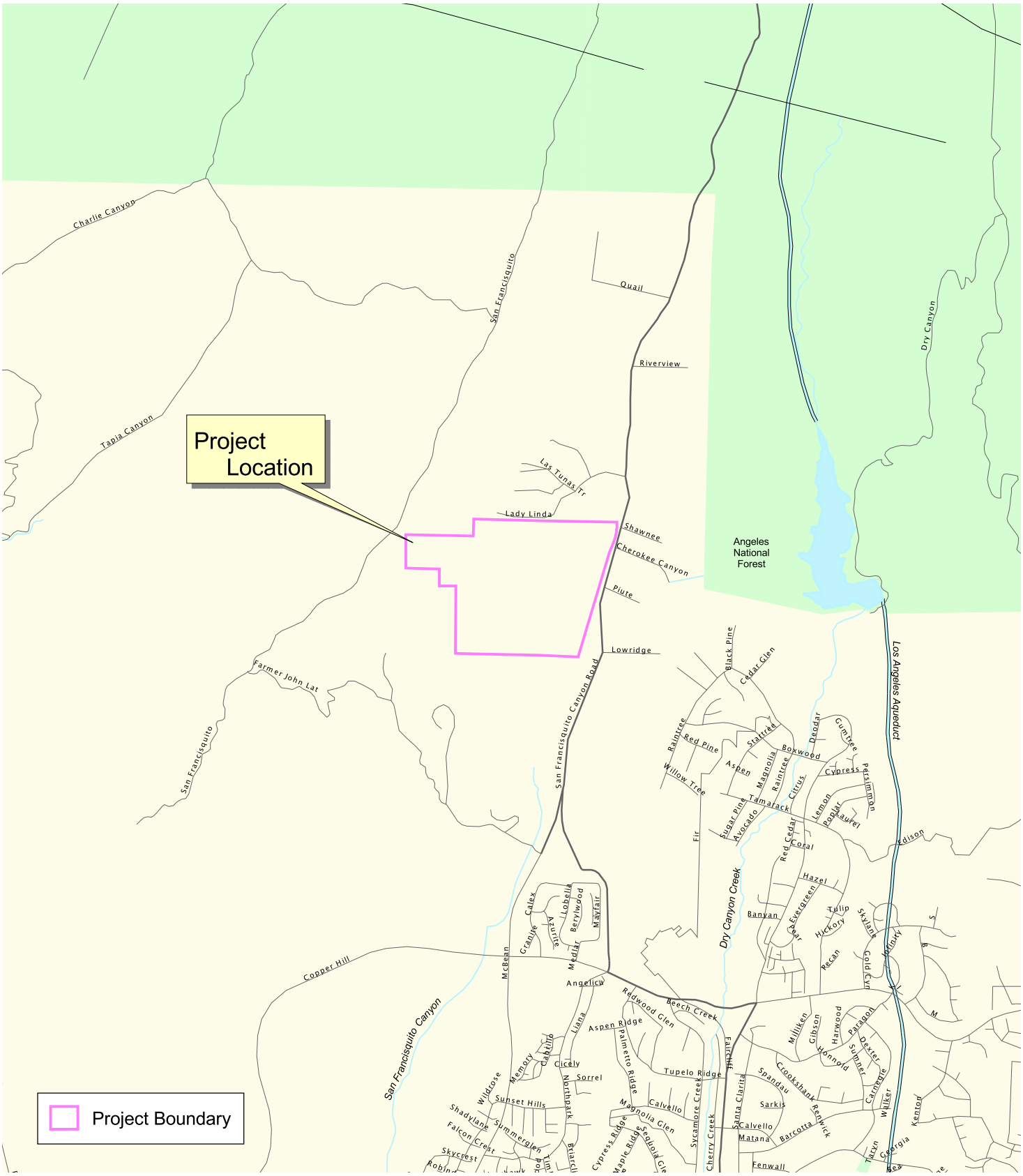

Local Vicinity

Exhibit 2

VTTM 53189

N
W
E
S

0.5 0 0.5 Miles

BonTerra CONSULTING

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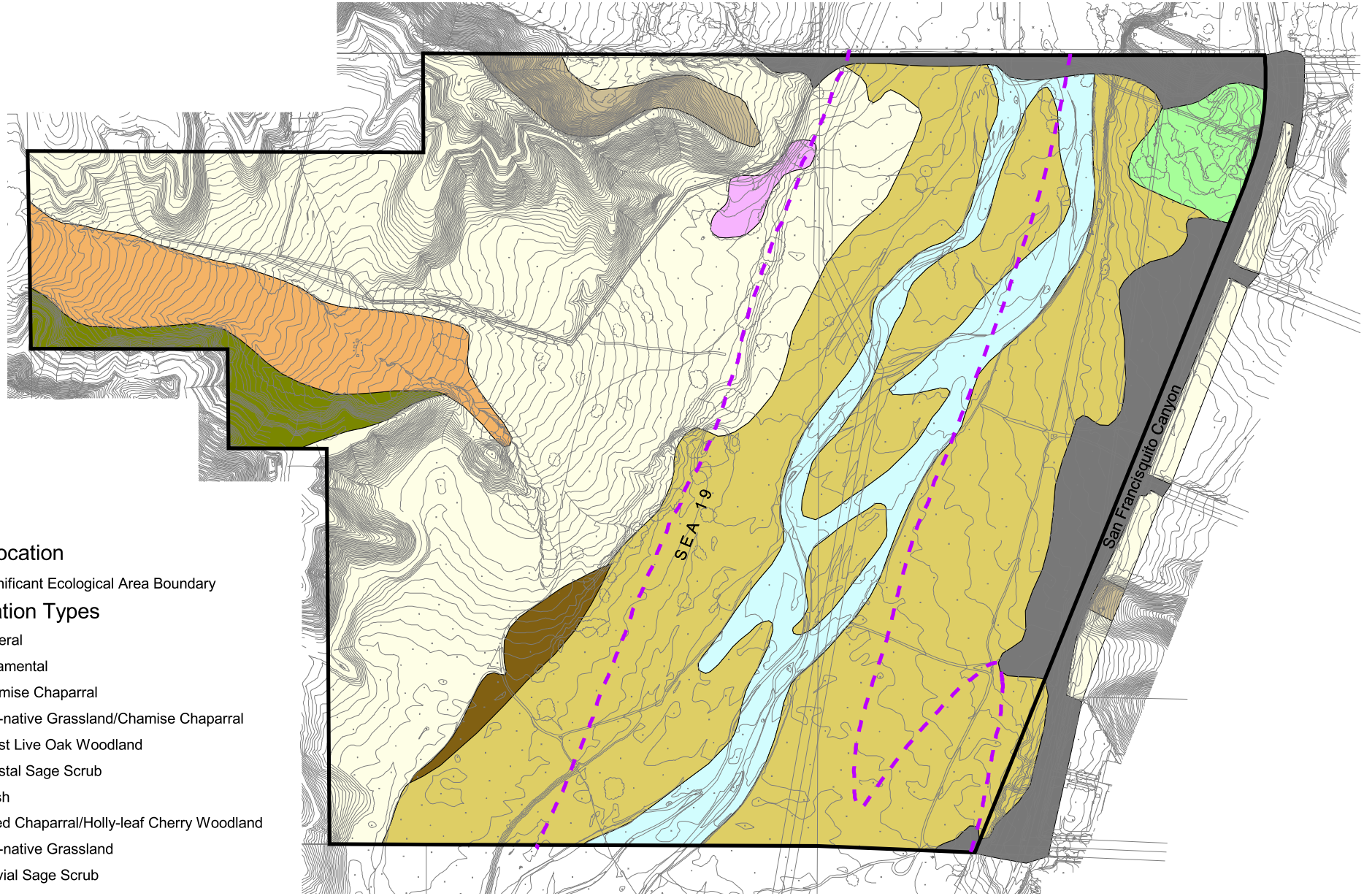

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Biological Resources

Exhibit 3

VTTM 53189

N
W
E
S

500 0 500 Feet

BonTerra CONSULTING

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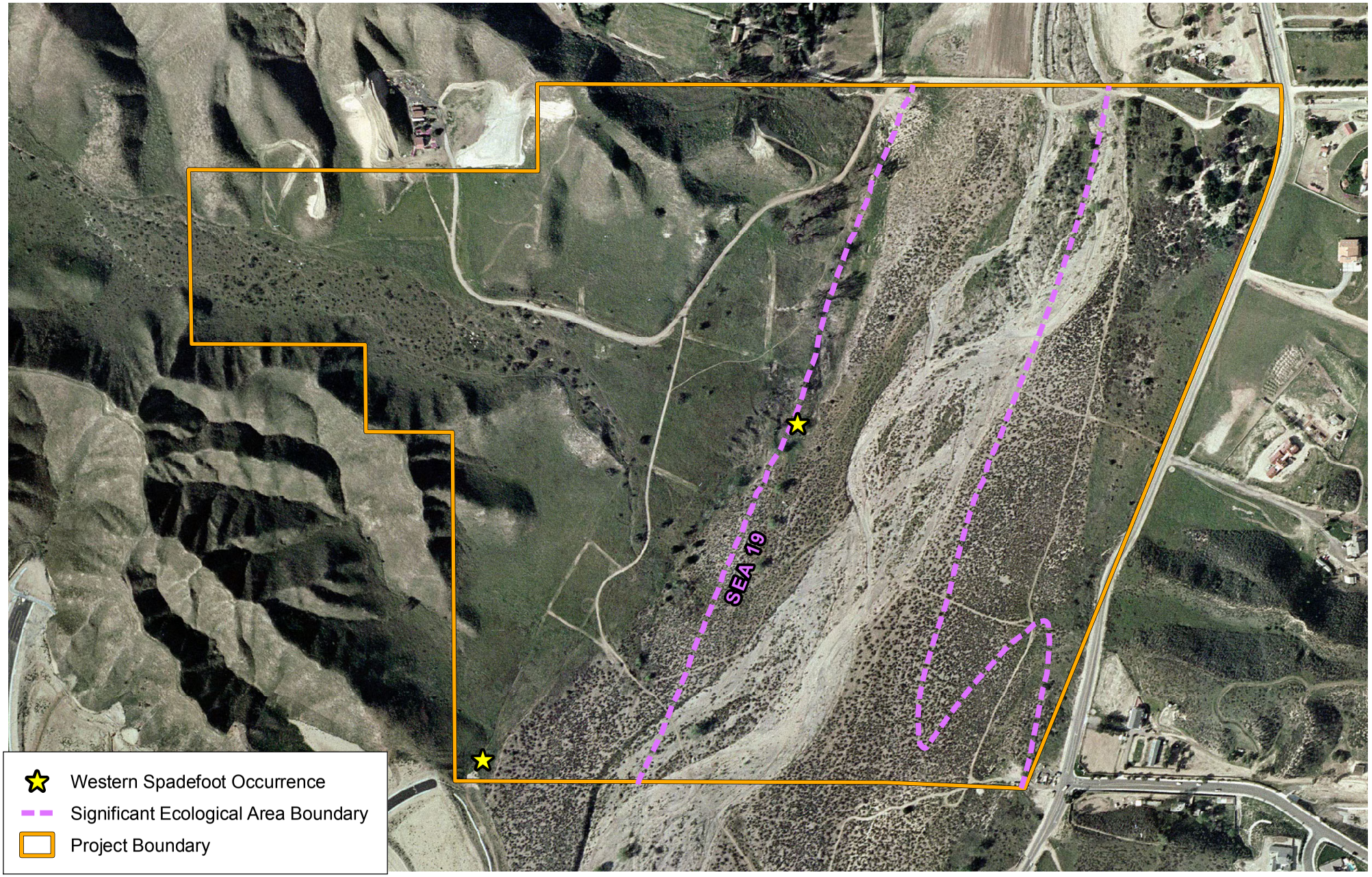

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Spadefoot Toad Pond Locations

Exhibit 4

VTTM 5319

N
W E
S

500 250 0 500 Feet

Bonterra CONSULTING

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APPENDIX A

WILDLIFE SPECIES OBSERVED ON THE BURNAM PROJECT SITE (TT 53189)

AMPHIBIANS
PELOBATIDAE -SPADEFOOT TOADS
Spea [*Scaphiopus*] *hammondii* western spadefoot
BUFONIDAE - TRUE TOADS
Bufo boreas western toad
HYLIDAE - TREEFROGS
Pseudacris [*Hyla*] *regilla* Pacific treefrog
REPTILES
PHRYNOSOMATIDAE - ZEBRA-TAILED, FRINGE-TOED, SPINY, TREE, SIDE-BLOTCHED, AND HORNED LIZARDS
Sceloporus occidentalis western fence lizard
Uta stansburiana side-blotched lizard
SCINCIDAE - SKINKS
Eumeces skiltonianus western skink
TEIIDAE - WHIPTAIL LIZARDS
Aspidoscelis [Cnemidophorus] tigris stejnegeri coastal western whiptail
ANGUIDAE - ALLIGATOR LIZARDS
Elgaria multicarinata southern alligator lizard
ANNIELLIDAE - LEGLESS LIZARDS
Anniella pulchra pulchra silvery legless lizard
COLUBRIDAE - COLUBRID SNAKES
Masticophis flagellum coachwhip
Pituophis catenifer gopher snake
BIRDS
ODONTOPHORIDAE - QUAILS
Callipepla californica California quail
CATHARTIDAE - NEW WORLD VULTURES
Cathartes aura turkey vulture
ACCIPITRIDAE - HAWKS
Accipiter cooperii Cooper's hawk
Buteo jamaicensis red-tailed hawk
FALCONIDAE - FALCONS
Falco sparverius American kestrel

APPENDIX A

WILDLIFE SPECIES OBSERVED ON THE BURNAM PROJECT SITE (TT 53189) (Continued)

CHARADRIIDAE - PLOVERS
Charadrius vociferus killdeer
COLUMBIDAE - PIGEONS AND DOVES
Columba livia rock pigeon *
Zenaida macroura mourning dove
TYTONIDAE - BARN OWLS
Tyto alba barn owl
CAPRIMULGIDAE - GOATSUCKERS
Chordeiles acutipennis lesser nighthawk
TROCHILIDAE - HUMMINGBIRDS
Calypte anna Anna's hummingbird
TYRANNIDAE - TYRANT FLYCATCHERS
Sayornis nigricans black phoebe
Pyrocephalus rubinus vermillion flycatcher
Tyrannus verticalis western kingbird
CORVIDAE - JAYS AND CROWS
Aphelocoma californica western scrub-jay
Corvus corax common raven
HIRUNDINIDAE - SWALLOWS
Petrochelidon pyrrhonota cliff swallow
AEGITHALIDAE - BUSHTITS
Psaltriparus minimus bushtit
TROGLODYTIDAE - WRENS
Thryomanes bewickii Bewick's wren
TURIDIDAE - THRUSHES AND ROBINS
Sialia mexicana western bluebird
TIMALIIDAE - WRENTITS
Chamaea fasciata wrentit
MIMIDAE - THRASHERS
Mimus polyglottos northern mockingbird
Toxostoma redivivum California thrasher
PTILOGONATIDAE - SILKY-FLYCATCHERS
Phainopepla nitens phainopepla

APPENDIX A

WILDLIFE SPECIES OBSERVED ON THE BURNAM PROJECT SITE (TT 53189) (Continued)

THRAUPIDAE - TANAGERS
Piranga ludoviciana western tanager
STURNIDAE - STARLINGS
Sturnus vulgaris European starling *
EMBERIZIDAE - SPARROWS AND JUNCOS
Pipilo maculatus spotted towhee
Pipilo crissalis California towhee
Aimophila ruficeps rufous-crowned sparrow
Chondestes grammacus lark sparrow
Melospiza melodia song sparrow
FRINGILLIDAE - FINCHES
Carpodacus mexicanus house finch
Carduelis psaltria lesser goldfinch
PASSERIDAE - OLD WORLD SPARROWS
Passer domesticus house sparrow *
MAMMALS
DIDELPHIDAE - NEW WORLD OPOSSUMS
Didelphis virginiana Virginia opossum *
LEPORIDAE - HARES AND RABBITS
Sylvilagus audubonii desert cottontail
SCIURIDAE - SQUIRRELS
Spermophilus beecheyi California ground squirrel
CANIDAE - WOLVES AND FOXES
Canis latrans coyote
PROCYONIDAE - RACCOONS
Procyon lotor common raccoon
MUSTELIDAE - WEASELS, SKUNKS AND OTTERS
Mephitis mephitis striped skunk
CERVIDAE - DEERS
Odocoileus hemionus mule deer
* introduced species

PHASE II CULTURAL RESOURCE EVALUATION FOR VESTING TENTATIVE TRACT NO. 53189 IN SAN FRANCISQUITO CANYON, NORTHERN LOS ANGELES COUNTY, CALIFORNIA

Prepared for:

SunCal Companies
21900 Burbank Blvd., Suite 114
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Contact: Dennis Bickler

Prepared by:

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151 Kalmus Drive, Suite E-200
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(714) 444-9199

Contact: Richard S. Shepard, M.A., RPA
Managing Archaeologist

October 27, 2003

USGS 7.5' Newhall Quad
Approximately 186 Acres
Resource Identifier: CA-LAN-1445H

TABLE OF CONTENTS

APPENDICES

LIST OF EXHIBITS

LIST OF TABLES

MANAGEMENT SUMMARY

An updated cultural resources records search, paleontological assessment, and archaeological evaluation were completed for the 186-acre Vesting Tentative Tract No. 53189, also known as the Burnam Site, in San Francisquito Canyon near Santa Clarita, Los Angeles County, California. SunCal Companies has proposed residential development for some areas of the tract, with the San Francisquito Canyon wash and other areas to remain in open space. Historic archaeological site CA-LAN-1445H was identified within the boundaries of the tract and largely within the proposed footprint for development. The site was studied via subsurface testing and archival research and determined to be not significant according to criteria established under the California Environmental Quality Act. A paleontological assessment of the property by the Los Angeles County Museum of Natural History concluded that upper soil layers in the development footprint are relatively recent alluvium and have a very low potential for containing significant fossil resources. According to these findings, no further archaeological or paleontological studies are necessary unless an inadvertent discovery of either type is made during grading activities.

1.0 INTRODUCTION

BonTerra Consulting was retained by SunCal Companies to complete an updated cultural resources records search, archaeological resource evaluation, and paleontological assessment for Vesting Tentative Tract No. 53189 in San Francisquito Canyon near Santa Clarita, Los Angeles County, California. Portions of the 186-acre tract, also known as the Burnam Site, are proposed for a residential development, but most of the property will be dedicated as open space.

The area designated as Vesting Tentative Tract No. 53189 was surveyed for cultural resources in 1999 by a previous consultant. As a result of that study, one resource, archaeological/historical site CA-LAN-1445H, was identified within the property. The site is characterized by three discrete locations containing the remnants of circa 1925-1928 oil extraction activities. These remnants consist of concrete footings for oil drilling apparatus, capped steel pipes, scattered fittings, and a demolished brick feature interpreted as an oil-testing furnace or "still".

Under the California Environmental Quality Act (CEQA), this assessment was conducted to 1) update the cultural resources records search data for the project area and vicinity (including Native American consultation), 2) evaluate the significance of CA-LAN-1445H as a potential historical resource, and 3) prepare a paleontological resources assessment of the project area.

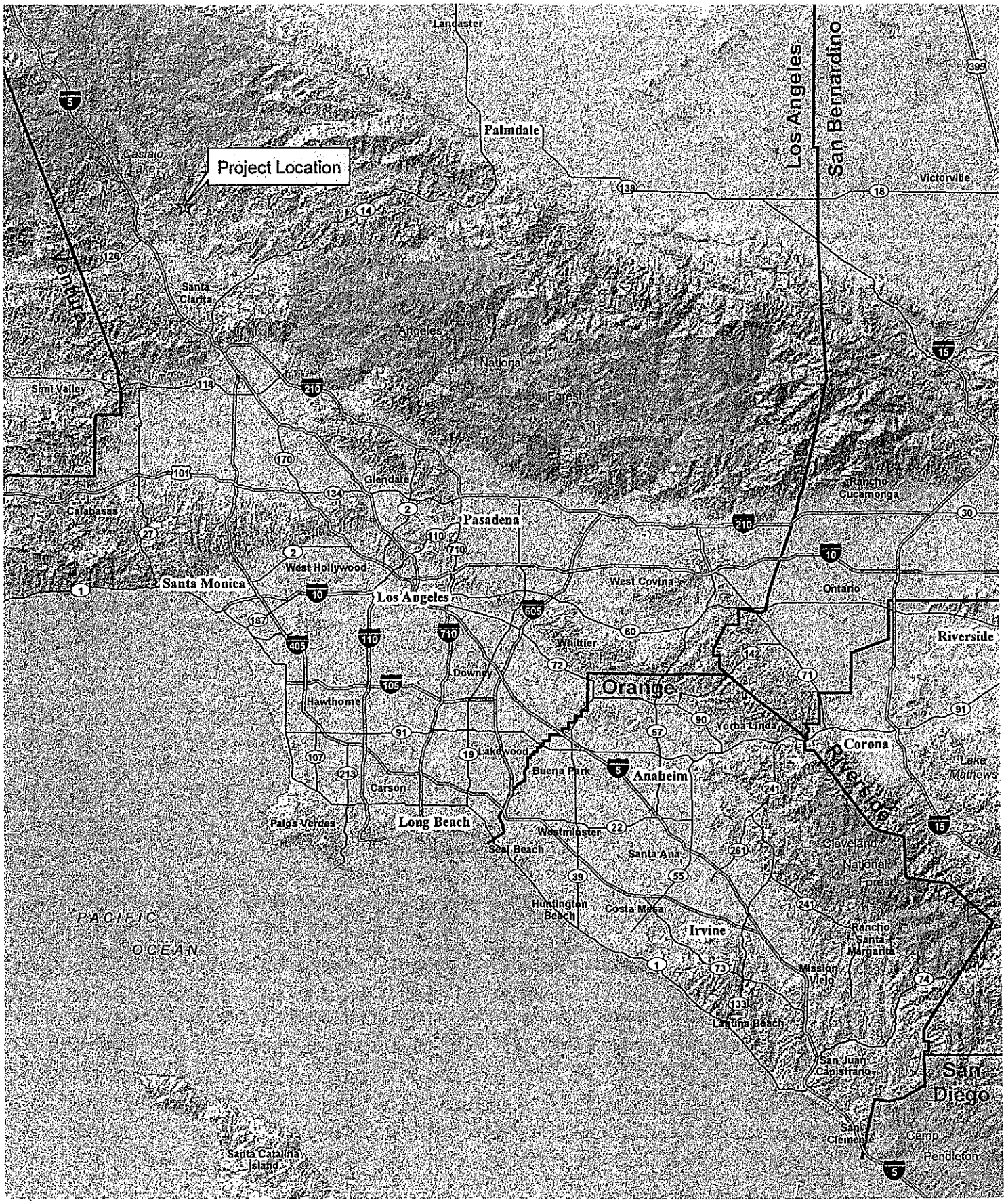
2.0 LOCATION AND SETTING

The VTT 53189 project area is located in the lower reaches of San Francisquito Canyon just north of the City of Santa Clarita in northern Los Angeles County (Exhibit 1). The 186-acre project area is polygonal in shape and includes a portion of the north-south trending wash in San Francisquito Canyon and the mouth of a small side canyon opening to the wash from the west. As shown on the USGS 7.5' *Newhall* Quadrangle (1995), the property is located in the northern half of Section 34 of Township 5 North, Range 16 West of the San Bernardino Base and Meridian (Exhibit 2).

The tract is marked by a segment of the wide shallow wash in San Francisquito Canyon and a mostly flat open area within a side canyon on the west side of the wash. Except for dirt roads and a few scattered structural remnants, the property is undeveloped. The San Francisquito Canyon wash is designated by the County of Los Angeles as a Sensitive Environmental Area (SEA), restricting development in VTT 53189 largely to the west side of the wash (Exhibit 3). Elevations within the tract range between 1,250 and 1,450 feet above mean sea level (msl).

San Francisquito Canyon occurs within the Liebre Mountains and Sierra Pelona, minor ranges wedged between the Antelope Valley (Mojave Desert) on the north, San Gabriel Mountains on the east, Santa Susana Mountains on the south, and Los Padres wilderness on the west. The Liebre range consists of igneous rocks such as granite, quartzite, and gneiss, while the Sierra Pelona is composed almost entirely of metamorphic schist (Bailey and Jahns 1954:99; Norris and Webb 1990:319; Harden 1998:324). Geologically, the San Francisquito Canyon/Soledad Basin area is underlain chiefly by the non-marine Saugus Formation of Pleistocene age (Reed and Hollister 1936:102; Norris and Webb 1990:317). San Francisquito Canyon is flanked by Castaic Valley and numerous lesser canyons, all draining southward into the upper Santa Clara River.

Three vegetation types are present in VTT 53189. Mainland cherry woodland features native hollyleaf cherry (*Prunus ilicifolia*), redberry (*Rhamnus crocea*), squawbush (*Rhus trilobata*), and an herb, cudweed aster (*Lessingia filaginifolia*). Non-native grasslands contain wild oats (*Avena spp.*) black mustard (*Brassica nigra*), and eucalyptus (*Eucalyptus sp.*), indicating disturbances. Alluvial sage scrub growth within the wash includes California broomsage (*Lepidospartum squamatum*), California buckwheat (*Eriogonum fasciculatum*), and chaparral yucca (*Yucca whipplei*).



Regional Location

Exhibit 1

VTTM 53189

N W E S

10 5 0 10 Miles

Bonterra CONSULTING

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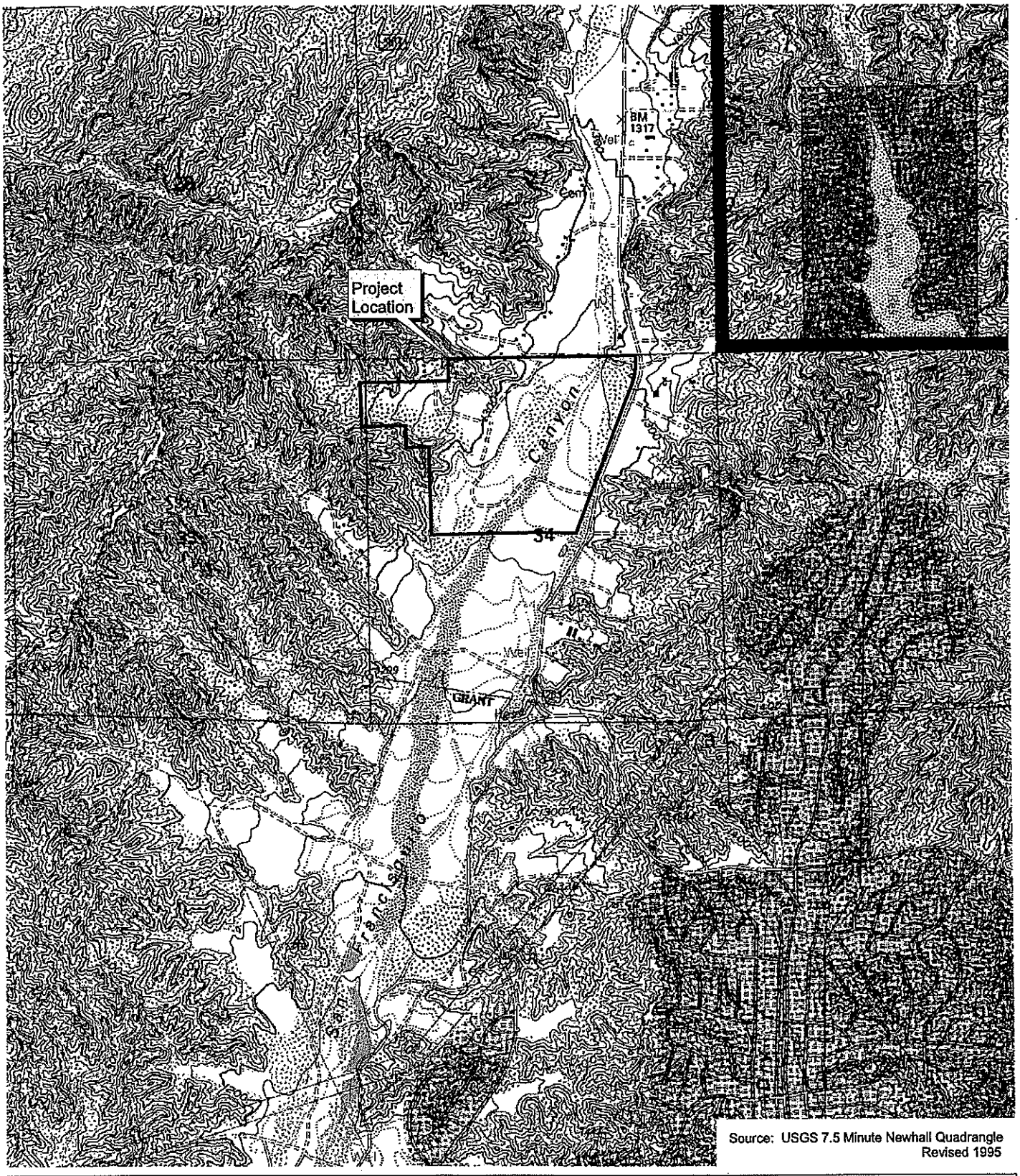


Source: USGS 7.5 Minute Newhall Quadrangle
Revised 1995

Local Vicinity

Exhibit 2

VTTM 53189

N
W E
S

1000 0 1000 2000 Feet

BonTerra CONSULTING

S:\GIS_Exhibits\SuncalJ011_LV_102703.pdf

3.0 CULTURAL BACKGROUND

No prehistoric resources have been identified in VTT 53189 or within one mile of the project area (see Section 4.0 below). Because all resources addressed in this report are historic in nature, no prehistoric cultural background is presented.

The post-prehistoric era in southern California is marked by the arrival of the Gaspar de Portolá land expedition from New Spain (Mexico) and the founding of the first Spanish settlement at San Diego in July 1769. With the establishment of Mission San Diego de Alcalá, the Spanish Period in *Alta California* (1769-1822) was under way. The following month, Portolá's party continued northward and became the first non-native explorers to enter the Upper Santa Clara River Valley and greater Castaic area, camping briefly at several locations along the river as they turned west toward the coast. In 1776, Friar Francisco Garcés passed through the area on his way from Mission San Gabriel to the San Joaquin Valley (Beck and Haase 1974:15).

Spanish presence in the area intensified in 1797 with the establishment of Mission San Fernando Rey de España, roughly 15 miles south of San Francisquito Canyon. An *assistencia* (outlying chapel and granary) of the mission was founded along the Upper Santa Clara River in 1802 on mission lands referred to as Rancho San Francisco (Perkins 1957; McIntyre 1990:10).

Mexico's independence from Spain in 1822 inaugurated the Mexican Period (1822–1848) in California. Mexico secularized the missions but continued the Spanish practice of granting large tracts of land to soldiers, civil servants, and pioneers. The 48,612-acre Rancho San Francisco (or Francisquito) became a private holding when the land was granted to Antonio del Valle, a lieutenant, on January 22, 1839 by Juan Bautista Alvarado, one of a series of Mexican governors of *Alta California* (Avina 1932:54; Beck and Haase 1974:37; Cowan 1977:76). The ranch became popularly known as Rancho de Valle. The boundaries of the grant came within one-half mile south of VTT 53189 and did not include the project area, hence the location of the project within lands that were later sectioned under the Township/Range system by the United States.

On March 9, 1842, gold was discovered on the great ranch in Placerita Canyon by Francisco Lopez (Newhall 1958:38-39, 1992:52-53; Whitehead 1978:229), six years before the famous discovery at Sutter's Mill that unleashed the Gold Rush. Lopez is said to have dreamed about finding the gold, and an oak growing at the spot came to be known as "Oak of the Golden Dream". The site is designated California Historical Landmark No. 168 and located eight miles southeast of VTT 53189 (Office of Historic Preservation 1996:95). The Saugus Gold District, including Placerita Canyon and Upper Santa Clara River Valley, has been active ever since (Clark 1969:176).

Anglo-Americans began to explore Mexican California as early as 1826, when trapper Jedediah Smith arrived at Mission San Gabriel (Morgan 1953:200-202; Lewis 1993:441). Mountain men James Ohio Pattie and Ewing Young passed through the Upper Santa Clara River Valley on their way northward in the early 1830s (Beck and Haase 1974:43). Preceding an American challenge for the California territory, John C. Fremont's topographical engineers began to survey the region for the United States during the 1840s (Lewis 1993:172). Before long, the Mexican-American War broke out, with Fremont in command of the California Battalion for the United States. Near the war's end, Fremont's battalion marched through the Santa Clara River Valley and down to Mission San Fernando, where the hostilities ended on January 13, 1847 with the Treaty of Cahuenga (Beck and Haase 1974:48; Lewis 1993:177). The American Period (1848–Present) followed with Mexico's defeat and concession of *Alta California* to the United States under the Treaty of Guadalupe Hidalgo on February 2, 1848 (Rolle 1998:91). The transition from Hispanic to American dominance became more apparent in 1850 when the new State of California was apportioned into 27 original counties, including Los Angeles County (Coy 1973:140; Marschner 2000:43).

The Gold Rush stimulated a need for roads and freight service between California and the eastern United States. Within California, service was needed between the mining camps and major trade centers of San Francisco and Los Angeles. Early stagecoach lines appeared in the bustling San Francisco and Sacramento areas as early as 1849 (Winther 1936:81, 1945:5; Moody 1967:30). Later, a number a short-haul lines began operating between Los Angeles and San Francisco, utilizing routes through the San Joaquin Valley and along the coast (Winther 1936:91, 1945:10). Late in 1854, Los Angeles businessman Phineas Banning graded a stage road north to Tejon Pass. The new road was tested by Banning's partner, David Alexander, who was caught in San Francisquito Canyon in a snowstorm (Barras 1976:18-19).

In 1858, John Butterfield's famous transcontinental stage route was put into serice (Ormsby 1955). The Butterfield overland line ran between St. Louis and San Francisco via Los Angeles and San Francisquito Canyon (Ormsby 1955; Crowe 1957:93-96; Newmark 1984:234), likely utilizing the road prepared by Banning a few years earlier. William Ormsby, the first passenger to make the arduous cross-country journey, noted traveling through "San Francisco [Francisquito] Cañon" north of San Fernando in October 1858 (Ormsby 1955:117). Four stations between Hart's (near present-day Newhall) and Tejon Pass: King's, Widow Smith's, French John's, and Reed's (G. Bailey in Ormsby 1955:177). A station called Moore's was located at the mouth of San Francisquito Canyon but by 1860 was known as Hollandsville (Barras 1976:22; Scott 2002:17). Hart's became known as Lyon's Station, and the station site is designated California Historical Landmark No. 688, located eight miles south of VTT 53189 (Office of Historic Preservation 1996:103).

In 1855, Edward F. Beale, a federal Indian Affairs agent, acquired the 48,800-acre Rancho La Liebre near the Tejon Pass (Lewis 1993:37). The pass provided northern access to Los Angeles, and Beale had persuaded the federal government to establish a military post, Fort Tejon, to guard it and regulate passage through the area. Beale later extended his lands southward by acquiring Rancho Castaic, and in 1862, to make passage by wagons and stagecoaches easier, he completed the excavation of a deep notch through a hillside begun in 1854 by Gabe Allen (Scott 2002:23-27). Subsidized by the County of Los Angeles, the pass, known as Beale's Cut, encouraged more traffic to Los Angeles and discouraged it from bypassing the city in favor of the easier route to San Bernardino through the desert. Beale's Cut is designated California Historical Landmark No. 1006 and is located nine miles south of VTT 53189 (Office of Historic Preservation 1996:111).

During the winter of 1861-1862, relentless rains in southern California produced catastrophic floods that washed away buildings, crops, and livestock by the thousands. The floods were followed by two years of catastrophic drought that dealt another crippling blow to crops and livestock (Cleland 1951:126-137). Land values fell dramatically, and most ranchers were forced to sell their holdings. The crisis opened the door to speculators and entrepreneurs from the East Coast who envisioned profitable new developments on cheap land. One of these was Thomas A. Scott of the Pennsylvania Railroad. Scott sent Thomas Bard to California to purchase land in the quest for oil, and Bard purchased Rancho San Francsico in 1865 (Hutchinson 1965:87). The enterprise was unsuccessful, and Bard sold Rancho San Francisco to Henry Mayo Newhall in 1875 (Hutchinson 1965:254; Rolle 1991:70). Oil speculation in the region, however, continued at a brisk pace as discoveries were made in other locations.

In 1876, the Southern Pacific Railroad was completed through Soledad Canyon and crossed Newhall's Rancho San Francisco. The golden spike driven at Lang represented a critical link between Los Angeles, the San Joaquin Valley, and transcontinental routes (Cleland 1951:225-226). The Lang Station site is designated California Historical Landmark No. 590 and is located 10 miles southeast of VTT 53189 (Office of Historic Preservation 1996:101). A station aptly named Newhall was set up on October 28, 1876, but was renamed Saugus two years later when the original name was transferred to a new station constructed two miles to the south (Gudde 1998:352).

The history of the Newhall–Santa Clarita area is perhaps best known for the Newhall Land and Farming Company founded in 1883 by the heirs of Henry Mayo Newhall after his death in 1882 (Newhall 1958, 1992; Dickason 1983; Rolle 1991). Upon the company's 100-year anniversary, President and Chairman of the Board James Dickason (1983:16) summarized its history in terms of the chief economic pursuits during the first four quarters:

- 1883-1908: cattle industries, including feed yards supplied by the company's own crops
- 1908-1933: farming development and land sales
- 1933-1958: mineral development and cultivation and irrigation improvements
- 1958-1983: urban development (the communities of Newhall, Saugus, Valencia, and Canyon Country were incorporated as the City of Santa Clarita in 1987).

The earliest attempts to commercialize oil in southern California had occurred during the 1850s (White 1962:2, 1968:6-8; Franks and Lambert 1985:4). The region was already well known to Native Americans and early explorers for tar seeps and petroleum springs, but the first saleable petroleum-based products were lamp fuels such as camphene and kerosene, made to replace the more expensive alternative, whale oil, and lubricants. Crude petroleum for these products was generally skimmed or dipped from pools on the surface or in pits or shafts. Formal wells first appeared in 1861 when George Gilbert, a former whale oil refiner, began drilling near San Buenaventura (White 1962:4, 1968:9, 24; Franks and Lambert 1985:5). According to Hutchinson (1965:99), the first "true" oil well in southern California was drilled in 1865 near present-day Piru. Afterward, productive fields were established in many areas, such as the Santa Paula Field (1866), Newhall Field (1875), Sespe Field (1887), Bardsdale Field near Fillmore (1891), Conejo Field near Camarillo (1892), Simi Oil Field (1900), and Ventura Avenue Field near Ventura (1903).

As noted earlier, oil speculation in Rancho San Francisco commenced under Thomas Bard in 1865. However, Henry Newhall, who acquired the ranch from Bard ten years later, was not attracted to the oil business and concentrated instead on traditional ranching pursuits – raising cattle, sheep, and horses – and agricultural endeavors, such as growing wheat and fruit trees and improving irrigation (Newhall 1958:51-52). However, he allowed speculation by "wildcatters" to continue. In 1875, Well No. 4 in Pico Canyon struck oil, becoming the first successful well in the state and establishing the Newhall Field (Newhall 1958:91; Franks and Lambert 1985:42; Rintoul 1990:5). "Pico No. 4" is designated California Historical Landmark No. 516 and is located roughly nine miles southwest of VTT 53189 (Office of Historic Preservation 1996:99). All other speculation efforts on the ranch, failed, however, and as late as 1934 Newhall's son William Mayo stated that "there is no indication that this ranch is an oil property" (Newhall 1958:91). It wasn't until 1936 – more than 60 years later – that oil was struck again on the ranch, in Potrero Canyon. A new reserve was discovered in 1955 near the Los Angeles County Honor Farm minimum security prison (now Wayside Honor Rancho) approximately three miles west of VTT 53189 (Newhall 1958:92-93).

In August 1924, work began on a dam that would create the St. Francis Reservoir in upper San Francisquito Canyon. The facility was the vision of William Mulholland, then Chief Engineer for the Los Angeles Bureau of Water Works and Supply. Mulholland planned to route an aqueduct from Owens Valley through the canyon to the metropolis, bringing water and generating hydroelectric power, and the Newhall directors agreed to an easement for the project to pass through the ranch. The 185-foot high dam was completed in May 1926, but on March 12, 1928 it collapsed, and a massive flow of water surged down the canyon, destroying everything in its path and taking more than 400 lives (Newhall 1958:83; Outland 1977; Starr 1990:162-163; Mulholland 2000:319-321). The floor of San Francisquito Canyon was stripped down to bedrock. The dam was not rebuilt, but water is still conveyed through the canyon via pipelines. The site of the St. Francis Dam disaster is designated California Historical Landmark No. 919 and is located near San Francisquito Power Plant No. 2 approximately 3.5 miles north of VTT 53189.

4.0 METHODOLOGY

4.1 Cultural Resources Records Search

A cultural resources records search for VTT 53189 was conducted by staff at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton on October 7, 2003 (Appendix B). The SCCIC is the state-designated repository for records concerning archaeological and historical resources in Los Angeles County. The records search provided information on known resources and on previous studies within one mile of the project boundaries.

On July 24, 2000, the Native American Heritage Commission (NAHC) in Sacramento commented on a Notice of Preparation (NOP) previously issued for VTT 53189 (Appendix C). Accordingly, BonTerra Consulting contacted the NAHC regarding 1) special Native American sites or properties that may be present in or near the project area, and 2) a list of local Native Americans who could be contacted about the project. Because no Native American sites or properties were identified in the vicinity of VTT 53189, no further Native American consultation was undertaken.

This report is prepared by Richard S. Shepard, M.A., Cultural Resources Manager at BonTerra Consulting, according to Archaeological Resource Management Reports (ARMR) guidelines set by the Office of Historic Preservation (1990). Mr. Shepard is a Registered Professional Archaeologist (RPA) qualified under Secretary of the Interior standards (Appendix A).

4.2 Archaeological Resource Evaluation

Mr. Shepard conducted an evaluation of a historic industrial site previously recorded in VTT 53189, beginning with an archaeological test program. The site was identified as the remnants of two circa 1925-1928 oil wells and assigned archaeological trinomial CA-LAN-1445H by the SCCIC. The well locations are 1,100 feet apart and designated Locus A and Locus B. Although a previous consultant recommended evaluation of CA-LAN-1445H by an architectural historian, BonTerra Consulting concluded that the extant structural remains, consisting of generic concrete footings for oil derricks, presented little for an architectural specialist to work with. Therefore, the evaluation proceeded with archaeological methodology augmented with historic archival research.

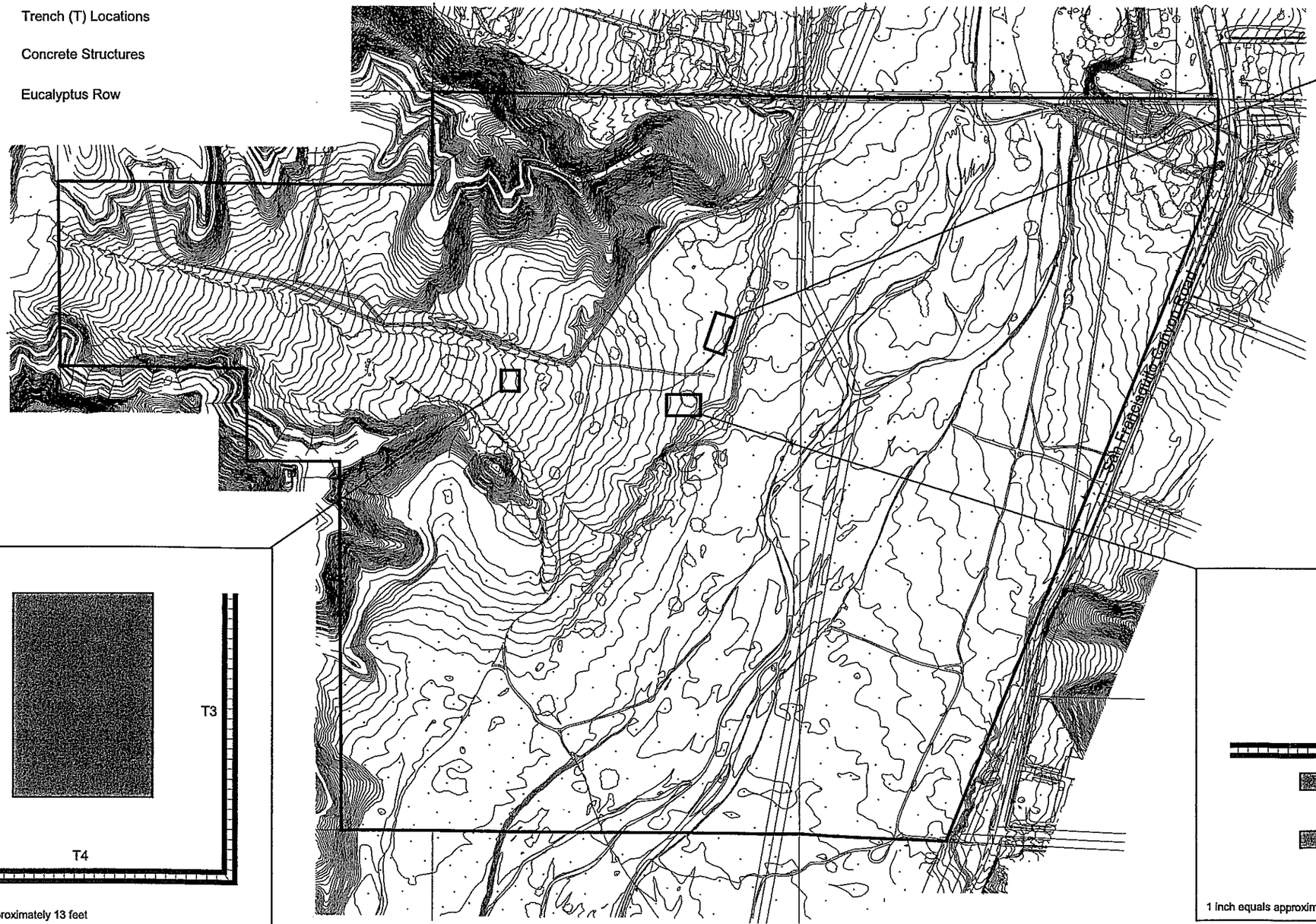
Because no time-sensitive artifacts were identified on the surface, the archaeological methods consisted of mechanically-excavated test trenches to expeditiously locate any subsurface features and expose additional data. Trenches were excavated in three locations: 1) Locus A, 2) a small concrete slab in an area between Locus A and Locus B, and 3) an area roughly 250 feet northeast of Locus A (Exhibit 3). Locus B was not tested because it is located in an area designated as open space and will not be impacted by the project. The trenches were excavated to varying lengths but were each four feet deep by 20 inches wide. Because the site is historic, the English measurement system (inches/feet) was used rather than the metric system (see South 1977). A Magellan Global Positioning System (GPS) unit was used to record Universal Transverse Mercator (UTM) locations. Trenching was conducted on October 13, 2003 using a John Deere 510D backhoe with an 18-inch toothed bucket, operated by Dan Eddings of D. E. Eddings Equipment Rentals, Acton.

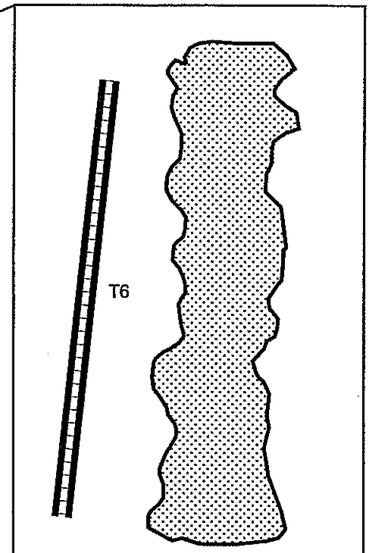
To augment the archaeological work, Mr. Shepard conducted archival research at the Los Angeles County Assessor Archives, City of Los Angeles Bureau of Engineering, California State University, Northridge Map Library, and University of California, Riverside Science Library. Additionally, historical data was obtained from Environmental Data Resources, Inc. (EDR) of Southport, Connecticut. EDR maintains an extensive database on historical and environmental factors applicable to specific properties. EDR conducted a data search using a one-mile radius of the property and prepared the requested materials on September 18 and 23, 2003 (Appendix D).

Trench (T) Locations

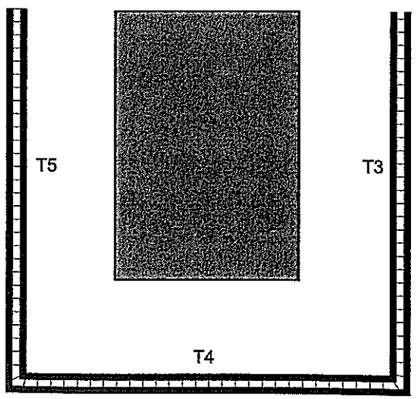
Concrete Structures

Eucalyptus Row

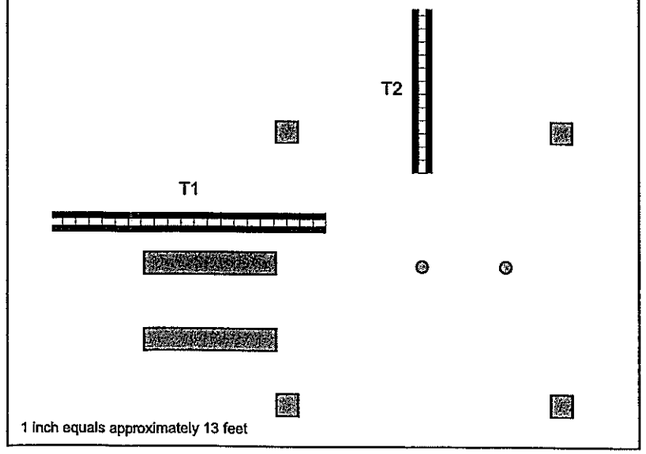




1 inch equals approximately 13 feet



1 inch equals approximately 13 feet



1 inch equals approximately 13 feet

Archaeological Trench Locations in CA-LAN-1445H

Exhibit 3

VTTM 53189

N W E S

200 0 200 400 Feet

BonTerra CONSULTING

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The purpose of the archaeological testing was to evaluate whether a significant subsurface deposit is present and, if so, obtain information sufficient to plan a Phase III mitigation effort (i.e., data recovery program), if necessary. Evaluation of *historical resources*, as defined by CEQA, is based on criteria in the 1999 guidelines implementing revisions made to the Act in 1992. The guidelines state that a project that causes a substantial adverse change in the significance of an historical resource is considered to have a significant effect on the environment unless mitigated. Historical resources are defined as buildings, structures, districts, sites, or objects that are eligible for the California Register of Historic Resources (CRHR) (CEQA Guidelines §§15064.5.a.3, PRC §§5020.1.j). The eligibility criteria for the CRHR are similar to those for the National Register of Historic Places (NRHP) (PRC §§5024.1.c). An eligible resource is one that meets at least one of the following criteria for significance:

- Criterion A – associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Criterion B – associated with the lives of persons important in our past;
- Criterion C – embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value;
- Criterion D – has yielded, or may be likely to yield, information important in prehistory or history (referring to sites that have the potential to yield data relevant to important research topics, as discussed below).

Problem-oriented research on historic sites in northern Los Angeles County generally hinges on questions concerning nineteenth century settlements, homesteads, individuals, and industries. Broadly, historic resources in California are defined by the Office of Historic Preservation (OHP) as materials that are 50 years old or more (1953 or earlier), and the OHP recommends that buildings and structures at least 45 years old be recorded and considered as potential resources to account for "lag time" between initial identification and actual project implementation). Materials from the post-1900 period, however, are usually not considered significant because after 1900, urbanization was well under way, and people and events began to be more fully documented. Research questions, therefore, generally focus on early events and pioneers and the origins of towns and industries prior to 1900.

Historic archaeological site types in this region generally consist of refuse deposits, structural ruins, and various constructed features, including transportation routes (e.g., roads, trails, and tracks). These are usually activity-specific in nature, reflecting either domestic or economic pursuits. Sites reflecting both domestic and economic activities are uncommon, except in cases where multiple features are present (e.g., farm or mine complexes with remains of dwellings and utility features). Identifying the type and orientation of a site is fundamental to forming other research questions.

Historic sites are often more easily dated than prehistoric sites, in part because many historic artifacts, structural materials, and construction techniques are associated with certain decades of the nineteenth or twentieth centuries. Maps, government records, and other documents are usually dated to specific years, and living persons may remember when events took place.

Archaeological site CA-LAN-1445H can be considered eligible for the California Register if it has the potential to yield significant data with which to address at least some of the following research topics relevant to the early history of the area:

- Individuals: social, economic, and ethnic status
- Relationship to communities and events
- Industrial or economic importance

Individuals: Social, Economic, and Ethnic Status

The individuals associated with a historic site may have been important early pioneers in the area. Who were they, when did they first arrive in the area, and what did they accomplish? The number and kinds of inhabitants (an individual, couple, or family) and their social, economic, and ethnic status are of particular interest in residential sites. These characteristics may be indicated by the types of artifacts used in everyday life. Some items, for example, may have been expensive or difficult to obtain, suggesting that the occupants may have been socially or economically affluent. Other items may indicate a more modest existence or diet, such as pots and crocks commonly used for soups and stews. A wide range of tools and other utilitarian items may indicate a high degree of self-sufficiency. Other items may be representative of an article or food commonly used among a particular ethnic group, such as porcelain vessels typically used in an Asian household.

Relationship to Communities and Events

The individual(s) associated with a historic site may have been an early leader of a town or community that has become important today. The person may be represented by notable descendants still residing in the area, or their name may be preserved in local landmarks. The significance of a site may depend on the strength of the relationship between the site's original user and their influence on the community or on local or regional civic events. The site itself may be incorporated into the modern layout of the town.

Industrial or Economic Importance

The individual(s) may have been the first to establish an economic endeavor important to the surrounding area. These often include early petroleum, mining, agricultural, transportation, or urban industries that had an important impact on the area's economic growth. The site itself may reflect an important engineering achievement or construction technique, or represent the remains of an important transportation facility such as an early stage or railroad station. A site's significance may depend on the nature of the remains, or on the strength of the relationship between the builder or users and their influence on local or regional economic developments.

4.3 Paleontological Resources Records Search

A paleontological resources records search was conducted for VTT 53189 at the Los Angeles County Museum of Natural History (LACMNH), Los Angeles on September 26, 2003 (Appendix E). The LACMNH is the central repository for fossil collections and associated records in Los Angeles County. The records search was performed by Samuel A. McLeod, Ph.D., of the Vertebrate Paleontology Division at the LACMNH. Dr. McLeod is a qualified paleontologist with extensive experience in Los Angeles County. The records search provided information on the geological formations underlying the project area and surrounding vicinity, the range of known fossil localities and fossil types in the vicinity, and the capacity of underlying formations to contain significant nonrenewable fossil resources. No field survey was undertaken for this assessment.

5.0 RESULTS

5.1 Cultural Records Search Results

The SCCIC reported that five cultural resources have been recorded within one mile of VTT 53189, all of which are non-Native American historic sites, as summarized below in Table 1. One of these, archaeological site CA-LAN-1445H, is located within the VTT 53189 project boundaries (see Section 5.2 below).

TABLE 1
CULTURAL RESOURCES RECORDED WITHIN ONE MILE OF THE PROJECT

SCCIC Designation	Date(s) Recorded	Built-Environment Description	Mean Date
CA-LAN-1432H	1979	Historic refuse deposit, ca. 1920s-1930s	1929.5
CA-LAN-1445H	1988, 1999	Historic oil well features, ca. 1925-1928	1926.5
CA-LAN-1448H	1988	Historic cemetery, graves 1880 to 1964	1922
CA-LAN-2070H	1992	Historic adobe residence, ca. 1920s	1924.5
CA-LAN-2071H	1992	Historic ranch complex, ca. 1920	1920

Additionally, the northeastern extent of VTT 53189 is less than 0.25 mile from a boundary for the Angeles National Forest (ANF). The entire ANF constitutes California Historical Landmark No. 717 because in 1892 it became the first national forest established in the state (Robinson 1946:25; Office of Historic Preservation 1996:104). This aspect is routinely absent in records search results because only the location of the bronze commemorative plaque is mapped in the SCCIC's database – a point in the La Cañada-Flintridge area some 25 miles from the project.

The Office of Historic Preservation's Historic Property Data File (HPDF) for Los Angeles County (July 2, 2003) includes 68 buildings or properties in the City of Santa Clarita and vicinity (see Appendix B). The HPDF includes listings for the National Register of Historic Places (NRHP), California Register of Historic Resources (CRHR), California Historical Landmarks (CHL), and California Points of Historical Interest (CPHI). Other than the ANF boundary discussed above, only one of these is located within one mile of VTT 53189 – CA-LAN-2071H, the historic ranch complex associated with film star Harry Carey. In 1996, the complex was determined to have significance sufficient to make it eligible for the National Register (NRHP Status 2). This property is situated roughly 1,000 feet from the southwestern extent of VTT 53180.

The SCCIC indicated that at least 16 surveys have previously been conducted within one mile of the project (see bibliography in Appendix B). Only two of these (Parr 1988 and Wlodarski 1999) included the VTT 52189 project area, with the 1988 survey covering the western one-third of the property and the 1999 survey covering all of the property. Archaeological site CA-LAN-1445H was identified during both studies (see Section 5.2 below).

The NAHC reported that a search of the Sacred Lands File did not reveal the presence of any Native American sites or properties in the vicinity of VTT 53189 (Appendix C). No further Native American consultation was undertaken because no prehistoric sites or special Native American properties were identified in the project area or in the surrounding vicinity.

5.2 Archaeological Site CA-LAN-1445H

One portion of archaeological site CA-LAN-1445H was recorded in 1988 during a survey prior to a controlled burn by the California Department of Forestry and Fire Protection (Parr 1988). The site was thought to have been a water well pumping station, characterized by a grouping of concrete foundation elements, two vertical 12-inch pipes, and scattered wood planks.

The site was re-recorded in 1999 during a survey addressing the property currently designated as VTT 53189 (Wlodarski 1999). The location identified in 1988 was re-located, and a second location similar to the first was identified approximately 1,100 feet to the west. The previously recorded location was labeled Locus A, and the second location was labeled Locus B. Locus B was

described as having essentially the same elements and layout as Locus A, as well as two small concrete slabs and a pit feature of unknown purpose. In addition, a small concrete slab observed in an area roughly half-way between Locus A and Locus B was tentatively identified as related feature, but was not recorded as part of the site. The slab was thought to indicate a temporary dwelling for a worker or manager associated with the wells. The investigating archaeologist concluded that all features comprising CA-LAN-1445H were related to oil drilling activities that occurred between 1925 and 1928, but that no oil was discovered (Wlodarski 1999:15).

5.3 Results of the Evaluation

5.3.1 Archaeological Test Results

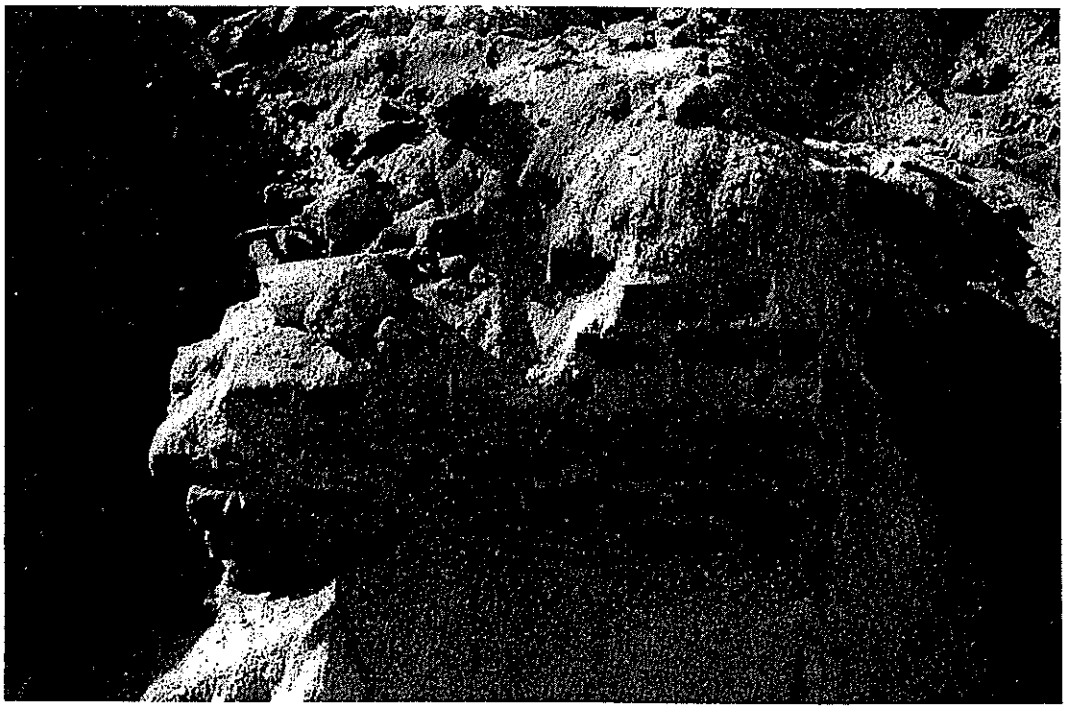
A total of six trenches were excavated in areas associated with CA-LAN-1445H, but no significant archaeological deposits were identified in any of the trenching locations (see Exhibit 3).

Two trenches were excavated in Locus A. Trench 1 was aligned east-west in the western part of the locus and was taken to a length of 25 feet. Trench 2 was aligned north-south in the northern part of the locus and was taken to a length of 15 feet. Trench 1 encountered topsoils hardened with congealed petroleum and spilled plaster, but no additional cultural evidence was found below the disturbed surface layer. Trench 2 encountered topsoils of a similar character and revealed a buried feature consisting of a relatively small but immoveable concrete slab or cap. The slab was rough and unfinished as if the concrete had been poured quickly and measured approximately 36 inches by 36 inches. The depth is unknown. When tugged and pulled by the backhoe, it offered no "give" and was left in place. This feature was interpreted as a cap or seal for a drill shaft. The practice of "cementing" well shafts to prevent ground water from leaking into oil-bearing deposits appeared in this area as early as 1884, with the procedure improved in 1903 and widely employed after 1909 (White 1962:110, 355; Franks and Lambert 1985:22, 36; Pederson 1990:36). The concrete feature in Trench 2 is believed to have been related to this process. No other subsurface cultural materials were encountered in Locus A. Archaeological disturbances in Locus A did not occur within the SEA established for the San Francisquito Canyon wash.

As noted earlier, Locus B was not tested because it is located in an area designated under the current project as open space and will not be directly impacted. The area immediately around Locus B is biologically sensitive because of the presence of native plant species associated with mainland cherry woodland vegetation, such as hollyleaf cherry (*Prunus ilicifolia*).

Three trenches were excavated around the poured concrete slab noted by Wlodarski between Locus A and Locus B (UTM 3816153 N. 357719 E). The slab is rectangular with a north-south axis and measures 27 feet long by 18.5 feet wide by four inches thick. No markings or etchings were observed in the surface. A dirt access road runs past the north side of the slab. Prior to trenching, non-native grasses around the feature were scraped away with the bucket to detect any surface artifacts, but none were found. Trenches were then excavated parallel to the east (Trench 3), south (Trench 4), and west (Trench 5) sides of the slab to locate any adjacent subsurface features or refuse. Trenches 3 and 5 were each 35 feet long, and Trench 4 was 25 feet long. Soils consisted sterile, light-brown sandy loam with a few small cobbles. The trenches produced no cultural evidence except for a 2.5-inch-diameter steel water pipe just beneath the surface in the north end of Trench 5. The pipe was joined by a brass coupling to a 1-inch feeder line that was broken off four feet from the slab; the larger end of the pipe ran along the north edge of the slab and terminated in the soil. The absence of pipe-ends or openings in the slab indicates that it led to an outside faucet or spigot and not inside the structure. While the presence of a water line indicates the possibility of a building that was lived in, the lack of refuse and the slab's small size suggest that it was probably a shed with an outdoor faucet.

Locus C of CA-LAN-1445H prior to trenching (Locus A in background upper right). View south-southwest.



Feature in Trench 6, Locus C of CA-LAN-1445H, showing intact portion of small mortared brick foundation with fine sand underneath. Maximum depth of feature approximately three feet. View south-southwest.

Archaeological Site CA-LAN-1445H, Locus C

Exhibit 4

VTTM 53189

BonTerra CONSULTING

Source: BonTerra Consulting

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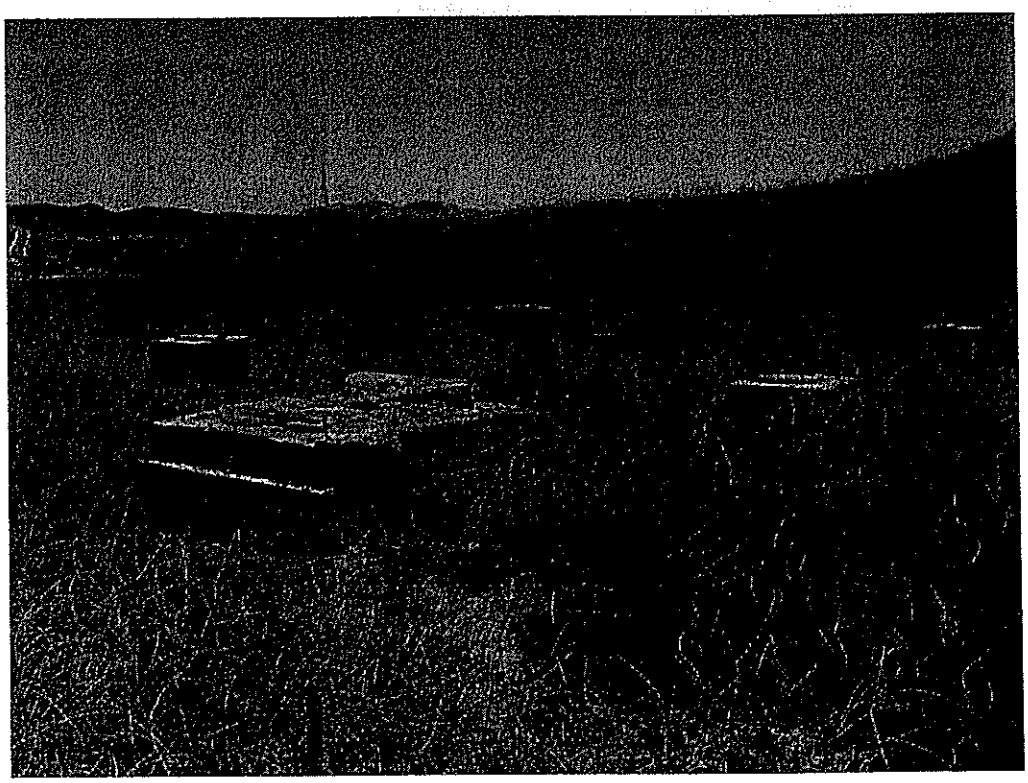

Oil Wells- Locus A and Locus B

Exhibit 4.1

VTTM 53189

BonTerra CONSULTING

Source: BonTerra Consulting

S:/GIS_Exhibits/SunCalJ011_OilWells_102703.pdf

One trench (Trench 6) was excavated in an area 250 feet northeast of Locus A at a bearing of approximately 30 degrees east of north (UTM 3816198 N, 357964 E). This area was trenched because a number of fragmented bricks were visible on the surface, including red building bricks and yellow fire-resistant bricks. Some of the bricks were coated with hardened petroleum and some were burned. Miscellaneous metal items such as steel cable were also scattered about the surface, along with modern rubbish. This area is situated just west of three large eucalyptus trees aligned north-south adjacent to the west side of the wash and is just outside the SEA boundary. Trench 6 was placed just west of the tree line, oriented north-south, and taken to a length of 40 feet. A large, jumbled concentration of fragmented bricks was encountered immediately below the surface and extended to a depth of approximately three feet. Many were burned and/or coated with hardened petroleum and appeared as if dumped. However, a short mortared alignment was found *in situ* at the base of the deposit, indicating that a structural feature had been present. The corners of the alignment allowed a measurement (four feet) and an orientation (north-south). Soil above and around the foundation was blackened with congealed petroleum and ash, but soil beneath the feature consisted of clean fine yellow sand with no cobbles. Many of the fire bricks carried one of three manufacturer's marks, described below in Table 2.

TABLE 2
MANUFACTURER'S MARKS ON FIRE BRICKS IN TRENCH 6

Mark on Brick	Manufacturer	Dates and Citation	Mean Date
GMcB ★★★	Gladding McBean & Co.	1875 - 1962 (Gurke 1987:240-241)	1918.5
LAB CO ALBERHILL (crescent below)	Los Angeles Brick Company	"CRESCENT" (LAB CO) 1927-1930 (Gurke 1987:222-223)	1928.5
SIMONS	Simons Brick Company	1902 - 1941 (Gurke 1987:296-297)	1921.5

The brick feature in Trench 6 was interpreted as a small "still", an apparatus used in the on-site refining of crude oil to remove dirt and other impurities with intense heat. Usually larger in size for industrial-level production, the small size of this still suggests that it would have been more experimental in nature, as in testing crude from the two nearby wells for quality. Stills of the late nineteenth and early twentieth centuries were constructed with brick foundations (White 1962:46, 247; see also Franks and Lambert 1985:57, 85, 172). Clean sand without cobbles evident beneath the foundation in Trench 6 indicated a prepared surface. While pumps and other metal equipment were shipped from suppliers in the East, basic building materials (e.g., bricks and lumber) were acquired locally (White 1962:247). Along with the still's small size, the use of bricks from at least three different local manufacturers indicates that it was not a carefully planned, formal device and that the bricks were salvaged or brought in as available. When the site was abandoned, the more valuable pumps and fittings were probably removed and used elsewhere, leaving the burned and oil-coated brick remains. Because the feature is believed to be associated with the two oil wells, the location is designated Locus C of CA-LAN-1445H (see Exhibit 4).

5.3.2 Archival Research Results

Wlodarski (1999:15) dated the features comprising CA-LAN-1445H to between 1925 and 1928, stating that the site was abandoned just before the St. Francis Dam collapsed in the spring of 1928. He did not disclose the source of that information, however, and the dates could not readily be confirmed. If these dates are correct, the owner of the portion of the property where the site is located during that time was Joseph D. Perea, according to Los Angeles County Assessor archival

records (Map Book 382 for 1919-1926, p. 206 and Map Book 382 for 1926-1933, p. 204). Perea had acquired the property in 1908 from Augustine Meyer (Map Book 104½ for 1902-1910, p. 5). Prior to Meyer's ownership, it was part of the "Santa Barbara National Forest", as indicated on the earliest USGS quadrangles for the area (1903 USGS *Camulos* 30' Quadrangle and1903 USGS *Santa Susana* 15' Quadrangle). Perea held on to the property for 54 years until it was purchased by Arthur and Judith Carlsberg on June 21, 1962 (Map Book 3245 for 1962, p. 7). Norman Burnam acquired it from the Carlsbergs on April 10, 1964 (entry added to Map Book 3245 for 1961, p. 29), hence the name "Burnam Site" often applied to the property.

BonTerra Consulting reviewed the following historic and recent USGS quadrangles showing the VTT 53189 project area:

- 1903 USGS *Camulos* 30' Quadrangle, surveyed in 1893 and 1900-1901
- 1903 USGS *Santa Susana* 15' Quadrangle, surveyed in 1900
- [no date] USGS *Saugus* 6' Quadrangle, surveyed in 1929 (pre-1933 advance sheet)
- 1933 USGS *Saugus* 6' Quadrangle, surveyed in 1929
- 1941 USGS *Santa Susana* 15' Quadrangle, aerial photography in 1938
- 1943 ACOE *Santa Susana* 15' Quadrangle, aerial photography in 1938
- 1952 USGS Newhall 7.5' Quadrangle, aerial photography in 1947
- 1969 USGS Newhall 7.5' Quadrangle, revision of 1952 edition (aerial photos in 1969)
- 1988 USGS Newhall 7.5' Quadrangle, later revision of 1952 edition (aerial photos in 1985)
- 1995 USGS Newhall 7.5' Quadrangle, revision of base data compiled in 1988

The maps were examined for indications of constructed features in the area of CA-LAN-1445H, described as remnants of historic oil wells. Symbols used to depict oil and water wells in USGS quadrangles after the 30-minute series are small unfilled circles, with those for oil shown in black and those for water shown in blue, or otherwise labeled as to which. Holding tanks for oil and water were similarly depicted, but with filled circles (USGS n.d.; Hester, Shafer, and Feder 1997:184). Extensive clusters of oil wells are labeled as "fields", such as "Honor Rancho Oil Field". The scale of 30-minute quadrangles did not allow a level of detail sufficient to depict individual wells. No wells or tanks are shown in or near the site area on any of the above quadrangles, and this area of San Francisquito Canyon has not been part of any established oil fields.

During his study, Parr (1988:4) commented that a structure is shown near the site area on a USGS quadrangle of 1903. BonTerra Consulting's close examination of both the 1903 USGS *Camulos* 30' Quadrangle and1903 USGS *Santa Susana* 15' Quadrangle showed that this is not the case, however. No buildings or structures are illustrated in or adjacent to the site area until the 1969 photorevised edition of the 1952 7.5' *Newhall* Quadrangle, in which an enclosed building and associated dirt road are shown (in purple) in the location of the small concrete slab between Locus A and Locus B. Since the building was not present prior to 1969, it could not have been associated or contemporaneous with the oil wells, which Wlodarski believed were abandoned in 1928.

Wlodarski (1999:15) stated that no oil was discovered in either well. This assertion is supported by data provided by EDR identifying Locus A as Well 301 and Locus B as Well 302 operated by International Oil Developers and indicating that both were "dry holes", plugged, and abandoned (Appendix D, p. A-9). In Assessor Map Book 382 for 1933-1940 (p. 205), the name "International Industrial Corporation" appears alongside Perea's from 1933 to 1935, about five years after the suggested 1925-1928 period and after the St. Francis Dam disaster. These dates would explain why the bricks from the still on the edge of the wash remained massed together and were not widely dispersed by the deluge. Oil-congealed soil in Locus A and oil-encrusted bricks in Locus C suggest that the term "dry hole" was a relative one, in that a small amount of oil appears to have been found, but may have been of poor quality and/or insufficient quantity.

5.3.3 Evaluation of CA-LAN-1445H

Under CEQA, a significant resource is one that meets at least one of the following criteria:

- Criterion A – associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Criterion B – associated with the lives of persons important in our past;
- Criterion C – embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value;
- Criterion D – has yielded, or may be likely to yield, information important in prehistory or history (referring to the potential to yield data relevant to important research topics).

CA-LAN-1445H does not meet Criterion A because no significant discovery of oil was made, and the endeavor was therefore not directly associated with any events that contributed to broad patterns of local history or heritage. The wells in Locus A and Locus B were only briefly in operation and were not part of any producing fields. San Francisquito Canyon, important for early transportation routes and an engineering disaster, was not known for producing oil, and the greater Newhall Field was distinguished instead by nearby canyons such as Pico, DeWitt, Towsley, Wiley, Rice, East, Tunnel, Elsmere, Whitney, and Placerita Canyons (Franks and Lambert 1987:41). Any natural gas yielded by Locus A was not substantial and furthermore occurred well after the introduction of gas to the Los Angeles area during the 1880s (see Coleman 1952:48-49).

CA-LAN-1445H does not meet Criterion B because neither Joseph Perea (property owner) or the International Oil Developers/International Industrial Corporation (builders and/or architects) are identified in the literature of historic oil and gas exploration and development in southern California or on the Newhall Ranch. There is no evidence to show that Perea was related to Ramón Perea, who in 1865 first noticed a surficial oil seep in Pico Canyon (see Franks and Lambert 1985:41). The International Oil Developers/International Industrial Corporation was not the same as the International Oil Company, noted by White (1962:282, 337) as an unsuccessful American venture operating in Japan from 1900 to 1908 that attempted to import foreign oil into California.

CA-LAN-1445H does not meet Criterion C because the extant structural elements are generically formed concrete blocks and platforms that do not exhibit any distinctive characteristics or artistic value. These elements reflect the basic industrial function of supporting standard oil derricks, of which there are numerous existing examples in the Newhall area. The derricks themselves would have constituted the true architectural elements, but are no longer present.

CA-LAN-1445H does not meet Criterion D because neither surface elements nor subsurface deposits were found to contain important historical information and are unlikely to yield any new information that would be historically important. A small concrete slab unearthed in Locus A reflects a common practice of the time of "cementing" and sealing wells to keep out groundwater. The remains of a small brick still in Locus C for testing the quality of crude indicated that a small quantity of oil was found, but its size showed that it was not intended for processing large amounts and was likely used for testing purposes only. Although the bricks yielded a range of dates, the jumbled assemblage did not allow an image of the still's overall appearance, particularly since the metal pumps and fittings are no longer present. The mixing of bricks from several different manufacturers suggested that it was constructed expeditiously and was not a formal or substantive facility. Data derived from Los Angeles County Assessor archival records and the environmental search by EDR, as well as dates documented for bricks impressed with a crescent symbol by the Los Angeles Brick Company at Alberhill, indicate that the site was operated between 1933 and 1935, rather than between 1925 and 1928 as suggested in an earlier study.

5.4 Paleontological Records Search Results

The NHMLAC determined that no fossil localities are known within the VTT 53189 project area (Appendix E). The upper layers of low-lying areas within the tract are composed of Quaternary (late) alluvium and gravels that are unlikely to contain significant vertebrate fossil remains. Elevated portions of the tract (hills and ridges) in the western and northern areas of the tract are chiefly composed of bedrock identified with the fossil-bearing Saugus Formation that, in the surrounding vicinity, has yielded fossil remains of horse, dog, camel, gopher, and lizard. In the northwestern reaches of the tract, the fossil-bearing Castaic Formation that, in the surrounding vicinity, has produced fossil remains of camel and a rare specimen of tapir.

6.0 CONCLUSIONS AND RECOMMENDATIONS

BonTerra Consulting completed an updated cultural resources records search for VTT 53189 (also known as the Burnam Site) including consultation with the Native American Heritage Commission (NAHC), a paleontological assessment, and an evaluation of historic site CA-LAN-1445H previously recorded within the project area.

The cultural resources records search obtained for the property by a previous consultant stated incorrectly that CA-LAN-1445H (and CA-LAN-2070H in the general vicinity) contained prehistoric Native American materials (see Wlodarki 1999: Appendix A). Only historic-era non-native materials are identified within VTT 53189 and surrounding one-mile radius. The NAHC reported that there are no sacred or special Native American sites or properties in the vicinity of the project.

Based on a records search and literature review, the paleontological assessment prepared by the NHMLAC concluded that surficial geological layers in the areas of VTT 53189 to be developed are unlikely to contain significant fossil resources. Only deep grading in these areas poses a potential for fossil remains to be encountered. Overall, the potential for significant fossil resources to be present in the property are represented by the Saugus and Castaic Formations mapped in the elevated areas of hills and ridges along the western and northern reaches of the tract. These areas are not included within the development footprint for the current project. Therefore, BonTerra Consulting concludes that paleontological monitoring of grading is not necessary unless 1) deep excavations are required within the development footprint and/or 2) grading occurs in the hills and ridges of the western and northern portions of the tract.

Using archaeological methods and archival research, BonTerra Consulting evaluated historic site CA-LAN-1445H against criteria for significance established under CEQA and determined that it is not a significant resource. Locus B was not tested because it is located in an area designated under the current project as open space and will not be impacted by the project, but BonTerra Consulting believes that the results of the evaluation would also apply to Locus B. Implementation of the project, therefore, will not have an adverse effect on a historical resource as defined by CEQA, and no further study is necessary for the project to proceed.

Should additional archaeological or paleontological evidence become apparent during construction-related ground disturbances, work in that location should be temporarily diverted and a qualified archaeologist or paleontologist should be contacted immediately to evaluate the find. SunCal Companies will be notified if the find is potentially significant, and further study may be recommended. If human remains are discovered, the Los Angeles County Coroner's Office must be notified immediately, and all activities in that area must cease until lawful measures have been implemented. If the Coroner determines that the remains are prehistoric, the NAHC must also be contacted under state law. The NAHC will designate a Most Likely Descendent (MLD) who will make procedural determinations concerning disposition of the remains.

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APPENDIX A

Professional Qualifications

M.A., Archaeology, University of California, Los Angeles, Institute of Archaeology, 1997
Graduate Studies (Anthropology), California State University, Long Beach, 1993-94
Extension Studies (Archaeology), University of California, Los Angeles, 1991-93
B.A., Journalism, California State University, Fresno, 1979

Mr. Shepard specializes in Cultural Resource Management (CRM), including both prehistoric and historic archaeology. During nine years of professional experience, he has served as a Field Archaeologist, Field Director, or Project Manager for CRM projects in southern, central, and northern California. He is skilled in a wide range of field, lab, and administrative tasks fundamental to CRM and has authored more than 100 technical reports. While his research interests have been focused on Native American culture and prehistoric rock art of the Far West, his training also includes archival research in evaluating historic resources and properties.

Mr. Shepard is a Registered Professional Archaeologist (**RPA**) meeting federal standards set by the Secretary of the Interior for professional archaeological investigations.

Representative Project Experience:

Field Director for Phase I archaeological survey of 60 linear miles of the *Long Haul* fiber-optic cable installation corridor along the Union Pacific Railroad from Tehachapi to the Cajon Pass, southern Mojave Desert, Kern, Los Angeles, and San Bernardino Counties, California. Supervised four-person field crew in intensive, mile-by-mile rail corridor survey in extreme heat, relocating previously-recorded resources and identifying unrecorded resources. Accurate mapping of resources in relation to the UPRR right-of-way was crucial because of engineering constraints and encroachment permitting criteria. Prepared DPR 523 site record forms for ten newly-identified resources consisting mostly of railroad-related historic sites and features.

Client: WS04 Inland Route, Level (3) Network Communications, 1999

Field Director for Phase III data recovery excavations at three prehistoric archaeological sites within a fiber-optic cable installation corridor in the Tehachapi Mountains east of Bakersfield, Kern County, California. Supervised five-person field crew in controlled excavation units at specific points within CA-KER-1558, CA-KER-3367, and CA-KER-3370 where the angle of subsurface boring for the cable could be realigned with minimal impact to the resources. Coordinated with Native American monitors in the field during all excavations.

Client: WS04 Tehachapi Workaround, Level (3) Network Communications, 2000

Field Director for Phase I archaeological survey and Phase II site evaluations in the Level (3) *Long Haul* fiber-optic cable installation corridor along the Union Pacific Railroad in coastal and inland Ventura, Santa Barbara, and San Luis Obispo Counties, California. In Ventura County, the route followed the UPRR right-of-way from the county line near Capinteria through Ventura, Oxnard, Camarillo, Somis, Moorpark, and Simi Valley. Supervised field crews in rail corridor and roadside surveys and test excavations, working with Chumash Native American observers. Prepared constraints analyses and feasibility studies for alternatives such as the non-railroad route along Santa Rosa Road through the Santa Rosa and Tierra Rejada Valleys.

Client: WS06 Coast Route, Level (3) Network Communications, 1999-2001

Field Director for Phase I archaeological survey and cultural resources assessment for 6-acre project area proposed as an education-oriented park facility for the public by the Palmdale Water District in Palmdale, northern Los Angeles County, California. The park is designed to provide information on water conservation techniques, the importance of water recycling, and local water history. The District's application for a federal Land and Water Conservation Fund (LWCF) Grant required that the project comply with Section 106. No resources were found within or adjacent to the property, and the project received concurrence under SHPO review.

Client: Water Conservation Garden Park, Palmdale Water District, 2003

Principal Investigator for Phase I archaeological survey of two one-mile roadway easements between State Route 118 and the proposed North Park Village in Moorpark, Ventura County, California. One alignment will be selected for direct access to the development from the freeway to avoid additional traffic through Moorpark College. Of the four actual or potential prehistoric sites recorded in or near the alignments, two may be avoided, and a third requires no archaeological evaluation (test excavation). Site CA-VEN-1131 was identified within both alignments and cannot be avoided, and an evaluation (test excavation) was recommended.

Client: North Park Village Connector Road, City of Moorpark, 2002

Field Director for primary archival research on the historic McLoughlin/Maxwell property located along the Santa Clara River near Oxnard, Ventura County, California. County records demonstrated an unbroken line of property ownership by the McLoughlin family from 1887 until recent years. Archival research was augmented with interviews of a present-day McLoughlin family member who spent his childhood on the property and provided family photos from that time. The large, two-story manse, built in 1926 as designed by renowned architect A.C. Martin, is to be re-located and preserved in Oxnard's Heritage Park.

Client: Northwest Golf Course Community, Impact Sciences, 1998

Project Manager for cultural resources constraints analysis of the 430-acre Sakioka Farms property near Oxnard, Ventura County, California. The property is currently cultivated with row crops and is being speculated for development under a Specific Plan (SP) according to CEQA. Analyzed all real and potential archaeological and historic resource issues and made recommendations for further studies, including intensive survey of all unsurveyed areas. The historic 1904 USGS quadrangle of this area showed that four buildings were present when a survey by the federal government was conducted in 1901, indicating the possibility of historic buildings or at least potentially significant historic archaeological deposits even if the buildings were no longer present. An isolated prehistoric artifact found on the property during a previous study indicated the possibility that other Native American materials also might be present.

Client: Sakioka Farms Specific Plan, EIP Associates, 2002

Field Director for Phase I archaeological field survey of an eight-mile Level (3) fiber-optic cable installation corridor along State Route 1 (Cabrillo Highway) in a near-coastal stream valley between Gaviota and Lompoc, northern Santa Barbara County, California. Supervised survey crew that included an additional archaeologist and two Native American *Owl Clan* Chumash consultants. Identified one previously unrecorded prehistoric site and three isolated artifacts, and re-mapped a large prehistoric site first recorded in 1936 (CA-SBA-244). Worked closely with fiber-optic engineers in coordination with the California Department of Transportation (Caltrans) District 5 and with local landowners. Prepared final survey report as well as DPR 523 site and isolate record forms.

Client: WS06 Highway 1 Workaround, Level (3) Network Communications, 2000

Field Director for primary archival research required by the City of Santa Barbara, California, for installation of the Level (3) fiber-optic cable corridor within the near-coastal zone of the City. Historic records were obtained from city and county agencies, the University of California, Santa Barbara (Davidson Library), and the Santa Barbara Historical Society (Gledhill Library). Prepared the final Phase I Archaeological Resource Report in the format required by the City. The report identified areas of archaeological sensitivity and locations where construction monitoring would be necessary. The report was approved, and the City granted a Coastal Development Permit to the client.

Client: WS06 Coast Route, Level (3) Network Communications, 2000

Project Manager of Section 106 analysis for extensive network of recycled water pipelines and pump stations proposed for five communities in southern Orange County, California: *Califia*, *Ladera Ranch*, *Las Flores*, *Rancho Trabuco*, and *Talega Valley*. Although archaeological mitigation had been conducted for these developments under CEQA, the client's application for federal assistance via a State Revolving Fund (SRF) activated Section 106, requiring that federal thresholds also had to be met. Successful review of the 106 compliance was confirmed by the State Water Resources Control Board (SWRCB), and SHPO issued concurrence.

Client: Group 2 Recycled Water Program, Santa Margarita Water District, 2002-2003

Field Director for Phase II test excavations and Phase III construction monitoring of five historic archaeological sites in a 640-acre property in Fontana, southern San Bernardino County, California. The sites included four ca. 1890 homesteads (CA-SBR-6583H, CA-SBR-6585H, CA-SBR-6586H, CA-SBR-6589H,) and an early 20th century site (CA-SBR-6584H). Supervised excavation crews and monitors, and identified and inventoried historic materials in the lab.

Client: Sierra Lakes Residential & Golf Course Community, Lewis Homes, 1997-1998

Professional Experience:

BonTerra Consulting, Managing Archaeologist–2002 to Present
Chambers Group, Inc., Senior Archaeologist–1999-2002
McKenna et al., Field Director Archaeologist–1994-1999
Archaeological Resource Management Corp., Field Archaeologist, 1994

Registrations, Certifications, and Affiliations:

Register of Professional Archaeologists (ROPA, formerly SOPA), 2001
County of Orange Certification, 2002
County of San Diego Certification, 2002
County of Riverside Approved, 2002
Society for American Archaeology (SAA)
Society for California Archaeology (SCA)
Society for Historical Archaeology (SHA)
American Rock Art Research Association (ARARA)
UCLA Rock Art Archive, Institute of Archaeology
Nature Conservancy of California
Archaeological Conservancy

APPENDIX B

Cultural Resources Records Search

South Central Coastal Information Center
California Historical Resources Information System
California State University, Fullerton
Department of Anthropology
800 North State College Boulevard
Fullerton, CA 92834-6846
714.278.5395 / FAX 714.278.5542
anthro.fullerton.edu/sccic.html - sccic@fullerton.edu

Ventura
Los Angeles
Orange

October 7, 2003 SCCIC # 2845

Mr. Richard Shepard
BonTerra Consulting
151 Kalmus Drive, Suite E-200
Costa Mesa, CA 92626-7969
714.444.9199

RE: Rush Records Search for SunCal J011 Burnham Site

Dear Mr. Shepard,

As per your request received on September 17, 2003 we have conducted an expedited records search for the above referenced project. This search includes a review of all recorded historic and prehistoric archaeological sites within a 1-mile radius of the project area as well as a review of all known cultural resource reports. In addition, we have checked our file of historic maps, the California Points of Historical Interest (PHI), the listing of California Historical Landmarks (CHL), the California Register of Historic Places (CR), the National Register of Historic Places (NR), the California State Historic Resources Inventory (HRI), and the listing of the City of Los Angeles Historic-Cultural Monuments for the referenced project. The following is a discussion of our findings for the project area.

Newhall 7.5' USGS Quadrangle

ARCHAEOLOGICAL RESOURCES:

No prehistoric archaeological sites have been identified within a 1-mile radius of the project area. No prehistoric isolates have been identified within a 1-mile radius of the project area.

Five historic archaeological sites (19-001432, 19-001445*, 19-001448, 19-002070, 19-002071) have been identified within a 1-mile radius of the project area (see enclosed map). Of which, 19-001445* is located within the project area. This site is not

listed on the National Register Archaeological Determination of Eligibility list. No historic isolates have been identified within a 1-mile radius of the project area.
(* = Located within the project area)

HISTORIC RESOURCES:

No recorded historic built environments have been identified within a 1-mile radius of the project area.

Copies of our historic maps - Santa Susana (1908 and 1941) 15' USGS - are enclosed for your review.

The California Points of Historical Interest (1992) of the Office of Historic Preservation, Department of Parks and Recreation, lists no properties within a 1-mile radius of the project area.

The California Historical Landmarks (1990) of the Office of Historic Preservation, Department of Parks and Recreation, may list properties within a 1-mile radius of the project area (see enclosed Historic Property Data File).

The California Register of Historic Places may list properties within a 1-mile radius of the project area (see enclosed Historic Property Data File).

The National Register of Historic Places may list properties within a 1-mile radius of the project area (see enclosed Historic Property Data File).

The City of Los Angeles Historic-Cultural Monuments lists no properties within a 1-mile radius of the project area.

The California Historic Resources Inventory may list properties that have been evaluated for historical significance within a 1-mile radius of the project area (see enclosed Historic Property Data File).

PREVIOUS CULTURAL RESOURCES INVESTIGATIONS:

Sixteen studies (LA1317, LA2009, LA2400, LA2446, LA2718, LA2987, LA3093, LA3136, LA3309, LA3904, LA504, LA511, LA5140*, LA573*, LA678, LA938) have been conducted within a 1-mile radius of the project area. Of these, two studies are located within the project area. There are 5 additional investigations located on the Newhall 7.5' USGS Quadrangle that are potentially within a 1-mile radius of the project area. These reports are not mapped due to insufficient locational information. A bibliography of these reports is available upon request.
(* = Located within the project area)

Please forward a copy of any reports from this project to our office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you **do not include** records search maps in your report. If you have any questions regarding the results presented herein, please feel free to contact our office at 714.278.5395 Monday through Thursday 8:00 am to 3:30 pm.

Should you require any additional information for the above referenced project, please reference the SCCIC number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Sincerely,
SCCIC

Stacy St. James
Assistant Coordinator

Enclosures:

( ) Primary Number Explanation
( ) Site List
( ) Survey List
(X) Map – 7.5' USGS Quadrangle, 15' USGS Quadrangle
(X) Bibliography
(X) HRI
( ) National Register Status Codes
(X) Site Records – 19-001432, 19-001445, 19-001448, 19-002070, 19-002071
(X) Survey Reports – LA573, LA5140
(X) Confidentiality Form
(X) Invoice # 1292

PROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
							PROJ.REVW.	HUD970423A	04/28/97	2D2	A
115301		478 W 6TH ST	WARNER BROTHERS THEATRE	SAN PEDRO	M	1931	HIST.RES.	NPS-98001633-0000	01/21/99	1S	AC
							NAT.REG.	19-0261	01/21/99	1S	AC
112434		481 W 6TH ST		SAN PEDRO	U		HIST.RES.	DOE-19-97-0012-0045	04/28/97	2D2	A
							PROJ.REVW.	HUD970423A	04/28/97	2D2	A
125157		251 W 7TH ST	251-269 W 7TH ST	SAN PEDRO	Y	1923	HIST.RES.	DOE-19-98-0341-0000	08/03/98	6Y2	
							PROJ.REVW.	HUD980803I	08/03/98	6Y2	
112436		305 W 7TH ST		SAN PEDRO	U		HIST.RES.	DOE-19-97-0012-0046	04/28/97	2D2	A
							PROJ.REVW.	HUD970423A	04/28/97	2D2	A
112437		309 W 7TH ST		SAN PEDRO	U		HIST.RES.	DOE-19-97-0012-0047	04/28/97	2D2	A
							PROJ.REVW.	HUD970423A	04/28/97	2D2	A
112438		315 W 7TH ST		SAN PEDRO	U		HIST.RES.	DOE-19-97-0012-0048	04/28/97	2D2	A
							PROJ.REVW.	HUD970423A	04/28/97	2D2	A
112439		317 W 7TH ST		SAN PEDRO	U		HIST.RES.	DOE-19-97-0012-0049	04/28/97	2D2	A
							PROJ.REVW.	HUD970423A	04/28/97	2D2	A
112440		321 W 7TH ST		SAN PEDRO	U		HIST.RES.	DOE-19-97-0012-0050	04/28/97	2D2	A
							PROJ.REVW.	HUD970423A	04/02/97	2D2	A
112441		333 W 7TH ST		SAN PEDRO	U		HIST.RES.	DOE-19-97-0012-0051	04/28/97	2D2	A
							PROJ.REVW.	HUD970423A	04/28/97	2D2	A
112442		355 W 7TH ST		SAN PEDRO	U		HIST.RES.	DOE-19-97-0012-0052	04/28/97	2D2	A
							PROJ.REVW.	HUD970423A	04/28/97	2D2	A
112443		377 W 7TH ST		SAN PEDRO	U		HIST.RES.	DOE-19-97-0012-0053	04/28/97	2D2	A
							PROJ.REVW.	HUD970423A	04/28/97	2D2	A
112484		381 W 7TH ST		SAN PEDRO	U		HIST.RES.	DOE-19-97-0012-0054	04/28/97	2D2	A
							PROJ.REVW.	HUD970423A	04/28/97	2D2	A
112515		401 W 7TH ST		SAN PEDRO	U		HIST.RES.	DOE-19-97-0012-0055	04/28/97	2D2	A
							PROJ.REVW.	HUD970423A	04/28/97	2D2	A
077032		537 W 8TH ST		SAN PEDRO	U	1910	PROJ.REVW.	HUD920506E	06/01/92	6Y2	
081455		274 W 9TH ST		SAN PEDRO	U	1918	PROJ.REVW.	HUD921218O	01/04/93	6Y2	
095373		437 W 9TH ST	HARBOR AREA YWCA/MORGAN HOUSE	SAN PEDRO	P	1918	HIST.RES.	DOE-19-95-0214-0000	03/30/95	2S2	C
							PROJ.REVW.	HUD950301F	03/30/95	2S2	C
077834		340 W SEPULVEDA ST		SAN PEDRO	U	1910	PROJ.REVW.	HUD920908L	10/15/92	6Y2	
081449		460 W SEPULVEDA ST		SAN PEDRO	U	1896	PROJ.REVW.	HUD921218I	01/04/93	6Y2	
033670		22502 5TH ST	ICE HOUSE/WILCOX SEWER CORP	SANTA CLARITA	P	1922	HIST.SURV.	1350-0019-0000		6	
							PROJ.REVW.	HUD8605010	06/04/86	6Y	
033671		22509 6TH ST	ALBERT SWALL RENTAL HOUSE, NEWHALL	SANTA CLARITA	P	1902	HIST.SURV.	1350-0020-0000		6	
							PROJ.REVW.	HUD860501P	06/04/86	6Y	
033673		22614 8TH ST	EMILE M. CHAIX PROPERTY, COUNTRY C	SANTA CLARITA	P	1923	HIST.SURV.	1350-0022-0000		6	
							PROJ.REVW.	HUD860501R	06/04/86	6Y	
033674		22616 9TH ST	RESIDENCE	SANTA CLARITA	P	1928	PROJ.REVW.	HUD860501S	06/04/86	6Y	
							HIST.SURV.	1350-0023-0000		6	
074428		24154 ARCH		SANTA CLARITA	U	1928	PROJ.REVW.	HUD920204B	02/28/92	6Y2	
074430		22410 ARCH ST		SANTA CLARITA	U	1940	PROJ.REVW.	HUD920204C	02/28/92	6Y2	
083766		E NEWHALL	E NEWHALL,SAN FERNANDO RD/MARKET S	SANTA CLARITA	U		PROJ.REVW.	HUD910331Q	08/20/93	6Y2	
033672		22500 MARKET ST	PATRICK J. COYLE RESIDENCE	SANTA CLARITA	P	1922	HIST.SURV.	1350-0021-0000		6	
							PROJ.REVW.	HUD860501Q	06/04/86	6Y	
083138		22908 MARKET ST		SANTA CLARITA	P	1910	PROJ.REVW.	HUD930219L	07/29/93	6Y2	
090635		23287 N SIERRA SR	LYONS STATION STAGE COACH STOP	SANTA CLARITA	P		HIST.RES.	SHL-0688-0000	07/31/59	7L	
033650		24151 NEWHALL AVE	HORSESHOE RANCH, WILLIAM S HART PA	SANTA CLARITA	C	1910	HIST.SURV.	1350-0002-0000		3S	
							HIST.RES.	SPHI-LAN-032	03/13/81	7L	
097731		OLD RD	OLD ROAD BRIDGE	SANTA CLARITA	D		PROJ.REVW.	HRG940202Z	09/30/94	5	
							HIST.RES.	HRG-194	09/30/94	5	
033651		PINE ST	NEWHALL OIL REFINERY; PIONEER OIL	SANTA CLARITA	P	1876	HIST.SURV.	1350-0003-0000		3S	

PROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
089596		PLACERITA CANYON RD	OAK OF THE GOLDEN DREAM	SANTA CLARITA	S		HIST.RES.	SHL-0172-0000	03/06/35	7L	
074425	25017	RACE ST		SANTA CLARITA	U	1924	HIST.RES.	SHL-0168-0000	03/03/35	7L	
033658	24307	RAILROAD AVE	SANTA CLARITA CO. COURTHOUSE, YE O	SANTA CLARITA	P	1932	PROJ.REVW.	HUD920204A	02/28/92	6Y2	
							HIST.SURV.	1350-0007-0000		6	
126429	14748	SAN FERNANDO RD		SANTA CLARITA	U	1932	PROJ.REVW.	HUD860501C	06/04/86	6Y	
							HIST.RES.	DOE-19-00-0351-0000	07/14/00	6Y2	
126427	22117	SAN FERNANDO RD		SANTA CLARITA	Y	1949	PROJ.REVW.	FHWA000623E	07/14/00	6Y2	
							HIST.RES.	DOE-19-00-0349-0000	07/14/00	6Y2	
126428	22117	SAN FERNANDO RD		SANTA CLARITA	Y	1930	PROJ.REVW.	FHWA000623E	07/14/00	6Y2	
							HIST.RES.	DOE-19-00-0350-0000	07/14/00	6Y2	
126425	22124	SAN FERNANDO RD		SANTA CLARITA	Y	1930	PROJ.REVW.	FHWA000623E	07/14/00	6Y2	
							HIST.RES.	DOE-19-00-0348-0000	07/14/00	6Y2	
100262	24101	SAN FERNANDO RD	NEWHALL RANCH HOUSE	SANTA CLARITA	P	1860	PROJ.REVW.	FHWA000623E	07/14/00	6Y2	
							HIST.RES.	DOE-19-95-0058-0000	06/01/95	6Y4	
069861	24203	SAN FERNANDO RD	GAS STATION & GARAGE	SANTA CLARITA	U		PROJ.REVW.	HRG940202Z	06/01/95	6Y4	
033675	24203	SAN FERNANDO RD	SPRING VALLEY TIRES	SANTA CLARITA	P	1927	PROJ.REVW.	HUD860501T	06/04/86	6Y	
033682	24206	SAN FERNANDO RD	CENTURY 21 REALTY/COUNSELING	SANTA CLARITA	P	1935	HIST.SURV.	1350-0024-0000		6	
069855	24206	SAN FERNANDO RD	COMMERCIAL BLDG	SANTA CLARITA	U		HIST.SURV.	1350-0031-0000		6	
033676	24229	SAN FERNANDO RD	HOWARD STOWITTS,DDS COMMERCIAL BLD	SANTA CLARITA	P	1932	PROJ.REVW.	HUD860501Y	06/04/86	6Y	
							PROJ.REVW.	HUD860501U	06/04/86	6Y	
033712	24238	SAN FERNANDO RD	SHERIFFS SUBSTATION	SANTA CLARITA	P	1926	HIST.SURV.	1350-0025-0000		6	
							HIST.SURV.	1530-0032-0000	05/22/91	6	
033677	24247	SAN FERNANDO RD	THE NEEDLEWORKS COMMERCIAL BLDG	SANTA CLARITA	P	1922	PROJ.REVW.	HUD860501Z	06/04/86	6Y	
							PROJ.REVW.	HUD860501V	06/04/86	6Y	
033678	24249	SAN FERNANDO RD		SANTA CLARITA	P	1922	HIST.SURV.	1350-0026-0000		6	
033679	24251	SAN FERNANDO RD	ANTIQUES	SANTA CLARITA	P	1922	HIST.SURV.	1350-0027-0000		6	
033683	24254	SAN FERNANDO RD	DOTY GARAGE	SANTA CLARITA	P	1926	HIST.SURV.	1350-0028-0000		6	
							HIST.SURV.	1350-0033-0000		6	
033684	24258	SAN FERNANDO RD	MAGNAVOX COMMERCIAL BLDGS	SANTA CLARITA	P	1935	PROJ.REVW.	HUD860501AA	06/04/86	6Y	
							PROJ.REVW.	HUD860501BB	06/04/86	6Y	
033680	24263	SAN FERNANDO RD	FANTASY FLOWERS, COMMERCIAL BLDG	SANTA CLARITA	P	1926	HIST.SURV.	1350-0034-0000		6	
							PROJ.REVW.	HUD860501W	06/04/86	6Y	
033685	24264	SAN FERNANDO RD	NEWHALL PHOTO CENTER	SANTA CLARITA	P	1935	HIST.SURV.	1350-0029-0000		6	
033686	24266	SAN FERNANDO RD	HOWDY CLEANERS	SANTA CLARITA	P	1935	HIST.SURV.	1350-0035-0000		6	
033681	24267	SAN FERNANDO RD	S & M INSURANCE COMMERCIAL BLDG	SANTA CLARITA	P	1922	HIST.SURV.	1350-0036-0000		6	
							PROJ.REVW.	HUD860501X	06/04/86	6Y	
033687	24270	SAN FERNANDO RD	WESTERN STATES TROPHY CENTER	SANTA CLARITA	P	1935	HIST.SURV.	1350-0030-0000		6	
033688	24274	SAN FERNANDO RD	VALENCIA CYCLERY	SANTA CLARITA	P	1935	HIST.SURV.	1350-0037-0000		6	
033690	24311	SAN FERNANDO RD	FREW BLACKSMITH SHOP, NAGCO GLASS	SANTA CLARITA	P	1910	HIST.SURV.	1350-0038-0000		6	
							HIST.SURV.	1350-0040-0000		6	
033689	24317	SAN FERNANDO RD	KAR-LINS KRAFTS, COMMERCIAL BLDG	SANTA CLARITA	P	1926	PROJ.REVW.	HUD860501DD	06/04/86	6Y	
							PROJ.REVW.	HUD860501CC	06/04/86	6Y	
033691	24321	SAN FERNANDO RD	PREFERRED GLASS COMMERICAL BLDG	SANTA CLARITA	P	1926	HIST.SURV.	1350-0039-0000		6	
							PROJ.REVW.	HUD860501EE	06/04/86	6Y	
033692	24335	SAN FERNANDO RD	ALLARDS DRY CLEANERS, COMMERCIAL B	SANTA CLARITA	P	1937	HIST.SURV.	1350-0041-0000		6	
							PROJ.REVW.	HUD860501FF	06/04/86	6Y	
033693	24353	SAN FERNANDO RD	, VALENCIA COLOR LAB, H & R BLOCK,	SANTA CLARITA	P	1931	HIST.SURV.	1350-0042-0000		6	
							HIST.SURV.	1350-0043-0000		6	
033694	24625	SAN FERNANDO RD	NEWALL LUMBER COMPANY INDUSTRIAL B	SANTA CLARITA	P	1931	PROJ.REVW.	HUD860501GG	06/04/86	6Y	
							PROJ.REVW.	HUD860501HH	06/04/86	6Y	
069858	34317	SAN FERNANDO RD	COMMERCIAL BLDG	SANTA CLARITA	U		HIST.SURV.	1350-0044-0000		6	
123526	28515	SAN FRANCISQUITO CANY	HARRY CAREY RANCH HISTORIC DISTRIC	SANTA CLARITA	P	1920	PROJ.REVW.	HUD860501CC	06/04/86	6Y	
							HIST.RES.	DOE-19-96-0326-9999	01/03/96	2S2	BC
089532		SECO CANYON RD	ST. FRANCIS DAM DISASTER SITE	SANTA CLARITA	F		PROJ.REVW.	COE951013B	01/03/96	2S2	BC
075541	0	SIERRA HWY	BEALE'S CUT STAGECOACH PASS	SANTA CLARITA	P	1861	HIST.RES.	SHL-0919-0000	04/26/78	7L	
							ST.HS.LDMK	19-0073	05/11/92	7L	

PROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
							HIST.RES.	SHL-1006-0000	05/11/92	7L	
126430		22127 SIERRA HWY		SANTA CLARITA	Y	1930	HIST.RES.	DOE-19-00-0352-0000	07/14/00	6Y2	
							PROJ.REVW.	FHWA000623E	07/14/00	6Y2	
033649		SOLEDAD CANYON RD	LAND STATION, LANG STATION SITE	SANTA CLARITA	P	1876	HIST.SURV.	1350-0001-0000		7	
127510		SR 5	SAN FERNANDO RAILROAD TUNNEL	SANTA CLARITA	P	1875	HIST.RES.	DOE-19-00-0358-0000	06/23/00	2S2	A
							PROJ.REVW.	FHWA000623E	06/23/00	2S2	A
033669		22509 W 4TH ST	NEWHALL-SAUGUS PET CLINIC	SANTA CLARITA	P	1922	HIST.SURV.	1350-0018-0000		6	
							PROJ.REVW.	HUD860501N	06/04/86	6Y	
033653		27201 W PICO CANYON RD	CHARLES ALEXANDER MENTRY HOUSE; ME	SANTA CLARITA	P	1877	HIST.SURV.	1350-0004-0002		3B	
							HIST.RES.	SHL-0516-2-0003	12/07/76	7L	
033655		27201 W PICO CANYON RD	MENTRYVILLE	SANTA CLARITA	P	1877	HIST.SURV.	1350-0004-9999		3S	
							HIST.RES.	SHL-0516-2-9999	12/07/76	7L	
033654		27201 W PICO CANYON RD	MENTRY BARN & CARRIAGE HOUSE	SANTA CLARITA	P	1877	HIST.SURV.	1350-0004-0003		3D	
							HIST.RES.	SHL-0516-2-0001	12/07/76	7L	
033652		27201 W PICO CANYON RD	FELTON SCHOOL	SANTA CLARITA	P	1878	HIST.SURV.	1350-0004-0001	05/22/91	3B	
							HIST.RES.	SHL-0516-2-0002	12/07/76	7L	
033660		24244 WALNUT ST	SEVENTH DAY ADVENTIST CHURCH, CHUR	SANTA CLARITA	P	1940	HIST.SURV.	1350-0009-0000	05/22/91	6	
							PROJ.REVW.	HUD860501E	06/04/86	6Y	
033661		24252 WALNUT ST		SANTA CLARITA	P	1927	HIST.SURV.	1350-0010-0000		6	
							PROJ.REVW.	HUD860501F	06/04/86	6Y	
033662		24258 WALNUT ST	THE MEDICAL INSURANCE GROUP	SANTA CLARITA	P	1923	HIST.SURV.	1350-0011-0000		6	
							PROJ.REVW.	HUD860501G	06/04/86	6Y	
090794		24275 WALNUT ST	GOOD TEMPLARS HALL AKA PARDEE HOME	SANTA CLARITA	U	1890	HIST.RES.	SPHI-LAN-030	03/13/81	7L	
033663		24318 WALNUT ST		SANTA CLARITA	P	1911	HIST.SURV.	1350-0012-0000		6	
							PROJ.REVW.	HUD860501H	06/04/86	6Y	
033664		24320 WALNUT ST	RESIDENCE	SANTA CLARITA	P	1902	PROJ.REVW.	HUD860501I	06/04/86	6Y	
							HIST.SURV.	1350-0013-0000		6	
033665		24326 WALNUT ST	RESIDENCE	SANTA CLARITA	P	1925	PROJ.REVW.	HUD860501J	06/04/86	6Y	
							HIST.SURV.	1350-0014-0000		6	
033666		24328 WALNUT ST	RESIDENCE	SANTA CLARITA	P	1931	PROJ.REVW.	HUD860501K	06/04/86	6Y	
							HIST.SURV.	1350-0015-0000		6	
033667		24338 WALNUT ST	EMILE M. CHAIX RESIDENCE	SANTA CLARITA	P	1915	HIST.SURV.	1350-0016-0000		6	
							PROJ.REVW.	HUD860501L	06/04/86	6Y	
033668		24372 WALNUT ST	RESIDENCE	SANTA CLARITA	P	1928	PROJ.REVW.	HUD860501M	06/04/86	6Y	
							HIST.SURV.	1350-0017-0000		6	
139119		BOUQUET CANYON RD	FALLS CAFE, LOT 82/ BOUQUET CANYON	(VIC) SANTA CLARI	U	1927	HIST.RES.	DOE-19-02-1186-0000	12/30/02	6Y2	
							PROJ.REVW.	USFS021219A	12/30/02	6Y2	
090447		LANG STATION RD	LANG	(VIC) SANTA CLARI	P	1876	HIST.RES.	SHL-0590-0000	05/22/57	7L	
083980		9615 BARTLEY AVE		SANTA FE SPRINGS	U	1940	PROJ.REVW.	HUD920422H	08/31/93	6Y2	
128293		15306 CARMENITA RD		SANTA FE SPRINGS	P	1947	HIST.RES.	DOE-19-01-0184-0000	05/23/01	6Y2	
							PROJ.REVW.	FHWA010404A	05/23/01	6Y2	
							HIST.RES.	DOE-19-01-0183-0000	04/16/01	6Y2	
							PROJ.REVW.	FHWA0103017C	04/16/01	6Y2	
125706		10073 CEDARDALE DR		SANTA FE SPRINGS	U	1937	HIST.RES.	DOE-19-99-0349-0000	07/29/99	6Y2	
							PROJ.REVW.	HUD990729D	07/29/99	6Y2	
115408		11962 E FLORENCE AVE	LITTLE LAKE SCHOOL & AUDITORIUM	SANTA FE SPRINGS	P	1919	HIST.RES.	DOE-19-82-0009-0000	12/17/82	6Y2	
							PROJ.REVW.		12/17/82	6Y2	
126712		13539 E FOSTER RD	GOLDEN WEST REFINING COMPANY	SANTA FE SPRINGS	P	1942	HIST.RES.	DOE-19-00-0354-0000	06/02/00	2S2	A
							PROJ.REVW.	HUD000509O	06/02/00	2S2	A
065039		9122 MILLERGROVE DR	RESIDENCE	SANTA FE SPRINGS	U		PROJ.REVW.	HUD870123F	02/19/87	6Y	
065040		9333 MILLERGROVE DR	RESIDENCE	SANTA FE SPRINGS	U		PROJ.REVW.	HUD870123G	02/19/87	6Y	
029348	19-178668	10135 PAINTER AVE	GERMAN BAPTIST CHURCH, BIBLE MISSI	SANTA FE SPRINGS	P	1894	HIST.SURV.	0670-0001-0000		3S	
072959		10211 PIONEER BLVD	CLARKE ESTATE	SANTA FE SPRINGS	M	1921	NAT.REG.	19-0031	01/04/90	1S	ABC

Bibliography: SunCal J011 Burnham Site

IC ID#: LA1317 **DATE:** 1983 **PAGES:** 42
AUTHOR: Tartaglia, Louis James
FIRM:
TITLE: PRELIMINARY archaeological Reconnaissance SAN FRANCISQUITO CANYON
AREA: 3700 ac
SITES: none

QUADNAME: Newhall
MEMO:

IC ID#: LA2009 **DATE:** 1990 **PAGES:** 40
AUTHOR: Bleitz, Dana E., and L. Mark Raab
FIRM: NCPA
TITLE: Report of Archaeological Reconnaissance Survey of: the SAN FRANCISQUITO PROJECT, PARCELS 9 AND 10 NEWHALL QUADRANGLE Los Angeles County, CALIforNIA
AREA: 134 ac
SITES: CA-LAN-1448H

QUADNAME: NEWHALL
MEMO:

IC ID#: LA2400 **DATE:** 1982 **PAGES:** 35
AUTHOR: Singer, Clay .A and Robert J. Wlodarski
FIRM: NARC
TITLE: DOCUMENTATIon Report for HISTORICAL Cultural Resources LOCATED ON A 654 ACRE PARCEL (TT 37539) located in SECO CANYON, Los Angeles County, CALIforNIA.
AREA:
SITES: CA-LAN-1432H

QUADNAME: NEWHALL
MEMO:

Bibliography: SunCal J011 Burnham Site

IC ID#: LA2446 **DATE:** 1991 **PAGES:** 48

AUTHOR: TARTAGLIA, LOUIS JAMES

FIRM:

TITLE: Cultural Resources Archaeological Survey SECO CANYon DEVELOPMENT III PROJECT TENTATIVE TRACT 46564

AREA:

SITES: none

QUADNAME: NEWHALL

MEMO:

IC ID#: LA2718 **DATE:** 1992 **PAGES:** 36

AUTHOR: Rasson, Judith A., Toni Snyder, Rene L. Vellanoweth and Helen Wells

FIRM: CULTURAL RESOURCE MANAGEMENT SERVICES

TITLE: CLOUGHERTY RANCH, LOS ANGELES COUNTY, CALIforNIA Cultural RESOURCES inVESTIGATION: LITERATURE SEARCH AND SURVEY FinAL

AREA:

SITES: CA-LAN-2070H, LAN-2071H, LAN-2072H

QUADNAME: NEWHALL

MEMO:

IC ID#: LA2987 **DATE:** 1987 **PAGES:** 200

AUTHOR: Woods, Clyde M., Andrew York, Rebecca Apple, Tirzo Gonzalez, Stephen Van Wormer, Tom

FIRM: Dames & Moore

TITLE: Bicep Transmission Project Magunden to Vincent/Pardee Alternative Corridor Study Archaeology, Ethnology, History and Paleontology Technical Reports (Draft)

AREA: 70 li mi

SITES: 19-000676,19-000405,19-000806,19-000947,19-000951,19-000952,19-000954,19-000955, and several non-trimonial sites

QUADNAME: Whitaker Peak,Newhall,Green Valley,Frazier Mtn.,Lebec,Little Buttes,Black Mtn.,Liebre Mtn.,L

MEMO: Same as VN1285

Bibliography: SunCal J011 Burnham Site

IC ID#: LA3093 **DATE:** 1993 **PAGES:** 105

AUTHOR: WELLS, HELEN, LESLIE HEUMANN, TONI SNYDER, RENE VELLANOWETH AND

FIRM: CULTURAL RESOURCE MANAGEMENT SERVICES AND LESLIE HUEMANN AND

TITLE: Phase 2 HISTORIC Resources Investigation for the PROPOSED TESORO DEL VALLE DEVELOPMENT, Los Angeles County, CALIforNIA

AREA: 1700 ac

SITES: CA-LAN-2072H, LAN-2071H, LAN-2070

QUADNAME: NEWHALL

MEMO:

IC ID#: LA3136 **DATE:** 1994 **PAGES:** 35

AUTHOR: Whitley, D. and Joseph Simon

FIRM: W and S Consultants

TITLE: Phase 1 Archaeological Survey and Cultural Resources ASSESSMENT for the SECO II WATER TANK PROJECT, SANTA CLARITA, LOS ANGLES COUNTY, CALIforNIA

AREA: 1 ac

SITES: none

QUADNAME: NEWHALL

MEMO:

Bibliography: SunCal J011 Burnham Site

IC ID#: LA3309 **DATE:** 1988 **PAGES:** 12

AUTHOR:

FIRM: Scientific Resource Surveys Inc.

TITLE: Preliminary Overview: Prehistoric and Historic Resources, Castaic Lake Water Agency Project Area Los Angeles County, California

AREA: 119,200 ac

SITES:

QUADNAME: Warm Springs,Whitaker Peak, Val Verde,Santa Susana San Fernando,Oat Mountain, Newhall,Mint Canyon, Agua Dulce

MEMO:

IC ID#: LA3904 **DATE:** 1995 **PAGES:** 31

AUTHOR: Anonymous

FIRM: W & S Consultants

TITLE: Phase I Archaeological Survey and Cultural Resources Basement for the Parcel Map 19091 North Rover Study Area, Los Angeles County, California

AREA: 800 ac

SITES: none

QUADNAME: Newhall

MEMO:

IC ID#: LA504 **DATE:** 1979 **PAGES:** 42

AUTHOR: Romani, John F.

FIRM:

TITLE: Assessment of the Impact UPon Cultural Resources BY the PROPOSED DEVELOPMENT of A 654 ACRE PARCEL located in SECO CANYON, SAUGUS, CALIforNIA

AREA: 654 ac

SITES: CA-LAN-1432H

QUADNAME: Newhall

MEMO:

Bibliography: SunCal J011 Burnham Site

IC ID#: LA511 **DATE:** 1981 **PAGES:** 20
AUTHOR: Greenwood, Roberta S. and John M. Foster
FIRM: Greenwood and Associates
TITLE: Cultural Resource Reconnaissance of the DRY CANYon RESERVOIR
AREA: 40 ac
SITES: none

QUADNAME: Newhall
MEMO:

IC ID#: LA5140 **DATE:** 1999 **PAGES:** 36
AUTHOR: Wlodarski, Robert J.
FIRM: HEART
TITLE: A Phase I Archaeological Study for Approximately 176 Acres (conceptual lottind study) San Francisquito Canyon, County of Los Angeles, CA
AREA: 176 ac
SITES: 19-001445

QUADNAME: Newhall
MEMO:

IC ID#: LA573 **DATE:** 1988 **PAGES:** 20
AUTHOR: Parr, Robert E.
FIRM:
TITLE: ENVIRonMENTAL Impact Evaluation: AN Archaeological Assessment of the RANCH/TAPIA/SAN FRAN CONTROL BURN areaS located in the CASTAIC LAKE area of Los Angeles County, CALIforNIA
AREA: 16 li mi
SITES: CA-LAN-1445H, LAN-1446H, LAN-1447H, LAN-1448H

QUADNAME: NEWHALL
MEMO:

Bibliography: SunCal J011 Burnham Site

IC ID#: LA678 **DATE:** 1980 **PAGES:** 45

AUTHOR: Tartaglia, Louis James

FIRM: LOUIS TARTAGLIA, CONSULTING ARCHAEOLOGIST

TITLE: Cultural Resource Survey of PRELIMINARY Minor Land DIVISIon NO 12316 SAN FRANCISQUITO CANYON COUNTY of LOS ANGELES, CALIforNIA

AREA: 10 ac

SITES: none

QUADNAME: Newhall

MEMO:

IC ID#: LA938 **DATE:** 1981 **PAGES:** 8

AUTHOR: Singer, Clay A.

FIRM: CLAY SINGER,

TITLE: Cultural Resource Survey and Impact Assessment for A 20+ ACRE LOT in SAN FRANCISQUITO CANYON (PARCEL map NO. 13726), Los Angeles County

AREA: 20 ac

SITES: none

QUADNAME: Newhall

MEMO:

APPENDIX C

Consultation with
Native American Heritage Commission

STATE OF CALIFORNIA Gray Davis, *Governor*

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
(916) 657-5390 - Fax

July 24, 2000

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

RE: SCH # 2000071052– Conditional Use Permit 00-81, Tentative Tract Map 53189

Dear Ms. Lam:

The Native American Heritage Commission has reviewed the above mentioned NOP. To adequately assess the project-related impact on archaeological resources, the Commission recommends the following action be required:

1. Contact the appropriate Information Center for a records search. The record search will determine:
   - Whether a part or all of the project area has been previously surveyed for cultural resources.
   - Whether any known cultural resources have already been recorded on or adjacent to the project area.
   - Whether the probability is low, moderate, or high that cultural resources are located within the project area.
   - Whether a survey is required to determine whether previously unrecorded cultural resources are present.

2. The final stage of the archaeological inventory survey is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
   - Required the report containing site significance and mitigation be submitted immediately to the planning department.
   - Required site forms and final written report be submitted within 3 months after work has been completed to the Information Center.

3. Contact the Native American Heritage Commission for:
   - A Sacred Lands File Check.
   - A list of appropriate Native American Contacts for consultation concerning the project site and assist in the mitigation measures.

Lack of surface evidence of archeological resources does not preclude the existence of archeological resources. Lead agencies should include provisions for accidentally discovered archeological resources during construction per California Environmental Quality Act (CEQA) §15064.5 (f). Health and Safety Code §7050.5 and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery and should be included in all environmental documents. If you have any questions, please contact me at (916) 653-4038.

Sincerely,

Debbie Pilas-Treadway
Associate Governmental Program Analyst

CC: State Clearinghouse

BonTerra CONSULTING

FAXED

TRANSMITTAL

DATE: September 4, 2003

TO:	Mr. Rob Wood	**FAX NUMBER:**	(916) 657-5390
	Environmental Specialist III	**TEL NUMBER:**	(916) 653-4082
	Native American Heritage Comm	**CLIENT CODE:**	SunCal
	915 Capitol Mall, Rm. 364	**PROJECT CODE:**	J011
	Sacramento, CA 95814	**FROM:**	Richard Shepard, M.A., RPA

☑ Fax / Pages 1 ☐ Mail ☐ Fed Ex / California Overnight ☐ Courier / Delivery

SUBJECT: Sacred Lands File Search and Contact List Request

Dear Mr. Wood:

At your earliest convenience, please conduct a search of the Sacred Lands File for a project area located in unincorporated lands within San Francisquito Canyon near the City of Santa Clarita in northern Los Angeles County .

The proposed project entails a 60-lot residential development within an approximately 186-acre property that is currently undeveloped. Much of the project area will be dedicated open space. San Francisquito Canyon wash will not be impacted.

The project area appears on the USGS **Newhall** 7.5' Quadrangle in the following Township/ Range/Section location:

Township 5 North, Range 16 West, Section 34 (northern half)
(San Bernardino Base and Meridian)

Please provide a list of Native Americans corresponding to the Santa Clarita/Saugus/Newhall area who could be contacted in regard to this project.

Please fax the results to me at (714) 444-9599, referencing your letter to "Vesting Tentative Tract (VTT) No. 53189, Burnham Site, San Francisquito Canyon."

Thank you very much.

Richard Shepard
Cultural Resources Manager

151 Kalmus Drive, Suite E-200 Costa Mesa, CA 92626-7969 (714) 444-9199 (714) 444-9599 Fax

STATE OF CALIFORNIA Gray Davis, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390
Web Site www.nahc.ca.gov

September 18, 2003

Richard Shepard
Cultural Resources Manager
BonTerra Consulting
151 Kalmus Drive, Suite E-200
Costa Mesa, CA 92626-7969

Sent By Fax: 714-444-9599
No. of Pages: 2

RE: Proposed project located in unincorporated lands within the San Fracisquito canyon near the City of Santa Clarita, Los Angeles County.

Dear Mr. Shepard:

A record search of the sacred lands file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend other with specific knowledge. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4040.

Sincerely,

Rob Wood
Environmental Specialist III

NATIVE AMERICAN CONTACTS
Los Angeles County
September 18, 2003

Charles Cook
32835 Santiago Road
Acton , CA 93510
(661) 269-1244

Chumash
Fernandeno
Tataviam
Kitanemuk

Beverly Salazar Folkes
1931 Shadybrook Drive
Thousand Oaks, CA 91362
805 492-7255

Chumash
Tataviam
Fernandeño

Ish Panesh United Band of Indians
John Valenzuela
PO Box 402597
Hesperia , CA 92340
(760) 949-2103 Home

Chumash
Tataviam
Tongva, Gabrielino
Vanyume; Serrano
Kitanemuk

Randy Guzman - Folkes
3044 East Street
Simi Valley , CA 93065-3929
(805) 579-9206
(805) 797-5605 (cell)
traditional75@hotmail.com Email

Chumash
Fernandeño
Tataviam
Shoshone Paiute
Yaqui

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regards to the cutural assessment for the proposed project located in unincorporated lands within the San Fraclsquito Canyon near the City of Santa Clarita, Los Angeles County.

APPENDIX D

Environmental Data Resources (EDR) Research

The EDR Radius Map
with GeoCheck®

Burnham Site
Lady Linda Ln/Las Tunas Trail
Castaic, CA 91390

Inquiry Number: 1049946.3s

September 18, 2003

Environmental Data Resources, Inc.

The Source For Environmental Risk Management Data

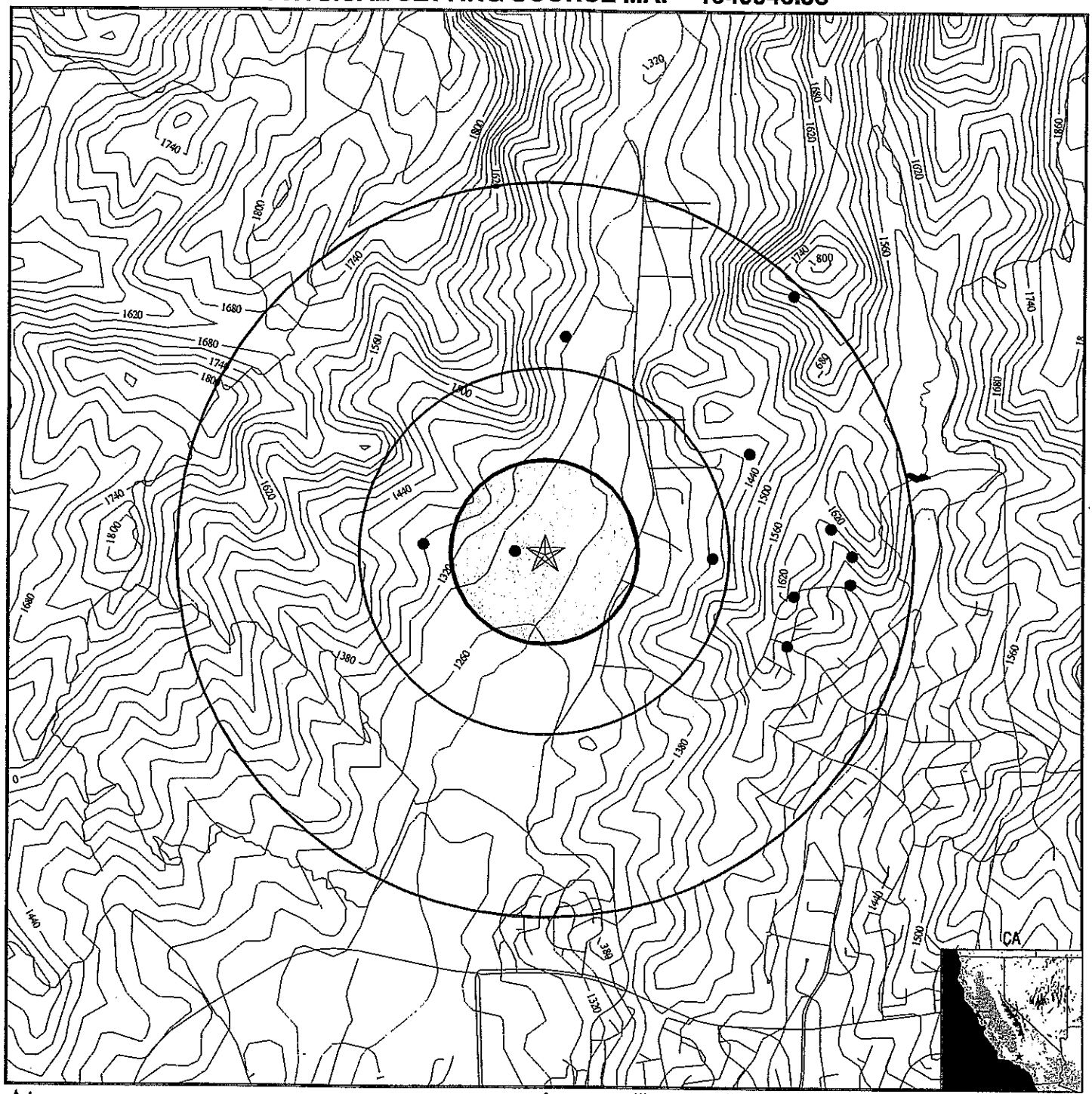
3530 Post Road
Southport, Connecticut 06890

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

FORM-NIC

PHYSICAL SETTING SOURCE MAP - 1049946.3s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- (W) Water Wells
- (P) Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- (GI) Indeterminate Groundwater Flow at Location
- (GV) Groundwater Flow Varies at Location
- (HD) Closest Hydrogeological Data
- Oil, gas or related wells

TARGET PROPERTY:	Burnham Site	CUSTOMER:	Bonterra Consulting
ADDRESS:	Lady Linda Ln/Las Tunas Trail	CONTACT:	Richard Shepard
CITY/STATE/ZIP:	Castaic CA 91390	INQUIRY #:	1049946.3s
LAT/LONG:	34.4789 / 118.5467	DATE:	September 18, 2003 5:57 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Direction Distance	Database	EDR ID Number

NE
1/2 - 1 Mile — **OIL_GAS** — **CA00013485**

Well Number:	1	Status:	Plugged and abandoned-dry hole
API Number:	03705404	Operator:	Fowler and Oles Oil Co
Latitude:	34.489066	Longitude:	-118.534043
Region:	2	Lease:	Robinett
Section:	26	Township:	05N
Range:	16W	Map Number:	252
Base and Meridian:	San Bernardino	Total Depth:	Not Reported
Spud Date:	Not Reported	Abandonment Date:	Not Reported

North
1/2 - 1 Mile — **OIL_GAS** — **CA00013487**

Well Number:	1	Status:	Plugged and abandoned-dry hole
API Number:	03705221	Operator:	Fox M. Boswell and Associates
Latitude:	34.487414	Longitude:	-118.544884
Region:	2	Lease:	Ruiz
Section:	27	Township:	05N
Range:	16W	Map Number:	252
Base and Meridian:	San Bernardino	Total Depth:	Not Reported
Spud Date:	Not Reported	Abandonment Date:	Not Reported

ENE
1/4 - 1/2 Mile — **OIL_GAS** — **CA00013282**

Well Number:	1	Status:	Plugged and abandoned-dry hole
API Number:	03705733	Operator:	H. P Oates & Irene L. Oates
Latitude:	34.482866	Longitude:	-118.536089
Region:	2	Lease:	Well No.
Section:	26	Township:	05N
Range:	16W	Map Number:	252
Base and Meridian:	San Bernardino	Total Depth:	Not Reported
Spud Date:	Not Reported	Abandonment Date:	Not Reported

East
1/2 - 1 Mile — **OIL_GAS** — **CA00013281**

Well Number:	1	Status:	Plugged and abandoned-dry hole
API Number:	03705732	Operator:	H. P Oates
Latitude:	34.479914	Longitude:	-118.532206
Region:	2	Lease:	Oates-Merrit Annex
Section:	35	Township:	05N
Range:	16W	Map Number:	252
Base and Meridian:	San Bernardino	Total Depth:	Not Reported
Spud Date:	Not Reported	Abandonment Date:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Direction
Distance — Database — EDR ID Number

West
1/4 - 1/2 Mile — **OIL_GAS** — **CA00013076**

Well Number:	302	Status:	Plugged and abandoned-dry hole
API Number:	03705515	Operator:	International Oil Developers
Latitude:	34.479219	Longitude:	-118.551493
Region:	2	Lease:	Powell
Section:	34	Township:	05N
Range:	16W	Map Number:	252
Base and Meridian:	San Bernardino	Total Depth:	Not Reported
Spud Date:	Not Reported	Abandonment Date:	Not Reported

WSW
1/8 - 1/4 Mile — **OIL_GAS** — **CA00013075**

Well Number:	301	Status:	Plugged and abandoned-dry hole
API Number:	03705514	Operator:	International Oil Developers
Latitude:	34.478949	Longitude:	-118.547186
Region:	2	Lease:	Powell
Section:	34	Township:	05N
Range:	16W	Map Number:	252
Base and Meridian:	San Bernardino	Total Depth:	Not Reported
Spud Date:	Not Reported	Abandonment Date:	Not Reported

East
1/2 - 1 Mile — **OIL_GAS** — **CA00012256**

Well Number:	1	Status:	Plugged and abandoned-dry hole
API Number:	03705664	Operator:	Mobil Oil Corp
Latitude:	34.478825	Longitude:	-118.531224
Region:	2	Lease:	Barstow
Section:	35	Township:	05N
Range:	16W	Map Number:	252
Base and Meridian:	San Bernardino	Total Depth:	Not Reported
Spud Date:	Not Reported	Abandonment Date:	Not Reported

ESE
1/4 - 1/2 Mile — **OIL_GAS** — **CA00006139**

Well Number:	1	Status:	Plugged and abandoned-dry hole
API Number:	03706267	Operator:	Youngs Bros.
Latitude:	34.478723	Longitude:	-118.537823
Region:	2	Lease:	Rentchler
Section:	34	Township:	05N
Range:	16W	Map Number:	252
Base and Meridian:	San Bernardino	Total Depth:	Not Reported
Spud Date:	Not Reported	Abandonment Date:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Direction / Distance	Database	EDR ID Number

ESE
1/2 - 1 Mile — **OIL_GAS** — **CA00012257**

Well Number:	2	Status:	Plugged and abandoned-dry hole
API Number:	03705665	Operator:	Mobil Oil Corp
Latitude:	34.477706	Longitude:	-118.531290
Region:	2	Lease:	Barstow
Section:	35	Township:	05N
Range:	16W	Map Number:	252
Base and Meridian:	San Bernardino	Total Depth:	Not Reported
Spud Date:	Not Reported	Abandonment Date:	Not Reported

ESE
1/2 - 1 Mile — **OIL_GAS** — **CA00012120**

Well Number:	1	Status:	Plugged and abandoned-dry hole
API Number:	03705678	Operator:	Mobil Oil Corp
Latitude:	34.477228	Longitude:	-118.533956
Region:	2	Lease:	Occidental
Section:	35	Township:	05N
Range:	16W	Map Number:	252
Base and Meridian:	San Bernardino	Total Depth:	Not Reported
Spud Date:	Not Reported	Abandonment Date:	Not Reported

ESE
1/2 - 1 Mile — **OIL_GAS** — **CA00015391**

Well Number:	24-35	Status:	Plugged and abandoned-dry hole
API Number:	03705293	Operator:	C. W. Colgrove
Latitude:	34.475249	Longitude:	-118.534265
Region:	2	Lease:	Oates
Section:	35	Township:	05N
Range:	16W	Map Number:	252
Base and Meridian:	San Bernardino	Total Depth:	Not Reported
Spud Date:	Not Reported	Abandonment Date:	Not Reported

APPENDIX E

Paleontological Resources Report

NATURAL HISTORY MUSEUM
OF LOS ANGELES COUNTY

Vertebrate Paleontology Section
Telephone: (213) 763-3325
FAX: (213) 746-7431
e-mail: smcleod@usc.edu

26 September 2003

BonTerra Consulting
151 Kalmus Drive, Suite E-200
Costa Mesa, CA 92626-7969

Attn: Richard Shepard, Cultural Resources Manager

re: Paleontological Resources for the proposed SunCal J0111 VTT 53189 project area

Dear Richard:

I have conducted a thorough search of our Vertebrate Paleontology records for the proposed SunCal J0111 VTT 53189 project area as outlined on the section of the Newhall USGS quadrangle map that you sent to me on 24 September 2003. We do not have any vertebrate fossil localities that lie directly within the proposed project boundaries, but we do have fossil vertebrate localities nearby from the same sedimentary deposits that occur as bedrock in the proposed project area.

Surficial deposits in most of the proposed project area, the lower lying areas in the eastern portion and up the mesa in the west-northwestern portion, consist of Quaternary Alluvium, with Quaternary gravels immediately along the San Francisquito Canyon channel, that are unlikely to contain significant vertebrate fossils, at least in the uppermost layers.

In the elevated areas around the mouth of the mesa in the western portion of the proposed project area, the bedrock is composed of the terrestrial Pliocene Saugus Formation. Our closest locality in the Saugus Formation is LACM 6871, southwest of proposed project area midway between Castaic Creek and San Francisquito Canyon east of Wayside Honor Rancho, that produced fossil horse, *Equus*, and dog, Canidae, specimens. Further to the southwest of the proposed project area east of Val Verde and west of Interstate 5 between Halsey Canyon and Highway 126 we have the localities LACM 6062 that produced fossil lizard, *Gerrhonotus*, and pocket gopher, *Thomomys*, and LACM 6063 that produced fossil horse, *Equus*, from the Saugus Formation. Almost due south of proposed project area in Saugus immediately east of Santa Clara River and south of Soledad Canyon Road we also have the locality LACM 6803, discovered during excavation for a Metropolitan Water District tunnel in Saugus Formation rocks, that produced fossil camel, Camelidae, and LACM 6804, that produced fossil horse, *Equus*.

On the northern side of the upper reaches of the mesa in the northwestern portion of the proposed project area there are exposures of the predominantly marine Late Miocene Castaic Formation. Our closest locality from this rock unit is LACM (CIT) 440, situated east-northeast of the proposed project area just above the southeastern margin of the Dry Canyon Reservoir, that produced a fossil specimen of Camel, Camelidae. Almost due east of the southern boundary of the proposed project area in the Castaic Formation we have locality LACM 5461, west of Haskell Canyon and southeast of the Dry Canyon Reservoir, that produced a rare specimen of fossil Tapir, Tapiridae.

Shallow excavations in the Quaternary Alluvium and Quaternary gravels as exposed in most of the proposed project area are unlikely to encounter significant vertebrate fossils. Deeper excavations in those areas, however, may well encounter significant fossil vertebrate remains. Any excavations in the Saugus Formation deposits in the proposed project area have a good likelihood of discovering significant fossil vertebrate specimens. Any excavations in the Castaic Formation exposures in the proposed project area may well encounter vertebrate fossils in these older and poorly known deposits. Any substantial subsurface excavations in the proposed project area, therefore, may well encounter significant or highly significant vertebrate fossils and should be monitored closely to quickly and professionally recover any fossil remains while not impeding development. Note that some of the fossils recovered from the Saugus Formation are very small and can only be detected by screen-washing and picking matrix. We recommend that sediment samples from both the Saugus Formation and the Castaic Formation be collected and processed to determine their suitability for producing vertebrate microfossils. Any fossils collected should be placed in an accredited scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice

APPENDIX F

CONFIDENTIAL/NOT FOR DISTRIBUTION
Archaeological Site Record CA-LAN-1445H

APPENDIX G

TRAFFIC STUDY

PRELIMINARY WORKING DRAFT
WORK-IN-PROGRESS

TRAFFIC IMPACT STUDY
TENTATIVE TRACT 53189
LOS ANGELES COUNTY, CALIFORNIA

Prepared for:

BonTerra Consulting
320 N. Halstead Street, Suite 130
Pasadena, California 91107

Prepared by:

Linscott, Law & Greenspan, Engineers
234 East Colorado Boulevard, Suite 400
Pasadena, California 91101
Phone: 626.796.2322
Fax: 626.792.0941
E-mail: pasadena@llgengineers.com

October 30, 2003
1-033375-1

Prepared under the supervision of:

DRAFT

David S. Shender, P.E.
Principal

Prepared by:

Bruce Chow
Transportation Planner III

LINSCOTT LAW & GREENSPAN
ENGINEERS

TABLE OF CONTENTS

Appendices

LINSCOTT LAW & GREENSPAN ENGINEERS

TABLE OF CONTENTS (Continued)

Tables **Page**

Figures

LINSCOTT LAW & GREENSPAN
ENGINEERS

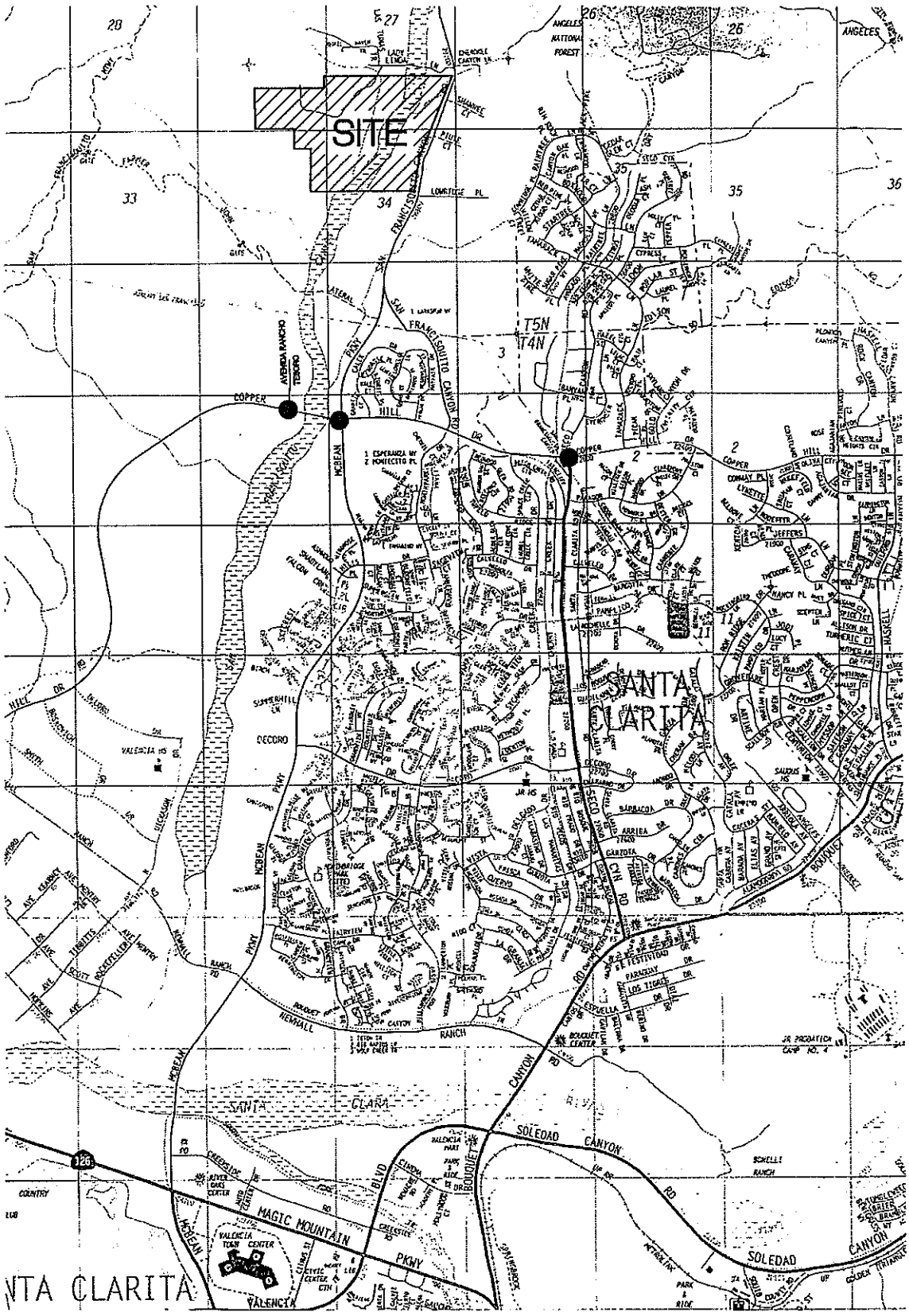
TRAFFIC IMPACT STUDY
TENTATIVE TRACT 53189
LOS ANGELES COUNTY, CALIFORNIA

INTRODUCTION

This traffic analysis has been conducted to identify and evaluate the potential impacts that traffic generated by the proposed development of Tentative Tract 53189 will have on the local roadway network. The proposed project is located in the Santa Clarita Valley area of unincorporated Los Angeles County and is situated north of Copper Hill Drive and west of San Francisquito Canyon Road.

The analysis follows County of Los Angeles and City of Santa Clarita traffic study guidelines and evaluates potential project-related impacts at three key intersections in the vicinity of the project site. The study intersections were determined by Los Angeles County Department of Public Works Traffic and Lighting Division staff and the City of Santa Clarita Transportation and Engineering Services staff. While the project site is in an unincorporated area of Los Angeles County, one of the three study intersections is located within the City of Santa Clarita. The City of Santa Clarita Intersection Capacity Utilization (ICU) method was used to determine Volume-to-Capacity (V/C) ratios and Levels of Service (LOS) at the one City of Santa Clarita study intersection while the County of Los Angeles ICU method was used to determine the V/C and LOS at the two County of Los Angeles study intersections.

This study (*i*) presents existing traffic volumes, (*ii*) forecasts future traffic volumes with and without the proposed project, (*iii*) determines project-related impacts, and (*iv*) presents recommendations for mitigation, where appropriate.



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MAP SOURCE: THOMAS BROS. GUIDE
STUDY INTERSECTION

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FIGURE 1
VICINITY MAP

TENTATIVE TRACT 53189

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PROJECT DESCRIPTION

The proposed project is located in the Santa Clarita Valley area of unincorporated Los Angeles County and is situated north of Copper Hill Drive and west of San Francisquito Canyon Road. The project site and general vicinity are displayed on Figure 1. The project site is currently vacant. Tentative Tract 53189 will consist of 60 single-family residential dwelling units with all 60 units located to the west of the San Francisquito Creek, which bisects the project site. The site plan for the proposed project is shown on Figure 2.

SITE ACCESS AND CIRCULATION

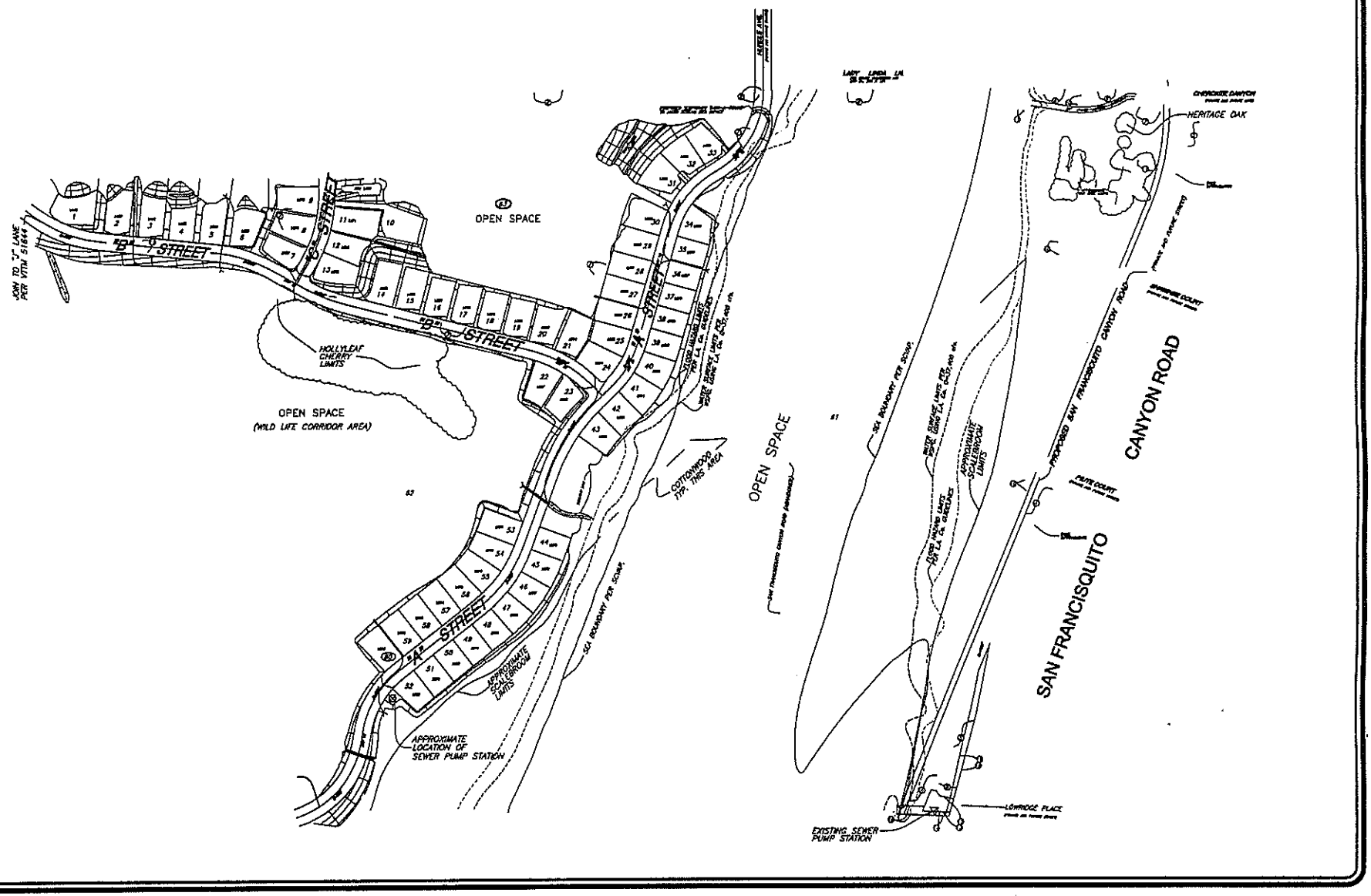
Site access for the proposed project is illustrated on Figure 2. Site access for the project will be via "A" Street to Stoney Creek Road through the adjacent Tesoro del Valle project that connects with Avenida Rancho Tesoro to Copper Hill Drive. No direct vehicular access to San Francisquito Canyon Road is proposed as part of the proposed project.

REGIONAL ACCESS

Primary regional access is provided by the Golden State (I-5) Freeway and the Antelope Valley (SR-14) Freeway. The I-5 Freeway southbound ramps at The Old Road and the I-5 Freeway northbound/southbound ramps at Magic Mountain Parkway are located approximately five miles southwest of the project site. The SR-14 Freeway northbound/southbound ramps at Via Princessa are located approximately nine miles southeast of the project site.

EXISTING STREET SYSTEM

Immediate access to the project site is via Avenida Rancho Tesoro which intersects Stoney Creek Road that joins "A" Street. The following three intersections were selected for analysis of potential impacts related to the proposed project in consultation with Los Angeles County staff and the City of Santa Clarita Transportation and Engineering Services staff:



SOURCE: B & E ENGINEERS

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FIGURE 2
SITE PLAN

TENTATIVE TRACT 53189

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1. Avenida Rancho Tesoro and Copper Hill Drive (County of Los Angeles).
2. McBean Parkway and Copper Hill Drive (County of Los Angeles).
3. Seco Canyon Road and Copper Hill Drive (City of Santa Clarita).

Intersection No. 1 is currently stop-controlled and will be signalized as part of the Tesoro del Valle project improvements. Intersection Nos. 2 and 3 are controlled by traffic signals. The existing lane configuration for each study intersection is displayed on Figure 3. A brief description of the important roadways in the project site vicinity is provided in the following paragraphs.

Golden State (I-5) Freeway is a major north-south freeway connecting the westerly Santa Clarita Valley with the City of Los Angeles. In the project vicinity, the I-5 Freeway contains four mainline freeway lanes in each direction. The Magic Mountain Parkway interchange is a diamond interchange with full northbound and southbound on-ramps and off-ramps while The Old Road/Rye Canyon Road interchange contains southbound on- and off-ramps.

Antelope Valley(SR-14) Freeway is a major north-south freeway connecting the easterly Santa Clarita Valley with the City of Los Angeles. In the project vicinity, the SR-14 Freeway contains four to five mainline freeway lanes in each direction. The Via Princessa interchange is a diamond interchange with full northbound and southbound on-ramps and off-ramps.

Copper Hill Drive is a primary east-west roadway that approximately follows the northerly Santa Clarita border. Currently, three through lanes in each direction are provided on Copper Hill Drive at Avenida Rancho Tesoro. West of the Tesoro del Valle Drive intersection, Copper Hill Drive currently provides one lane in each direction, although the roadway widens again at the Decoro Drive intersection to three lanes in each direction. East of the San Francisquito Canyon bridge, two lanes in each direction are currently provided. Three lanes in each direction on Copper Hill Drive, east of the San Francisquito Canyon bridge are planned in the future. Exclusive left-turn lanes are provided at major intersections in the project vicinity. Parking is generally not permitted on Copper Hill Drive in the project vicinity. The posted speed limit on Copper Hill Drive in the project vicinity is 55 miles per hour (MPH).

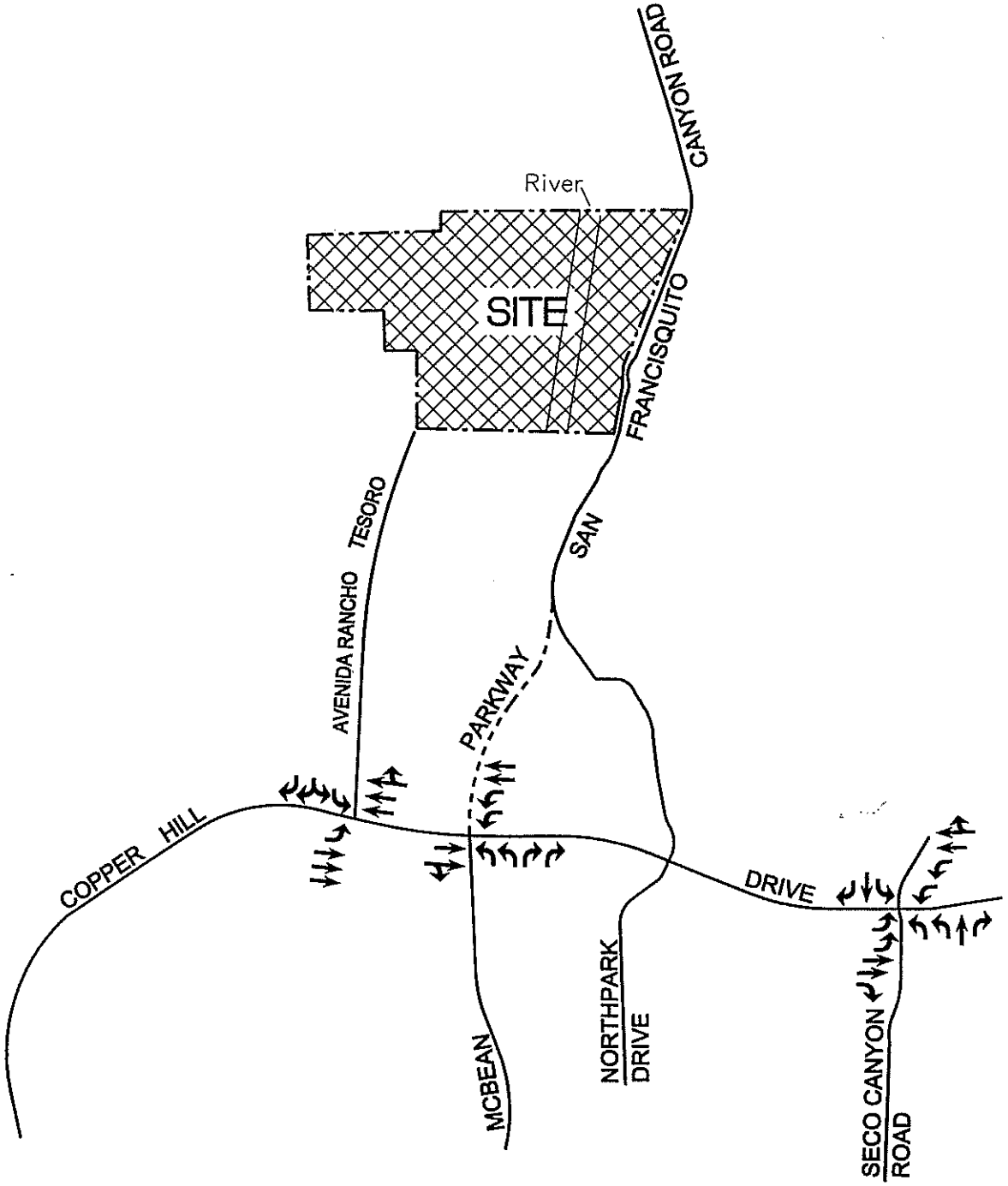

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FIGURE 3
EXISTING LANE CONFIGURATIONS

TENTATIVE TRACT 53189

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Avenida Rancho Tesoro is a north-south roadway north of Copper Hill Drive in the unincorporated area of Los Angeles County. The road is recently paved and currently provides one through lane in each direction.

McBean Parkway is a primary north-south roadway through the City of Santa Clarita. Generally three through lanes in each direction are provided in the project vicinity. Exclusive left-turn lanes are provided at major intersections in the project vicinity. McBean Parkway currently terminates at Copper Hill Drive although it is proposed to be extended northerly to intersect San Francisquito Canyon Road. Parking is generally not permitted on McBean Parkway in the project vicinity. The posted speed limit on McBean Parkway is 50 MPH.

Seco Canyon Road is a primary north-south roadway through the City of Santa Clarita. Generally two through lanes in each direction are provided south of Copper Hill Drive and one lane is provided in each direction northerly thereof. Exclusive left-turn lanes are provided at major intersections in the project vicinity. Parking is generally not permitted on Seco Canyon Road, south of Copper Hill Drive. Parking is permitted on Seco Canyon Road, north of Copper Hill Drive. The posted speed limit on Seco Canyon Road is 35 MPH north of Copper Hill Drive and 45 MPH south of Copper Hill Drive.

TRAFFIC COUNTS

Manual count data of vehicular turning movements were conducted at the three study intersections during the morning (AM) and afternoon (PM) commuter periods to determine the peak hour of traffic volume. The manual counts were conducted from 7:00 to 9:00 AM to determine the morning commuter peak hour and from 4:00 to 6:00 PM to determine the afternoon commuter peak hour. Traffic volumes at the study intersections show typical peak periods (i.e., between 7:00 AM and 9:00 AM and between 4:00 PM and 6:00 PM) generally associated with peak commuter hours.

It should be noted that at the Avenida Rancho Tesoro and Copper Hill Drive study intersection, construction related traffic to and from Avenida Rancho Tesoro were not included in the existing traffic counts since the construction traffic is temporary.

The AM and PM peak period manual counts of turning vehicles at the three study intersections are summarized in Table 1. The existing traffic volumes at these study intersections during the AM and PM peak hours are shown in Figures 4 and 5, respectively. Summary data worksheets of the manual counts are contained in Appendix A.

PROJECT TRIP GENERATION

Traffic volumes expected to be generated by the proposed project during the AM and PM peak hours, as well as over a 24-hour daily period, were estimated using generation rates provided in the 6th Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE), 1997. Traffic volumes generated by the proposed project land uses were based upon rates per number of dwelling units using Land Use code 210 (Single-Family Detached Housing) in *Trip Generation*.

The project trip generation is shown in Table 2. The proposed development is expected to generate 45 trips (11 inbound trips and 34 outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate 61 trips (39 inbound trips and 22 outbound trips). In addition, over a 24-hour period, the proposed project is expected to generate 574 daily trip ends during a typical weekday (287 inbound trips and 287 outbound trips).

PROJECT TRIP DISTRIBUTION

Traffic forecasted to be generated by the project during the AM and PM peak hours were assigned to the local roadway system. The traffic distribution pattern was based on the proposed land use, existing traffic movements, characteristics of the surrounding roadway system and nearby regional population and employment centers.

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TABLE 1
EXISTING TRAFFIC VOLUMES
Tentative Tract 53189

10/28/2003

INT.	INTERSECTION	DATE	DIR	AM PEAK HOUR		PM PEAK HOUR	
				BEGAN	VOLUME	BEGAN	VOLUME
1	Avenida Rancho Tesoro Copper Hill Drive [1], [2]	9/23/03	NB SB EB WB	7:00	0 41 583 1,875	4:45	0 28 1,227 353
2	McBean Parkway and Copper Hill Drive [2], [3]	9/18/03	NB SB EB WB	7:00	464 0 637 2,207	5:00	938 0 1,273 684
3	Seco Canyon Road and Copper Hill Drive [3], [4]	9/18/03	NB SB EB WB	7:00	595 794 613 1,197	5:00	638 449 1,460 665

[1] Counts conducted by The Traffic Solution.
[2] Study intersection is located in the County of Los Angeles.
[3] Counts conducted by Accutek Traffic Data, Inc.
[4] Study intersection is located in the City of Santa Clarita.

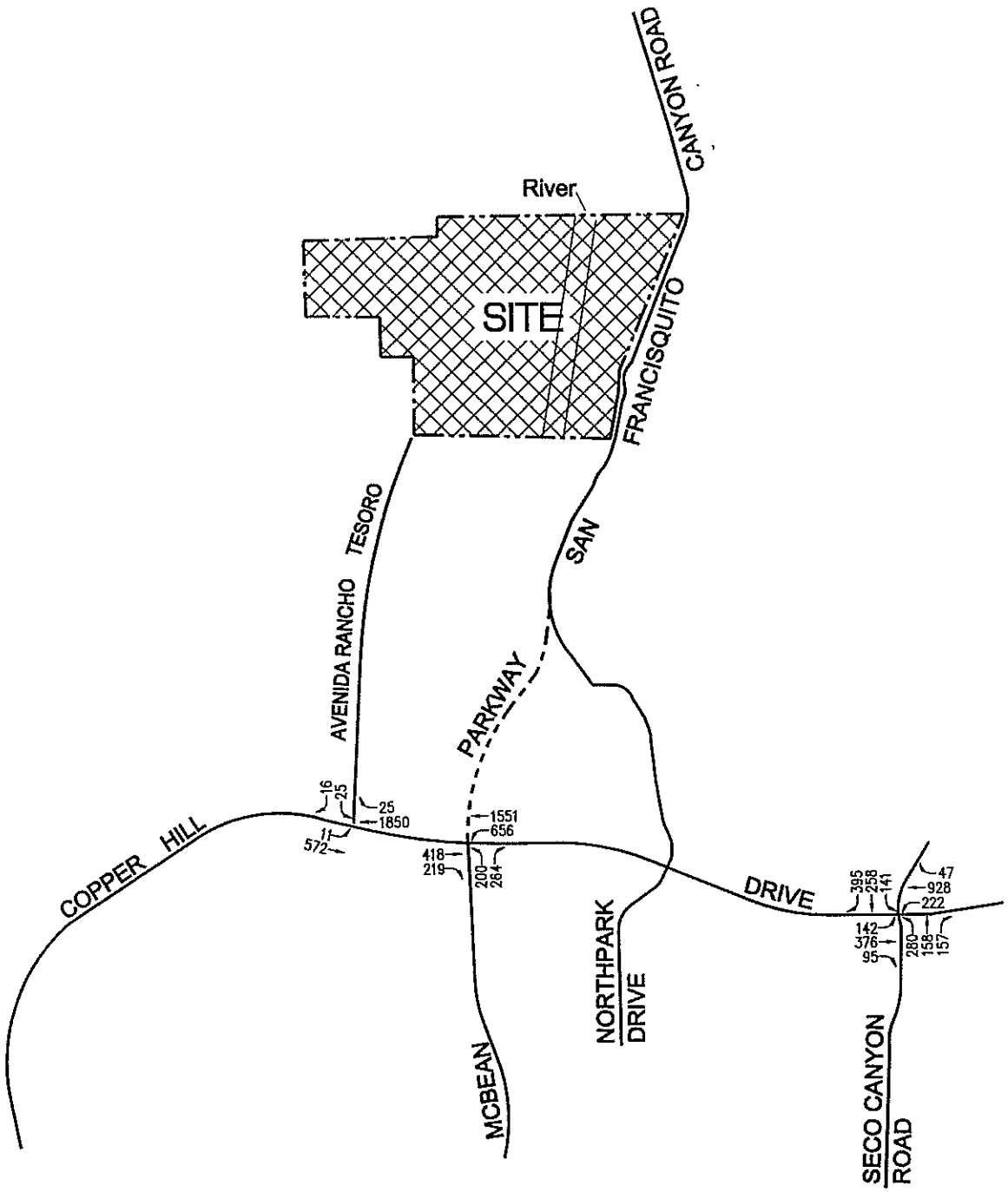

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FIGURE 4
EXISTING TRAFFIC VOLUMES
AM PEAK HOUR
TENTATIVE TRACT 53189

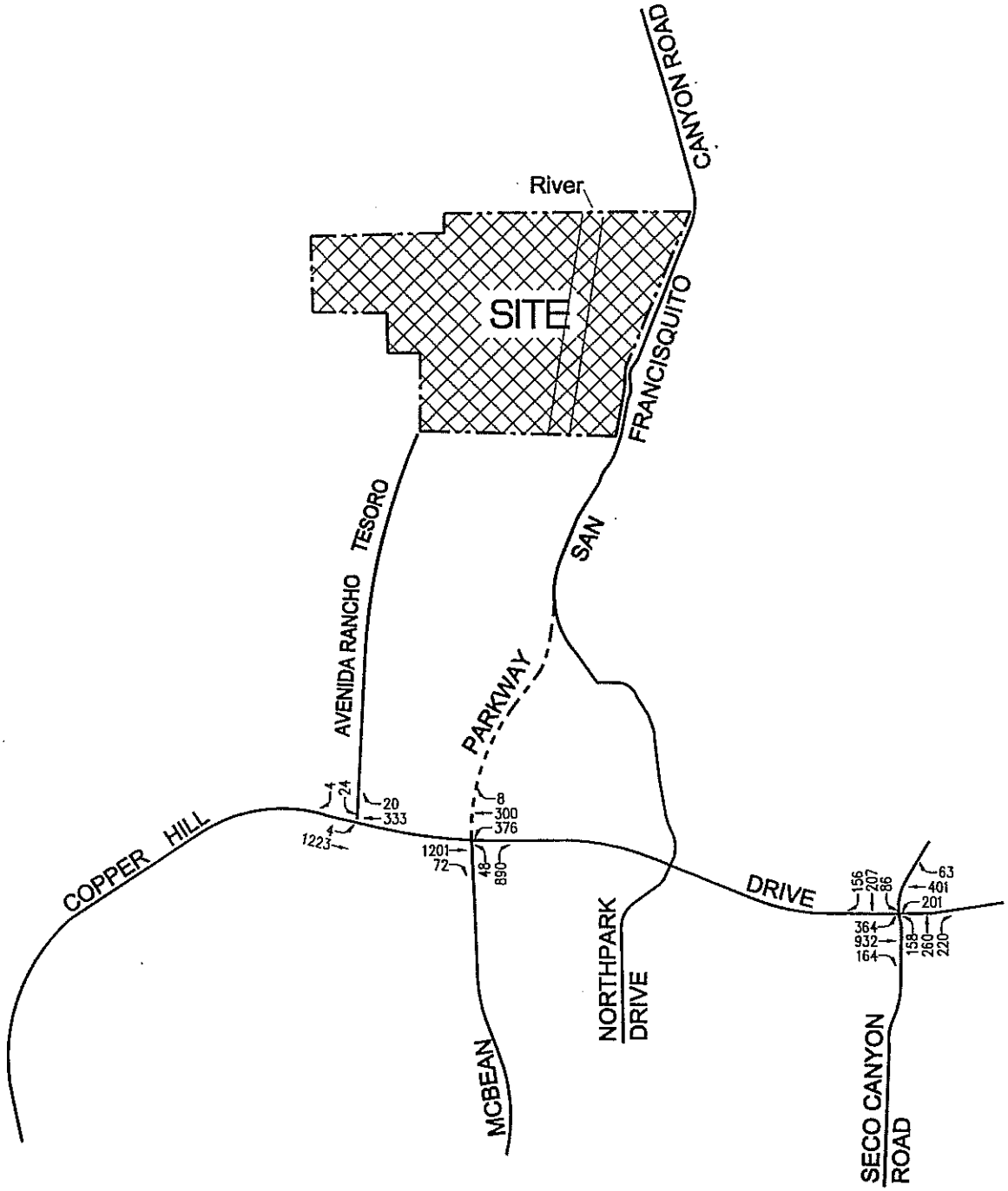

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FIGURE 5
EXISTING TRAFFIC VOLUMES
PM PEAK HOUR
TENTATIVE TRACT 53189

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Table 2
PROJECT TRIP GENERATION [1]
Tentative Tract 53189

10/28/2003

LAND USE	SIZE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Single-Family [3] Detached Housing	60 DU	574	11	34	45	39	22	61
TOTAL		**574**	**11**	**34**	**45**	**39**	**22**	**61**

[1] Source: ITE "Trip Generation", 6th Edition, 1997.
[2] Trips are one-way traffic movements, entering or leaving.
[3] ITE Land Use Code 210 (Single-Family Detached Housing) trip generation rates.

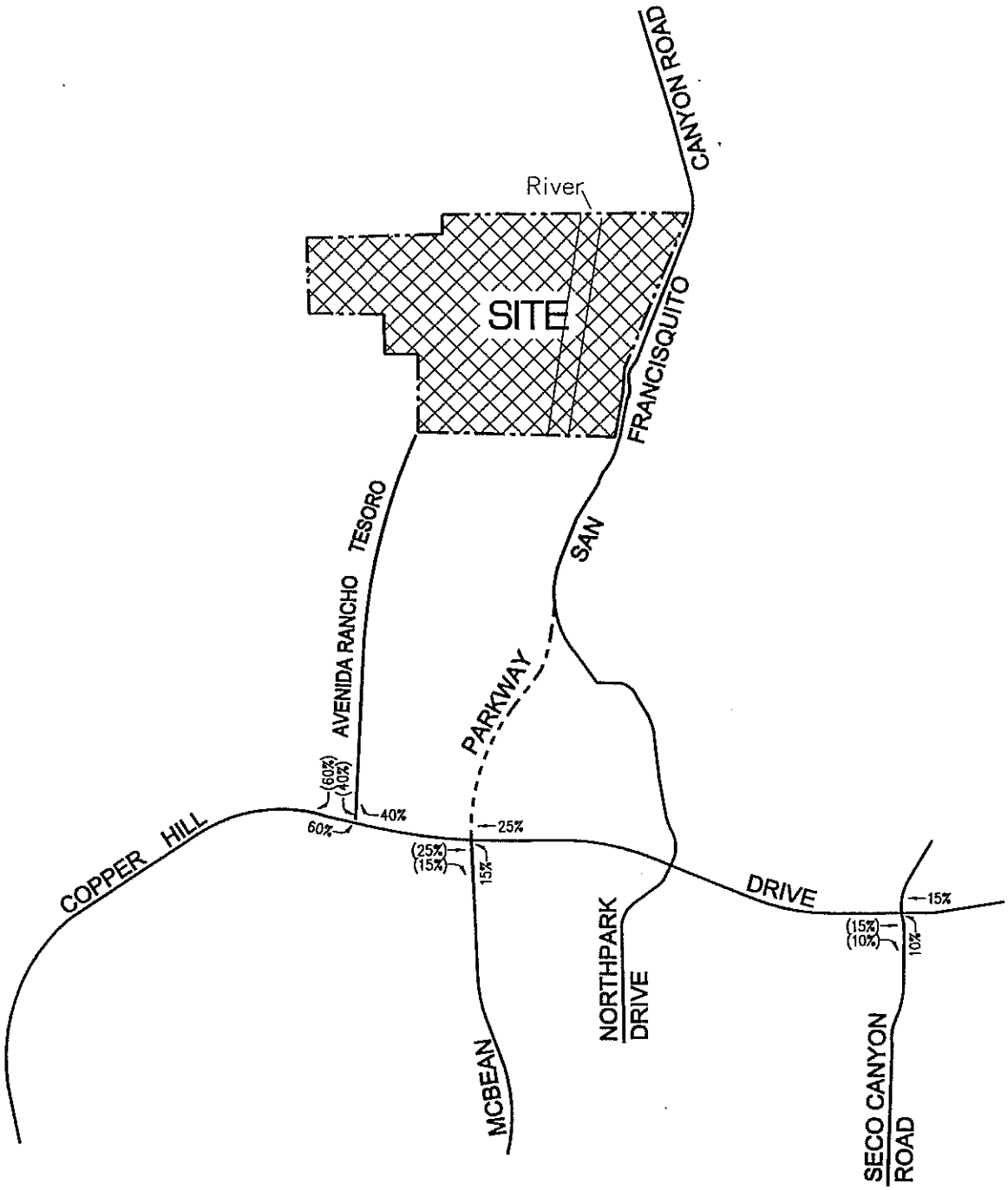
The project traffic volume distribution percentages at the three study intersections are displayed on Figure 6. The forecasted project traffic volumes for the AM and PM peak hours are displayed on Figures 7 and 8, respectively.

RELATED PROJECTS

In order to make a realistic estimate of future on-street conditions prior to the occupancy of the proposed project, the status of other known development projects (related projects) in the area has been researched. With this information, the potential impact of the proposed project can be evaluated within the context of the cumulative impact of all ongoing development. The related projects research was conducted based on information on file at the County of Los Angeles Department of Regional Planning and the City of Santa Clarita Planning Department. The list of the known development projects in the area is presented in Table 3. Figure 9 shows the location of the related projects.

Traffic volumes expected to be generated by the related projects were calculated using rates provided in the ITE *Trip Generation* manual. Table 4 shows the related projects respective traffic generation for the AM and PM peak hours, as well as on a daily basis for a typical weekday.

In order to account for unknown related projects not included in this analysis, the existing traffic volumes were increased at an annual rate of 6.6% to the year 2005 (i.e., the anticipated year of project build-out). The growth rate was approved by the Los Angeles County Department of Public Works staff and is consistent with those found in the LACMTA *2002 Congestion Management Program for Los Angeles County* manual. The growth factor was derived based on the published general traffic volume growth factors for the North County area (reference: 2002 CMP for Los Angeles County, Appendix D, Exhibit D-1, page D-8). Application of this "ambient growth" factor allows for a conservative "worst case" forecast of future traffic volumes in the area.



XX = INBOUND PERCENTAGES
(XX) = OUTBOUND PERCENTAGES

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FIGURE 6
PROJECT TRIP DISTRIBUTION

TENTATIVE TRACT 53189

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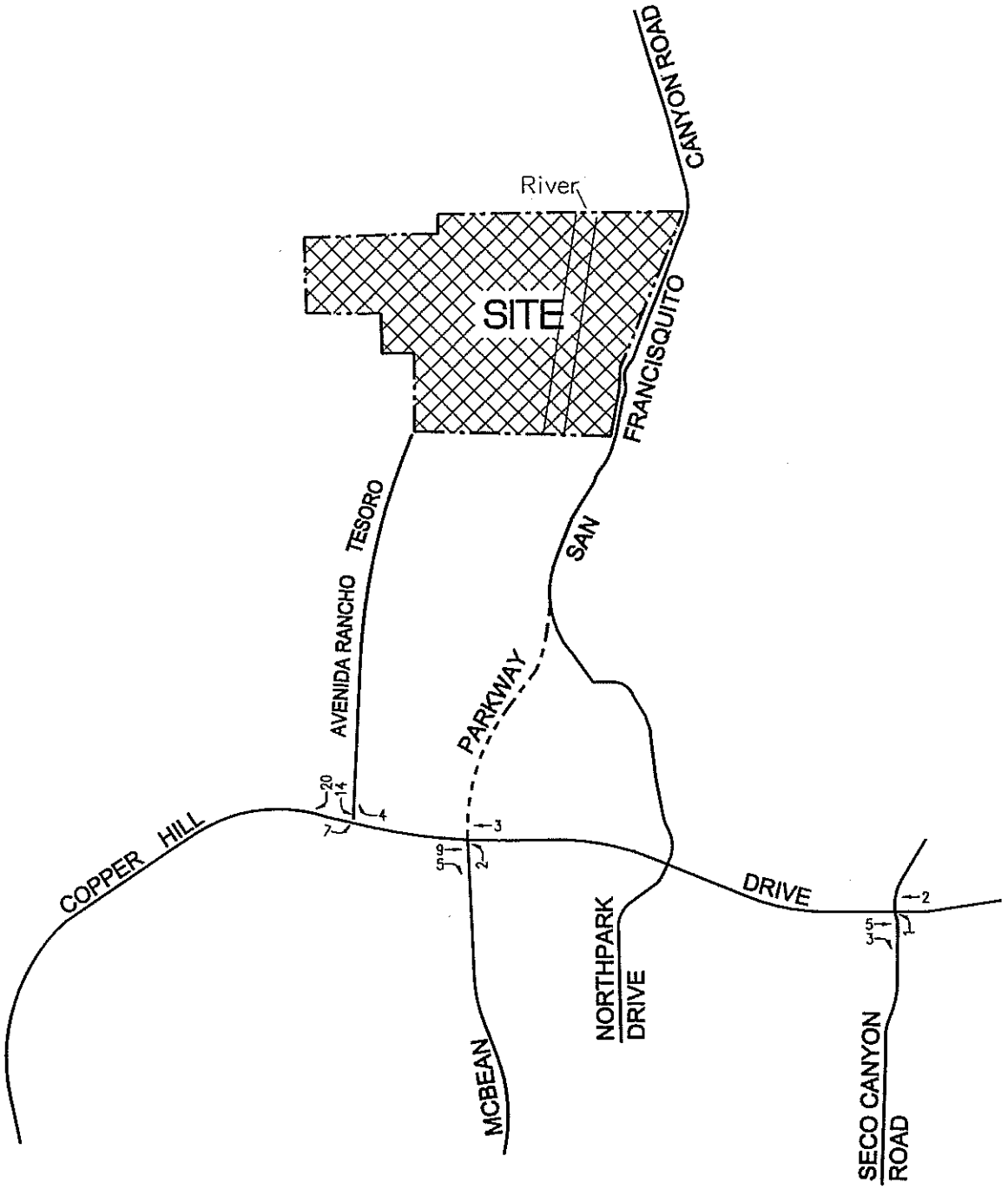

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FIGURE 7
PROJECT TRAFFIC VOLUMES
AM PEAK HOUR
TENTATIVE TRACT 53189

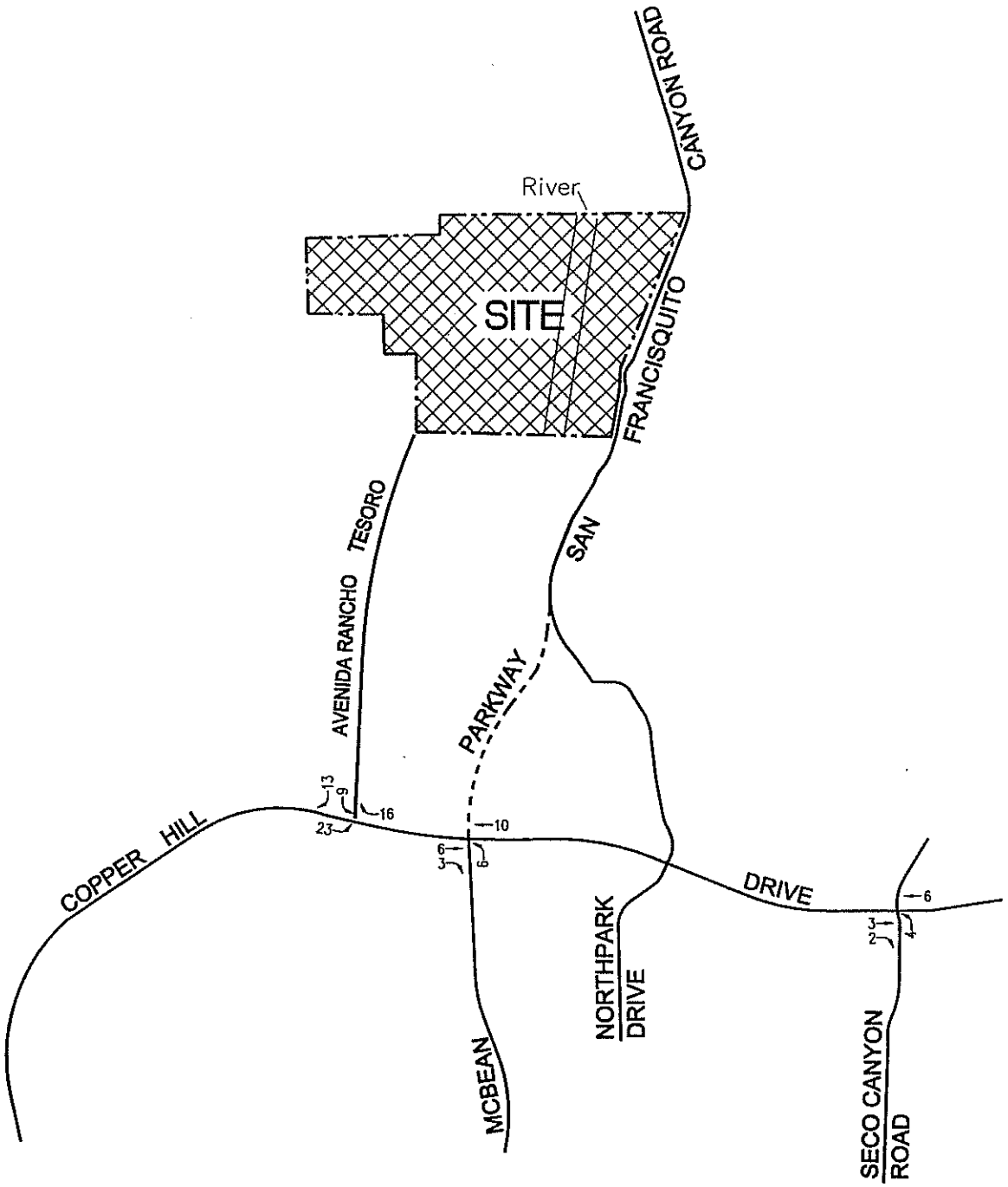

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FIGURE 8
PROJECT TRAFFIC VOLUMES
PM PEAK HOUR
TENTATIVE TRACT 53189

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Table 3
LIST OF RELATED PROJECTS
Tentative Tract 53189

30-Oct-2003

MAP NO.	PROJECT NUMBER	LOCATION	LAND USE	SIZE	STATUS
		County of Los Angeles [1]			
1	98170	Curtis Development Copper Hill Drive and Haskell Canyon Road	Single-Family Housing Condominium Commercial	421 DU 115 DU 39,200 SF (est.)	Approved Not Defined
2	88280	Seco Canyon Development North terminus of Boxwood Lane and Raintree Lane	Single-Family Housing	303 DU	Recorded
3	02-341	Davidon Homes North of Copper Hill Drive and east of Hidden Hills Drive	Single-Family Housing	6 DU	Pending
4	88321	Valencia Company Northerly extension of McBean Parkway between westerly extension Decoro Drive and San Francisquito Canyon Road	Single-Family Housing Condominium	701 DU 730 DU	Recorded
5	95075	Valencia Company North of Decoro Drive and east of Copper Hill Drive	Single-Family Housing Condominium	190 DU 268 DU	Approved
6	97088	Lincoln Property Company North of Copper Hill Drive between San Francisquito Canyon Drive and extension of Raintree Lane	Single-Family Housing	11 DU	Approved
7	98016	The Newhall Land and Farming Company East side of McBean Parkway, between Copper Hill Drive and Northpark Drive	Aparment	330 DU	Recorded
8	99155	Valencia Company Copper Hill Drive approximately 500 feet east of Smyth Drive and Boskovich Drive	Light Industrial	83,334 SF	Approved
9	92074	Montalvo Properties - Tesoro De Valle West of San Francisquito Canyon Road and north of Copper Hill Drive	Single-Family Housing Condominium Commercial	1,601 DU 901 DU 75,000 SF	Under Construction
10	98008	Valencia Company - West Creek West side of San Francisquito Creek	Single-Family Housing Condominium/Apartment Commercial	1,248 DU 1,297 DU 180,000 SF	Under Construction On Hold
11	88422	Maybell Bishop Copper Hill Drive, 1500 ft of Seco Canyon Road	Single Family Housing	419 DU	Approved
12	94021	Cucamonga Development Company North of Copper Hill Drive 1300 ft west of Haskell Canyon Road	Single Family Housing	194 DU	Approved
13	88044	Davidon Homes NWC of Copper Hill Drive and Haskell Canyon Road	Single Family Housing	213 DU	Approved

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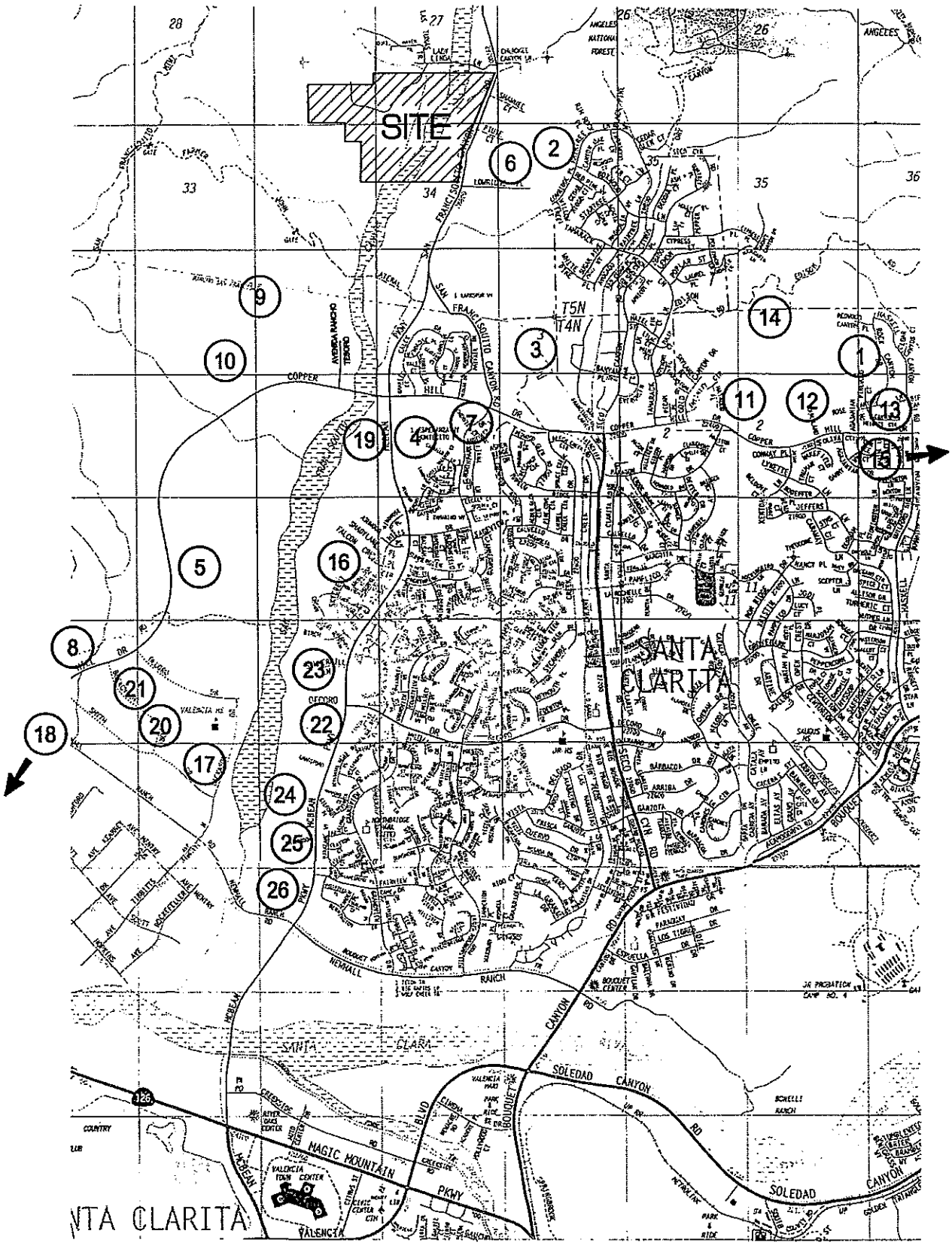
Table 3 (Continued)
LIST OF RELATED PROJECTS
Tentative Tract 53189

MAP NO.	PROJECT NUMBER	LOCATION	LAND USE	SIZE	STATUS
County of Los Angeles [1]					
14	88596	Seco Canyon Development #4 Northerly exit of Seco Canyon Road between Haskell Canyon Road and San Francisquito Canyon Road	Single Family Housing	594 DU	Approved
15	88082	CJB Development Inc. North terminus of Haskell Canyon Road northeast of Copper Hill Drive	Single-Family Housing Condominium	421 DU 99 DU	Approved
16	93179	The Newhall Land and Farming Company West of McBean Parkway between Decoro Drive and Copper Hill Drive	Single-Family Housing Condominium	146 DU 244 DU	Approved
City of Santa Clarita [2]					
17	03-154	Smyth Drive and Dickason Drive	Church	55,000 SF	Preliminary Review
18	03-170	NEC of Alta Vista and Constellation (Copper Hill Drive between Smyth Drive and Decoro Drive)	Industrial	132,000 SF	Approved
19	02-193	North Valencia II - Hidden Creek SWC of McBean Parkway and Copper Hill Drive	Senior Housing	275 DU	Approved
20	02-251	Greystone: North Valencia II - Alta Vista Copper Hill Drive and Alta Vista Drive, west of Valencia High School	Single-Family	160 DU	Approved
21	02-251	Standard Pacific: North Valencia II - Alta Vista Copper Hill Drive and Alta Vista Drive, west of Valencia High School	Single-Family Multi-Family	79 DU 90 DU	Approved
22	02-292	Warmington Homes: North Valencia II - The Willows SWC McBean Parkway and Decoro Drive	Single-Family	205 DU	Approved
23	02-3350	Fountain Glen: North Valencia II Decoro Drive and Sunny Creek	Single-Family	226 DU	Proposed
24	02-4420	William Lyons Homes: North Valencia II - Andora SWC of McBean Parkway and Cottonwood	Single-Family	141 DU	Proposed
25		KB Homes: North Valencia II West of McBean Parkway, South of Decoro Drive	Single-Family	155 DU	Proposed
26		Olsen Company: North Valencia II West of McBean Parkway, South of Decoro Drive	Single-Family	168 DU	Proposed

[1] Source: Project Search By Census Tract, County of Los Angeles Department of Regional Planning, September 8, 2003.
[2] Source: City of Santa Clarita Planning and Building Services Department.



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MAP SOURCE: THOMAS BROS. GUIDE

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FIGURE 9
LOCATION OF RELATED PROJECTS

TENTATIVE TRACT 53189

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Table 4
RELATED PROJECTS TRIP GENERATION [1]
Tentative Tract 53189

28-Oct-2003

MAP NO.	LAND USE	SIZE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2] IN	AM PEAK HOUR VOLUMES [2] OUT	AM PEAK HOUR VOLUMES [2] TOTAL	PM PEAK HOUR VOLUMES [2] IN	PM PEAK HOUR VOLUMES [2] OUT	PM PEAK HOUR VOLUMES [2] TOTAL
	County of Los Angeles								
1	Single Family Residential [3]	421 DU	4,029	79	237	316	272	153	425
	Condominium [4]	115 DU	674	9	42	51	42	20	62
	Retail [5]	39,200 SF	3,733	56	36	92	162	176	338
2	Single Family Residential [3]	303 DU	2,900	57	170	227	196	110	306
3	Single Family Residential [3]	6 DU	57	1	3	4	4	2	6
4	Single Family Residential [3]	701 DU	6,709	131	394	525	453	255	708
	Condominium [4]	730 DU	4,278	55	267	322	264	130	394
5	Single Family Residential [3]	190 DU	1,818	36	107	143	123	69	192
	Condominium [4]	268 DU	1,570	20	98	118	97	48	145
6	Single Family Residential [3]	11 DU	105	2	6	8	7	4	11
7	Apartment [6]	330 DU	2,188	27	141	168	137	68	205
8	Light Industrial [7]	83,334 SF	581	67	9	76	10	72	82
9	Single Family Residential [3]	1,601 DU	15,322	300	901	1,201	1,035	582	1,617
	Condominium [4]	901 DU	5,280	67	329	396	326	161	487
	Retail [5]	75,000 SF	5,665	82	52	134	249	270	519
10	Single Family Residential [3]	1,248 DU	11,943	234	702	936	807	454	1,261
	Condominium [4]	1,297 DU	7,600	97	474	571	469	231	700
	Retail [5]	180,000 SF	9,947	138	88	226	444	481	925
11	Single Family Residential [3]	419 DU	4,010	79	236	315	271	152	423
12	Single Family Residential [3]	194 DU	1,857	36	109	145	125	71	196
13	Single Family Residential [3]	213 DU	2,038	40	120	160	138	77	215
14	Single Family Residential [3]	594 DU	5,685	111	334	445	384	216	600
15	Single Family Residential [3]	421 DU	4,029	79	237	316	272	153	425
	Condominium [4]	99 DU	580	7	36	43	36	18	54
16	Single Family Residential [3]	146 DU	1,397	27	82	109	94	53	147
	Condominium [4]	244 DU	1,430	18	89	107	88	43	131
	City of Santa Clarita								
17	Church [8]	55,000 GSF	501	21	18	39	20	17	37
18	Light Industrial [7]	132,000 SF	920	107	15	122	16	114	129
19	Senior Housing [9]	275 DU	1,061	21	26	47	42	33	75
20	Single Family Residential [3]	594 DU	5,685	111	334	445	384	216	600
21	Single Family Residential [3]	79 DU	756	15	44	59	51	29	80
	Apartment [6]	90 DU	597	7	39	46	37	18	55
22	Single Family Residential [3]	205 DU	1,962	38	115	153	133	75	208
23	Single Family Residential [3]	226 DU	2,163	42	127	169	146	82	228
24	Single Family Residential [3]	141 DU	1,349	26	79	105	91	51	142
25	Single Family Residential [3]	155 DU	1,483	29	87	116	100	56	156
26	Single Family Residential [3]	168 DU	1,608	32	95	127	109	61	170
	TOTAL		123,510	2,304	6,278	8,582	7,633	4,821	12,454

[1] Source: ITE "Trip Generation", 6th Edition, 1997.
[2] Trips are one-way traffic movements, entering or leaving.
[3] ITE Land Use Code 210 (Single Family Detached Housing) average trip generation rates.
[4] ITE Land Use Code 230 (Residential Condo./Townhome) average trip generation rates.
[5] ITE Land Use Code 820 (Shopping Center) trip generation equation rates.
[6] ITE Land Use Code 220 (Apartment) average trip generation rates.
[7] ITE Land Use Code 110 (Light Industrial) average trip generation rates.
[8] ITE Land Use Code 560 (Church) average trip generation rates.
[9] ITE Land Use Code 250 (Retirement Community) average trip generation rates.

TRAFFIC IMPACT ANALYSIS METHODOLOGY

The County of Los Angeles and City of Santa Clarita study intersections were evaluated using their respective Intersection Capacity Utilization (ICU) methodology. This method determines Volume-to-Capacity (V/C) ratio on a critical lane basis. The overall intersection V/C ratio is subsequently assigned a Level of Service (LOS) value to describe intersection operations. The LOS vary from LOS A (free flow) to LOS F (jammed condition). It should be noted that LOS D is typically recognized as the minimum acceptable level of service in urban areas. Appendix B provides descriptions of the ICU methodology and their corresponding Levels of Service.

Impact Criteria and Thresholds

The relative impact of the added project traffic volumes expected to be generated by the proposed Tentative Tract 53189 project during the AM and PM peak hours was evaluated based on analysis of future operating conditions at the three study intersections, without and with the proposed project. The previously discussed capacity analysis procedures were utilized to evaluate the future V/C relationships and service level characteristics at each study intersection.

For the two County of Los Angeles study intersections, the significance of the potential project generated traffic impacts was identified using the traffic impact analysis guidelines set forth in the County of Los Angeles Department of Public Works' *Traffic Impact Analysis Report Guidelines*, January, 1997. According to the County's published guidelines, the impact is considered significant if the project-related increase in the V/C ratio equals or exceeds the following threshold:

	Pre-Project V/C	LOS	Project Related Increase in V/C
•	>0.700-0.800	C	equal to or greater than 0.04
•	>0.800-0.900	D	equal to or greater than 0.02
•	> 0.900	E-F	equal to or greater than 0.01

Per the County's *Traffic Impact Analysis Report Guidelines*, the ICU calculations utilize a lane capacity of 1,600 vehicles per hour (vph) per lane and 2,880 vph for dual left-turn and right-turn lanes. Additionally, a clearance factor of 0.10 is utilized.

For the one City of Santa Clarita study intersection, the significance of the potential project generated traffic impacts was identified using the traffic impact criteria set forth in the City of Santa Clarita's *Traffic Impact Report Guidelines*. According to the City's *Traffic Impact Report Guidelines*, a significant transportation impact is determined based on the following sliding scale criteria:

	Final V/C	LOS	Project Related Increase in V/C
•	0.00-0.79	A-C	equal to or greater than 0.04
•	0.80-0.89	D	equal to or greater than 0.02
•	0.90 or more	E-F	equal to or greater than 0.01

Per the City's *Traffic Impact Report Guidelines*, the ICU calculations utilize a lane capacity of 1,750 vph for left-turn, through, and right-turn lanes. Additionally, clearance factors of 0.05 for two phases, 0.07 for three/five phases and 0.10 for six phases or more are utilized.

As previously mentioned, an annual 6.6% ambient growth rate was assumed in order to account for unknown related projects in the study area (up to the Year 2005). Additionally, it was assumed that the build-out of the proposed project will be complete and occupied in year 2005. It should be noted that the unsignalized intersection in the study was analyzed with the signalized intersection methodology.

Traffic Impact Analysis Scenarios

For the County of Los Angeles study intersections, LOS calculations have been prepared for the following scenarios:

(a) Existing conditions.
(b) Condition (a) plus 6.6% ambient traffic growth up through Year 2005.
(c) Condition (b) with completion and occupancy of the proposed project.
(d) Condition (c) with implementation of project mitigation measures (if necessary).
(e) Condition (d) with cumulative traffic of other related projects.
(f) Condition (e) with implementation of regional mitigation measures (if necessary)

For the City of Santa Clarita study intersection, LOS calculations have been prepared for the following scenarios:

(a) Existing conditions.
(b) Condition (a) plus 6.6% ambient traffic growth up through Year 2005.
(c) Condition (b) with completion and occupancy of the related projects.
(d) Condition (c) with completion and occupancy of the proposed project.
(e) Condition (d) with implementation of project mitigation measures (if necessary).

The traffic volumes for each new condition were added to the volumes in the prior condition to determine the change in capacity utilization at the following study intersections:

1. Avenida Rancho Tesoro and Copper Hill Drive (County of Los Angeles).
2. McBean Parkway and Copper Hill Drive (County of Los Angeles).
3. Seco Canyon Road and Copper Hill Drive (City of Santa Clarita).

Summaries of the V/C ratios and LOS values during the AM and PM peak hours are shown in Table 5 for the two County of Los Angeles study intersections and are shown in Table 6 for the one City of Santa Clarita study intersection. Appendix B contains the ICU data worksheets for the study intersections.

TRAFFIC ANALYSIS

Existing Conditions

As shown in Tables 5 and 6, the three study intersections are currently operating at acceptable Levels of Service (LOS D or better) during the AM peak hour and PM peak hour. As previously mentioned, the existing traffic volumes for the AM and PM peak hours are displayed on Figures 4 and 5, respectively.

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Table 5
SUMMARY OF VOLUME TO CAPACITY RATIOS
AND LEVELS OF SERVICE
AM AND PM PEAK HOURS
Tentative Tract 53189
County of Los Angeles Study Intersections

10/29/2003

NO.	INTERSECTION	PEAK HOUR	[1] YEAR 2003 EXISTING V/C	LOS	[2] YEAR 2005 W/ AMBIENT GROWTH V/C	LOS	[3] YEAR 2005 W/ PROPOSED PROJECT V/C	LOS	CHANGE V/C [(3)-(2)]	SIGNIF. IMPACT	[4] YEAR 2005 W/ RELATED PROJECTS V/C	LOS	[5] YEAR 2005 W/ REGIONAL MITIGATION V/C	LOS
1	Avenida Rancho Tesoro Copper Hill Drive	AM PM	0.506 0.361	A A	0.560 0.395	A A	0.572 0.400	A A	0.012 0.005	NO NO	0.879 0.728	D C	0.879 0.728	D C
2	McBean Parkway and Copper Hill Drive	AM PM	0.654 0.807	B D	0.727 0.900	C D	0.729 0.903	C E	0.002 0.003	NO NO	0.938 1.174	E F	0.869 0.882	D D

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Table 6
SUMMARY OF VOLUME TO CAPACITY RATIOS
AND LEVELS OF SERVICE
AM AND PM PEAK HOURS
Tentative Tract 53189
City of Santa Clarita Study Intersection

29-Oct-2003

NO.	INTERSECTION	PEAK HOUR	[1] YEAR 2003 EXISTING V/C	LOS	[2] YEAR 2005 W/ AMBIENT GROWTH V/C	LOS	[3] YEAR 2005 W/ RELATED PROJECTS V/C	LOS	[4] YEAR 2005 W/ PROPOSED PROJECT V/C	LOS	CHANGE V/C [(4)-(3)]	SIGNIF. IMPACT
3	Seco Canyon Road and Copper Hill Drive	AM	0.695	B	0.777	C	0.873	D	0.874	D	0.001	NO
		PM	0.591	A	0.660	B	0.811	D	0.812	D	0.001	NO

With Ambient Growth

Growth in traffic due to the combined effects of continuing development, intensification of existing development, and other factors, were conservatively assumed to be 6.6% per year through Year 2005. This ambient growth incrementally increases the V/C ratios at all of the study intersections. As shown in Tables 5 and 6, the three study intersections are expected to continue to operate at acceptable Levels of Service (LOS D or better) during both the AM and PM peak hours. The existing plus ambient growth traffic volumes for the AM and PM peak hours are displayed on Figures 10 and 11, respectively.

With Related Projects

The City of Santa Clarita analysis procedures require that traffic due to Related Projects be considered prior to consideration of traffic due to the proposed project. Table 6 shows that the LOS at the Seco Canyon Road and Copper Hill Drive study intersection is incrementally increased by the addition of traffic generated by the related projects listed in Table 3. As shown on Table 6, the one City of Santa Clarita study intersection is expected to operate at acceptable Levels of Service (LOS D or better) during both the AM and PM peak hours.

With Proposed Project

As shown in Tables 5 and 6, application of the respective County of Los Angeles' and the City of Santa Clarita's threshold criteria to the "With Proposed Project" scenario indicates that none of the study intersections are anticipated to be significantly impacted by the proposed project during the AM and PM peak hours. Therefore, no project-related traffic mitigation measures are required.

The future with project (existing, ambient growth and project) traffic volumes for the AM and PM peak hours are displayed on Figures 12 and 13, respectively.

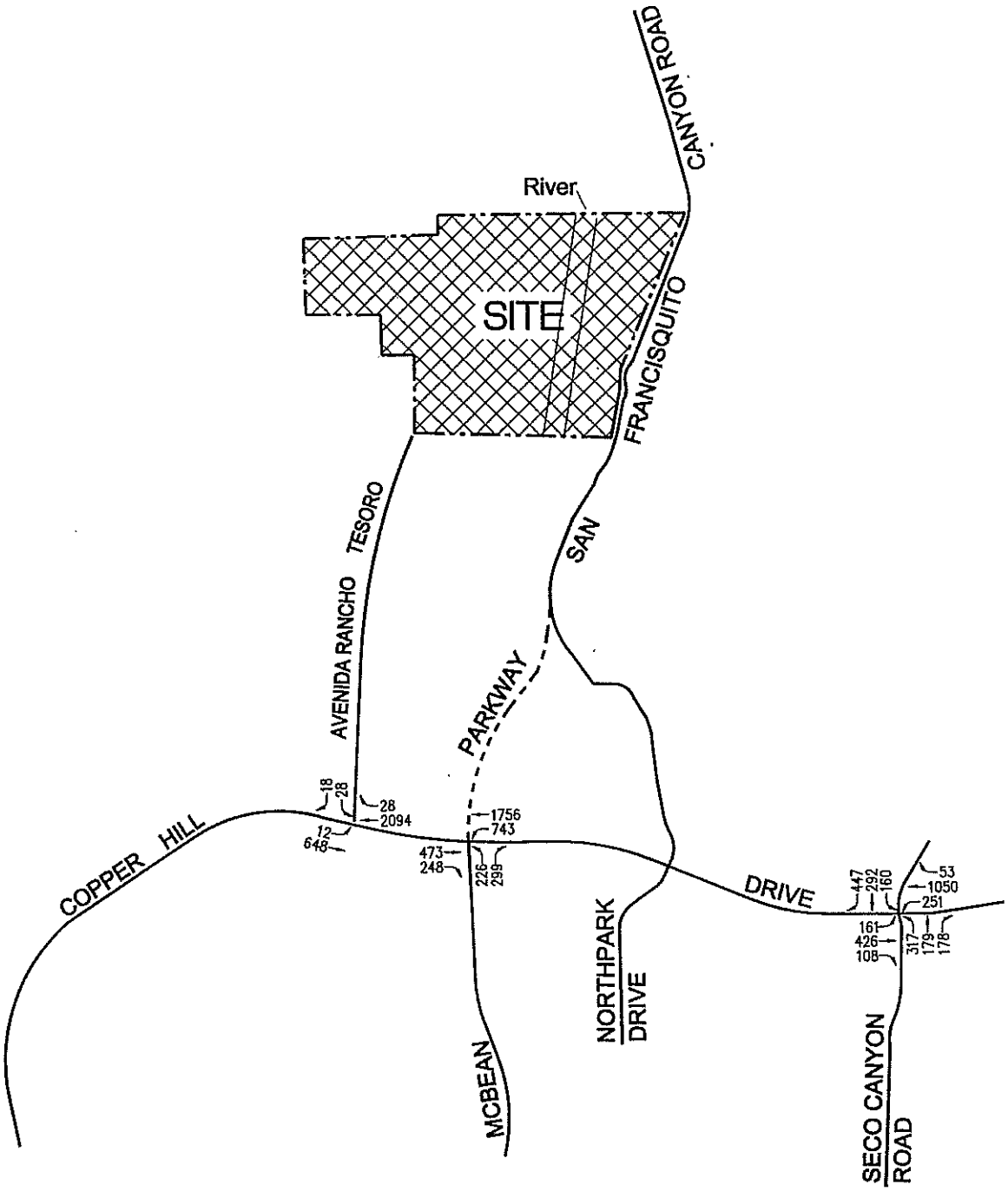

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FIGURE 10
EXISTING WITH AMBIENT GROWTH TRAFFIC VOLUMES
AM PEAK HOUR
TENTATIVE TRACT 53189

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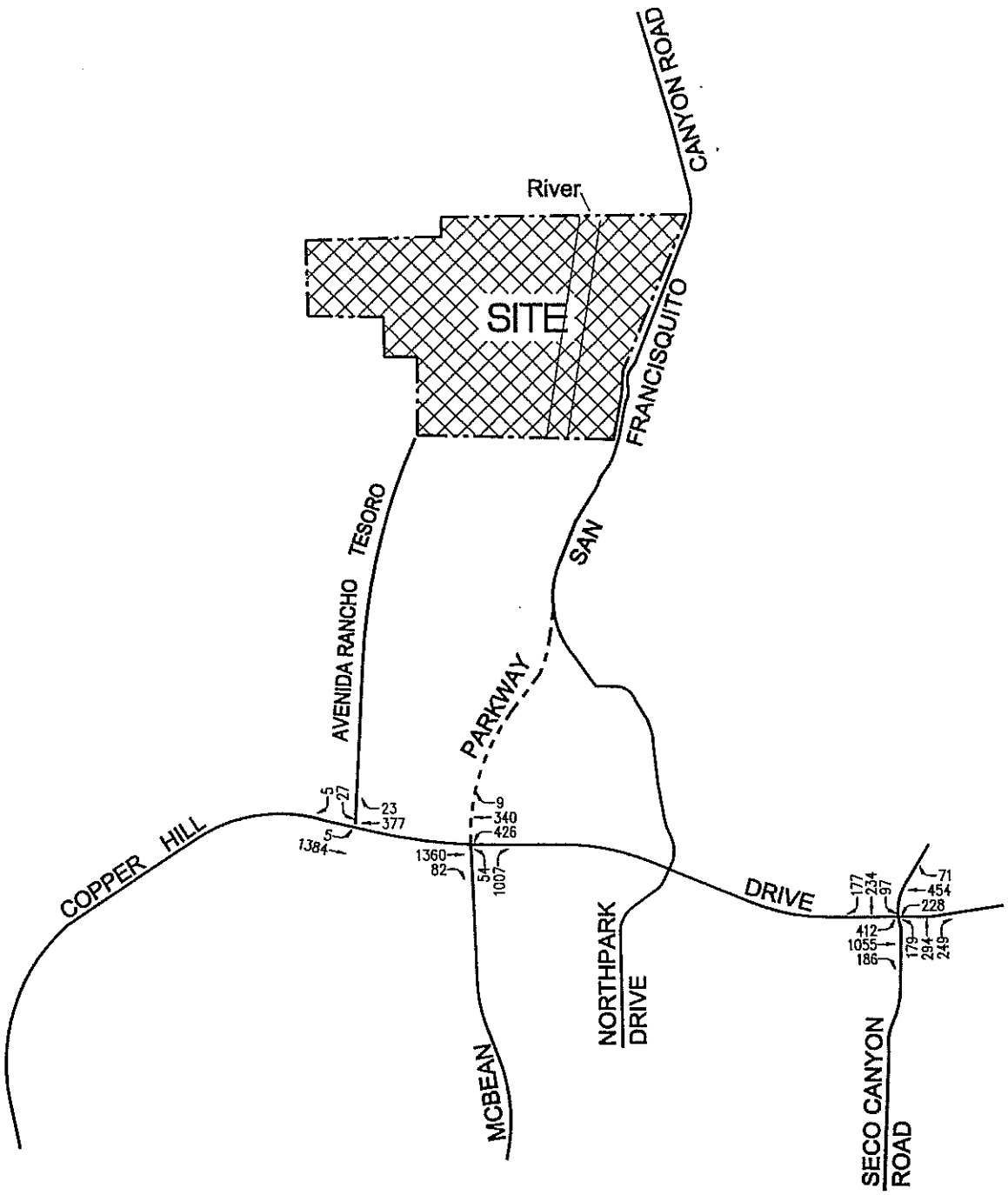

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FIGURE 11
EXISTING WITH AMBIENT GROWTH TRAFFIC VOLUMES
PM PEAK HOUR
TENTATIVE TRACT 53189

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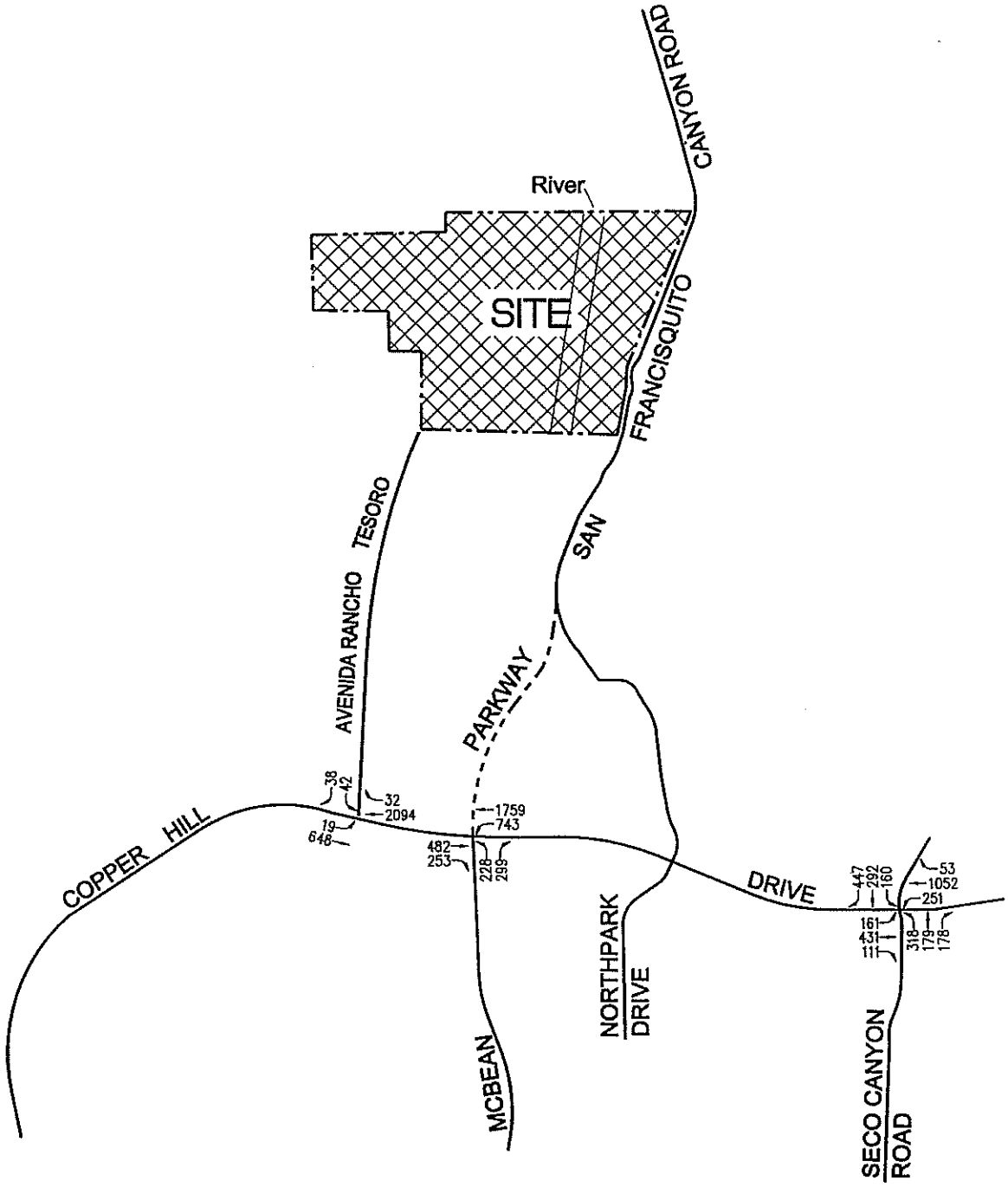

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FIGURE 12
FUTURE WITH PROJECT TRAFFIC VOLUMES
AM PEAK HOUR
TENTATIVE TRACT 53189

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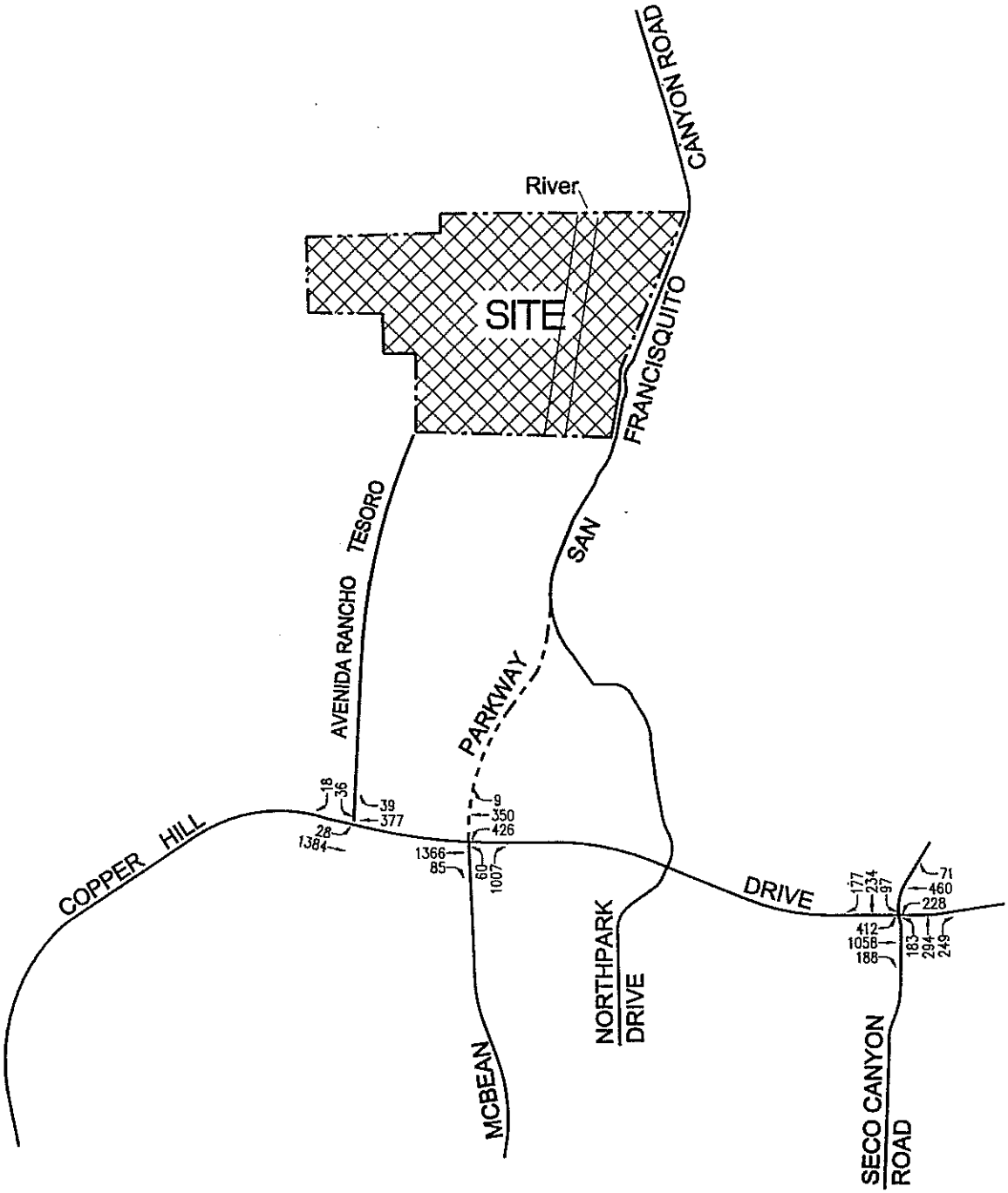

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FIGURE 13
FUTURE WITH PROJECT TRAFFIC VOLUMES
PM PEAK HOUR
TENTATIVE TRACT 53189

Future Improvements

The future lane configurations for each study intersection, as depicted in the *Traffic Impact Study for Tesoro del Valle* prepared by Darnell & Associates, Inc., 1998, are displayed on Figure 14. The future lane configurations are incorporated into the cumulative analysis.

In addition to the future lane improvements, McBean Parkway is planned to be extended northerly from Copper Hill Drive to San Francisquito Canyon Road. The McBean Parkway northerly extension would provide a direct route to Copper Hill Drive and McBean Parkway, which will result in a shift of existing traffic from San Francisquito Canyon Road to the McBean Parkway northerly extension. The affected existing traffic movements due to the McBean Parkway northerly extension are the existing southbound right-turn on San Francisquito Canyon Road at the Copper Hill Drive intersection and the existing eastbound left-turn on Copper Hill Drive at the San Francisquito Canyon Road intersection.

Existing year 2000 counts at the San Francisquito Canyon Road and Copper Hill Drive intersection were used to determine the southbound right-turn traffic volumes and eastbound left-turn traffic volumes. The existing volumes were factored up by 6.6% per year through Year 2005 and are included in Appendix C.

A portion of the southbound right-turn traffic volumes and eastbound left-turn traffic volumes were shifted to the McBean Parkway northerly extension and are shown in Appendix C. The traffic shifts from San Francisquito Canyon Road to the McBean Parkway northerly extension were incorporated into the cumulative analysis at the McBean Parkway and Copper Hill Drive study intersection.

With Cumulative Projects

The County of Los Angeles analysis procedures require that traffic due to Related Projects be considered in the future cumulative conditions, after consideration of traffic due to the proposed project and the project mitigation. The planned future improvements mentioned above are incorporated in the cumulative analysis.

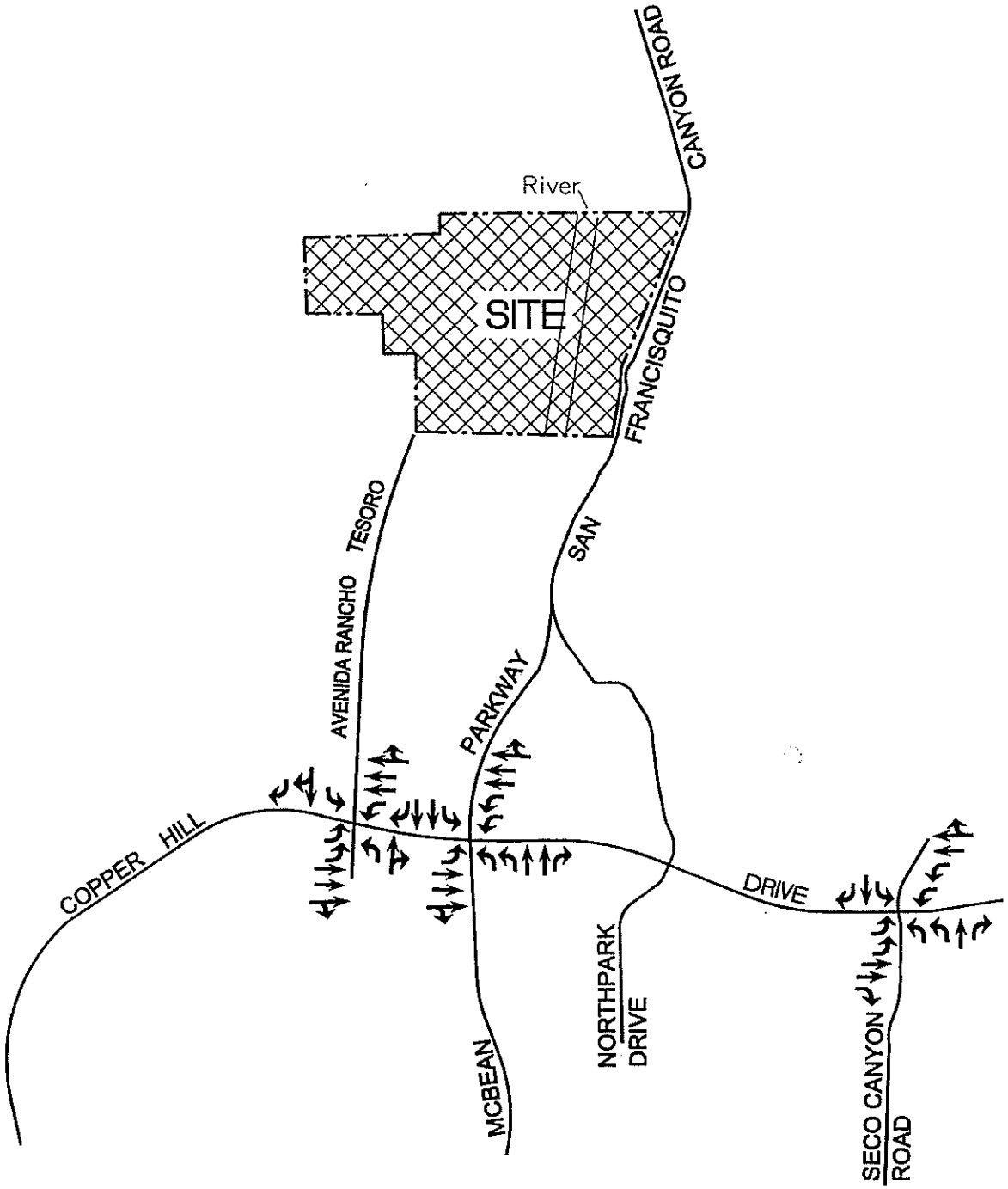

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FIGURE 14
FUTURE LANE CONFIGURATIONS

TENTATIVE TRACT 53189

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As shown in Table 5, the Avenida Rancho Tesoro and Copper Hill Drive intersection is expected to operate at acceptable Levels of Service (LOS D or better) during both the AM and PM peak hours under the "With Related Projects" scenario. The McBean Parkway and Copper Hill Drive intersection is expected to operate at LOS E during the AM peak hour and LOS F during the PM peak hour. Therefore, the McBean Parkway and Copper Hill Drive intersection is anticipated to be significantly impacted due to cumulative (i.e., project and related projects) traffic growth during the AM and PM peak hours.

The future cumulative (existing, ambient growth, project, and related projects) traffic volumes for the AM and PM peak hours are displayed on Figures 15 and 16, respectively.

Cumulative Mitigation

The traffic analyses in the previous sections determined that cumulative (i.e.,project and related project) traffic growth would generate a significant cumulative impact at the McBean Parkway and Copper Hill Drive study intersection during the AM and PM peak hours. The recommended traffic mitigation program developed for the cumulative growth includes:

Intersection 2: McBean Parkway & Copper Hill Drive

As shown on Figure 14, the planned intersection improvements at the McBean Parkway and Copper Hill Drive intersection are as follows:

- Northbound Approach: two left-turn lanes, two through lanes, and one right-turn lane.
- Southbound Approach: one left-turn lane, two through lanes, and one right-turn lane.
- Eastbound Approach: one left-turn lane, two through lanes, and one shared through/right-turn lane.
- Westbound Approach: two left-turn lanes, two through lanes, and one shared through/right-turn lane.

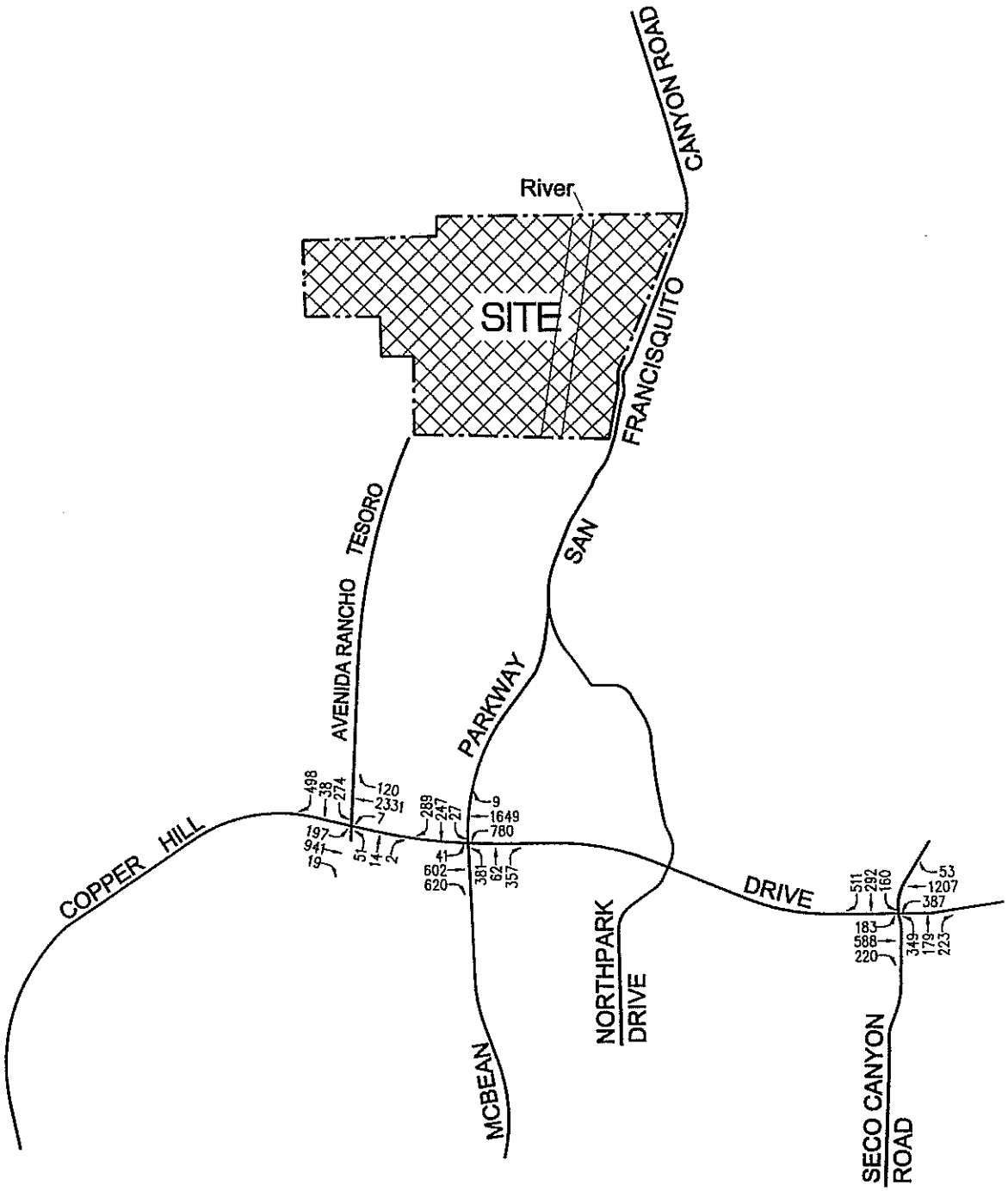

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FIGURE 15
FUTURE CUMULATIVE TRAFFIC VOLUMES
AM PEAK HOUR
TENTATIVE TRACT 53189

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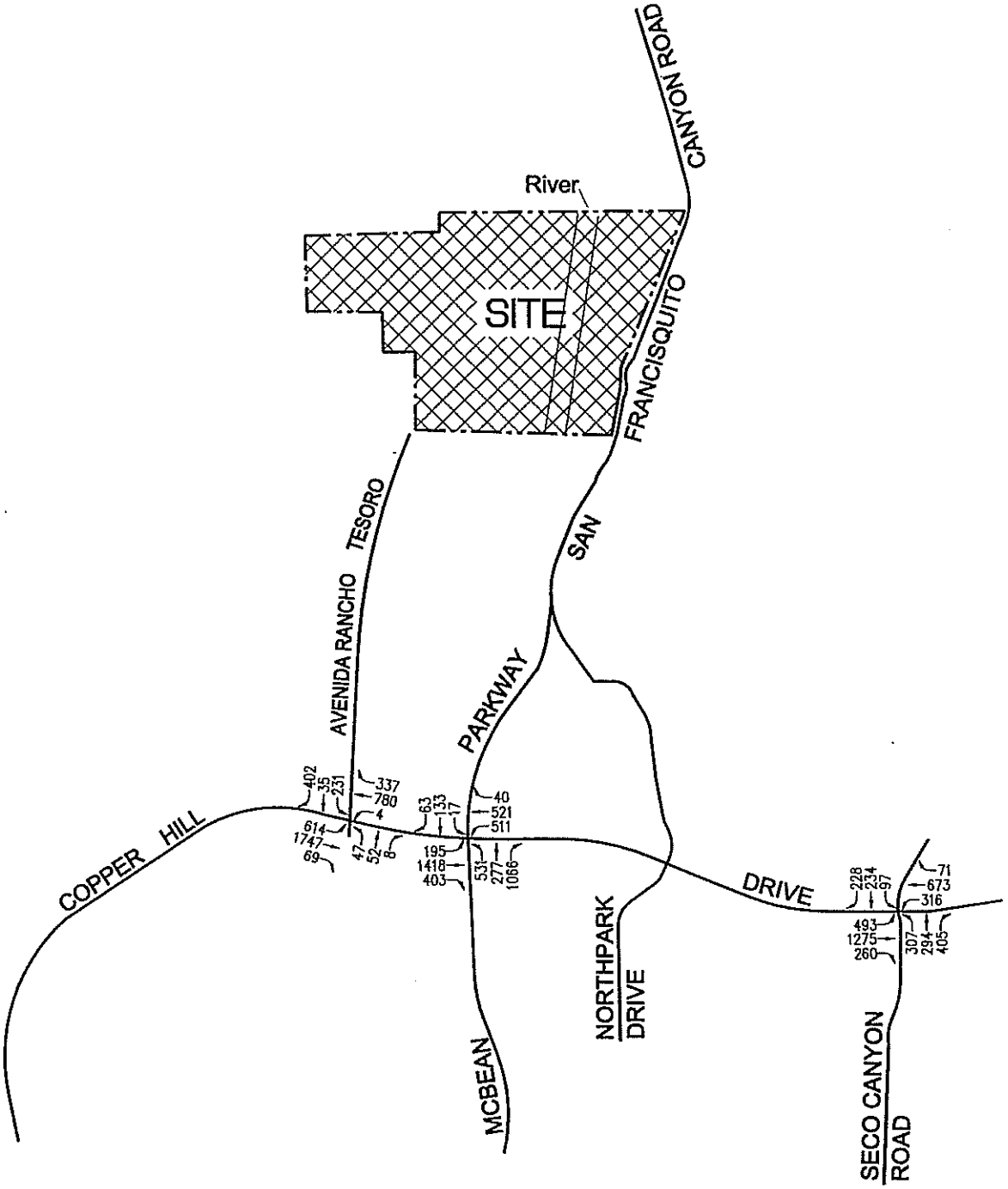

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FIGURE 16
FUTURE CUMULATIVE TRAFFIC VOLUMES
PM PEAK HOUR
TENTATIVE TRACT 53189

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The proposed cumulative mitigation measures at the McBean Parkway and Copper Hill Drive intersection includes restriping the following approaches to provide:

- Northbound Approach: two left-turn lanes, one through lane, and two right-turn lanes.
- Southbound Approach: one left-turn lane, one through lane, one shared through/right-turn lane, and one right-turn lane.

Effect of Recommended Mitigation Measures

McBean Parkway and Copper Hill Drive. The proposed mitigation is expected to improve the V/C ratio from 0.938 (LOS E) to 0.869 (LOS D) during the AM peak hour and from 1.174 (LOS F) to 0.882 (LOS D) during the PM peak hour. This intersection is forecasted to operate at acceptable Levels of Service (LOS D or better) in the future AM and PM peak hours. Therefore, no additional mitigation measures are required or recommended at this location.

FAIR SHARE ANALYSIS

The methodology and the calculations of the project's pro-rata percentage at the study intersections which require cumulative improvement measures are summarized in Table 7. The method used for these calculations are based on the average of the weekday AM and PM peak hour project generated traffic volumes on the approaches to each affected study intersection divided by the project plus other development (related) projects' traffic volumes on those same approaches. It should be noted that neither existing traffic volumes nor ambient growth traffic volumes are included in the calculations.

As shown in Table 7, the proposed project's fair share contribution toward the cumulative improvements is as follows:

- Intersection 2: McBean Parkway and Copper Hill Drive = 1.3%

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Table 7
PRO-RATA PERCENTAGE OF CUMULATIVE MITIGATION COSTS
PEAK HOUR TRAFFIC VOLUMES
Tentative Tract 53189

29-Oct-2003

Pro-Rata Percentage Methodology

The project's percentage share is derived by dividing project traffic by project plus other development (related) projects traffic. It should be noted that existing traffic volumes are not included in the calculations.

Project Traffic
Project + Other Related Projects Traffic

The following equation is provided to assist in calculating the project's pro-rata percentage to implement roadway mitigation improvement measures:

$$P = \frac{Vp}{Vp + (Vc - Ve)}$$

where:
- P = Project's pro-rate percentage of the cumulative mitigation improvement measures
- Vp = Average of AM and PM Peak Hour volumes at the intersection generated by the project
- Vc = Future Cumulative (other related projects) Average of AM and PM Peak Hour traffic volumes at the intersection
- Ve = Existing and Ambient Growth Average AM and PM Peak Hour traffic volumes (must be subtracted when included in the average cumulative AM and PM Peak Hour traffic volumes)

Study Intersection(s) Calculations

Intersection	Average of AM & PM Traffic Volumes			Calculation		Percentage of Impact
2. McBean Parkway & Copper Hill Drive	AM/PM	Vp = 22 Vc = 5,119 Ve = 3,511		I = 22 / (22)+(5,119 - 3,511)	=	1.3 %

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CONGESTION MANAGEMENT PROGRAM ROADWAY IMPACT ANALYSIS

The Congestion Management Program (CMP) is a state-mandated program that was enacted by the State Legislature with the passage of Proposition 111 in 1990. The program is intended to address the impact of local growth on the regional transportation system. In Los Angeles County, the CMP is administered by the Los Angeles County Metropolitan Transportation Authority.

Traffic Impact Review

As required by the *2002 Congestion Management Program for Los Angeles County*, a review has been made of designated monitoring locations on the CMP highway system for potential impact analysis. There are no CMP arterial monitoring intersections or freeway monitoring locations in the vicinity of the proposed project. Furthermore, the proposed project will not add 50 or more trips during either the weekday AM or PM peak hours (of adjacent street traffic) at any CMP monitoring intersections, or 150 or more trips (in either direction) during the weekday AM or PM peak hours at any CMP mainline freeway monitoring locations as stated on Appendix Page D-2 in the CMP manual as the threshold criteria for a traffic impact assessment. Accordingly, no CMP traffic impact assessment is required for the Tentative Tract 53189 project. In general, the project is forecast to add less than 10 trips per hour to the I-5 Freeway during the AM and PM peak hours, which would result in an unmeasurable, non-significant impact to operations along the freeway in the project vicinity.

Transit Impact Review

As required by the *2002 Congestion Management Program for Los Angeles County*, a review has been made of the CMP transit service. The closest transit route in the project vicinity is the Santa Clarita Transit Route 7 which travels on McBean Parkway, south of Copper Hill Drive, and Copper Hill Drive, east of McBean Parkway.

The project trip generation, as shown in Table 2, was adjusted by values set forth in the CMP (i.e., person trips equal 1.4 times vehicle trips, and transit trips equal 3.5 percent of the total person trips) to estimate transit trip generation. Per the CMP guidelines, the proposed project is forecasted to generate a demand for 2 transit trips (1 inbound trip and 1 outbound trip) during the weekday AM peak hour. Similarly, during the weekday PM peak hour, the proposed project is anticipated to generate a demand for 3 transit trips (2 inbound trips and 1 outbound trip). Over a 24-hour period the proposed project is forecasted to generate a demand for 28 daily transit trips. No project impacts on future transit services in the project area are expected to occur as a result of the proposed project given the relatively few number of generated transit trips.

CONCLUSIONS

In order to evaluate the potential impacts to the local street system, three intersections were analyzed to determine changes in operations following occupancy and utilization of the proposed project. The proposed Tentative Tract 53189 project is expected to generate 45 trips (11 inbound trips and 34 outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate 61 trips (39 inbound trips and 22 outbound trips). Over a 24-hour period, the proposed project is expected to generate 574 daily trip ends during a typical weekday (287 inbound trips and 287 outbound trips)

It is concluded that the proposed project is not expected to create project-related significant traffic impacts at any of the three study intersections based on the County of Los Angeles' and the City of Santa Clarita's threshold of significance. Because no project-related significant impacts are identified, no project mitigation measures are required or recommended at the study intersections.

With the cumulative development projects in the area, the McBean Parkway and Copper Hill Drive study intersection is expected to have a significant cumulative impact. The recommended cumulative mitigation measures are expected to reduce the cumulative impacts at the McBean Parkway and Copper Hill Drive study intersection to less than significant levels.

No significant transportation impacts are expected to occur on the Los Angles County Congestion Management Program roadway or transit system due to the development and occupancy of the proposed project.

APPENDIX A

Manual Traffic Counts

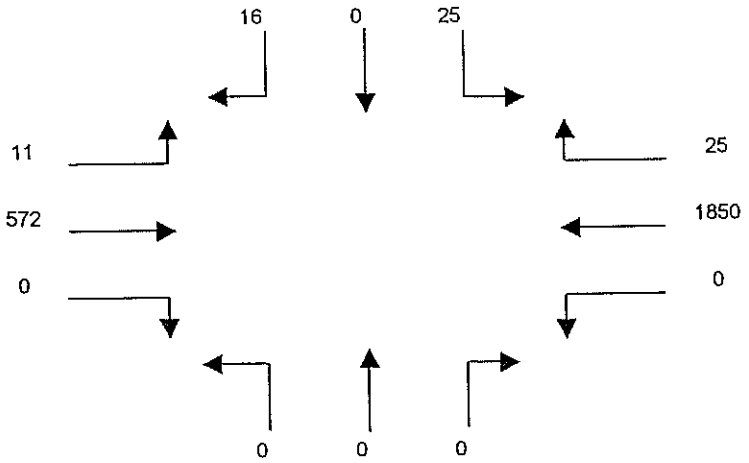
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LINSCOTT, LAW & GREENSPAN - PASADENA
PROJECT: TRACT 53189 RESIDENTIAL PROJECT - VALENCIA
DATE: TUESDAY, SEPTEMBER 23, 2003
PERIOD: 7:00 AM TO 9:00 AM
INTERSECTION: N/S AVENIDA RANCHO TESORO
E/W COPPER HILL DRIVE
FILE NUMBER: 1-AM RESIDENTIAL

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
700-715	7	0	2	6	426	0	0	0	0	0	72	4
715-730	2	0	9	10	441	0	0	0	0	0	131	3
730-745	1	0	9	4	502	0	0	0	0	0	234	2
745-800	6	0	5	5	481	0	0	0	0	0	135	2
800-815	2	0	2	3	326	0	0	0	0	0	78	1
815-830	1	0	1	4	297	0	0	0	0	0	69	0
830-845	0	0	1	2	247	0	0	0	0	0	71	1
845-900	2	0	2	2	215	0	0	0	0	0	66	0

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-800	16	0	25	25	1850	0	0	0	0	0	572	11	2499
715-815	11	0	25	22	1750	0	0	0	0	0	578	8	2394
730-830	10	0	17	16	1606	0	0	0	0	0	516	5	2170
745-845	9	0	9	14	1351	0	0	0	0	0	353	4	1740
800-900	5	0	6	11	1085	0	0	0	0	0	284	2	1393

A.M. PEAK HOUR
0700-0800



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

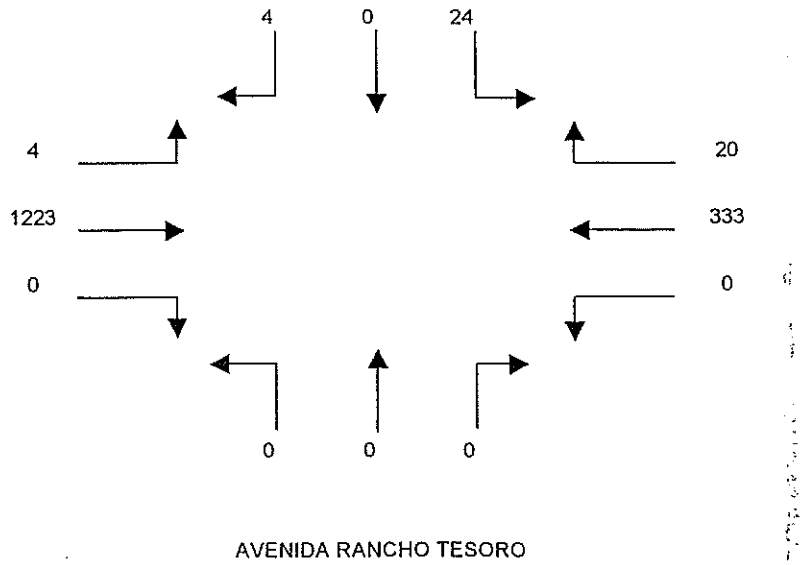
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LINSCOTT, LAW & GREENSPAN - PASADENA
PROJECT: TRACT 53189 RESIDENTIAL PROJECT - VALENCIA
DATE: TUESDAY, SEPTEMBER 23, 2003
PERIOD: 4:00 PM TO 6:00 PM
INTERSECTION N/S AVENIDA RANCHO TESORO
E/W COPPER HILL DRIVE
FILE NUMBER: 1-PM RESIDENTIAL

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
400-415	2	0	2	3	79	0	0	0	0	0	251	1
415-430	4	0	3	5	82	0	0	0	0	0	276	2
430-445	2	0	2	8	88	0	0	0	0	0	293	1
445-500	2	0	6	4	73	0	0	0	0	0	267	3
500-515	1	0	5	6	87	0	0	0	0	0	339	0
515-530	0	0	7	6	74	0	0	0	0	0	313	0
530-545	1	0	6	4	99	0	0	0	0	0	304	1
545-600	1	0	2	4	84	0	0	0	0	0	241	4

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
400-500	10	0	13	20	322	0	0	0	0	0	1087	7	1459
415-515	9	0	16	23	330	0	0	0	0	0	1175	6	1559
430-530	5	0	20	24	322	0	0	0	0	0	1212	4	1587
445-545	4	0	24	20	333	0	0	0	0	0	1223	4	1608
500-600	3	0	20	20	344	0	0	0	0	0	1197	5	1589

P.M. PEAK HOUR
0445-0545



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

<< ACCUTEK >>
<< 21114 TRIGGER LANE >>
<< DIAMOND BAR, CA 91765 >>
<< (909) 595-6199 FAX: (909) 595-6022 >

File Name : 335801
Site Code : 00335801
Start Date : 09/18/2003
Page No : 1

Groups Printed- Turning Movement

	Southbound				COPPER HILL DRIVE Westbound				MCBEAN PKWY Northbound				COPPER HILL DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
07:00 AM	0	0	0	0	0	350	98	448	67	0	52	119	21	62	0	83	650
07:15 AM	0	0	0	0	0	402	149	551	43	0	70	113	50	115	0	165	829
07:30 AM	0	0	0	0	0	366	180	546	62	0	50	112	112	155	0	267	925
07:45 AM	0	0	0	0	0	433	229	662	92	0	28	120	36	86	0	122	904
Total	0	0	0	0	0	1551	656	2207	264	0	200	464	219	418	0	637	3308
08:00 AM	0	0	0	0	0	323	140	463	72	0	23	95	11	42	0	53	611
08:15 AM	0	0	0	0	0	220	126	346	59	0	27	86	12	51	0	63	495
08:30 AM	0	0	0	0	0	174	145	319	68	0	28	96	16	58	0	74	489
08:45 AM	0	0	0	0	0	189	124	313	73	0	13	86	14	44	2	60	459
Total	0	0	0	0	0	906	535	1441	272	0	91	363	53	195	2	250	2054
*** BREAK ***																	
04:00 PM	0	0	0	0	0	83	107	190	179	1	11	191	14	224	0	238	619
04:15 PM	0	0	0	0	0	73	95	168	181	2	8	191	24	238	0	262	621
04:30 PM	0	0	0	0	0	76	110	186	164	0	10	174	17	298	0	315	675
04:45 PM	0	0	0	0	0	73	118	191	221	0	8	229	12	272	0	284	704
Total	0	0	0	0	0	305	430	735	745	3	37	785	67	1032	0	1099	2619
05:00 PM	0	0	0	0	0	72	99	171	235	0	14	249	19	285	0	304	724
05:15 PM	0	0	0	0	0	69	80	149	248	0	7	255	16	364	0	380	784
05:30 PM	0	0	0	0	0	79	82	161	184	0	19	203	22	286	0	308	672
05:45 PM	0	0	0	0	8	80	115	203	223	0	8	231	15	266	0	281	715
Total	0	0	0	0	8	300	376	684	890	0	48	938	72	1201	0	1273	2895
Grand Total	0	0	0	0	8	3062	1997	5067	2171	3	376	2550	411	2846	2	3259	10876
Apprch %	0.0	0.0	0.0		0.2	60.4	39.4		85.1	0.1	14.7		12.6	87.3	0.1		
Total %	0.0	0.0	0.0	0.0	0.1	28.2	18.4	46.6	20.0	0.0	3.5	23.4	3.8	26.2	0.0	30.0	

	Southbound				COPPER HILL DRIVE Westbound				MCBEAN PKWY Northbound				COPPER HILL DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Intersection	07:00 AM																
Volume	0	0	0	0	0	1551	656	2207	264	0	200	464	219	418	0	637	3308
Percent	0.0	0.0	0.0		0.0	70.3	29.7		56.9	0.0	43.1		34.4	65.6	0.0		
07:30 Volume	0	0	0	0	0	366	180	546	62	0	50	112	112	155	0	267	925
Peak Factor																	0.894
High Int.	6:45:00 AM				07:45 AM				07:45 AM				07:30 AM				
Volume	0	0	0	0	0	433	229	662	92	0	28	120	112	155	0	267	
Peak Factor								0.833				0.967				0.596	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	0	0	0	0	8	300	376	684	890	0	48	938	72	1201	0	1273	2895
Percent	0.0	0.0	0.0		1.2	43.9	55.0		94.9	0.0	5.1		5.7	94.3	0.0		
05:15 Volume	0	0	0	0	0	69	80	149	248	0	7	255	16	364	0	380	784
Peak Factor																	0.923
High Int.					05:45 PM				05:15 PM				05:15 PM				
Volume	0	0	0	0	8	80	115	203	248	0	7	255	16	364	0	380	
Peak Factor								0.842				0.920				0.838	

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<< 21114 TRIGGER LANE >>
<< DIAMOND BAR, CA 91765 >>
<< (909) 595-6199 FAX: (909) 595-6022 >

File Name : 335802
Site Code : 00335802
Start Date : 09/18/2003
Page No : 1

Groups Printed- Turning Movement

	COPPER HILL DR. Southbound				COPPER HILL DR. Westbound				SECO CANYON RD. Northbound				COPPER HILL DR. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
07:00 AM	84	59	27	170	16	193	41	250	32	34	42	108	14	82	24	120	648
07:15 AM	95	81	33	209	10	221	96	327	40	33	61	134	27	87	43	157	827
07:30 AM	108	63	53	224	11	257	63	331	52	42	96	190	34	94	31	159	904
07:45 AM	108	55	28	191	10	257	22	289	33	49	81	163	20	113	44	177	820
Total	395	258	141	794	47	928	222	1197	157	158	280	595	95	376	142	613	3199
08:00 AM	68	51	22	141	12	204	28	244	32	36	55	123	21	64	23	108	616
08:15 AM	62	35	15	112	16	177	27	220	26	23	39	88	24	65	20	109	529
08:30 AM	60	38	16	114	10	144	37	191	20	26	38	84	19	51	20	90	479
08:45 AM	46	51	8	105	10	142	32	184	21	18	46	85	22	73	19	114	488
Total	236	175	61	472	48	667	124	839	99	103	178	380	86	253	82	421	2112
*** BREAK ***																	
04:00 PM	40	49	25	114	15	107	49	171	64	43	48	155	46	171	58	275	715
04:15 PM	32	41	16	89	11	96	47	154	38	48	34	120	38	198	64	300	663
04:30 PM	35	38	11	84	16	103	45	164	43	50	35	128	34	215	66	315	691
04:45 PM	44	35	15	94	12	99	32	143	30	60	23	113	49	228	80	357	707
Total	151	163	67	381	54	405	173	632	175	201	140	516	167	812	268	1247	2776
05:00 PM	40	44	27	111	22	93	46	161	54	62	43	159	38	221	72	331	762
05:15 PM	35	60	20	115	17	100	43	160	59	71	38	168	45	275	116	436	879
05:30 PM	40	47	26	113	14	103	70	187	59	65	37	161	29	221	93	343	804
05:45 PM	41	56	13	110	10	105	42	157	48	62	40	150	52	215	83	350	767
Total	156	207	86	449	63	401	201	665	220	260	158	638	164	932	364	1460	3212
Grand Total	938	803	355	2096	212	2401	720	3333	651	722	756	2129	512	2373	856	3741	11299
Apprch %	44.8	38.3	16.9		6.4	72.0	21.6		30.6	33.9	35.5		13.7	63.4	22.9		
Total %	8.3	7.1	3.1	18.6	1.9	21.2	6.4	29.5	5.8	6.4	6.7	18.8	4.5	21.0	7.6	33.1	

	COPPER HILL DR. Southbound				COPPER HILL DR. Westbound				SECO CANYON RD. Northbound				COPPER HILL DR. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Intersection	07:00 AM																
Volume	395	258	141	794	47	928	222	1197	157	158	280	595	95	376	142	613	3199
Percent	49.7	32.5	17.8		3.9	77.5	18.5		26.4	26.6	47.1		15.5	61.3	23.2		
07:30 Volume	108	63	53	224	11	257	63	331	52	42	96	190	34	94	31	159	904
Peak Factor																	0.885
High Int.	07:30 AM				07:30 AM				07:30 AM				07:45 AM				
Volume	108	63	53	224	11	257	63	331	52	42	96	190	20	113	44	177	
Peak Factor				0.886				0.904				0.783				0.866	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	156	207	86	449	63	401	201	665	220	260	158	638	164	932	364	1460	3212
Percent	34.7	46.1	19.2		9.5	60.3	30.2		34.5	40.8	24.8		11.2	63.8	24.9		
05:15 Volume	35	60	20	115	17	100	43	160	59	71	38	168	45	275	116	436	879
Peak Factor																	0.914
High Int.	05:15 PM				05:30 PM				05:15 PM				05:15 PM				
Volume	35	60	20	115	14	103	70	187	59	71	38	168	45	275	116	436	
Peak Factor				0.976				0.889				0.949				0.837	

APPENDIX B

ICU Methodology and Levels of Service Descriptions

ICU Data Worksheets - AM and PM Peak Hours

INTERSECTION CAPACITY UTILIZATION (ICU) DESCRIPTION

Level of Service is a term used to describe prevailing conditions and their effect on traffic. Broadly interpreted, the Levels of Service concept denotes any one of a number of differing combinations of operating conditions which may occur as a roadway is accommodating various traffic volumes. Level of Service is a qualitative measure of the effect of such factors as travel speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience.

Six Levels of Service, A through F, have been defined in the 1965 *Highway Capacity Manual*, published by the Transportation Research Board. Level of Service A describes a condition of free flow, with low traffic volumes and relatively high speeds, while Level of Service F describes forced traffic flow at low speeds with jammed conditions and queues which cannot clear during the green phases.

The Intersection Capacity Utilization (ICU) method of intersection capacity analysis has been used in our studies. It directly relates traffic demand and available capacity for key intersection movements, regardless of present signal timing, The capacity per hour of green time for each approach is calculated based on the methods of the *Highway Capacity Manual*. The proportion of total signal time needed by each key movement is determined and compared to the total time available (100 percent of the hour). The result of summing the requirements of the conflicting key movements plus an allowance for clearance times is expressed as a decimal fraction. Conflicting key traffic movements are those opposing movements whose combined green time requirements are greatest.

The resulting ICU represents the proportion of the total hour required to accommodate intersection demand volumes if the key conflicting traffic movements are operating at capacity. Other movements may be operating near capacity, or may be operating at significantly better levels. The ICU may be translated to a Level of Service as tabulated below.

The Levels of Service (abbreviated from the *Highway Capacity Manual*) are listed here with their corresponding ICU and Load Factor equivalents. Load Factor is that proportion of the signal cycles during the peak hour which are fully loaded; i.e. when all of the vehicles waiting at the beginning of green are not able to clear on that green phase.

Intersection Capacity Utilization Characteristics

Level of Service	Load Factor	Equivalent ICU
A	0.0	0.00 - 0.60
B	0.0 - 0.1	0.61 - 0.70
C	0.1 - 0.3	0.71 - 0.80
D	0.3 - 0.7	0.81 - 0.90
E	0.7 - 1.0	0.91 - 1.00
F	Not Applicable	Not Applicable

SERVICE LEVEL A
There are no loaded cycles and few are even close to loaded at this service level. No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication.

SERVICE LEVEL B
This level represents stable operation where an occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel restricted within platoons of vehicles.

SERVICE LEVEL C
At this level stable operation continues. Loading is still intermittent but more frequent than at Level B. Occasionally drivers may have to wait through more than one red signal indication and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.

SERVICE LEVEL D
This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak hour, but enough cycles with lower demand occur to permit periodic clearance of queues, thus preventing excessive backups. Drivers frequently have to wait through more than one red signal. This level is the lower limit of acceptable operation to most drivers.

SERVICE LEVEL E
This represents near capacity and capacity operation. At capacity (ICU = 1.0) it represents the most vehicles that the particular intersection can accommodate. However, full utilization of every signal cycle is seldom attained no matter how great the demand. At this level all drivers wait through more than one red signal, and frequently through several.

SERVICE LEVEL F
Jammed conditions. Traffic backed up from a downstream location on one of the street restricts or prevents movement of traffic through the intersection under consideration.

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INTERSECTION CAPACITY UTILIZATION

Avenida Rancho Tesoro @ Copper Hill Drive
Peak hr: AM
Annual Growth: 6.60%

N-S St: Avenida Rancho Tesoro
E-W St: Copper Hill Drive
Project: Tentative Tract 53189 / 1-002924-1
File: ICU3

Date: 10/29/2003
Date of Count: 2003
Projection Year: 2005

	2003 EXIST. TRAFFIC			2005 W/AMBIENT GROWTH			2005 W/PROJECT SITE TRAFFIC				2005 W/PROJECT MITIGATION				2005 W/RELATED PROJECTS				2005 W/REGIONAL MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	51	51	1600	0.032 *	0	51	1600	0.032 *
Nb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	14	14	1600	0.010	0	14	1600	0.010
Nb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	2	2	0	-	0	2	0	-
Sb Left	25	0	0.005	3	28	0.006	14	42	0	0.009	0	42	0	0.009	232	274	1600	0.171	0	274	1600	0.171
Sb Thru	0	4800	0.009 *	0	0	0.010 *	0	0	4800	0.017 *	0	0	4800	0.017 *	38	38	3200	0.168 *	0	38	3200	0.168 *
Sb Right	16	0	-	2	18	-	20	38	0	-	0	38	0	-	460	498	0	-	0	498	0	-
Eb Left	11	1600	0.007 *	1	12	0.008 *	7	19	1600	0.012 *	0	19	1600	0.012 *	178	197	2880	0.069 *	0	197	2880	0.069 *
Eb Thru	572	4800	0.119	76	648	0.135	0	648	4800	0.135	0	648	4800	0.135	293	941	4800	0.200	0	941	4800	0.200
Eb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	19	19	0	-	0	19	0	-
Wb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	7	7	1600	0.004	0	7	1600	0.004
Wb Thru	1850	4800	0.391 *	244	2094	0.442 *	0	2094	4800	0.443 *	0	2094	4800	0.443 *	237	2331	4800	0.511 *	0	2331	4800	0.511 *
Wb Right	25	0	-	3	28	-	4	32	0	-	0	32	0	-	88	120	0	-	0	120	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.506			0.560				0.572				0.572				0.879				0.879
LOS			A			A				A				A				D				D

* 09:00 AM

*Key conflicting movement as a part of ICU
1 Counts conducted by:The Traffic Solution
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

Avenida Rancho Tesoro @ Copper Hill Drive
Peak hr: PM
Annual Growth: 6.60%

N-S St: Avenida Rancho Tesoro
E-W St: Copper Hill Drive
Project: Tentative Tract 53189 / 1-002924-1
File: ICU3

Date: 10/29/2003
Date of Count: 2003
Projection Year: 2005

	2003 EXIST. TRAFFIC			2005 W/AMBIENT GROWTH			2005 W/PROJECT SITE TRAFFIC				2005 W/PROJECT MITIGATION				2005 W/RELATED PROJECTS				2005 W/REGIONAL MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	47	47	1600	0.029	0	47	1600	0.029
Nb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	52	52	1600	0.038 *	0	52	1600	0.038 *
Nb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	8	8	0	-	0	8	0	-
Sb Left	24	0	0.005	3	27	0.006	9	36	0	0.008	0	36	0	0.008	195	231	1600	0.144 *	0	231	1600	0.144 *
Sb Thru	0	4800	0.006 *	0	0	0.007 *	0	0	4800	0.011 *	0	0	4800	0.011 *	35	35	3200	0.136	0	35	3200	0.136
Sb Right	4	0	-	1	5	-	13	18	0	-	0	18	0	-	384	402	0	-	0	402	0	-
Eb Left	4	1600	0.003	1	5	0.003	23	28	1600	0.017	0	28	1600	0.017	586	614	2880	0.213 *	0	614	2880	0.213 *
Eb Thru	1223	4800	0.255 *	161	1384	0.288 *	0	1384	4800	0.288 *	0	1384	4800	0.288 *	363	1747	4800	0.378	0	1747	4800	0.378
Eb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	69	69	0	-	0	69	0	-
Wb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	4	4	1600	0.003	0	4	1600	0.003
Wb Thru	333	4800	0.074	44	377	0.063	0	377	4800	0.087	0	377	4800	0.087	403	780	4800	0.233 *	0	780	4800	0.233 *
Wb Right	20	0	-	3	23	-	16	39	0	-	0	39	0	-	298	337	0	-	0	337	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.361			0.395				0.400				0.400				0.728				0.728
LOS			A			A				A				A				C				C

09:00 AM

* Key conflicting movement as a part of ICU
1 Counts conducted by: The Traffic Solution
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

McBean Parkway @ Copper Hill Drive
Peak hr: AM
Annual Growth: 6.60%

N-S St: McBean Parkway
E-W St: Copper Hill Drive
Project: Tentative Tract 53189 / 1-033375-1
File: ICU1

Date: 10/30/2003
Date of Count: 2003
Projection Year: 2005

	2003 EXIST. TRAFFIC			2005 W/AMBIENT GROWTH			2005 W/PROJECT SITE TRAFFIC				2005 W/PROJECT MITIGATION				2005 W/RELATED PROJECTS					2005 W/REGIONAL MITIGATION			
	1		2						[1] 2														
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Shifted Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	200	2880	0.069 *	26	226	0.079 *	2	228	2880	0.079 *	0	228	2880	0.079 *	153	0	381	2880	0.132 *	0	381	2880	0.132 *
Nb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	52	10	62	3200	0.019	0	62	1600	0.039
Nb Right [3]	264	2880	0.000	35	299	0.000	0	299	2880	0.000	0	299	2880	0.000	68	-10	357	1600	0.000	0	357	2880	0.000
Sb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	27	0	27	1600	0.017	0	27	1600	0.017
Sb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	136	111	247	3200	0.077	0	247	4800	0.112 *
Sb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	30	259	289	1600	0.181 *	0	289	0	-
Eb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	26	15	41	1600	0.026	0	41	1600	0.026
Eb Thru	418	3200	0.199	55	473	0.225	9	482	3200	0.230	0	482	3200	0.230	135	-15	602	4800	0.255 *	0	602	4800	0.255 *
Eb Right	219	0	-	29	248	-	5	253	0	-	0	253	0	-	367	0	620	0	-	0	620	0	-
Wb Left	656	2880	0.228	87	743	0.258	0	743	2880	0.258	0	743	2880	0.258	148	-111	780	2880	0.271 *	0	780	2880	0.271 *
Wb Thru	1551	3200	0.485 *	205	1756	0.549 *	3	1759	3200	0.550 *	0	1759	3200	0.550 *	149	-259	1649	4800	0.345	0	1649	4800	0.345
Wb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	9	0	9	0	-	0	9	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *					0.100 *				0.100 *
ICU			0.654			0.727				0.729				0.729					0.938				0.869
LOS			B			C				C				C					E				D

10:11 AM

*Key conflicting movement as a part of ICU
1 Counts conducted by: Accutek Traffic Data, Inc.
2 Capacity expressed in veh/hour of green
3 Northbound right-turn has an overlapping phase with westbound left-turn phase.

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INTERSECTION CAPACITY UTILIZATION

McBean Parkway @ Copper Hill Drive
Peak hr: PM
Annual Growth: 6.60%

N-S St: McBean Parkway
E-W St: Copper Hill Drive
Project: Tentative Tract 53189 / 1-033375-1
File: ICU1

Date: 10/30/2003
Date of Count: 2003
Projection Year: 2005

	2003 EXIST. TRAFFIC			2005 W/AMBIENT GROWTH			2005 W/PROJECT SITE TRAFFIC				2005 W/PROJECT MITIGATION				2005 W/RELATED PROJECTS					2005 W/REGIONAL MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Shifted Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	48	2880	0.017	6	54	0.019	6	60	2880	0.021	0	60	2880	0.021	471	0	531	2880	0.184	0	531	2880	0.184 *
Nb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	159	118	277	3200	0.087	0	277	1600	0.173
Nb Right [3]	890	2880	0.178 *	117	1007	0.202 *	0	1007	2880	0.202 *	0	1007	2880	0.202 *	177	-118	1066	1600	0.507 *	0	1066	2880	0.193
Sb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	17	0	17	1600	0.011 *	0	17	1600	0.011
Sb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	95	38	133	3200	0.042	0	133	4800	0.041 *
Sb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	34	29	63	1600	0.039	0	63	0	-
Eb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	38	157	195	1600	0.122	0	195	1600	0.122
Eb Thru	1201	3200	0.398 *	159	1360	0.450 *	6	1366	3200	0.453 *	0	1366	3200	0.453 *	209	-157	1418	4800	0.379 *	0	1418	4800	0.379 *
Eb Right	72	0	-	10	82	-	3	85	0	-	0	85	0	-	318	0	403	0	-	0	403	0	-
Wb Left	376	2880	0.131 *	50	426	0.148 *	0	426	2880	0.148 *	0	426	2880	0.148 *	123	-38	511	2880	0.177 *	0	511	2880	0.177 *
Wb Thru	300	3200	0.096	40	340	0.109	10	350	3200	0.112	0	350	3200	0.112	200	-29	521	4800	0.117	0	521	4800	0.117
Wb Right	8	0	-	1	9	-	0	9	0	-	0	9	0	-	31	0	40	0	-	0	40	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *					0.100 *				0.100 *
ICU			0.807			0.900				0.903				0.903					1.174				0.882
LOS			D			D				E				E					F				D

10:11 AM

* Key conflicting movement as a part of ICU
1 Counts conducted by: Accutek Traffic Data, Inc.
2 Capacity expressed in veh/hour of green
3 Northbound right-turn has an overlapping phase with westbound left-turn phase.

LINSCOTT, LAW & GREENSPAN, ENGINEERS
234 E. Colorado Blvd., Ste 400, Pasadena 91101
(626) 796.2322 Fax (626) 792.0941

INTERSECTION CAPACITY UTILIZATION

N-S St: Seco Canyon Road
E-W St: Copper Hill Drive
Project: Tentative Tract 53189 / 1-033375-1
File: ICU2-SC

Seco Canyon Road @ Copper Hill Drive
Peak hr: AM
Annual Growth: 6.60%

Date: 10/30/2003
Date of Count: 2003
Projection Year: 2005

	2003 EXIST. TRAFFIC			2005 W/AMBIENT GROWTH			2005 W/RELATED PROJECTS				2005 W/PROJECT SITE TRAFFIC				2005 W/PROJECT MITIGATION			
	1		2 V/C	Added	Total	V/C	Added	Total		2 V/C	Added	Total		2 V/C	Added	Total		2 V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	280	3500	0.080 *	37	317	0.091 *	31	348	3500	0.099 *	1	349	3500	0.100 *	0	349	3500	0.100 *
Nb Thru	158	1750	0.090	21	179	0.102	0	179	1750	0.102	0	179	1750	0.102	0	179	1750	0.102
Nb Right	157	1750	0.090	21	178	0.102	45	223	1750	0.127	0	223	1750	0.127	0	223	1750	0.127
Sb Left	141	1750	0.081	19	160	0.091	0	160	1750	0.091	0	160	1750	0.091	0	160	1750	0.091
Sb Thru	258	1750	0.147	34	292	0.167	0	292	1750	0.167	0	292	1750	0.167	0	292	1750	0.167
Sb Right	395	1750	0.226 *	52	447	0.256 *	64	511	1750	0.292 *	0	511	1750	0.292 *	0	511	1750	0.292 *
Eb Left	142	3500	0.041 *	19	161	0.046 *	22	183	3500	0.052 *	0	183	3500	0.052 *	0	183	3500	0.052 *
Eb Thru	376	3500	0.107	50	426	0.122	157	583	3500	0.166	5	588	3500	0.168	0	588	3500	0.168
Eb Right	95	1750	0.054	13	108	0.061	109	217	1750	0.124	3	220	1750	0.125	0	220	1750	0.125
Wb Left	222	3500	0.063	29	251	0.072	136	387	3500	0.111	0	387	3500	0.111	0	387	3500	0.111
Wb Thru	928	3500	0.279 *	122	1050	0.315 *	155	1205	3500	0.360 *	2	1207	3500	0.360 *	0	1207	3500	0.360 *
Wb Right	47	0	-	6	53	-	0	53	0	-	0	53	0	-	0	53	0	-
Yellow Allowance:			0.070 *			0.070 *				0.070 *				0.070 *				0.070 *
ICU			0.695			0.777				0.873				0.874				0.874
LOS			B			C				D				D				D

* Key conflicting movement as a part of ICU
1 Counts conducted by:Accutek Traffic Data, Inc.
2 Capacity expressed in veh/hour of green

LINSCOTT, LAW & GREENSPAN, ENGINEERS
234 E. Colorado Blvd., Ste 400, Pasadena 91101
(626) 796.2322 Fax (626) 792.0941

INTERSECTION CAPACITY UTILIZATION

N-S St: Seco Canyon Road
E-W St: Copper Hill Drive
Project: Tentative Tract 53189 / 1-033375-1
File: ICU2-SC

Seco Canyon Road @ Copper Hill Drive
Peak hr: PM
Annual Growth: 6.60%

Date: 10/30/2003
Date of Count: 2003
Projection Year: 2005

	2003 EXIST. TRAFFIC			2005 W/AMBIENT GROWTH			2005 W/RELATED PROJECTS				2005 W/PROJECT SITE TRAFFIC				2005 W/PROJECT MITIGATION			
	1	2	V/C	Added	Total	V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	158	3500	0.045	21	179	0.051	124	303	3500	0.087	4	307	3500	0.088	0	307	3500	0.088
Nb Thru	260	1750	0.149 *	34	294	0.168 *	0	294	1750	0.168	0	294	1750	0.168	0	294	1750	0.168
Nb Right	220	1750	0.126	29	249	0.142	156	405	1750	0.231 *	0	405	1750	0.231 *	0	405	1750	0.231 *
Sb Left	86	1750	0.049 *	11	97	0.056 *	0	97	1750	0.056 *	0	97	1750	0.056 *	0	97	1750	0.056 *
Sb Thru	207	1750	0.118	27	234	0.134	0	234	1750	0.134	0	234	1750	0.134	0	234	1750	0.134
Sb Right	156	1750	0.089	21	177	0.101	51	228	1750	0.130	0	228	1750	0.130	0	228	1750	0.130
Eb Left	364	3500	0.104	48	412	0.118	81	493	3500	0.141	0	493	3500	0.141	0	493	3500	0.141
Eb Thru	932	3500	0.266 *	123	1055	0.301 *	217	1272	3500	0.363 *	3	1275	3500	0.364 *	0	1275	3500	0.364 *
Eb Right	164	1750	0.094	22	186	0.106	72	258	1750	0.147	2	260	1750	0.148	0	260	1750	0.148
Wb Left	201	3500	0.057 *	27	228	0.065 *	88	316	3500	0.090 *	0	316	3500	0.090 *	0	316	3500	0.090 *
Wb Thru	401	3500	0.133	53	454	0.150	213	667	3500	0.211	6	673	3500	0.213	0	673	3500	0.213
Wb Right	63	0	-	8	71	-	0	71	0	-	0	71	0	-	0	71	0	-
Yellow Allowance:			0.070 *			0.070 *				0.070 *				0.070 *				0.070 *
ICU			0.591			0.660				0.811				0.812				0.812
LOS			A			B				D				D				D

* Key conflicting movement as a part of ICU
1 Counts conducted by:Accutek Traffic Data, Inc.
2 Capacity expressed in veh/hour of green

APPENDIX C

San Francisquito Road and Copper Hill Drive Manual Count
and
Shifted Traffic Volumes

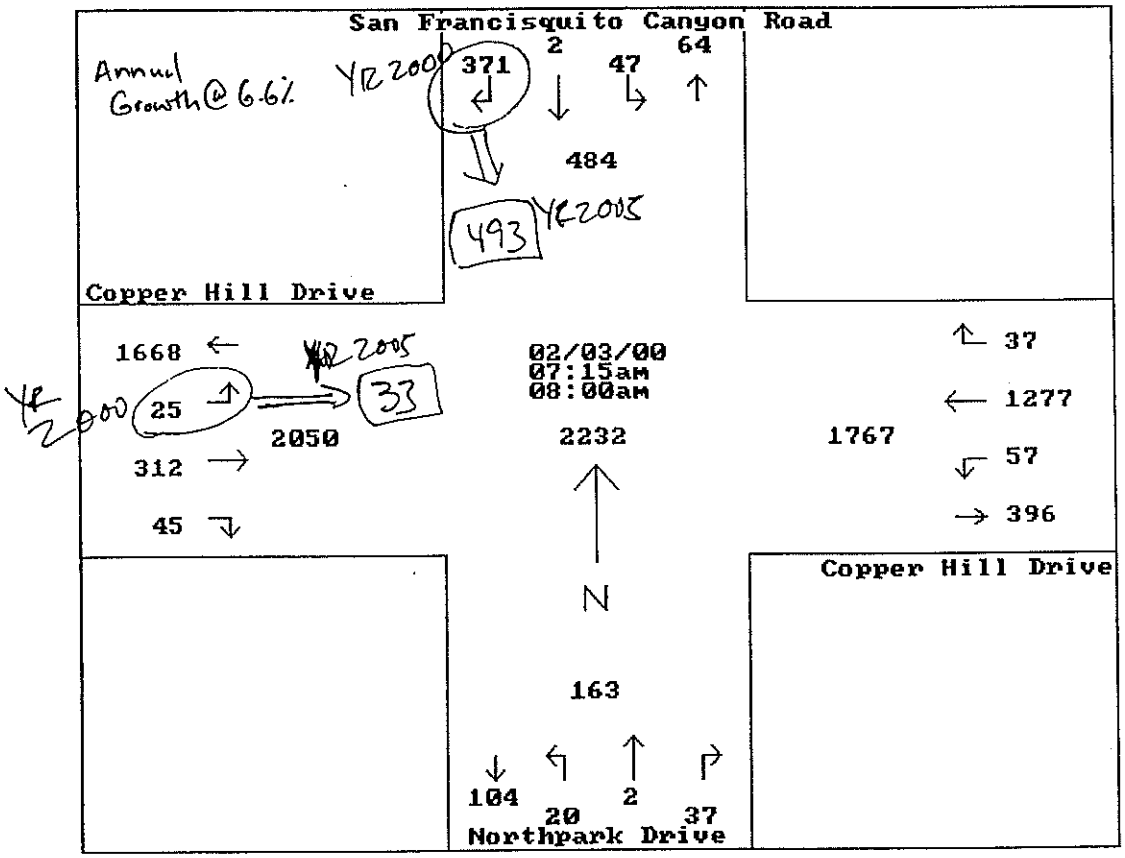
Transportation Studies, Inc.
1820 E. Garry Avenue
Suite 116
Santa Ana, CA. 92705

City : Santa Clarita
N/S Direction : San Francisquito/Northpk
E/W Direction : Copper Hill Drive
Client : LL&G

Study Name: H0002016
Site Code : 00010923
Start Date: 02/03/00
Page : 2

Turning Movements

Start Time	San Francisquito Canyo Southbound			Copper Hill Drive Westbound			Northpark Drive Northbound			Copper Hill Drive Eastbound			Intrvl. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Peak Hour Analysis By Entire Intersection for the Period: 07:00 on 02/03/00 to 08:45 on 02/03/00													
Time	07:15			07:15			07:15			07:15			
Vol.	371	2	47	37	1277	57	37	2	20	45	312	25	
Pct.	88.3	0.4	11.1	2.6	93.1	4.1	62.7	3.3	33.8	11.7	81.6	6.5	
Total	420			1371			59			382			
High	07:45			08:00			08:00			08:00			
Vol.	104	1	13	10	353	20	14	0	5	28	85	4	
Total	118			383			19			117			
PHF	0.889			0.894			0.776			0.816			



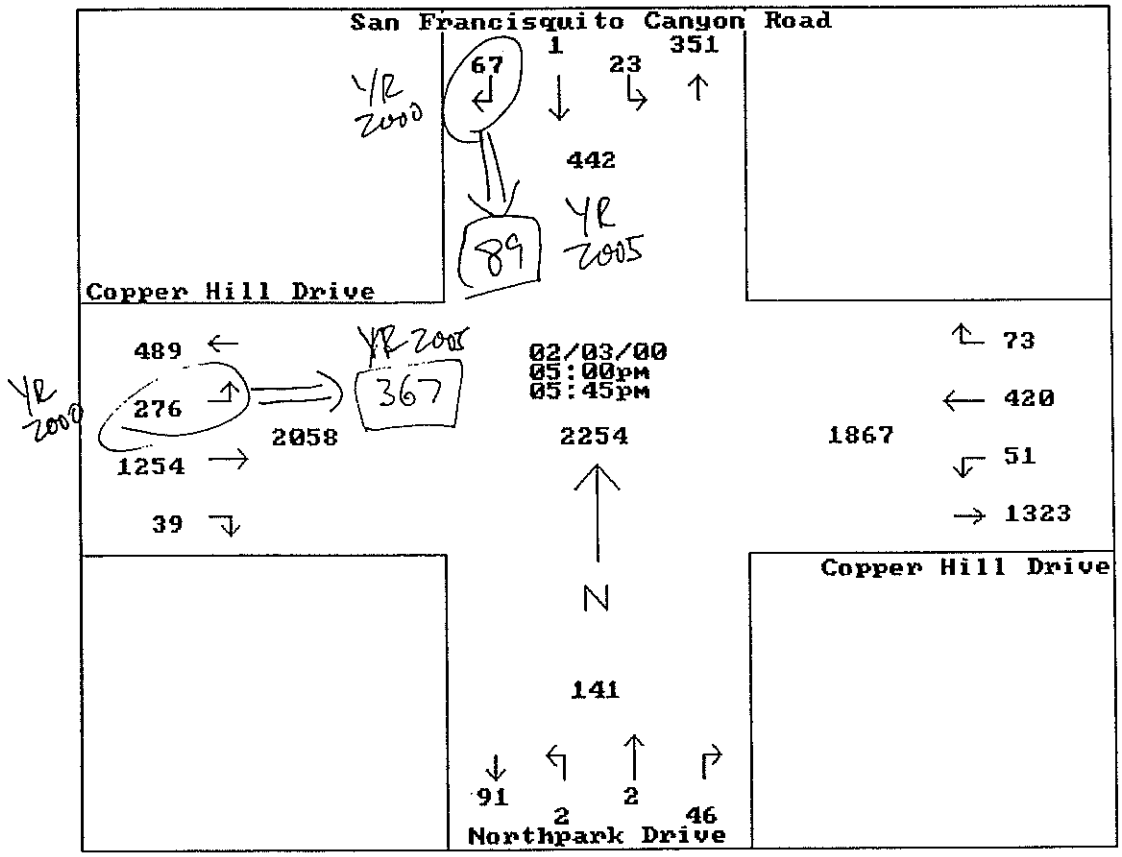
Transportation Studies, Inc.
1820 E. Garry Avenue
Suite 116
Santa Ana, CA. 92705

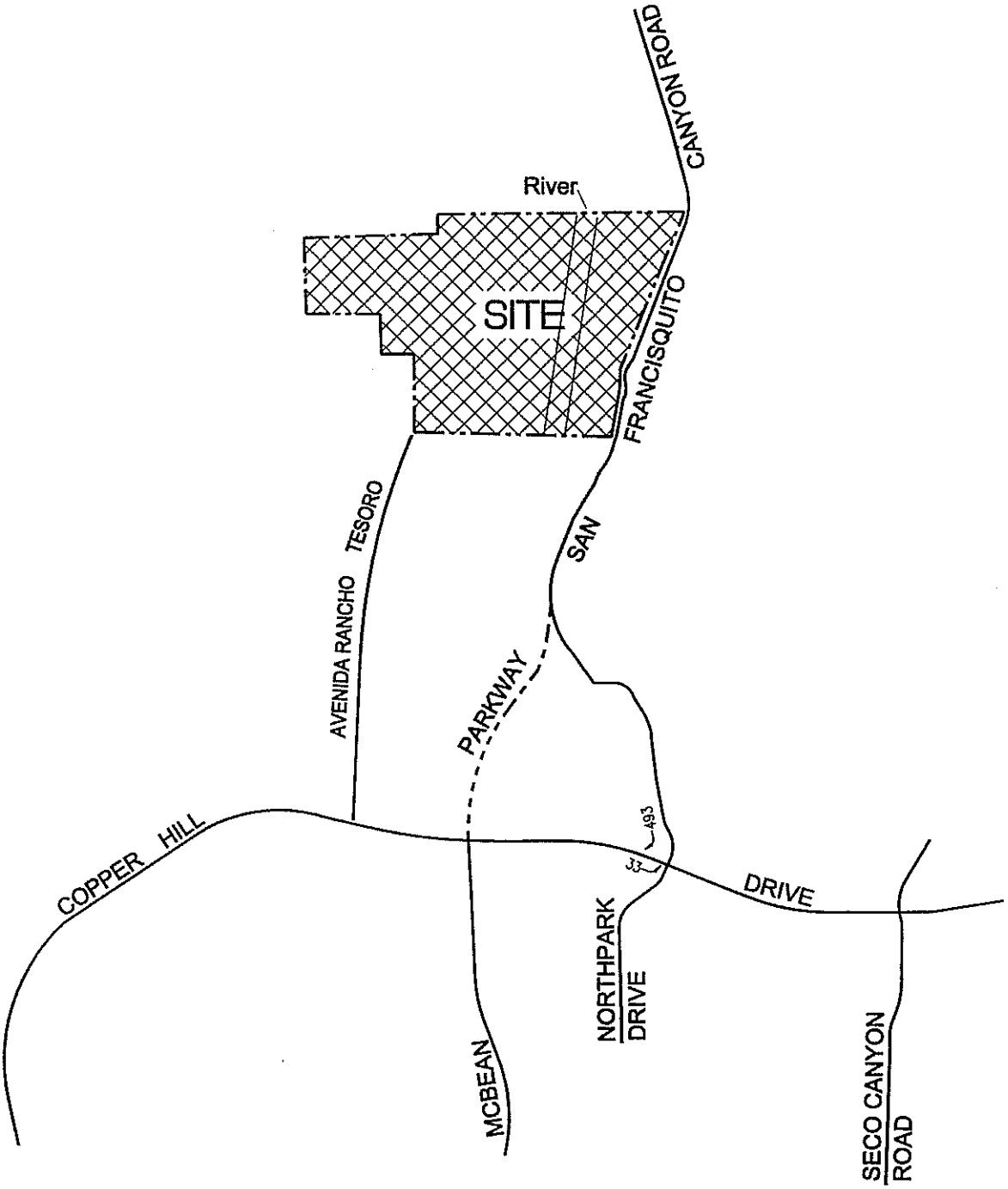
City : Santa Clarita
N/S Direction : San Francisquito/Northpk
E/W Direction : Copper Hill Drive
Client : LL&G

Study Name: H0002016
Site Code : 00010923
Start Date: 02/03/00
Page : 3

Turning Movements

Start Time	San Francisquito Canyo Southbound			Copper Hill Drive Westbound			Northpark Drive Northbound			Copper Hill Drive Eastbound			Intrvl. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Peak Hour Analysis By Entire Intersection for the Period: 16:00 on 02/03/00 to 17:45 on 02/03/00													
Time	17:00			17:00			17:00			17:00			
Vol.	67	1	23	73	420	51	46	2	2	39	1254	276	
Pct.	73.6	1.0	25.2	13.4	77.2	9.3	92.0	4.0	4.0	2.4	79.9	17.5	
Total	91			544			50			1569			
High	17:30			17:45			17:00			17:30			
Vol.	17	1	9	21	119	15	16	0	0	10	345	82	
Total	27			155			16			437			
PHF	0.842			0.877			0.781			0.897			





LINSCOTT LAW & GREENSPAN
ENGINEERS

N

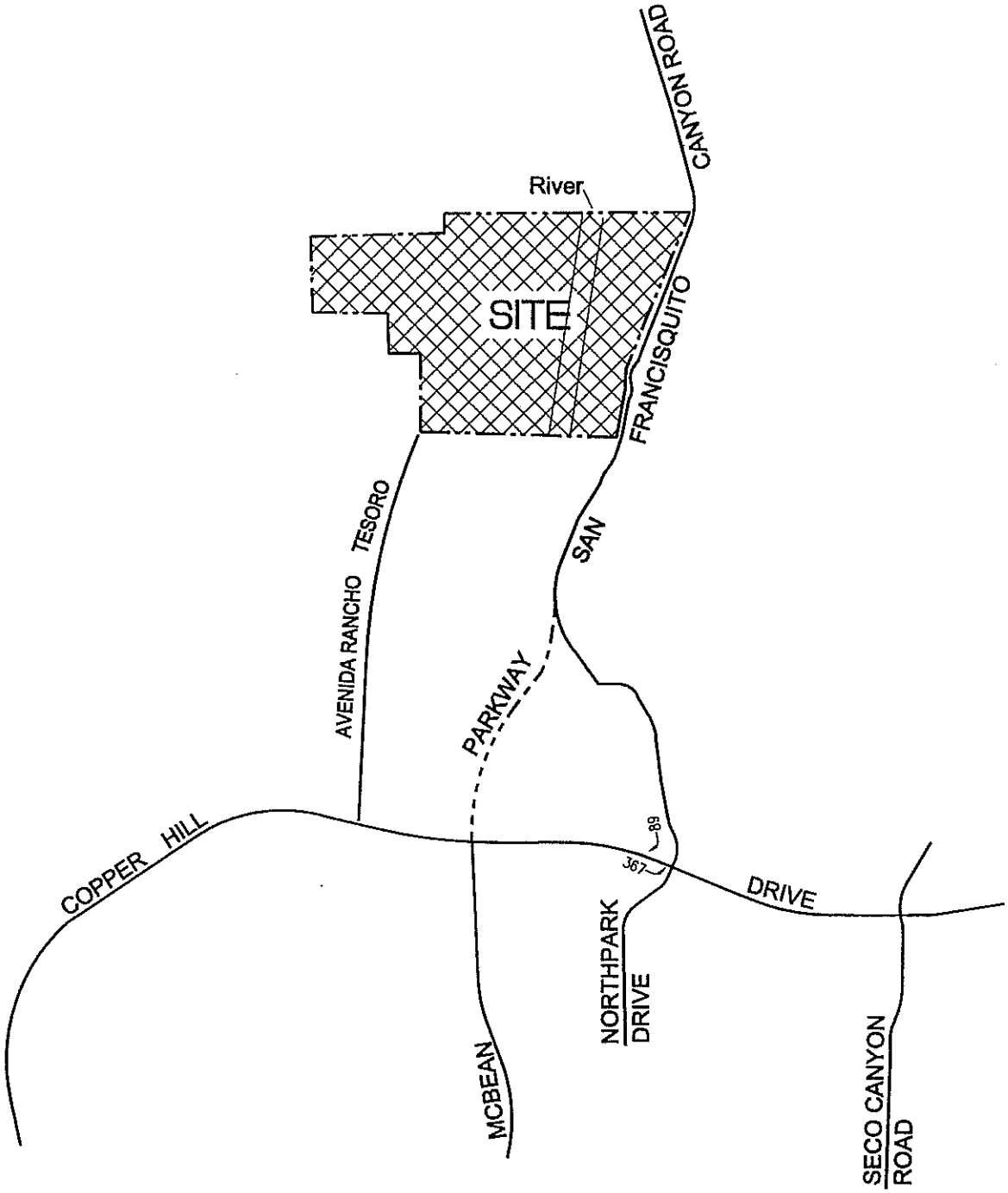
NOT TO SCALE

APPENDIX C-1

AFFECTED EXISTING TRAFFIC VOLUMES

AM PEAK HOUR

TENTATIVE TRACT 53189

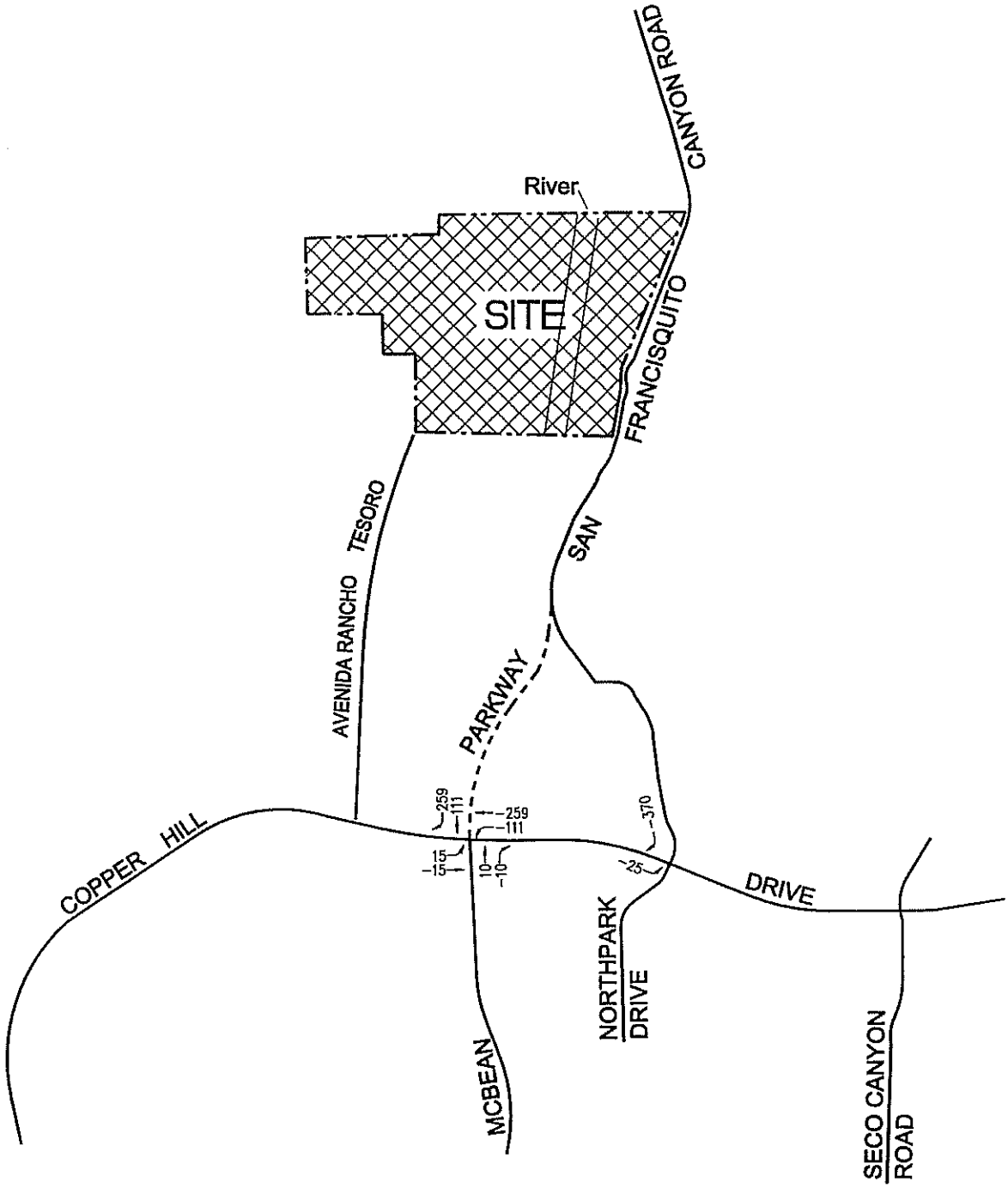


LINSCOTT LAW & GREENSPAN
ENGINEERS

NOT TO SCALE

APPENDIX C-2
AFFECTED EXISTING TRAFFIC VOLUMES
PM PEAK HOUR

TENTATIVE TRACT 53189



o:\job_file\3375\dwg\append-c3.dwg LDP 14:39:60 10/29/2003 rodriquez

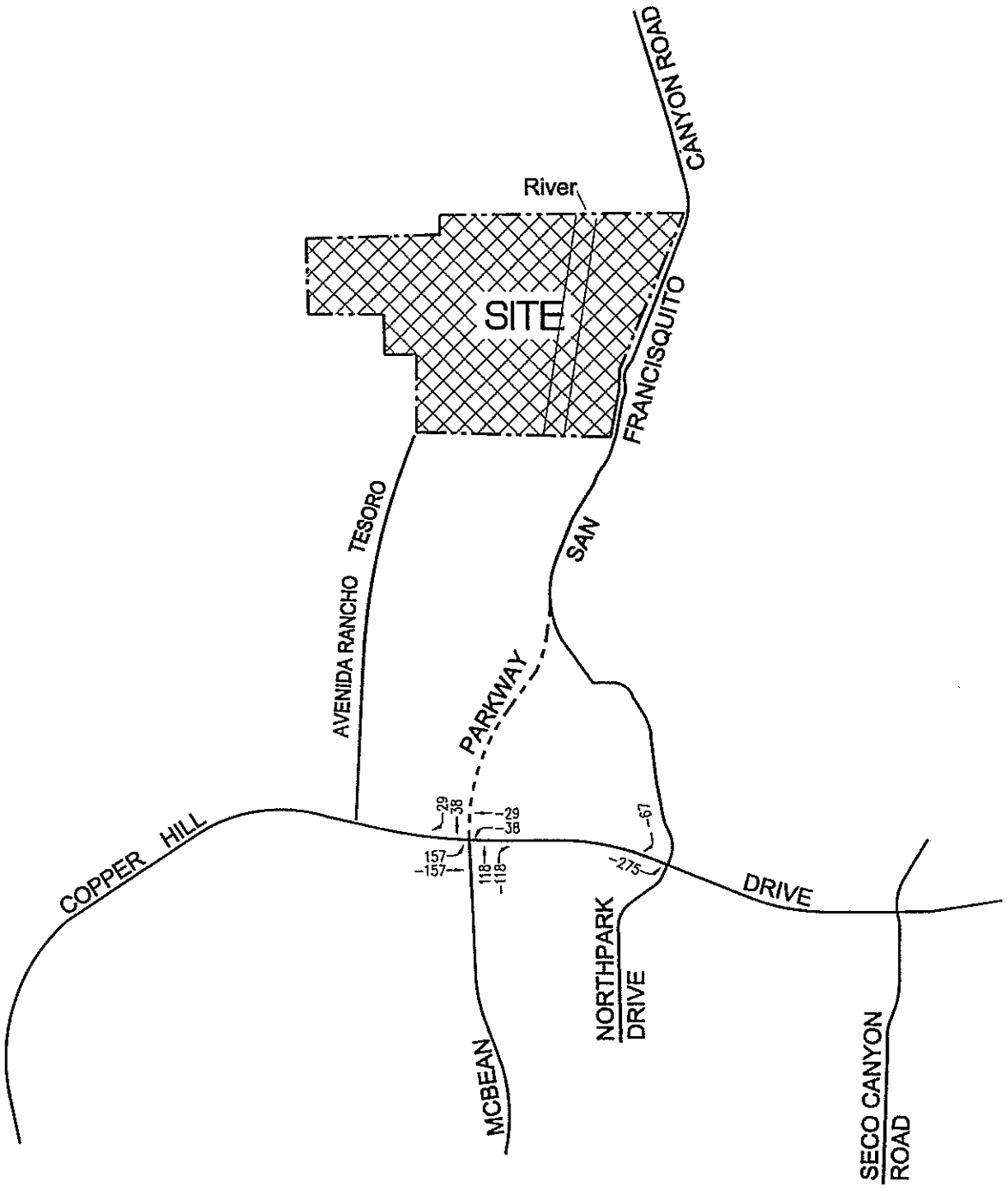
LINSCOTT LAW & GREENSPAN
ENGINEERS

N

NOT TO SCALE

APPENDIX C-3
SHIFTED TRAFFIC VOLUMES
AM PEAK HOUR

TENTATIVE TRACT 53189



LINSCOTT LAW & GREENSPAN
ENGINEERS

NOT TO SCALE

APPENDIX C-4
SHIFTED TRAFFIC VOLUMES
PM PEAK HOUR

TENTATIVE TRACT 53189

APPENDIX H

UTILITY/PUBLIC SERVICES CORRESPONDENCE

WATER RECLAMATION
SOLID WASTE MANAGEMENT

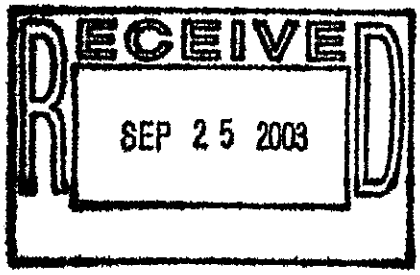
COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

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

September 23, 2003

File No: 32-00.00-00



Ms. Kristin Keeling
Assistant Project Manager
BonTerra Consulting
320 North Halstead Street, Suite 130
Pasadena, CA 91107

Dear Ms. Keeling:

Vesting Tentative Tract Map No. 53189

This is in reply to your letter, which was received by the County Sanitation Districts of Los Angeles County (Districts) on September 17, 2003. 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 and flow through local sewer lines in the Tesoro del Valle tract, all of which are not maintained by the Districts, for conveyance to the Districts' Rye Canyon Trunk Sewer, located in Rye Canyon Road at Newhall Ranch Road. This 10-inch diameter trunk sewer has a design capacity of 2.4 million gallons per day (mgd) and conveyed a peak flow of 1.5 mgd when last measured in 2001.

3. The Districts operate two water reclamation plants (WRPs), the Saugus WRP and the Valencia WRP in order to provide wastewater treatment in the Santa Clarita Valley. These facilities are interconnected to form a regional treatment system known as the Santa Clarita Valley Joint Sewerage System (SCVJSS) that has a permitted treatment capacity of 19.1 mgd. A two phase expansion of the Valencia WRP has been approved that will increase the treatment capacity of the SCVJSS by 15 mgd. The first phase, a 9 mgd expansion, will be completed in 2003 and is expected to meet the Regional Growth Management Plan forecasted demand through 2010. The second phase, scheduled to be completed by early 2010, will consist of an additional 6 mgd expansion and will increase the SCVJSS treatment capacity to 34.1 mgd, which will be sufficient to meet the demand until 2015. The SCVJSS currently processes an average flow of 18.3 mgd.

4. The expected average wastewater flow from the project site is 15,600 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 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

Ruth I. Frazen

Ruth I. Frazen
Engineering Technician
Planning & Property Management Section

RIF:eg

Enclosures

c: M. Cabrera

283246.1

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.

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.

1. 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 C4) for assistance in completing pages 4 and 5 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 fess 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 blueline 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 blueline 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[1]	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[2]	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

[1]Most recent LAFCO fee increase effective June 1, 2003.

[2]Most recent SBE fee increase effective December 2, 1998.

TABLE 1

LOADINGS FOR EACH CLASS OF LAND USE

DESCRIPTION	UNIT OF MEASURE	FLOW (Gallons Per Day)	COD (Pounds Per Day)	SUSPENDED SOLIDS (Pounds Per Day)
RESIDENTIAL				
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
COMMERCIAL				
Hotel/Motel/Rooming House	Room	125	0.54	0.28
Store	1000 ft^2	100	0.43	0.23
Supermarket	1000 ft^2	150	2.00	1.00
Shopping Center	1000 ft^2	325	3.00	1.17
Regional Mall	1000 ft^2	150	2.10	0.77
Office Building	1000 ft^2	200	0.86	0.45
Professional Building	1000 ft^2	300	1.29	0.68
Restaurant	1000 ft^2	1,000	16.68	5.00
Indoor Theatre	1000 ft^2	125	0.54	0.28
Car Wash				
Tunnel - No Recycling	1000 ft^2	3,700	15.86	8.33
Tunnel - Recycling	1000 ft^2	2,700	11.74	6.16
Wand	1000 ft^2	700	3.00	1.58
Financial Institution	1000 ft^2	100	0.43	0.23
Service Shop	1000 ft^2	100	0.43	0.23
Animal Kennels	1000 ft^2	100	0.43	0.23
Service Station	1000 ft^2	100	0.43	0.23
Auto Sales/Repair	1000 ft^2	100	0.43	0.23
Wholesale Outlet	1000 ft^2	100	0.43	0.23
Nursery/Greenhouse	1000 ft^2	25	0.11	0.06
Manufacturing	1000 ft^2	200	1.86	0.70
Dry Manufacturing	1000 ft^2	25	0.23	0.09
Lumber Yard	1000 ft^2	25	0.23	0.09
Warehousing	1000 ft^2	25	0.23	0.09
Open Storage	1000 ft^2	25	0.23	0.09
Drive-in Theatre	1000 ft^2	20	0.09	0.05

TABLE 1
(continued)

LOADINGS FOR EACH CLASS OF LAND USE

DESCRIPTION	UNIT OF MEASURE	FLOW (Gallons Per Day)	COD (Pounds Per Day)	SUSPENDED SOLIDS (Pounds Per Day)
COMMERCIAL				
Night Club	1000 ft^2	350	1.50	0.79
Bowling/Skating	1000 ft^2	150	1.76	0.55
Club	1000 ft^2	125	0.54	0.27
Auditorium, Amusement	1000 ft^2	350	1.50	0.79
Golf Course, Camp, and Park (Structures and Improvements	1000 ft^2	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^2	3,825	16.40	8.61
Mortuary/Cemetery	1000 ft^2	100	1.33	0.67
Health Spa, Gymnasium				
With Showers	1000 ft^2	600	2.58	1.35
Without Showers	1000 ft^2	300	1.29	0.68
Convention Center, Fairground, Racetrack, Sports Stadium/Arena	Average Daily Attendance	10	0.04	0.02
INSTITUTIONAL				
College/University	Student	20	0.09	0.05
Private School	1000 ft^2	200	0.86	0.45
Church	1000 ft^2	50	0.21	0.11

Saugus Union School District

24930 Avenue Stanford, Valencia, CA 91355
(661) 294-7500; FAX (661) 294-7525

FAX COVER SHEET

to: Kristin Keeling from: Herold Pierre

company: date: 10-20-03

fax number: total no. of pages including cover: 4

☐ Urgent For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

SCHOOL SERVICES QUESTIONNAIRE FOR VESTING TENTATIVE TRACT MAP 53189

1. Please identify the names and locations of existing and planned schools which would serve the proposed project. Please indicate the number of permanent classrooms and portable classrooms at each school listed.

This project would likely be served by Tesoro del Valle Elementary School (Proposed new school to be constructed this year and ~~these~~ would open Aug 05). The school will have 27 permanent classrooms. The school is designed so that it can be expanded to accomodate 8 - 10 additional classrooms.

2. Please identify enrollment capacities for the above schools, and the total number of students currently enrolled. Please define the District's definition of capacity.

The proposed school @ Tesoro del Valle would have a capacity of 720 students. There are currently no existing students enrolled, However this school is required to accomodate the students being generated by the Tesoro master planned development. Capacity is determined by multiplying 25 stu/class by # of classrooms for regular classrooms. Kindergarten capacity is 40 x # of K-cl

3. Please identify the established student generation rates per single-family and multi-family homes utilized by your District. If rates are different for elementary, intermediate and high school, please provide all rates.

SFD — 0.431

MFA (condos) — .104

APTS (RENTAL UNITS) — .179

SCHOOL SERVICES QUESTIONNAIRE
FOR
VESTING TENTATIVE TRACT MAP 53189

4. In what ways would implementation of the proposed project adversely affect schools in the project area? Would the project create the need for expanding existing schools in the project area? If so, please explain.

The proposed project would generate additional students that would have to be housed in schools that are already at capacity. This project would create the need to expand existing schools. Most likely Tesoro del Valle would have to be expanded.

5. Please identify any existing development fees applicable to the project.

This project could be subject to the alternative level II or level III fees that are in effect at the time the housing units are being built, or any other fees agreed upon between Developer and District pursuant to a mitigation agreement. Current Alternative fees are Level II $2.21/SF, level III - $4.43.

6. Please provide us with information regarding the status of the District's State funding eligibility relative to Senate Bill 50. Has the District completed its needs analysis, and documentation of eligibility?

The District has documented its eligibility for State funding.

SCHOOL SERVICES QUESTIONNAIRE
FOR
VESTING TENTATIVE TRACT MAP 53189

7. Please identify any other issues that you think should be addressed in the EIR related to schools.

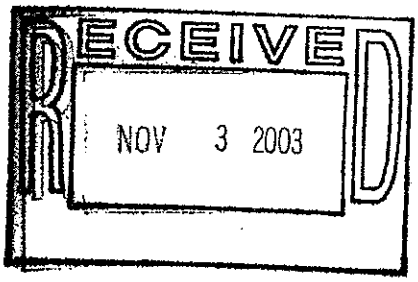
Traffic and Safe School Route.

Thank you for your assistance. Please return completed questionnaire at your earliest convenience.

Kristin Keeling
BonTerra Consulting
320 North Halstead St. Suite #130
Pasadena, CA 91107
Phone:(626) 351-2000
Fax: (626) 351-2030
Email: KKeeling@bonterraconsulting.com

William S. Hart Union High School District

October 29, 2003



Bonterra Consulting
Attention: Kristin Keeling
320 N. Halstead Street, Suite 130
Pasadena, CA 91107

Re: VTTM 53189

Dear Ms. Keeling:

The following is in response to your request for information regarding the school facilities of the William S. Hart Union High School District ("Hart") and the negative impact of the subject development on Hart's facilities. It is our understanding that the project consists of the development of 60 single-family dwelling units on approximately 185.8 acres located in the County of Los Angeles ("Project").

The Project will be served by:

Rio Norte Junior High School (grades 7-8)
28771 Rio Norte Dr., Valencia, CA 91354

Permanent capacity is 1026 students and is provided by 25 permanent classrooms and 12 built-in-place "permanent" relocatable classrooms.
Temporary classroom capacity for 368 students is provided by 20 relocatable classrooms.
Total classroom capacity is currently 1394 students.
Enrollment in October of 2003 was 759.
There are no plans to expand the permanent size of this school.

Valencia High School (grades 9-12)
27801 Dickason Drive, Valencia, CA 91355

Permanent capacity is 1924 students and is provided by 48 permanent classrooms and 26 built-in-place "permanent" relocatable classrooms.
Temporary classroom capacity for 840 students is provided by 32 relocatable classrooms.
Total classroom capacity is currently 2764 students.
Enrollment in October of 2003 was 3501.
There are no plans to expand the permanent size of this school.

The combined rate at which junior high school ("JHS") and senior high school ("SHS") students are generated by new residential construction ("Student Generation Rate" or

21515 Bedview Drive, Santa Clarita, California 91350-2948 661 259-0033 FAX 661 254-8653

"SGR") within Hart's boundaries, as calculated by Hart's consultant, David Taussig & Associates, is 0.4371 (0.1770 JHS/0.2601 SHS) students per single-family dwelling unit ("SFDU"). The total number of JHS and SHS students generated by the Project, therefore, will total approximately 26 students.

At this time, Hart's School Facilities are crowded beyond design capacity, and Hart does not have capacity in its JHS and SHS School Facilities to accommodate these additional 26 students. The students generated by the Project will have a significant impact, both by themselves and cumulatively with students generated by other development projects within Hart's boundaries.

Absent an agreement between Hart and the Developer, the Project will be subject to payment of school impact fees pursuant to Education Code Section 17620 and Government Code Section 65995 *et seq*. ("Statutory School Fees"). A preferable alternative, as noted below, may be for the Developer and Hart to enter into an agreement whereby the Developer would mitigate the impact of the Project on Hart's School Facilities ("Mitigation Agreement").

Mitigation Agreement

The major developers in the Santa Clarita area (including, among others, The Newhall Land and Farming Company, Pardee Development, and Curtis Development) have all acknowledged the importance of providing the appropriate funding for the School Facilities needs arising as a result of their developments. These developers have voluntarily agreed to fund their "fair share" of the costs to construct new School Facilities. It would not be fair for the Developer, with respect to the Project, to avoid this responsibility.

As currently proposed, the Project will generate students that will have a negative impact on Hart's School Facilities. Hart does not currently have excess capacity to accommodate students generated by the Project. As indicated above, the Developer of the Project will be required to pay Statutory School Fees to Hart in order to mitigate the impact of the Project on Hart's School Facilities, at whatever level of fees is in effect at the time the Developer obtains building permits for construction within the Project. As an alternative, Hart encourages the Developer to enter into an agreement to mitigate the impacts of the development on Hart's School Facilities.

2003 Fair Share School Mitigation Payment	
$8,962.90 per SFD	**$4,292.49 per MFA**

The Fair Share School Mitigation Payment amount is adjusted annually in November of each year, effective January 1 of the following year. The Governing Board will approve

and adopt the annually adjusted Fair Share amounts for calendar year 2004 at the November 12, 2003 Board meeting.

The County of Los Angeles Department of Regional Planning supports Hart's efforts to encourage developers to adequately mitigate the negative impact on the school facilities of the District by entering into a Fair Share School Mitigation Agreement.

Statutory School Fees

The applicable Statutory School Fees vary in amount. Section 65995 permits a unified school district to collect Statutory School Fees in the amount of $2.14 per square foot for new residential construction ("Level 1 Fee") and $0.34 per square foot of chargeable, covered and enclosed commercial and industrial development ("Commercial Rate"). Hart is a union high school district, rather than a unified school district, and may collect only the portion of the Level 1 Fee allocated between it and Saugus Union School District, i.e., 55% of any $2.14 Level 1 Fee assessed against the Project, or $1.18 per square foot. However, pursuant to Government Code Section 65995.5 ("Level 2 Fee") and Section 65995.7 ("Level 3 Fee"), on January 26, 2000 the Governing Board of the William S. Hart Union High School District adopted increased Statutory School Fees (Level 2 [currently $2.21/sf and Level 3 [$4.41/sf] Fees). All construction within the Project, therefore, will be subject to whatever level of Statutory School Fee (i.e., Level 1 Fee, Level 2 Fee, or Level 3 Fee) that is in effect at the time the Developer obtains building permits for the dwelling units within the Project. Hart does not believe, however, that the Statutory School Fees, in conjunction with funds provided by the State of California, will be sufficient to completely fund construction of the additional School Facilities necessary to adequately serve students generated by new residential construction within Hart. It is anticipated that the District will have completed a needs analysis within the first quarter of 2004, at which time Level 2 and Level 3 fees will be adjusted accordingly.

Thank you for the opportunity to comment on the Project and please call if you have any questions or wish to discuss the information contained herein.

Sincerely,

Lorna Baril
Business Services

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

October 8, 2003

BonTerra Consulting
Attn: Kristin Keeling
320 No. Halstead St., Suite 130
Pasadena, CA 91107

VESTING TENTATIVE TRACT MAP 53189
Unincorporated Area of Santa Clarita

Dear Ms. Keeling:

Attached is the completed questionnaire for Tract Map 53189.

If you have any additional questions, please call Michele Mathieu at (562) 940-8455.

Sincerely,

Malou Rubio

Malou Rubio
Head, Staff Services

MR:MM:mm

Attachment

c: Margaret Donnellan Todd, County Librarian
David Flint, Assistant Director, Finance and Planning

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LIBRARY SERVICE QUESTIONNAIRE
FOR
VESTING TENTATIVE TRACT MAP 53189

1. **Please identify the names and locations of existing and planned public libraries within the study area which would provide service to the proposed project.**

   The study area is within the Santa Clarita Valley Bookmobile service area. The bookmobile's schedule is attached to this questionnaire.

2. **Are there current plans for expansion for any of the facilities listed above?**

   No, there are no current plans to expand the Santa Clarita Valley Bookmobile.

3. **Please identify the factors used (i.e., population, number of units) to assess library needs/impacts.**

   The County of Los Angeles Public Library (Library) uses the following planning guidelines to assess needs/impacts to services:

   3.09 average persons per household

   2.75 library items (books, periodicals, videos, etc.) per capita

   0.5 square foot per capita

   1.0 computer per 1,000 persons served

4. **Would the proposed project result in a need to expand existing facilities or staff, construct a new facility, or otherwise adversely impact the types of services you provide?**

   Yes, the proposed project will adversely impact the library services we provide. Currently, the Santa Clarita Valley Bookmobile is not adequately serving the community. Any increase in population will result in a need for additional facility space and library items.

5. **Please identify any existing development fees applicable to the project.**

   The Library has a Facilities Mitigation Fee Program applicable to new, residential development in the unincorporated area of Los Angeles County served by the Library. This project will be subject to these fees. The project is in the Library's Planning Area 1. The current fee for this area is $665 per dwelling unit. The total cost for this project would be $39,900 ($665 x 60 dwelling units). Please note that the fees are adjusted annually on July 1.

6. Please recommend mitigation measures to reduce potential adverse impacts

Payment of the Library's mitigation fees would reduce the potential adverse impacts of the project to less than significant.

7. Please identify any other issues that you think should be addressed in the EIR related to public libraries.

No, there are no other issues to identify.

U:\STAFFSERVICES\DEVELOPER FEE\EIR\SCV53189.wpd

Santa Clarita Valley Bookmobile

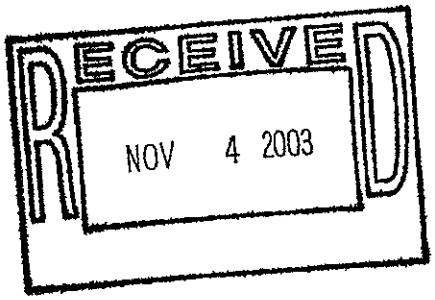
Schedule of Service

Monday A Route I	10am - 12noon 1pm - 4pm	Acton Market 3630 Smith Street Acton
Monday B Route II	10am - 10:30am	Gemstone 2451 W. Soledad Canyon Acton
	11am - 12noon 1pm - 4pm	Acton Market 3630 Smith Street Acton
Tuesday A Route III	9:30am - 12noon	Friendly Valley 19345 Avenue of the Oaks Newhall
	1pm - 3:30pm	Val Verde Park 30300 W. Arlington Street Val Verde
Tuesday B Route IV	9:30am - 12noon	Lakehill Mobile Estates 27700 Parker Rd Castaic
	1pm - 4pm	Hidden Lake The Old Road at Royal Road Castaic
Wednesday Route V (weekly)	10am - 12noon 1pm - 4pm	Agua Dulce 33301 Agua Dulce Road Agua Dulce
Friday Route VI (weekly)	10am - 12noon 1pm - 4pm	Santiago Square 33332 Santiago Road Acton

NCWD

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

November 3, 2003



Kristin Keeling, Assistant Project Manager
Bonterra Consulting
320 N. Halstead Street, Suite 130
Pasadena, CA 91107

RE: Vesting Tentative Tract Map 53189 Project (EIR)

Dear Ms. Keeling:

Enclosed please find the following:

1. Newhall County Water District – Water Service Availability Letter
2. Response to questionnaire
3. Exhibits – Tesoro Vicinity Map

If you have any questions, please do not hesitate to call.

NEWHALL COUNTY WATER DISTRICT

Sincerely,
Eunie Kang
Administrative Secretary

NCWD

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

November 3, 2003

Kristin Keeling, Assistant Project Manager
Bonterra Consulting
320 N. Halstead Street, Suite 130
Pasadena, CA 91107

Re: Water Service Availability – Vesting Tentative Tract Map (VTTM) 53189 "Developer"

The above-referenced development (the "Development") located in Santa Clarita, California, lies with the service area of Newhall County Water District (the "District"). The District is prepared to provide water service to the reference property 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 distribution system and other facilities required for the Development in accordance with the District's Rule and Regulations.

2. Developer shall grant the District any and all easements required for water service, together with a policy of title insurance, satisfactory to the District, guaranteeing the District's title to such easements.

3. Developer shall, in accordance with the District's Rules and Regulations, Pay all required fees and charges, including any required deposit amount in order to process plans, design and complete construction of the required on-site and off-site improvements.

4. Developer shall comply with the District's Rules and Regulations in force and effect at the time water service is requested and as those Rules and Regulations may be amended from time to time, including, but not limited to, the payment of any and all District charges, fees and expenses necessary to provide service to the subject Development.

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 guaranty that at the time of connection, water service will be available for the Development.

6. Developer agrees that this water service letter is exclusive to the Development described above (and the number of units of which the District has been informed 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 if water service has not been installed. Developer shall not be entitled to any water connections not made at the time of the expiration 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 for reasons beyond its control, 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, or in the alternative, to relinquish such approvals. 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 aggress 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. All service pursuant to this letter shall be in accordance with the District's Rules and Regulations, as they may be amended from time to time. By issuing this letter, the District does not guarantee any specific quantities, pressures or flows with respect to water service to be provided by the District.

12. Water supply availability is conditioned expressly upon effective completion of the annexation to the Newhall County Water District.

Very truly yours,

NEWHALL COUNTY WATER DISTRICT

Kenneth J. Petersen
General Manager

KJP/ehk

cc: NCWD Board of Directors

WATER SERVICES QUESTIONNAIRE
FOR
VESTING TENTATIVE TRACT MAP 53189

1. Please identify the location, type, and size of existing and planned water facilities within the study area which would serve the proposed project.

   See attached exhibit

2. Please identify the appropriate water consumption factors to be used in determining the demands of the project.

   edu=equivalent dwelling units
   gpm=gallons per minute
   af=acre feet
   Average Day Demand (ADD)=0.9af/yr/edu
   Maximium Day Demand (MDD)=2.5 (ADD)
   Peak Hour Demand (PHD)=4.0 (ADD)
   Fire Flow (FF)=1250gpm for 2 hrs

3. Would the implementation of the proposed project adversely affect your service capabilities or facilities in the project area? If so, please describe.

   NO

WATER SERVICES QUESTIONNAIRE
FOR
VESTING TENTATIVE TRACT MAP 53189

4. Please explain where expansion of new water facilities or existing lines would take place if such action is needed due to the implementation of the proposed project.

Presently with the addition of 60 units there is no need to expand the existing water facilities.

5. Would sufficient water supplies be available to serve the project, or would new/expanded entitlements be needed?

YES

6. Please identify any existing development fees applicable to the project.

Presently there are no existing development fees for this service area. The District is presently studying a connection fee structure that would be applicable to its Tesoro Service Area.

WATER SERVICES QUESTIONNAIRE
FOR
VESTING TENTATIVE TRACT MAP 53189

7. Please recommend mitigation measures to reduce potential adverse impacts to your services or facilities.

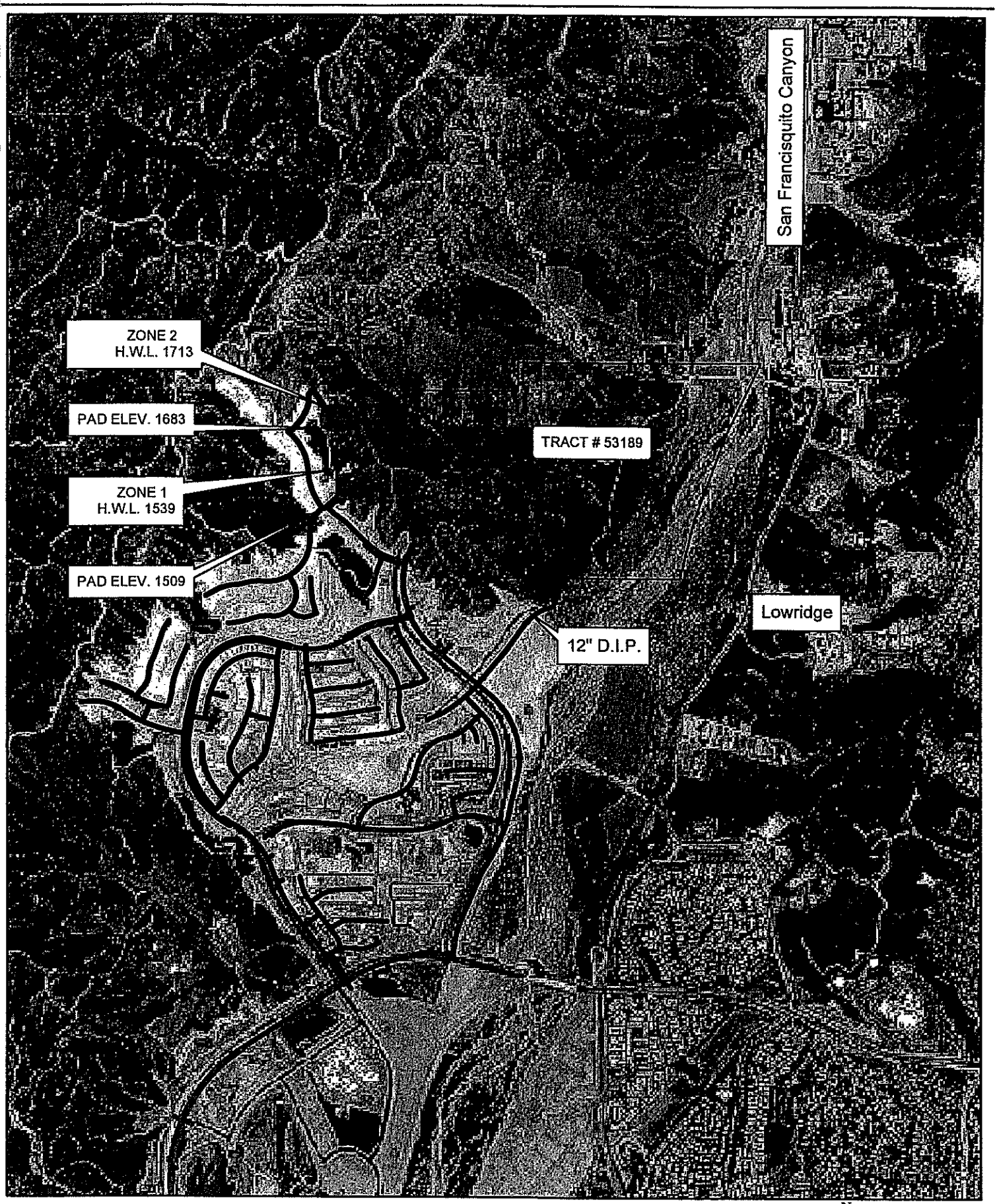
In-Tract facilities should be sized to accommodate fire flow and constructed per the District's standard plans and specifications

8. Please identify any other issues that you think should be addressed in the EIR related to water service.

Please find attach a letter of water availability discussing issues relating to water service.

Thank you for your assistance. Please return completed questionnaire by October 13th to:

Kristin Keeling
BonTerra Consulting
320 North Halstead St. Suite #130
Pasadena, CA 91107
Phone: (626) 351-2000
Fax: (626) 351-2030
Email: KKeeling@bonterraconsulting.com



LEGEND

Pressure Zone 1

Pressure Zone 2

Tesoro Vicinity Map

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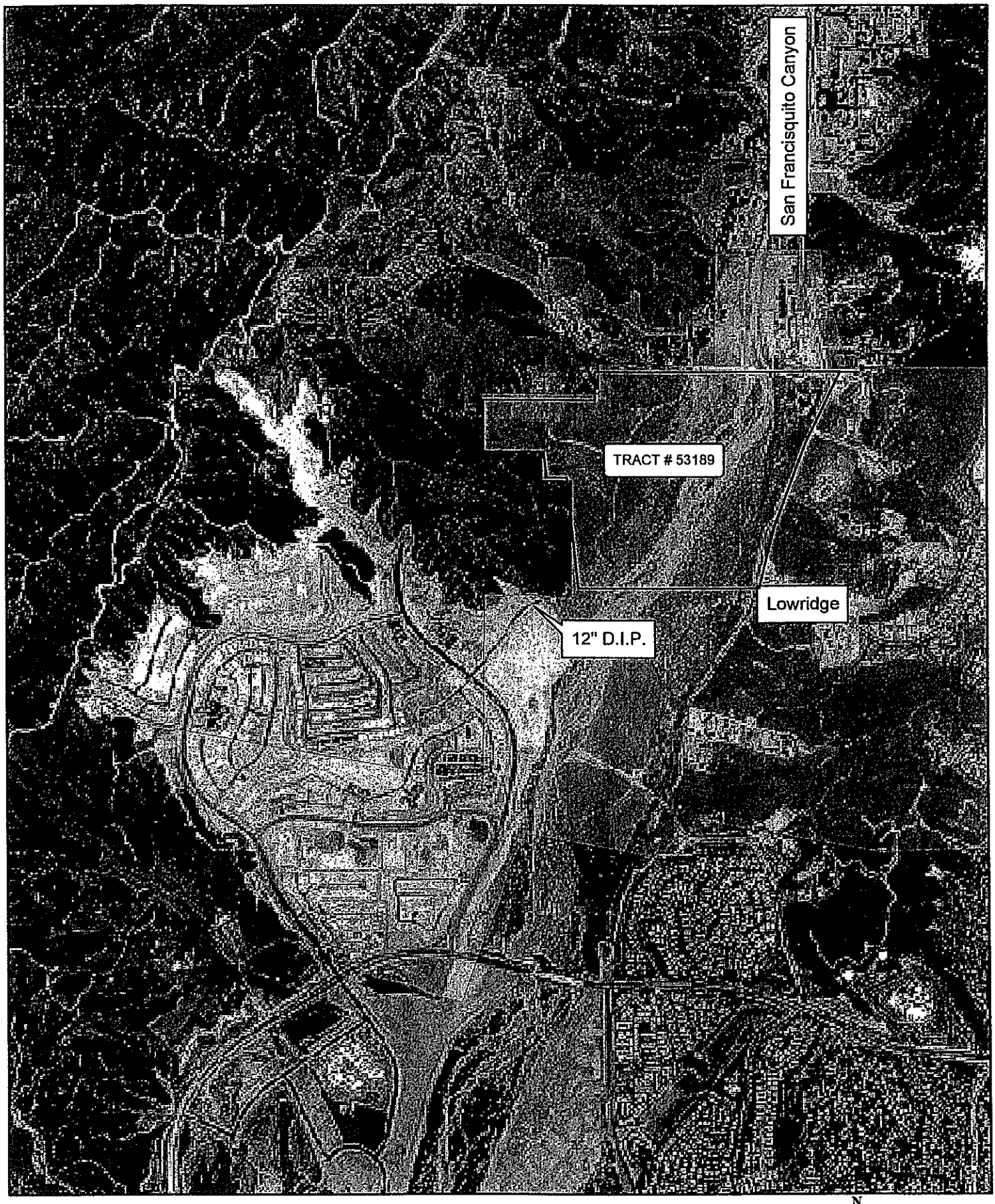

Legend

NCWD_Service Area

Tesoro Vicinity Map

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NCWD

SunCal Companies

September 26, 2003

Kristin Keeling
Assistant Project Manager
Bonterra Consulting
320 North Halstead Street, Suite 130
Pasadena, California 91107

Re: TTM No. 53189 – (Burnam Property)

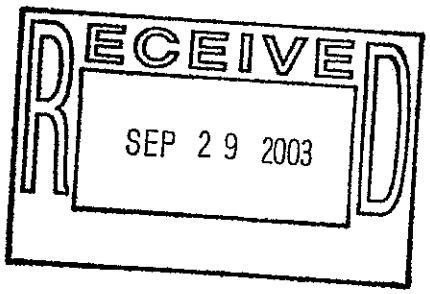
Dear Kristin,

Per Tom Smiths request, please find attached for your information and use a copy of the Phase I Report, prepared by Waterstone Environmental, Inc., for the TTM No.53189.

Please call me after you have reviewed to discuss it.

Best Regards,

Dennis H. Bickler
Project Manager
Plum Canyon Project



21900 Burbank Blvd., Suite 114 Woodland Hills, CA 91367
818.348.3033 Fax 818.348.3043

PHASE I ENVIRONMENTAL ASSESSMENT REPORT

Subject Site Located at San Francisquito Canyon Road Santa Clarita, California 91350

May 10, 1999

Prepared for:

The Larwin Company
16633 Ventura Boulevard, Suite 1300
Encino, California 91436

Prepared by:

Waterstone Environmental, Inc.
4409 Daisy Court
Moorpark, California 93021

Table of Contents

Table of Contents – Continued

Figures

Appendices

SECTION 1.0
INTRODUCTION

1.1 Purpose

Waterstone Environmental, Inc. (Waterstone) performed a Phase I Environmental Assessment (Phase 1) of a 176-acre parcel located along San Francisquito Canyon Road in Santa Clarita, California (Subject Site).

The primary purpose of this environmental assessment was to evaluate the likelihood that the Subject Site has been impacted by hazardous materials through both current and/or historical activities conducted on or near the Subject Site.

1.2 Scope of Work

Waterstone has completed the following scope of work to accomplish the project objectives:

- Researched past activities that occurred on the Subject Site to identify any former operations that may have impacted the Subject Site with hazardous materials. This task included an interview of a knowledgeable individual familiar with the site, review of agency records, permits, and reviewing historical aerial photographs and records of the site and surrounding area.

- Inspected the Subject Site for areas of potential hazardous materials impact and the presence of suspect asbestos-containing materials, and identified adjoining properties that appeared to have the potential to impact the Subject Site with hazardous materials.

- Contacted the appropriate regulatory agencies for information regarding hazardous materials use, storage, and/or releases at the Subject Site.

- Reviewed published governmental agency lists to identify properties within one mile of the Subject Site with a reported release of hazardous materials. Waterstone obtained the government agency list from VISTA Information Solutions, Inc., contacted appropriate regulatory agencies and reviewed records for nearby properties which appear to present a potential to impact the Subject Site based on results obtained from the governmental agency database review.

- Prepared a report of the environmental assessment findings and conclusions.

Topics not explicitly discussed within this document should not be assumed to have been investigated.

SECTION 2.0
GENERAL SITE CHARACTERISTICS

2.1 Location

The Subject Site is located along San Francisquito Canyon Road, Santa Clarita, California, 91350, and consists of a 176-acre parcel of undeveloped land. Figure 1 provides a map showing the location of the Subject Site.

2.2 Adjacent Properties

The Subject Site is located in an area of Santa Clarita that consists primarily of small single-family ranches, single-family homes, and undeveloped land. At the time of the site inspection, the properties adjacent to the Subject Site were characterized as:

North: The Subject Site is bound by Lady Linda Lane (dirt road) with undeveloped land, single-family homes, and small ranches beyond.

South: The Subject Site is bound by undeveloped land

East: The Subject Site is bound by San Francisquito Canyon Road with single-family homes and small ranches beyond.

West: The Subject Site is bound by undeveloped land.

Figure 2 provides a plot plan of the surrounding properties.

2.3 Site Description

The Subject Site consists of approximately 176-acres of undeveloped land. The Subject Site is primarily flat, with some small hills located in the western portion. The eastern portion of the Subject Site contains the San Francisquito Creek, which has been designated a Sensitive Ecological Area (SEA). This will be discussed in detail in Section 5.9.

The eastern and central portions of the Subject Site are part of the San Francisquito Creek floodplain and consisted of dry sandy/gravelly soil with a variety of herbaceous plants. Floodplain vegetation observed in this portion of the Subject Site included sandbar willow, black willow, cottonwood, and giant reed grass. The western portion of the Subject Site is characterized as chaparral.

Access to the Subject Site can be gained from San Francisquito Canyon Road and Lady Linda Lane. The Subject Site grounds appeared clean and no illegal dumping was noted during the site inspection. In addition, no staining, corrosion, or stressed vegetation was observed during the site inspection.

SECTION 3.0
ENVIRONMENTAL SETTING

3.1 Geologic Conditions

The Subject Site is located in Los Angeles County, within the west-central Transverse Range geologic province. This east-west trending province is characterized by diverse topographic and geologic conditions such as rugged mountains, narrow valleys, low rounded foothills, and broad gentle basins. Within this province, Precambrian, Paleozoic and Mesozoic crystalline rocks are overlain by thick sections of Tertiary sedimentary rocks.

The Subject Site is located within the Santa Clarita Valley, which is bound on the north by the Piru Mountains and the Angeles and Los Padres National Forests, on the south by the Santa Susana Mountains, on the east by the San Gabriel Mountains, and on the west by the Piru Mountains and Las Padres National Forest. The Santa Clarita Valley is generally flat, with some gently rolling hills with an average elevation of 1,200 to 1,600 feet above mean sea level.

There are no known active faults that cross the Subject Site. The San Gabriel fault zone is located southeast of the Subject Site. However, there is no record of historical seismic activity on the fault. The active San Andreas Fault is located approximately 20 miles northeast of the Subject Site.

3.2 Groundwater Conditions and Flow Direction

The Santa Clarita Valley floor is crossed by several watercourses, the largest of which is the Santa Clara River. The Santa Clara River is located approximately 35 miles south of the Subject Site. San Francisquito Creek runs through the Subject Site in a north-south direction and is an intermittent stream that connects the northern portion of the valley with the Santa Clara River. These rivers/creeks are usually dry, maintaining surface water flow only during the rainy months (November through March).

Groundwater flow in the Santa Clara Valley is generally towards the south. Groundwater wells in the Santa Clarita Valley pump water from a water-bearing zone located between 100 and 300 feet below ground surface.

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SECTION 4.0
RESULTS OF INVESTIGATION

4.1 Site Inspection Observations

On May 4, 1998, Sarah Li, Environmental Scientist (of Waterstone) performed a visual inspection of the Subject Site and adjacent properties. Access to the Subject Site was not restricted. The results of the site inspection observations are described in Section 5.0.

4.2 Results of Regulatory Agency Database Review

An investigation of the Subject Site and the nearby area was conducted for any environmental problems that may be recorded in government database systems or files. Properties that have or may have the potential for existing or future site contamination, environmental liabilities, or the potential for contamination migration to surrounding areas are listed in this report. Information pertaining to the sites on the regulatory databases was obtained from VISTA Information Solutions utilizing their *Vista Site Assessment Plus Report* (see Appendix A).

The Subject Site is not listed on any of the databases searched. The databases searched and listed properties are detailed below.

4.2.1 Federal Database Review

National Priorities List

The National Priorities List (NPL) is the U.S. Environmental Protection Agency's database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program. A site, to be included on the NPL, must either meet or surpass a predetermined hazard ranking system score, or be chosen as a state's top-priority site, or meet all three of the following criteria: 1) the US Department of Health and Human Services issues a health advisory recommending that people be removed from the site to avoid exposure; 2) EPA determines the site represents a significant threat, and 3) EPA determines that the remedial action is more cost-effective than removal action.

An EDR search indicated that no NPL sites were identified within a one-mile radius of the Subject Site.

Comprehensive Environmental Response Compensation Liability Information System

The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) list includes a list of properties/facilities which are suspected or confirmed to have adversely impacted the environment. The list is comprehensive in that it includes all properties for which an allegation has been made regarding environmental contamination.

Page 4

98-201

Future Improvements

The future lane configurations for each study intersection, as depicted in the *Traffic Impact Study for Tentative Tract 53189*, prepared by Linscott, Law & Greenspan Associates, Inc., 1998, are displayed on Figure 14. The future lane configurations are incorporated into the cumulative analysis in Section 5.0.

In addition to the future lane improvements, McBean Parkway is planned to be extended northerly from Copper Hill Drive to San Francisquito Canyon Road. The McBean Parkway northerly extension would provide a direct route to Copper Hill Drive and McBean Parkway which will result in a shift of existing traffic movements to/from the surrounding area to the McBean Parkway northerly extension. The affected existing traffic movements due to the McBean Parkway northerly extension are the existing southbound right-turn on San Francisquito Canyon Road at the Copper Hill Drive intersection and the existing eastbound left-turn on Copper Hill Drive at the San Francisquito Canyon Road intersection.

Existing year 2000 counts at the San Francisquito Canyon Road and Copper Hill Drive intersection were used to determine the southbound right-turn traffic volumes and eastbound left-turn traffic volumes. The existing volumes were factored up by 6.6% per year through Year 2005 and are included in Appendix C. A portion of the southbound right-turn traffic volumes and eastbound left-turn traffic volumes were shifted to the McBean Parkway northerly extension and are shown in Appendix C. The traffic shifts from San Francisquito Canyon Road to the McBean Parkway northerly extension were incorporated into the cumulative analysis at the McBean Parkway and Copper Hill Drive study intersection.

With Cumulative Projects

The County of Los Angeles analysis procedures require that traffic due to Related Projects be considered in the future cumulative conditions, after consideration of traffic due to the proposed project and the project mitigation. The planned future improvements mentioned above are incorporated in the cumulative analysis.

A review of the database indicated that there are no CERCLIS sites located within a one-half mile radius of the Subject Site.

Resource Conservation and Recovery Act

The EPA's Resource Conservation and Recovery Act (RCRA) program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities data base is a compilation by EPA of reporting facilities that generate, store, transport, treat or dispose of hazardous waste.

Because a site is listed as a hazardous waste generator does not mean that the site has released hazardous waste. Listing under RCRA does not necessarily indicate contamination at the site. A review of the **RCRA registered generators of hazardous waste** indicated that there are no RCRA generator sites located within a one-quarter mile radius of the Subject Site.

A review of the **RCRA permitted treatment, storage and disposal (TSD)** facilities database indicated that no RCRA TSD facilities are located within the ASTM-specified search radii of the Subject Site (one mile radius for RCRA-TSD sites).

A review of the **RCRA violations/enforcement actions** database indicated that no RCRA violation(s) or enforcement action(s) have been taken for sites within the ASTM-specified search radii of the Subject Site (one-quarter mile radius for RCRA violations/enforcement actions).

CORRACTS

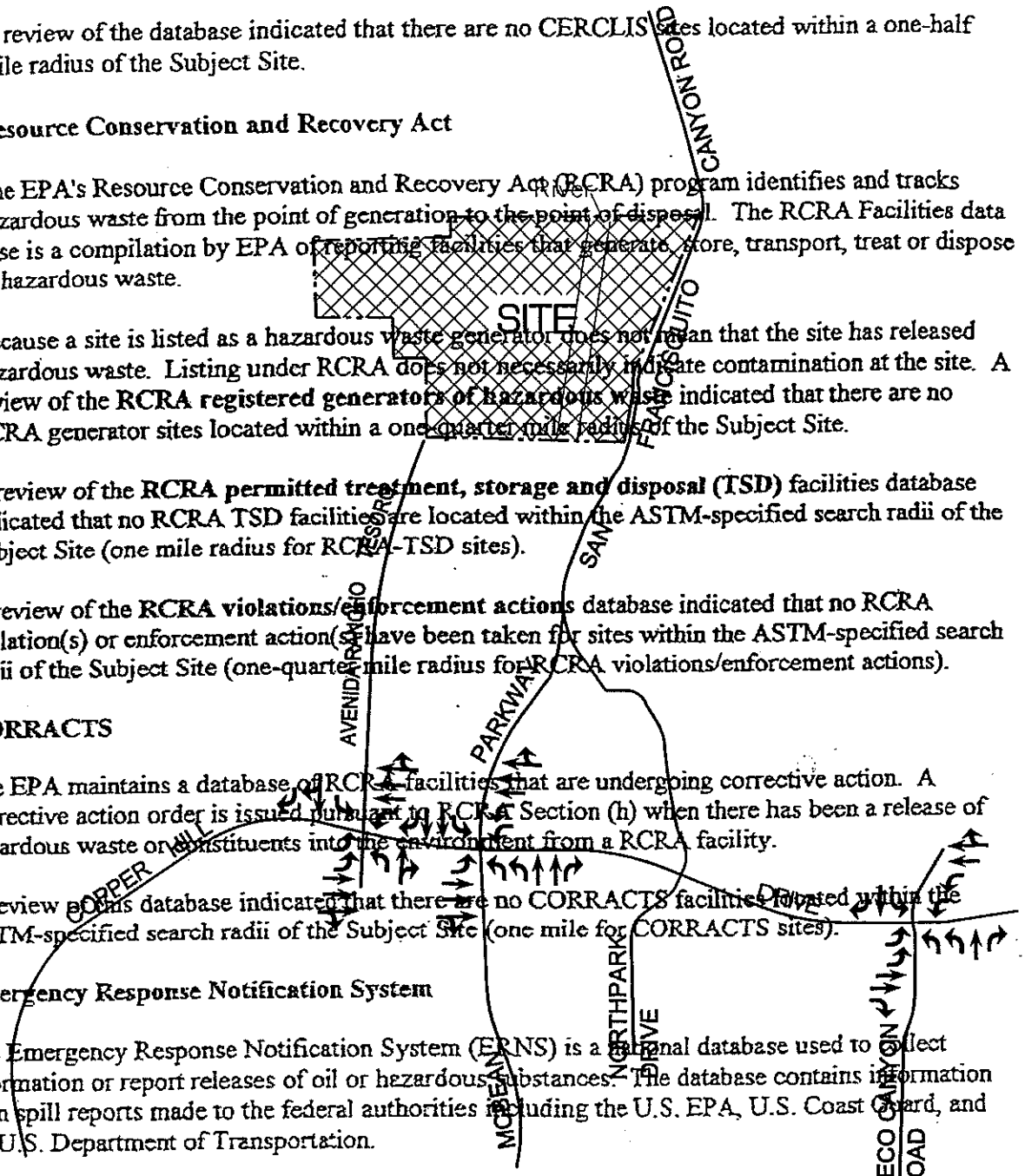
The EPA maintains a database of RCRA facilities that are undergoing corrective action. A corrective action order is issued pursuant to RCRA Section (h) when there has been a release of hazardous waste or constituents into the environment from a RCRA facility.

A review of this database indicated that there are no CORRACTS facilities located within the ASTM-specified search radii of the Subject Site (one mile for CORRACTS sites).

Emergency Response Notification System

The Emergency Response Notification System (ERNS) is a national database used to collect information or report releases of oil or hazardous substances. The database contains information from spill reports made to the federal authorities including the U.S. EPA, U.S. Coast Guard, and the U.S. Department of Transportation.

A review of the database indicated that no ERNS incidents have occurred on the Subject Site or within the ASTM-specified search radii of the Subject Site (one-eighth mile).



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Page 5

FIGURE 14
FUTURE LANE CONFIGURATIONS

TENTATIVE TRACT 53189

4.2.2 State Data Base Review

State Priority List Sites (SPL)

These records are the state's equivalent to NPL. These sites may or may not already be listed on the federal NPL. A review of this database indicated that no state priority list sites are reported within a one-mile radius of the Subject Site.

State Hazardous Waste Sites (SCL)

These records are the state's equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for using state funds are identified along with sites where cleanup will be paid for by potentially responsible parties.

A review of this database indicated that no state hazardous waste sites are reported within a one-mile radius of the Subject Site.

Registered Underground Storage Tanks (UST)

A search of the California list of registered underground storage tanks indicated that no UST sites are located within a one-quarter mile radius of the Subject Site. The risk commonly associated with UST sites is based on a possible release of a hazardous substance/waste from underground storage tanks or containers. Primary concerns are the potential migration of contamination impacting the Site's soils, groundwater, and/or the facility's potable water supply.

Leaking Underground Storage Tank Incident Report (LUST)

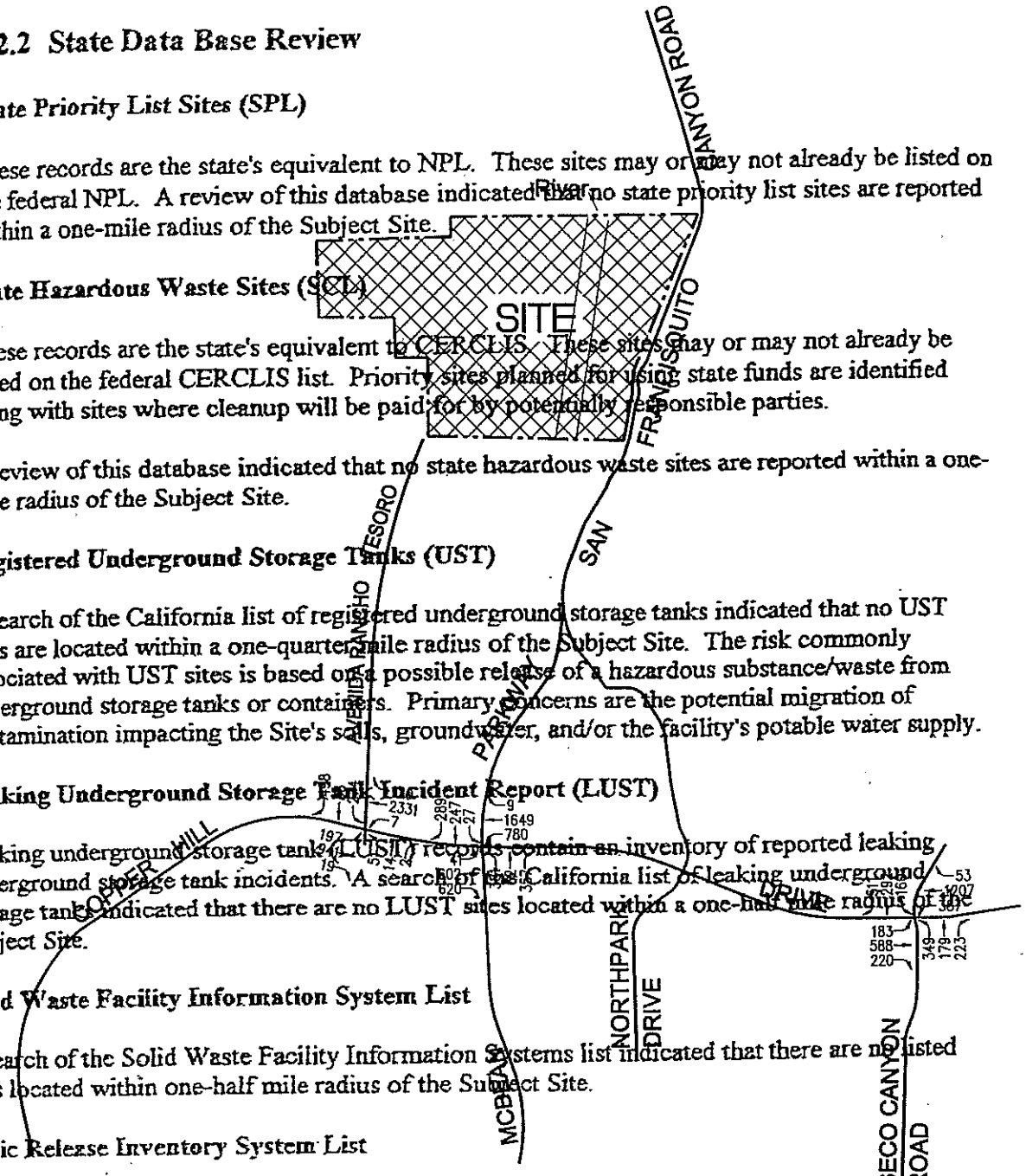
Leaking underground storage tank (LUST) records contain an inventory of reported leaking underground storage tank incidents. A search of the California list of leaking underground storage tanks indicated that there are no LUST sites located within a one-half mile radius of the Subject Site.

Solid Waste Facility Information System List

A search of the Solid Waste Facility Information Systems list indicated that there are no listed sites located within one-half mile radius of the Subject Site.

Toxic Release Inventory System List

Section 313 of the Emergency Planning and Community Right-to-Know Act (also known as SARA Title III) of 1986 requires facilities subject to this Act to report emissions of specified toxic chemicals. A search of the Toxic Release Inventory System list indicated that there are no TRIS sites located within a one-quarter mile radius of the Subject Site.



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Page 6

FIGURE 15
FUTURE CUMULATIVE TRAFFIC VOLUMES
AM PEAK HOUR
TENTATIVE TRACT 53189

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4.3 Results of Site and Adjoining Sites History/Land Use

4.3.1 *Personnel Interviews*

No personnel interviews were conducted regarding the Subject Site.

4.3.2 Area Land Use

The Subject Site is located in a residential/undeveloped area of Santa Clarita. The adjacent properties south and west of the Subject Site consist of undeveloped land. The area north of the Subject Site contains a combination of small ranch residences and undeveloped land. The area east of the Subject Site consists of small ranch residences.

Potential for Impact to the Subject Site

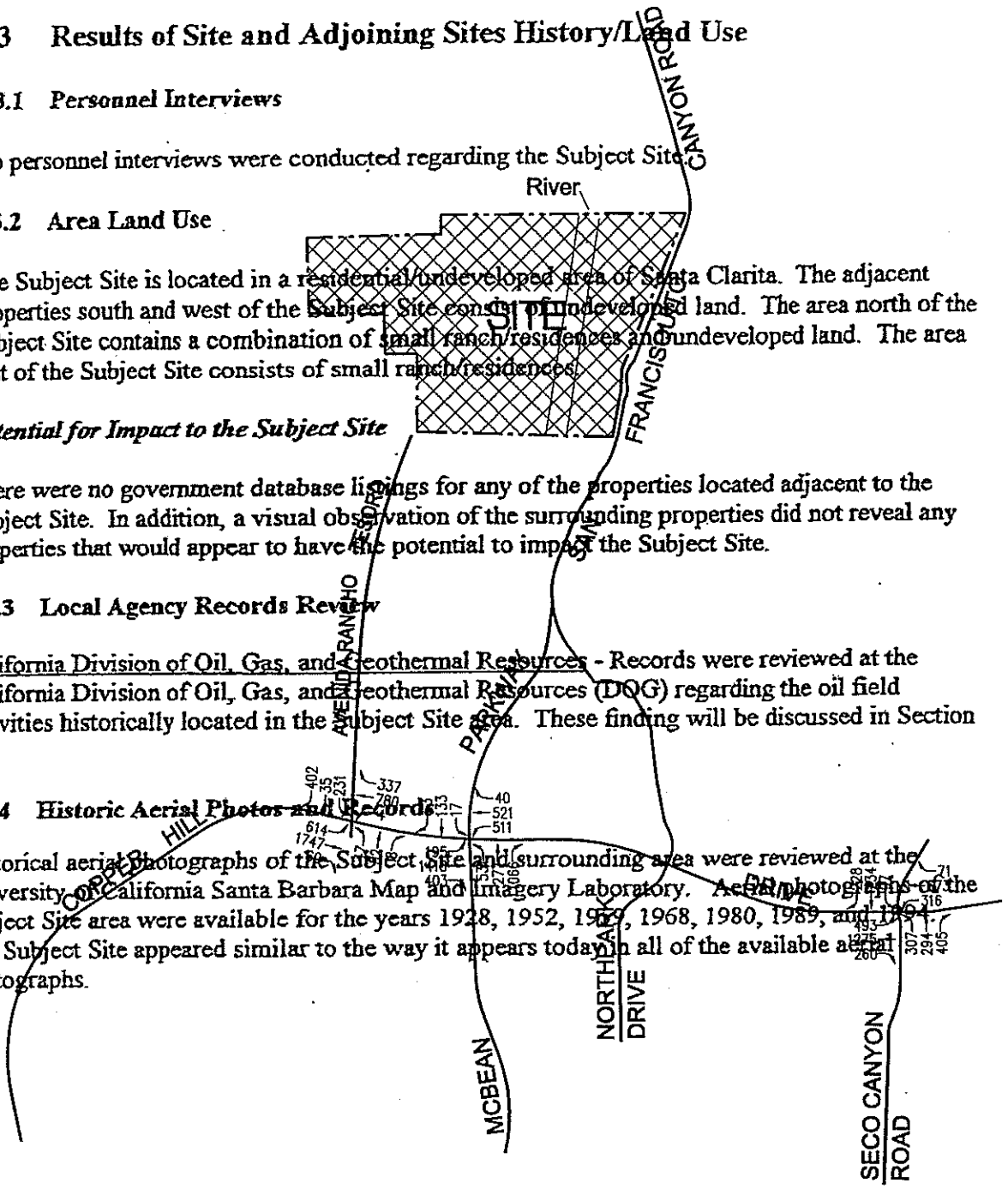
There were no government database listings for any of the properties located adjacent to the Subject Site. In addition, a visual observation of the surrounding properties did not reveal any properties that would appear to have the potential to impact the Subject Site.

4.3.3 Local Agency Records Review

California Division of Oil, Gas, and Geothermal Resources - Records were reviewed at the California Division of Oil, Gas, and Geothermal Resources (DOG) regarding the oil field activities historically located in the Subject Site area. These finding will be discussed in Section 5.8.

4.3.4 *Historic Aerial Photos and Records*

Historical aerial photographs of the Subject Site and surrounding area were reviewed at the University of California Santa Barbara Map and Imagery Laboratory. Aerial photographs of the Subject Site area were available for the years 1928, 1952, 1959, 1968, 1980, 1989, and 1994. The Subject Site appeared similar to the way it appears today in all of the available aerial photographs.



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Page 7

FIGURE 16
FUTURE CUMULATIVE TRAFFIC VOLUMES
PM PEAK HOUR
TENTATIVE TRACT 53189

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SECTION 5.0
ADDITIONAL ENVIRONMENTAL ISSUES

5.1 Underground Storage Tanks, Aboveground Storage Tanks, Sumps

5.1.1 Underground Storage Tanks

No evidence of underground storage tanks (i.e., fill ports) were observed on the Subject Site. According to the VISTA report, there are no underground storage tanks registered or existing at the Subject Site.

5.1.2 Aboveground Storage Tanks

No aboveground storage tanks were observed on the Subject Site. According to the VISTA report, there are no aboveground storage tanks registered or existing at the Subject Site.

5.1.3 Sumps/Clarifiers

No sumps or clarifiers were observed at the Subject Site during the site inspection.

5.2 Suspect Asbestos-Containing Materials

While the use of asbestos in the manufacture of most building materials has not been fully prohibited by federal law, the use of asbestos, for the most part, has voluntarily been discontinued since the late 1970s. Some non-friable materials, such as roofing material and floor coverings (floor tile and mastic) may have been manufactured with asbestos materials and may have been used into the early 1980s.

There are no structures located on the Subject Site. Therefore, asbestos is not an issue of concern for the Subject Site.

5.3 PCB Equipment

Polychlorinated Biphenyls (PCBs) were used extensively in electrical transformers beginning in 1929. Exposure to PCBs has since been found to cause liver ailments, skin lesions, tumors, and growth and reproductive problems. Use of PCBs has been regulated since 1977.

No equipment that could potentially contain PCBs was observed at the Subject Site.

5.4 Chemical Use and Storage

No chemicals or evidence of illegally dumping of materials were observed at the Subject Site.

The proposed cumulative mitigation measures at the McBean Parkway and Copper Hill Drive intersection includes restriping the following approaches to provide:

- Northbound Approach: one left-turn lane, one through lane, and two right-turn lanes.
- Southbound Approach: one left-turn lane, one through lane, one shared through/right-turn lane, and one right-turn lane.

Effect of Recommended Mitigation Measures

McBean Parkway and Copper Hill Drive. The proposed mitigation is expected to improve the V/C ratio from 0.938 (LOS E) to 0.869 (LOS D) during the AM peak hour and from 1.074 (LOS F) to 0.882 (LOS D) during the PM peak hour. This intersection is forecasted to operate at acceptable Levels of Service (LOS D or better) in the future AM and PM peak hours. Therefore, no additional mitigation measures are required or recommended at this location.

FAIR SHARE ANALYSIS

The methodology and the calculations of the project's pro-rata percentage at the study intersections which require cumulative improvement measures are summarized in Table 7. The method used for these calculations are based on the average of the weekday AM and PM peak hour project generated traffic volumes on the approaches to each affected study intersection divided by the project plus other development (related) projects' traffic volumes on those same approaches. It should be noted that neither existing traffic volumes nor ambient growth traffic volumes are included in the calculations.

As shown in Table 7, the proposed project's fair share contribution toward the cumulative improvements is as follows:

- W99-1 Intersection 2: McBean Parkway and Copper Hill Drive = 1.3%

The Subject Site has no utility service at this time.

5.6 Lead-based Paint

Lead was a major ingredient in paint pigment prior to and through the 1940s. While other pigments were used in the 1950s, the use of lead in paint continued until the mid 1970s. In 1978, the Consumer Products Safety Commission banned paint and other surface coating materials that contain lead.

There are no structures located on the Subject Site. Therefore, lead-based paint is not an issue of concern at the Subject Site.

5.7 Urea-formaldehyde Foam Insulation

No urea-formaldehyde foam insulation was observed at the Subject Site.

5.8 Oil and Gas Wells

According to California Department of Oil and Gas (DOG) records, two abandoned oil/gas wells are located on the Subject Site. The wells were developed by International Oil Developers, Inc. Ltd. in the mid-1930s and are known as "Powell" 301 and "Powell" 302. Neither of the wells was successful, and both were abandoned shortly after the initial drilling. The oil well documentation as well as a map showing the locations of the oil wells is included as Appendix B.

Wells can act as potential conduits for contamination of groundwater, unless they have been properly abandoned (i.e., filled and plugged) in such a manner as to prevent the conducting of hazardous material into the groundwater aquifers. Oil wells were typically abandoned in one of three ways in Southern California: 1) placement of drilling muds and cuttings into the well bore, 2) placement of telephone pole-type material and drilling muds and cuttings into the well bore, or 3) placement of cement plugs at specified intervals along with drilling muds and cuttings into the well bore. Abandonment styles 1 and 2 were commonly utilized prior to the 1960's, while style 3 has been utilized more recently. The proper abandonment of wells reduces the possibility that the borehole could be a conduit for the movement of oil to the ground surface or to another subsurface zone where it could contaminate groundwater reservoirs.

According to the DOG records, the oil wells located on the Subject Site were drilled and abandoned in 1935 (Powell 301) and 1936 (Powell 302). The abandonment report for Powell 302 indicates that the well was abandoned at 358' below ground surface (bgs) with a wooden plug and placing 25 sacks of Monolith Construction cement on top of the wooden plug to create a barrier from approximately 318 to 358 feet bgs. A metal cap was welded on top of the surface casing. The abandonment procedure for Powell 301 was not provided in the DOG files.

Based on the aerial photograph review and review of DOG records, there is no evidence that the Subject Site or properties immediately adjacent to the Subject Site ever contained any surface

Table 7
PRO-RATA PERCENTAGE OF CUMULATIVE MITIGATION COSTS
PEAK HOUR TRAFFIC VOLUMES
Tentative Tract 53189
29-Oct-2003

Pro-Rata Percentage Methodology

The project's percentage share is derived by dividing project traffic by project plus other development (related) projects traffic. It should be noted that existing traffic volumes are not included in the calculations.

$$\frac{\text{Project Traffic}}{\text{Project + Other Related Projects Traffic}}$$

The following equation is provided to assist in calculating the project's pro-rata percentage to implement roadway mitigation improvement measures:

$$P = \frac{Vp}{Vp + (Vc - Ve)}$$

where: P = Project's pro-rate percentage of the cumulative mitigation improvement measures
Vp = Average of AM and PM Peak Hour volumes at the intersection generated by the project
Vc = Future Cumulative (other related projects) AM and PM Peak Hour traffic volumes at the intersection
Ve = Existing and Ambient Growth Average AM and PM Peak Hour traffic volumes (Ambient growth must be subtracted when included in the average cumulative AM and PM Peak Hour traffic volumes)

Study Intersection(s) Calculations

Intersection	Average of AM & PM Traffic Volumes	Calculation	Average of Impact
2. McBean Parkway & Copper Hill Drive	AM/PM Vp = 22 Vc = 5,119 Ve = 3,511	$\frac{22}{22 + (5,119 - 3,511)}$	1.3 %

s/aboveground storage tanks/processing equipment, etc. However, it is likely that mud pits exist near the locations of the abandoned wells. These pits were used for disposal of the waste drilling mud and cuttings from the drilling of the well. The normal practice at the time of their drilling was to leave the mud and cuttings in the pit and place some earth over the pit.

The mud pits may contain some metals and oil and grease. The drilling mud that was used at the time of the drilling operations and the metals are a result of metals found in the clays used to make the drilling mud and in "pipe dope" which is used as a lubricant.

The levels of oil and grease should not be of a significant level due to the length of time since their drilling (naturally occurring bacteria within the soil most likely has digested much of the oil and grease) and that the wells were not productive.

There may be some metals in the pits at levels above naturally occurring background levels. However, based on our experience in investigating mud pits, the vast majority do not contain a hazardous condition. Since these pits would be associated with a single well, the depth of the wells were approximately 2,000 and 4,000 feet below ground surface, and the wells were not productive, there is a high probability that the metal levels are not significant. In addition, it is likely that the grading prior to construction will scatter the materials to an even lower concentration.

5.9 Sensitive Environmental Receptors

Primary concerns associated with sensitive receptors and wetlands are:

- Federal and state environmental regulations often limit an owner's ability to modify the Site when sensitive receptors or wetlands are potentially impacted; and
- The potential of a release or discharge from a facility impacting a sensitive receptor, which would result in a measurable, non-significant impact to operations along the freeway in the project vicinity.

The San Francisquito Creek, a designated Significant Ecological Area (SEA), is located in the eastern portion of the Subject Site. The purpose for designating SEAs is to maintain and protect areas that possess biotic resources that are rare, unique, or critical to the maintenance of wildlife. The San Francisquito Creek is an intermittent stream extending north to the Angeles National Forest and south to the Santa Clara River, that contains water after winter rains and into the late spring, depending on the amount of rainfall.

According to a Draft Environmental Impact Report prepared by Impact Sciences, Inc. for a site located south of the Subject Site (that also contains the San Francisquito Creek):

"SEA 19 is classified as a Class 1 SEA. A Class 1 SEA possesses habitat that is important due to low numbers of specific plant and/or animal species within that SEA, or due to those species which are endangered as a result of reduction of their habitat or increased predation. In the case of SEA 19, the purpose was to protect the habitat for the

CONGESTION MANAGEMENT PROGRAM ROADWAY IMPACT ANALYSIS

The Congestion Management Program (CMP) is a state-mandated program that was enacted by the State Legislature with the passage of Proposition 111 in 1990. The program is intended to address the impact of local growth on the regional transportation system. In Los Angeles County, the CMP is administered by the Los Angeles County Metropolitan Transportation Authority.

Traffic Impact Review

As required by the *2002 Congestion Management Program for Los Angeles County*, a review has been made of designated monitoring locations on the CMP highway system for potential impact analysis. There are no CMP arterial monitoring intersections or freeway monitoring locations in the vicinity of the proposed project. Furthermore, the proposed project will not add 50 or more trips during either the weekday AM or PM peak hours (of adjacent street traffic) at any CMP monitoring intersections, or 150 or more trips (in either direction) during the weekday AM or PM peak hours at any CMP mainline freeway monitoring locations as stated on Appendix Page D-2 in the CMP manual as the threshold criteria for a traffic impact assessment. Accordingly, the CMP traffic impact assessment is waived for the Tentative Tract 53189 project. In general, the project is forecast to add less than 10 trips per hour to the I-5 Freeway during the AM and PM peak hour periods, which would result in an unmeasurable, non-significant impact to operations along the freeway in the project vicinity.

Transit Impact Review

As required by the *2002 Congestion Management Program for Los Angeles County*, a review has been made of the CMP transit service. The closest transit route in the project vicinity is the Santa Clarita Transit Route 7 which travels on McBean Parkway, south of Copper Hill Drive, and Copper Hill Drive, east of McBean Parkway.

nored Threespine Stickleback (UTS). The UTS requires free flowing perennial
ns and ponds with associated natural riparian vegetation. The intermittent portions
of the San Francisquito Creek provide a connection between upstream and downstream
habitats for the UTS, periodically allowing movement. In order to protect the UTS
habitat, the SEA lines originally were drawn to the toes of the slopes, and the entire
watershed (to the nearest ridgeline) placed within an ecological buffer zone. Subsequent
changes were made in the early 1990s to reflect bank stabilization, landform alterations,
and habitat losses along the lower portions of the channel."

The project trip generation, as shown in Table 2, was adjusted by values set forth in the CMP (i.e., person trips were converted to transit trips equal to 5.6 percent of the total person trips) to estimate transit trip generation. Per the CMP guidelines, the proposed project is forecasted to generate a demand for 3 transit trips (1 inbound trip and 1 outbound trip) during the weekday AM peak hour. Similarly, during the weekday PM peak hour, the proposed project is anticipated to generate a demand for 3 transit trips (2 inbound trips and 1 outbound trip). Over a 24-hour period the proposed project is forecasted to generate a demand for 28 daily transit trips. No project impacts on future transit services in the project area are expected to occur as a result of the proposed project given the relatively few number of generated transit trips.

All future development within the Subject Site will be confined to the constraints mandated by the SEA designation. These constraints will include a development setback line, which buffers natural resources within the SEA from developed uses and a storm water collection and disposal plan that limits impact to the SEA.

5.10 Electric and Magnetic Field

No high voltage power lines or other sources of high voltage electrical power were observed on or adjacent to the Subject Site.

5.11 Radon

Radon is a gas that can seep into structures constructed in areas with soils containing uranium. Radon travels through soil and enters the structure through cracks and holes in basement walls or floor drains, or other openings. According to Mr. David Quinton, Supervisor, California Department of Health Services - Radon Program, reported radon levels in the Santa Clarita area are below the USEPA action level of 4.0 picocuries per liter.

The Subject Site does not currently contain any structures, although it is to be developed as a housing subdivision in the future.

LINSCOTT LAW & GREENSPAN
ENGINEERS

SECTION 6.0
CONCLUSIONS

CONCLUSIONS

Based on the findings of the Phase I Environmental Site Assessment, the following conclusions are made:

In order to evaluate the potential impacts to the local street system, three intersections were analyzed to determine changes in operations following occupancy and utilization of the proposed project. The proposed Tentative Tract 53189 project is expected to generate 45 trips (11 inbound trips and 34 outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate 61 trips (39 inbound trips and 22 outbound trips). Over a 24-hour period, the proposed project is expected to generate 574 daily trip ends during a typical weekday (287 inbound trips and 287 outbound trips).

- The Subject Site consists of a 176-acre parcel of undeveloped land. The Subject Site is to be developed as a residential subdivision in the future.
- No evidence of UST(s) on the Subject Site were observed during the site investigation. The VISTA report had no records of registered USTs at the Subject Site.
- The Subject Site contains two abandoned oil/gas wells. The wells should be surveyed to determine their possible impact to the proposed development. It may be necessary for the wells to be re-abandoned per current DOG standards.
- The eastern portion of the Subject Site contains the San Francisquito Creek, which has been designated as a Significant Ecological Area. This designation will impact the development of the Subject Site including mandating buffer zones along the creek and limiting storm water impact to the creek.
- None of the surrounding properties appear to have impacted the Subject Site.

It is concluded that the proposed project is not expected to create project-related significant traffic impacts at any of the 150 study intersections based on the County of Los Angeles and the City of Santa Clarita's threshold of significance. Because no project-related significant impacts are identified, no project mitigation measures are required or recommended at the study intersections.

With the cumulative development projects in the area, the McBean Parkway and Copper Hill Drive study intersection is expected to have a significant cumulative impact. The recommended cumulative mitigation measures are expected to reduce the cumulative impacts at the McBean Parkway and Copper Hill Drive study intersection to less than significant levels.

No significant transportation impacts are expected to occur on the Los Angles County Congestion Management Program roadway or transit system due to the development and occupancy of the proposed project.

SECTION 7.0
LIMITATIONS

The work performed in conjunction with this study and data development is intended as a description of available information on the dates and at the location described. This report does not warrant against future operations or future conditions, nor does it warrant against:

- Operations which are not in evidence from visual observations or search of published agency records;
- Conditions that could only be determined by physical sampling or intrusive testing; and
- Locations other than the client provided addresses and legal description or information on offsite locations (with possible impact on the Subject Site) not published in agency records.

APPENDIX A

Waterstone has based its assessment on prior Subject Site history, through interviews, review of available records, and on observations and activities during a physical site inspection. Client acknowledges that Waterstone has relied on the available data without further verification or validation of its accuracy. This report is not intended to address, assess, or otherwise determine whether soil or groundwater contamination or waste emplacement actually exists at the Subject Site. Such determination would require comprehensive subsurface exploration and sampling activities, which were beyond the scope of services for this assessment.

Manual Traffic Counts

This report may not be reused by client or any other third party for any purpose other than that originally contracted for without the express written permission of Waterstone.

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

SECTION 8.0
REFERENCES

CLIENT: LINSCOTT, LAW & GREENSPAN - PASADENA
PROJECT: TRACT 53189 RESIDENTIAL PROJECT - VALENCIA
DATE: TUESDAY, SEPTEMBER 23, 2003
PERIOD: 4:00 PM TO 6:00 PM
INTERSECTION: AVENIDA RANCHO TESORO
E/W COPPER HILL DRIVE
FILE NUMBER: TRACT RESIDENTIAL

Published References

California Department of Conservation, Division of Mines and Geology. Geologic Map of California, Los Angeles Sheet. 1969.

Impact Sciences, Inc. Draft EIR, County Project No. 98-008 (West Creek Project). April 1999.

Los Angeles Department of Public Works, Hydraulic/Water Conservation Division. Hydrologic Report, 1990-91. 1992.

Munger Map Book. California and Alaska Oil and Gas Fields. 1994.

State of California, Department of Water Resources, Southern District. Planned Utilization of Ground Water Basins of the Coastal Plain of Los Angeles County, Appendix A - Groundwater Geology. Bulletin No. 104. 1961.

United State Department of Agriculture, Soil Conservation Service. Report and General Soil Map, Los Angeles County, California. 1967, revised 1969.

VISTA Information Solutions. April 29, 1999. Site Assessment Report.

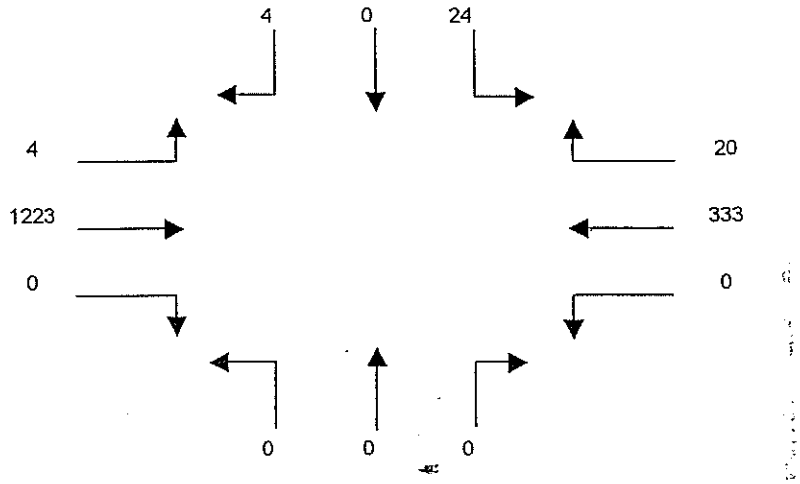
Agency Contacts

California Division of Oil, Gas, and Geothermal Resources. Ventura, California.

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	
400-415	2	0	3	3	79	0	0	0	0	0	273	1	
415-430	3	0	3	5	82	0	0	0	0	0	276	2	
430-445	2	0	2	8	88	0	0	0	0	0	293	1	
445-500	3	0	6	4	73	0	0	0	0	0	267	3	
500-515	1	0	5	6	87	0	0	0	0	0	339	0	
515-530	0	0	7	6	78	0	0	0	0	0	313	0	
530-545	0	0	6	4	99	0	0	0	0	0	304	1	
545-600	1	0	2	4	84	0	0	0	0	0	241	4	

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
400-500	10	0	13	20	322	0	0	0	0	0	1087	7	1459
415-515	9	0	16	23	330	0	0	0	0	0	1175	6	1559
430-530	5	0	20	24	322	0	0	0	0	0	1212	4	1587
445-545	4	0	24	20	333	0	0	0	0	0	1223	4	1608
500-600	3	0	20	20	344	0	0	0	0	0	1197	5	1589

P.M. PEAK HOUR
0445-0545



THE TRAFFIC SOLUTION
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626.446.7978

<< ACCUTEK >>
<< 21114 TRIGGER LANE >>
<< DIAMOND BAR, CA 91765 >>
<< (909) 595-6[illegible] FAX (909) 595-5022 >>

FIGURES

File Name : 335801
Site Code : 00335801
Start Date : 09/18/2003
Page No : 1

Groups Printed- Turning Movement

	Southbound				COPPER HILL DRIVE Westbound				MCBEAN PKWY Northbound				COPPER HILL DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
07:00 AM	0	0	0	0	0	350	98	448	67	0	52	119	21	62	0	83	650
07:15 AM	0	0	0	0	0	402	149	551	43	0	70	113	50	115	0	165	829
07:30 AM	0	0	0	0	0	366	180	546	62	0	50	112	112	155	0	267	925
07:45 AM	0	0	0	0	0	433	229	662	92	0	28	120	36	86	0	122	904
Total	0	0	0	0	0	1551	656	2207	264	0	200	464	219	418	0	637	3308
08:00 AM	0	0	0	0	0	323	140	463	72	0	23	95	11	42	0	53	611
08:15 AM	0	0	0	0	0	220	126	346	59	0	27	86	12	51	0	63	495
08:30 AM	0	0	0	0	0	174	145	319	68	0	28	96	16	58	0	74	489
08:45 AM	0	0	0	0	0	189	124	313	73	0	13	86	14	44	2	60	459
Total	0	0	0	0	0	906	535	1441	272	0	91	363	53	195	2	250	2054
*** BREAK ***																	
04:00 PM	0	0	0	0	0	83	107	190	179	1	11	191	14	224	0	238	619
04:15 PM	0	0	0	0	0	73	95	168	181	2	8	191	24	238	0	262	621
04:30 PM	0	0	0	0	0	76	110	186	164	0	10	174	17	298	0	315	675
04:45 PM	0	0	0	0	0	73	118	191	221	0	8	229	12	272	0	284	704
Total	0	0	0	0	0	305	430	735	745	3	37	785	67	1032	0	1099	2619
05:00 PM	0	0	0	0	0	72	99	171	235	0	14	249	19	285	0	304	724
05:15 PM	0	0	0	0	0	69	80	149	248	0	7	255	16	364	0	380	784
05:30 PM	0	0	0	0	0	79	82	161	184	0	19	203	22	286	0	308	672
05:45 PM	0	0	0	0	8	80	115	203	223	0	8	231	15	266	0	281	715
Total	0	0	0	0	8	300	376	684	890	0	48	938	72	1201	0	1273	2895
Grand Total	0	0	0	0	8	3062	1997	5067	2171	3	376	2550	411	2846	2	3259	10876
Apprch %	0.0	0.0	0.0		0.2	60.4	39.4		85.1	0.1	14.7		12.6	87.3	0.1		
Total %	0.0	0.0	0.0	0.0	0.1	28.2	18.4	46.6	20.0	0.0	3.5	23.4	3.8	26.2	0.0	30.0	

	Southbound				COPPER HILL DRIVE Westbound				MCBEAN PKWY Northbound				COPPER HILL DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Intersection	07:00 AM																
Volume	0	0	0	0	0	1551	656	2207	264	0	200	464	219	418	0	637	3308
Percent	0.0	0.0	0.0		0.0	70.3	29.7		56.9	0.0	43.1		34.4	65.6	0.0		
07:30 Volume	0	0	0	0	0	366	180	546	62	0	50	112	112	155	0	267	925
Peak Factor																	0.894
High Int.	6:45:00 AM				07:45 AM				07:45 AM				07:30 AM				
Volume	0	0	0	0	0	433	229	662	92	0	28	120	112	155	0	267	
Peak Factor								0.833				0.967				0.596	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	0	0	0	0	8	300	376	684	890	0	48	938	72	1201	0	1273	2895
Percent	0.0	0.0	0.0		1.2	43.9	55.0		94.9	0.0	5.1		5.7	94.3	0.0		
05:15 Volume	0	0	0	0	0	69	80	149	248	0	7	255	16	364	0	380	784
Peak Factor																	0.923
High Int.					05:45 PM				05:15 PM				05:15 PM				
Volume	0	0	0	0	8	80	115	203	248	0	7	255	16	364	0	380	
Peak Factor								0.842				0.920				0.838	

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<< DIAMOND BAR, CA 91765 >>
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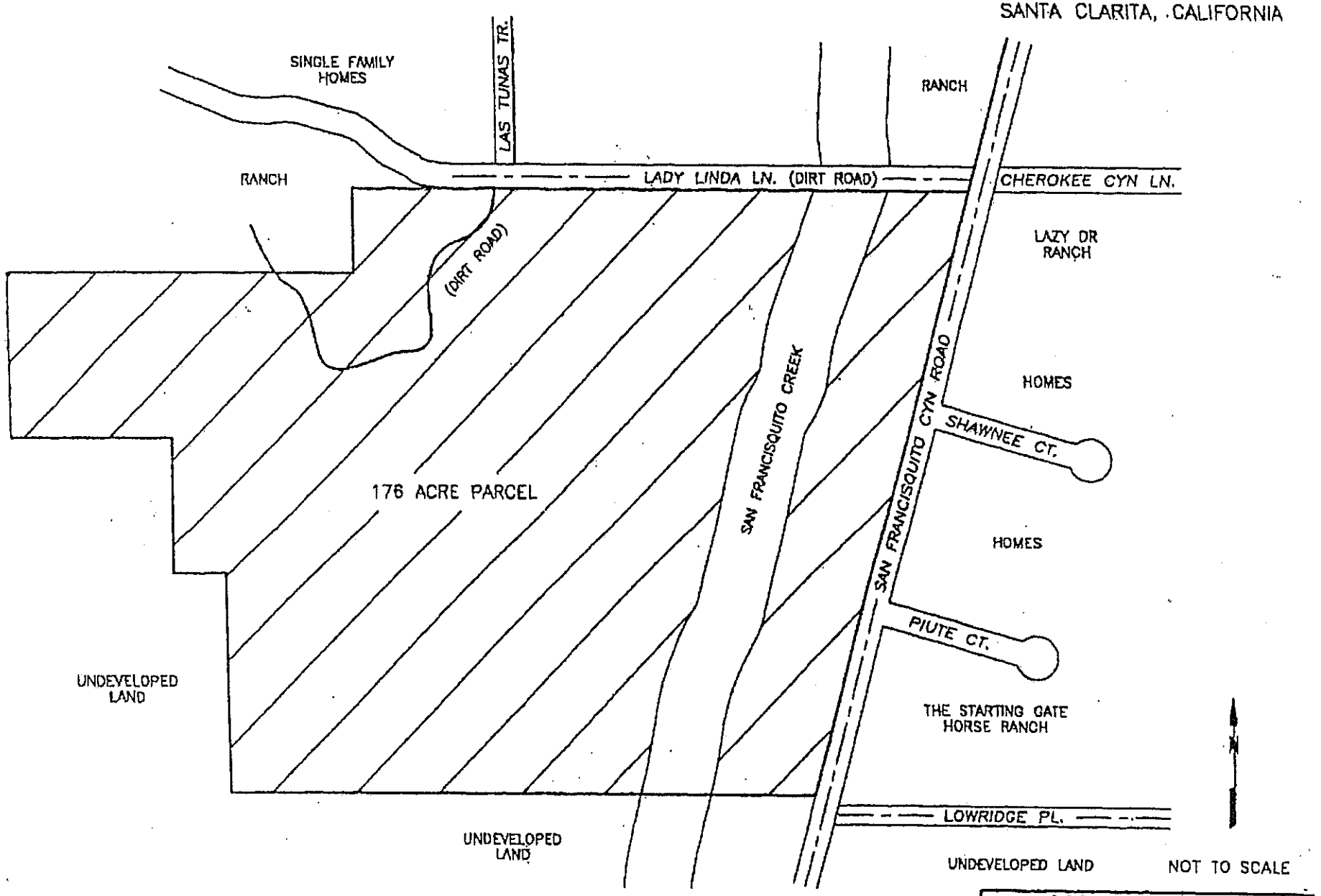
File Name : 335802
Site Code : 00335802
Start Date : 09/18/2003
Page No : 1

Groups Printed- Turning Movement

	COPPER HILL DR. Southbound				COPPER HILL DR. Westbound				SECO CANYON RD. Northbound				COPPER HILL DR. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
07:00 AM	137	59	27	170	16	193	41	250	32	34	42	108	14	82	24	120	648
07:15 AM	95	81	33	209	10	221	96	327	40	33	61	134	27	87	43	157	827
07:30 AM	108	63	53	224	11	257	63	331	52	42	96	190	34	94	31	159	904
07:45 AM	108	55	28	191	10	257	22	289	33	49	81	163	20	113	44	177	820
Total	395	258	141	794	47	928	222	1197	157	158	280	595	95	376	142	613	3199
08:00 AM	68	51	22	141	12	204	28	244	32	36	55	123	21	64	23	108	616
08:15 AM	62	35	15	112	16	177	27	220	26	23	39	88	24	65	20	109	529
08:30 AM	60	38	16	114	10	144	37	191	20	26	38	84	19	51	20	90	479
08:45 AM	46	51	8	105	10	142	32	184	21	18	46	85	22	73	19	114	488
Total	236	175	61	472	48	667	124	839	99	103	178	380	86	253	82	421	2112
*** BREAK ***																	
04:00 PM	40	49	25	114	15	107	49	171	42	48	45	135	46	171	58	275	715
04:15 PM	32	41	16	89	11	96	47	154	34	48	38	120	38	198	64	300	663
04:30 PM	35	38	11	84	16	103	45	164	43	35	50	128	34	215	66	315	691
04:45 PM	44	35	15	94	12	99	32	143	30	28	23	81	49	228	80	357	707
Total	151	163	67	381	54	405	173	632	175	207	156	538	167	812	268	1247	2776
05:00 PM	40	44	27	111	22	93	46	161	54	62	43	159	38	221	72	331	762
05:15 PM	35	60	20	115	17	100	43	160	59	71	38	168	45	275	116	436	879
05:30 PM	40	47	26	113	14	103	70	187	59	55	37	161	29	221	93	343	804
05:45 PM	41	56	13	110	10	105	42	157	48	62	40	150	52	215	83	350	767
Total	156	207	86	449	63	401	201	665	220	260	158	638	164	932	364	1460	3212
Grand Total	938	803	355	2096	212	2401	720	3333	651	772	732	2155	512	2373	856	3741	11299
Apprch %	44.8	38.3	16.9		6.4	72.0	21.6		30.2	35.8	34.0		13.7	63.4	22.9		
Total %	8.3	7.1	3.1	18.6	1.9	21.2	6.4	29.5	5.8	6.8	6.5	19.1	4.5	21.0	7.6	33.1	

	COPPER HILL DR Southbound				COPPER HILL DR. Westbound				SECO CANYON RD. Northbound				COPPER HILL DR. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Intersection	07:00 AM																
Volume	395	258	141	794	47	928	222	1197	157	158	280	595	95	376	142	613	3199
Percent	49.7	32.5	17.8		3.9	77.5	18.5		26.4	26.6	47.1		15.5	61.3	23.2		
07:30 Volume	108	63	53	224	11	257	63	331	52	42	96	190	34	94	31	159	904
Peak Factor																	0.886
High Int.	07:30 AM								07:30 AM				07:45 AM				
Volume	108	63	53	224	11	257	63	331	52	42	96	190	20	113	44	177	
Peak Factor				0.886				0.904								0.866	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	156	207	86	449	63	401	201	665	220	260	158	638	164	932	364	1460	3212
Percent	34.7	46.1	19.2		9.5	60.3	30.2		34.5	40.8	24.8		11.2	63.8	24.9		
05:15 Volume	35	60	20	115	17	100	43	160	59	71	38	168	45	275	116	436	879
Peak Factor																	0.914
High Int.	05:15 PM				05:30 PM				05:15 PM				05:15 PM				
Volume	35	60	20	115	14	103	70	187	59	71	38	168	45	275	116	436	
Peak Factor				0.976				0.889				0.949				0.837	

FIGURE 2
ADJACENT PROPERTIES
176 ACRE PARCEL
SANTA CLARITA, CALIFORNIA



Waterstone
Environmental, Inc.

WE9-050

APPENDIX B

ICU Methodology and Levels of Service Descriptions

ICU Data Worksheets - AM and PM Peak Hours

APPENDICES

INTERSECTION CAPACITY UTILIZATION (ICU) DESCRIPTION

Level of Service is a term used to describe prevailing conditions and their effect on traffic. Broadly interpreted, the Levels of Service concept denotes any one of a number of differing combinations of operating conditions which may occur as a roadway is accommodating various traffic volumes. Level of Service is a qualitative measure of the effect of such factors as travel speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience.

Six Levels of Service, A through F, have been defined in the 1965 *Highway Capacity Manual*, published by the Transportation Research Board. Level of Service A describes a condition of free flow, with low traffic volumes and relatively high speeds, while Level of Service F describes forced traffic flow at low speeds with jammed conditions and queues which cannot clear during the green phases.

The Intersection Capacity Utilization (ICU) method of intersection capacity analysis has been used in our studies. It directly relates traffic demand and available capacity for key intersection movements, regardless of present signal timing, The capacity per hour of green time for each approach is calculated based on the methods of the *Highway Capacity Manual*. The proportion of total signal time needed by each key movement is determined and compared to the total time available (100 percent of the hour). The result of summing the requirements of the conflicting key movements plus an allowance for clearance times is expressed as a decimal fraction. Conflicting key traffic movements are those opposing movements whose combined green time requirements are greatest.

The resulting ICU represents the proportion of the total hour required to accommodate intersection demand volumes if the key conflicting traffic movements are operating at capacity. Other movements may be operating near capacity, or may be operating at significantly better levels. The ICU may be translated to a Level of Service as tabulated below.

The Levels of Service (abbreviated from the *Highway Capacity Manual*) are listed here with their corresponding ICU and Load Factor equivalents. Load Factor is that proportion of the signal cycles during the peak hour which are fully loaded; i.e. when all of the vehicles waiting at the beginning of green are not able to clear on that green phase.

Intersection Capacity Utilization Characteristics

Level of Service	Load Factor	Equivalent ICU
A	0.0	0.00 - 0.60
B	0.0 - 0.1	0.61 - 0.70
C	0.1 - 0.3	0.71 - 0.80
D	0.3 - 0.7	0.81 - 0.90
E	0.7 - 1.0	0.91 - 1.00
F	Not Applicable	Not Applicable

SERVICE LEVEL A
There are no loaded cycles and few are even close to loaded at this service level. No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication.

SERVICE LEVEL B
This level represents stable operation where an occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel restricted within platoons of vehicles.

SERVICE LEVEL C
At this level stable operation continues. Loading is still intermittent but more frequent than at Level B. Occasionally drivers may have to wait through more than one red signal indication and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.

SERVICE LEVEL D
This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak hour, but enough cycles with lower demand occur to permit periodic clearance of queues, thus preventing excessive backups. Drivers frequently have to wait through more than one red signal. This level is the lower limit of acceptable operation to most drivers.

SERVICE LEVEL E
This represents near capacity and capacity operation. At capacity (ICU = 1.0) it represents the most vehicles that the particular intersection can accommodate. However, full utilization of every signal cycle is seldom attained no matter how great the demand. At this level all drivers wait through more than one red signal, and frequently through several.

SERVICE LEVEL F
Jammed conditions. Traffic backed up from a downstream location on one of the street restricts or prevents movement of traffic through the intersection under consideration.

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INTERSECTION CAPACITY UTILIZATION

Avenida Rancho Tesoro @ Copper Hill Drive
Peak hr: AM
Annual Growth: 6.60%

N-S St: Avenida Rancho Tesoro
E-W St: Copper Hill Drive
Project: Tentative Tract 53189 / 1-002924-1
File: ICU3

Date: 10/29/2003
Date of Count: 2003
Projection Year: 2005

	2003 EXIST. TRAFFIC			2005 W/AMBIENT GROWTH			2005 W/PROJECT SITE TRAFFIC				2005 W/PROJECT MITIGATION				2005 W/RELATED PROJECTS				2005 W/REGIONAL MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	51	51	1600	0.032 *	0	51	1600	0.032 *
Nb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	14	14	1600	0.010	0	14	1600	0.010
Nb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	2	2	0	-	0	2	0	-
Sb Left	25	0	0.005	3	28	0.006	14	42	0	0.009	0	42	0	0.009	232	274	1600	0.171	0	274	1600	0.171
Sb Thru	0	4800	0.009 *	0	0	0.010 *	0	0	4800	0.017 *	0	0	4800	0.017 *	38	38	3200	0.168 *	0	38	3200	0.168 *
Sb Right	16	0	-	2	18	-	20	38	0	-	0	38	0	-	460	498	0	-	0	498	0	-
Eb Left	11	1600	0.007 *	1	12	0.008 *	7	19	1600	0.012 *	0	19	1600	0.012 *	178	197	2880	0.069 *	0	197	2880	0.069 *
Eb Thru	572	4800	0.119	76	648	0.135	0	648	4800	0.135	0	648	4800	0.135	293	941	4800	0.200	0	941	4800	0.200
Eb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	19	19	0	-	0	19	0	-
Wb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	7	7	1600	0.004	0	7	1600	0.004
Wb Thru	1850	4800	0.391 *	244	2094	0.442 *	0	2094	4800	0.443 *	0	2094	4800	0.443 *	237	2331	4800	0.511 *	0	2331	4800	0.511 *
Wb Right	25	0	-	3	28	-	4	32	0	-	0	32	0	-	88	120	0	-	0	120	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.506			0.560				0.572				0.572				0.879				0.879
LOS			A			A				A				A				D				D

* 09:00 AM

* Key conflicting movement as a part of ICU
1 Counts conducted by:The Traffic Solution
2 Capacity expressed in veh/hour of green

LINSCOTT, LAW & GREENSPAN, ENGINEERS
234 E. Colorado Blvd., Ste 400, Pasadena 91101
(626) 796-2322 Fax (626) 792-0941

N-S St: Avenida Rancho Tesoro
E-W St: Copper Hill Drive
Project: Tentative Tract 53189 / 1-002924-1
File: ICU3

INTERSECTION CAPACITY UTILIZATION

Avenida Rancho Tesoro @ Copper Hill Drive
Peak hr: PM
Annual Growth: 6.60%

Date: 10/29/2003
Date of Count: 2003
Projection Year: 2005

Movement	2003 EXIST. TRAFFIC Volume	1 Capacity	2 V/C Ratio	2005 W/AMBIENT GROWTH Added Volume	Total Volume	V/C Ratio	2005 W/PROJECT SITE TRAFFIC Added Volume	Total Volume	2 Capacity	V/C Ratio	2005 W/PROJECT MITIGATION Added Volume	Total Volume	2 Capacity	V/C Ratio	2005 W/RELATED PROJECTS Added Volume	Total Volume	2 Capacity	V/C Ratio	2005 W/REGIONAL MITIGATION Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	47	47	1600	0.029	0	47	1600	0.029
Nb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	52	52	1600	0.038	0	52	1600	0.038
Nb Right	0	0		0	0		0	0			0	0			8	8	0		0	8	0	
Sb Left	24	0	0.005	3	27	0.006	9	36	0	0.008	0	36	0	0.008	195	231	1600	0.144	0	231	1600	0.144
Sb Thru	0	4800	0.006	0	0	0.007	0	0	4800	0.011	0	0	4800	0.011	35	35	3200	0.136	0	35	3200	0.136
Sb Right	4	0		1	5		3	8	0		0	8	0		394	402	0		0	402	0	
Eb Left	4	1600	0.003	1	5	0.003	23	28	1600	0.017	0	28	1600	0.017	586	614	2880	0.213	0	614	2880	0.213
Eb Thru	1223	4800	0.255	161	1384	0.288	0	1384	4800	0.288	0	1384	4800	0.288	363	1747	4800	0.378	0	1747	4800	0.378
Eb Right	0	0		0	0		0	0	0		0	0	0		69	69	0		0	69	0	
Wb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	4	4	1600	0.003	0	4	1600	0.003
Wb Thru	333	4800	0.074	44	377	0.083	0	377	4800	0.083	0	377	4800	0.083	403	780	4800	0.233	0	780	4800	0.233
Wb Right	20	0		3	23		16	39	0		0	39	0		298	337	0		0	337	0	
Yellow Allowance:			0.100			0.100				0.100				0.100				0.100				0.100
ICU			0.361			0.395				0.400				0.400				0.728				0.728
LOS			A			A				A				A				C				C

09:00 AM

* Key conflicting movement as a part of ICU
1 Counts conducted by: The Traffic Solution
2 Capacity expressed in Veh/hour of green

FORM 103. 76752 8-30 10M
CALIFORNIA STATE PRINTING OFFICE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

DIVISION OF OIL AND GAS
RECEIVED
OCT 7 - 1935
LOS ANGELES, CALIFORNIA

037-05515

Notice of Intention to Drill New Well 4

This notice must be given before drilling begins

Los Angeles, Cal. September 20, 1935

Mr. E. Huguenin

Deputy State Oil and Gas Supervisor

Los Angeles, Cal.

DEAR SIR:

In compliance with Section 17, Chapter 718, Statutes of 1915, as amended, notice is hereby given that it is our intention to commence the work of drilling well No. P-302, Sec. 34, T. 5N, R. 16W, S.B. B. & M., (San Francisquito) Oil Field, Los Angeles County.

The well is 990 feet S., and 990 feet E. from N.W. Cor. of Sec. 34
(Give location in distance from section corners or other corners of legal subdivision)

The elevation of the derrick floor above sea level is app. 1300 feet.

We propose to use the following strings of casing, either cementing or landing them as here indicated:

Size of Casing, Inches	Weight, Lb. Per Foot	New or Second Hand	Depth	Landed or Cemented
12-3/4	45 lb.	used	330	cemented solid to top

This core hole is to determine whether the Modelo-Mint Canyon contact is higher structurally here than P-301. All likely looking zones from 1,000 ft on will be tested with a formation packer. If tests are satisfactory it will be cased and completed. You will be notified of further casing and testing program.

It is understood that if changes in this plan become necessary we are to notify you before cementing or landing casing.

We estimate that the contact should be encountered at a depth of less than 2,000 ft. more or less.

Respectfully yours

INTERNATIONAL OIL DEVELOPERS INC. LTD.
(Name of Company or Operator)

By [signature]
Engineer in Charge

Address 1709 W. 8th

Telephone number FEde 1391

ADDRESS NOTICE TO DEPUTY STATE OIL AND GAS SUPERVISOR IN CHARGE OF DISTRICT WHERE WELL IS LOCATED

Top B

10/11/35

LINSCOTT, LAW & GREENSPAN, ENGINEERS
234 E. Colorado Blvd., Ste. 400, Pasadena 91101
(626) 796.2322 Fax (626) 792-0941

N-S St: McBean Parkway
E-W St: Copper Hill Drive
Project: Tentative Tract 53198 / 1-03337
File: ICU1

INTERSECTION CHARACTERIZATION @ McBean Parkway @ Copper Hill Drive
Peak hr. Annual Growth:

Movement	2003 EXIST. TRAFFIC Volume	Capacity	V/C Ratio	2005 Added Volume	W/AMBIENT GROWTH Total Volume	V/C Ratio	2005 W/PROJECT SITE TRAFFIC Added Volume	Total Volume	V/C Ratio	2005 W/PROJECT MITIGATION Added Volume	Total Volume	V/C Ratio	2005 W/REGIONAL PROJECTS Added Volume	Total Volume	V/C Ratio	2005 W/REGIONAL MITIGATION Added Volume	Total Volume	V/C Ratio
Nb Left	200	2880	0.069	26	226	0.079	2	228	0.079	0	228	0.079	0	381	0.132	0	381	0.132
Nb Thru	~0~	0	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	62	0.039	0	62	0.039
Nb Right [3]	264	2880	0.000	85	299	0.000	0	299	0.000	0	299	0.000	0	357	0.000	0	357	0.000
Sb Left	0	0	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	27	0.017	0	27	0.017
Sb Thru	0	0	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	247	0.112	0	247	0.112
Sb Right	0	0	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	289	0.000	0	289	0.000
Eb Left	0	0	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	41	0.026	0	41	0.026
Eb Thru	418	3200	0.131	55	473	0.148	9	482	0.151	0	482	0.151	0	602	0.188	0	602	0.188
Eb Right	219	1600	0.137	29	248	0.155	5	253	0.158	0	253	0.158	0	620	0.388	0	620	0.388
Wb Left	656	2880	0.228	87	743	0.258	3	743	0.258	0	743	0.258	0	780	0.271	0	780	0.271
Wb Thru	1561	3200	0.488	205	1766	0.552	9	1759	0.550	0	1759	0.550	0	1749	0.547	0	1749	0.547
Wb Right	0	1600	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	9	0.006	0	9	0.006
Critical Movement			0.654			0.707			0.708			0.708			0.547			0.547
Allowable			1.600			1.600			1.600			1.600			1.600			1.600

Key: 1. Counts conducted by Accutrac Traffic Data.
2. Capacity expressed in vehicles per hour per lane.
3 Northbound right-turn has an overlapping phase with eastbound left-turn phase.

Form 108. 33460 6-33 5M
California State Printing Office

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Notice of Intention to Abandon Well

This notice must be given at least five days before work is to begin

Los Angeles Cal. January 10, 1935

Mr. E. Huguenin

Deputy State Oil and Gas Supervisor

Los Angeles Cal.

Dear Sir:

In compliance with Section 16, Chapter 718, Statutes of 1915, as amended, notice is hereby given that it is our intention to abandon well No. Powell 302, Sec. 34, T. 5 N R. 16 W S.B. B. & M., - - - Oil Field, Los Angeles County, commencing work on the 15th day of January 19 35

The present condition of the well is as follows:

12-3/4" ceamented at 338 ft.
Total Depth 2200 ft plugged with cement 2200 - 2120 ft.
Modelo-Mint Canyon contact cored at 2158 ft.
Formation test of the zone between 1850-1950 were unsatisfactory.
Swabbed fluid to 1200 ft. with packer on cement shoulder at 1850 ft.
Considerable gas showing.

The proposed work is as follows:

1. To plug with cement from 358 to above 318 ft.
2. Notify your office to witness the hardness of the plug at 318 ft
3. Remove present heavy duty equipment which must be moved to El Segundo immediately and replace with lighter derrick and equipment as soon as possible.

Respectfully yours

INTERNATIONAL OIL DEVELOPERS, INC. LTD.
Name of Company or Operator

By E. Powell
Engineer in Charge

Address Notice to Deputy State Oil and Gas Supervisor in Charge of District Where Well is Located

SUBMIT IN DUPLICATE

STATE OF CALIFORNIA

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Los Angeles County Subsequent Work Report

FIELD (San Francisquito Anticline) COMPANY International Oil Developers Inc. Ltd. Powell

Sec. 34, T5 North, R16 West, S.B. B. & M., Well No. (P)302

In compliance with the provisions of Chapter 718, Statutes 1915, as amended, the information given herewith is a complete and correct record of all work done on the well since the previous record, dated January 10, 1936, was filed.

SIGNED E. Backer Powell

Date February 10, 1936

Title Engineer in charge

Outline in the order of performance, together with the dates thereof, all important operations which alter the condition of the well. Include such information as depth at which redrilling operations were started, size of hole redrilled or deepened; size of pipe, amount of perforations in casing, weight and length of casing landed or cemented or removed; number of sacks of cement used in cementing or plugging operations and exact position thereof. If the well was dynamited, give date, size, position and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position and results of pumping or bailing.

Date

The hole was cleaned out to 11-3/4" to 1933'

A wooden bridging plug was set at 358'

On January 14, 1936, 25 sacks of Monolith Construction cement was dumped at 358'.

On February 4, 1936 a cap was welded over the top of the surface casing. All machinery and equipment including derrick has been removed.

Reference to Rec of data

				Forms	
					121

629 South Hill Street
Los Angeles, California
April 21, 1936.

Mr. G. A. Harding,
615 Beaux Arts Building,
Los Angeles, Calif.

Agent for International Oil Developers, Inc., Ltd.

Dear Sir:

Your report of abandonment of well No. "Powell" 302, Sec. 34, T. 5 N., R. 16 W., S. B. B. & M., Los Angeles County, dated February 10, 1936, received April 17, 1936, and submitted to this Division on our form 102, has been examined in conjunction with records filed in this office.

A review of the reports and records shows that the requirements of this Division, which are based on all information filed with it, have now been fulfilled.

Yours truly,

R. D. Bush
State Oil and Gas Supervisor

By E. Reinhardt
Deputy Supervisor.

CC - Mr. R. D. Bush

HMP:EMS

Forms	
1B	121
C&B	J

Top 6-B

Book 4/23/36 C&B

FORM 103. 20472 1-36 5M
CALIFORNIA STATE PRINTING OFFICE

SUBMIT IN DUPLICATE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

DIVISION OF OIL AND GAS
RECEIVED
JUL 10 1936
LOS ANGELES, CALIFORNIA

History of Oil or Gas Well

FIELD (San Francisquito) Los Angeles Condensate COMPANY ~~International Oil Developers~~ (Ltd. Inc.)

Sec. 34, T. 5 N, R. 16 W, S. B. & M., Well No. Powell 301

Signed E. E. Bettencourt

Date July 8, 1936

Title Engineer
President, Secretary or Agent

It is of the greatest importance to have a complete history of the well. Use this form in reporting the history of all important operations at the well, together with the dates thereof, prior to the first production. Include in your report such information as size of hole drilled to cementing or landing depth of casings, number of sacks of cement used in the plugging, number of sacks or number of feet of cement drilled out of casing, depth at which cement plugs started, and depth at which hard cement encountered. If the well was dynamited, give date, size, position and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position and results of pumping or bailing.

DATE	
1934	
4-25	Spudded in.
5- 8	Cemented 210' - 13" surface casing with 300 sacks of cement
1935	
1-11	Cemented 8-5/8" casing at 1955' with 265 sacks of cement. Bottom of HELL 43.
1-19	Found top of cement at 1878'. Drilled out 7' below shoe. Baling test showed wet.
1-25	Re-cemented with 100 sacks of cement squeezed in at 700# pressure.
1-29	Drilled out 8' below shoe. Baled down to 1500'. Showed wet again.
1-31	Re-cemented with 250 sacks of cement.
2- 4	Drilled out cement 2' below shoe. Baled at 1500'. Wet again.
2- 6	Re-cemented again with 200 sacks cement shut in under 1500# pressure.
2-10	Drilled out cement to 1955'. Baled to 1520.
2-11	Water shut-off approved. Drilled out plug and cleaned out to 4539'. Baling test of formations opened below shoe, showed mostly fresh water with some gas.
2-22	Decided to run liner from 1955' to bottom at 4539' and cement solid from 4539' to 1850', then use gun perforator and test from bottom and plugged back by stages opposite zones indicated on the log as consisting of sands possibly saturated with gas.
2-23	Cemented 6-5/8" combination liner through perforations at 2035' with 50 sacks of cement with top of liner at 1676' and bottom at 4158' where the liner stuck. The bottom of the well was at 4539'. The liner was perforated from 4035' to 4158'. After the liner stuck it was not possible to obtain circulation.
3-11	After determining that the two casings had been effectively cemented together above 1955' it was decided to test the zone open from 4035' to 4539'. Swabbing operations resulted in the recovery of principally salt water which would stand at a level of approximately 1000'. The bottom of the hole was then plugged with 40 sacks of cement which came up inside of the liner to 4034'. The cement was drilled out to 4060', and 3927' tubing was run in the hole after which swabbing test was made 3-14-36 during which time salt water stayed at 650' level with small amount of gas. At

1935

this time it was decided to perforate the liner from 3908' to 2276' with three rows of 5/16" x 1" perforation spaced at 6", and to squeeze cement out through these perforations around the liner after thoroughly washing it. After setting, to drill out the cement and use gun perforator opposite possible gas zones.

3-20 Completed perforating. AS STATED ABOVE.

3-31 Completed pumping in total of 510 sacks into the 6-5/8" between 4060' and ~~4075'~~ 1975' and squeezed out through perforations and shut in under 1200# pressure.

4-30 Completed drilling out cement to 3735'.

5- 1 Swabbed down 2200' and no fluid entered. It was then decided to use a gun perforator to shoot the zone at 3750' to 3775' and test the same, and in event it was wet to perforate the next zone shallower which existed at 3425' to 3450' and run a packer on the tubing to set below 3450' with bottom of the packer plugged and perforated joint directly above the packer, and thusly in separate stages test each shallower zone until a productive one might be encountered, after which the lower unsatisfactory zones could be cemented off. In order to accomplish this the inside of the liner was reamed with a milling tool to smooth out the perforations and cement so that the packer could go down with out tearing up the rubber, which operation was commenced on May 5, 1935.

5-7 After the reaming had been accomplished and the tool was being pulled out of the hole it stuck in the liner at approximately 1740'.

6-9 Mill tool and drill collar hopelessly stuck but was able to unscrew the drill pipe at the drill collar.

5-28 Pumped 40 sacks of cement to fill 6-5/8" liner from below 1700' up to 1500' inside of 8-5/8".

5-30 Perforated with gun at 768' and pumped 250 sacks of cement through holes which returned circulation to surface outside of 8-5/8" casing and shut in under 800# pressure.

6- 1 Found top of top plug at 735' and bottom plug at 1500', both set hard. Cleaned out to 1650' and swabbed down and found no fluid entering.

6-9 Perforated with gun 5 shots every 50' between 1775' and 1625'.

6-10 Commenced swabbing.

6-18 Decided that surface water is entering through upper perforations so welded together at the surface the 8-5/8" and 12-3/4" casing and pumped 135 sacks cement down between the two and shut in under 700# pressure.

1935

6-23 Surface water still entering at top perforations. Pumped 150 sacks Victor cement out through top perforations above bridging plug and shut in under 1500# pressure. At 1213'

6-26 Drilled out bridging plug and put pressure test on casing. At last return circulation has been stopped as formations would take no fluid.

6-27 Commenced swabbing through 2½" tubing hung at 1250' with Xmas tree.

6-28 Well commenced flowing gas with 425# on the casing and 25# on the tubing at a rate of 925,000 cu. ft. per day, together with a small amount of fresh water. Gas tested 950 b.t.u; 96% methane, and small amount of ethane, nitrogen and CO2.

6-29 Well shut in.

629 South Hill Street
Los Angeles, California
June 25, 1936.

International Oil Developers, Inc. Ltd.,
615 Beaux Arts Building,
1709 West 8th Street,
Los Angeles, Calif.

Records received 7/10/36

Gentlemen: Attention Mr. C. A. Harding.

This office has received a log, history and core record of your well No. "Powell" 301, Sec. 34, T. 5 S., R. 16 W., S. B. B. & M., Los Angeles County. In checking the history I find that the information shown there is not in sufficient detail to satisfy our requirements. I will you therefore instruct Mr. Powell to compile a revised history of this well, including a detailed report of all operations at the well.

I would like to refer you to our letter dated May 26, 1936, signed by E. E. Abrams, Administrative Assistant of this Division, in which you were informed that the necessary records must be filed with this office by the 5th day of June, 1936. While these records were filed as requested, they are in part unsatisfactory and it will be necessary to make our recommendation to the Supervisor for criminal action, in the event they are not received on or before July 5, 1936.

Yours truly,

Deputy Supervisor.

EHP:CHS

AFFIDAVIT OF DRILLERS AND EMPLOYEES

HAVING WORKED ON POWELL #301 WELL

LOCATED ON SAN FRANCISQUITO ANTICLINE

State of California } ss
County of Los Angeles }

WE, THE UNDERSIGNED, being first duly sworn, hereby depose and state as follows, to-wit: That we have been employed on Well Powell 301, located in Section 34, Township 5 North, Range 16 West, Los Angeles County, State of California, in the various capacities hereinafter set forth opposite our signatures, for the periods of time designated after the signatures; that we are of sound mind and disposing will and make this statement freely and of our own accord; that said well was drilled by International Oil Developers, Incorporated, Ltd.; that said well was drilled to a depth of 4339 feet; that at various times during the course of the drilling of said well cores were taken and surveys made, the results of which are accurately shown upon a chart, a copy of which is hereto attached and identified as Exhibit A; that an 8-5/8 inch casing was cemented in accordance with the requirements of the State Mining Bureau at 1953 feet and that a 6-inch liner was landed at 4138 feet; that said liner was perforated throughout the greater part of its length and that nine cement jobs were attempted by the Pacific Oil Well Cement Company and others to exclude the water; that during the drilling of said well and a test conducted thereafter, there was evidence that several sands existed between a depth of 1500 feet and the bottom of the well, in which gas under several hundred pounds pressure was encountered, and that during the first tests conducted a sufficient amount of gas was found to cause the well to commence to crater around the shoe of the surface casing and blow out, which blow-out was prevented only as the result of diligent efforts to prevent it by pumping weighted fluid back into the well under pressure, and that during each and every subsequent test there was conclusive evidence to support the opinion that if the water sands could be cemented off and separated from the gas sands that the well would have resulted in commercial production.

It is further the opinion of the affiants hereto that this well is an edge well, probably located on the easterly portion of the structure, which has rendered it difficult to separate the gas-bearing and water zones; that it is further the opinion of affiants that had a casing been set from top to bottom of the well and cement pumped around said casing from the bottom of the well back to the top and then used a gun perforator to penetrate the productive sand, that this well could have been completed a commercial producer; that during efforts to complete the well it was deemed necessary to ream out the liner in order to use a packer for testing and that said reamer, known as a milling tool, became stuck near the top of the liner in such a manner as to render it a very difficult problem to fish out.

It is affiants' opinion that while there is a possibility of successfully recovering said "fish", that it is also their opinion that the cost of same would be prohibitive and the time considerable, and therefore it is affiants' opinion that it would be wiser to drill another well instead.

Because of the manner of occurrence of the oil and water in said well so closely associated, it is affiants' opinion that said second well should be drilled approximately three-eighths of a mile

to drill

westwardly, which, from surface and sub-surface indications would seem to be higher on structure, and that such a well if properly drilled, cased and cemented, with a solid string from bottom to top, should result in commercial production and the proving of a gas reserve.

NAME	OCCUPATION	TIME EMPLOYED
O. L. James	Superintendent	Approx. 14 months
Harry P. Miller	Driller	14 months
W. E. James	Driller	Approx. 4 months
Guy Slagle	Driller	3 months
Wm. R. Bartlett	Cat Head	Approx. 14 months
W. T. Galt	Derrick Man	Approx. 5½ months
Guy E. Hardy	Cat Head	Approx. 5½ months
Quill Weston	Pipe Racker	Approx. 3 months
James Manefield	Derrick Man	Approx. 6 months
G. C. Bennett	Fireman	Approx. 5 months
Robert Victor	Fireman	10 months

Subscribed and sworn to before me

this 17th day of May, 1935.

(Signed) H. G. Gillette
Notary Public in and for the County of Los Angeles, State of California.
My commission expires March 6, 1937.

The foregoing is a full, true and correct copy of original affidavits on file in my office.

(Signed) E. E. Langford

APPENDIX A
VISTA Report

APPENDIX B
Oil and Gas Well Records

A PHASE 1 ARCHAEOLOGICAL STUDY
FOR APPROXIMATELY 176 ACRES (CONCEPTUAL LOTTING STUDY)
SAN FRANCISQUITO CANYON, COUNTY OF LOS ANGELES, CALIFORNIA

Prepared For:

Paul Dashevsky
LARWIN COMPANY
16633 Ventura Boulevard, Suite 1300
Encino, California 91436

Taken from Campbell Grant, Rock Paintings of the Chumash (1965)

Prepared and Submitted By:

Robert J. Wlodarski
Principal Investigator
Historical, Environmental, Archaeological, Research, Team
8701 Lava Place, West Hills, California 91304-2126
Phone/Fax: 818-340-6676 - E-mail: robanne@ix.netcom.com

December, 1999

A PHASE 1 ARCHAEOLOGICAL STUDY
FOR APPROXIMATELY 176 ACRES (CONCEPTUAL LOTTING STUDY)
SAN FRANCISQUITO CANYON, COUNTY OF LOS ANGELES, CALIFORNIA

Prepared For:

Paul Dashevsky
LARWIN COMPANY
16633 Ventura Boulevard
Suite 1300
Encino, California 91436
Phone: 818-986-8890 x144 - Fax: 818-784-2891

Prepared and Submitted By:

Robert J. Wlodarski
Principal Investigator
Historical, Environmental, Archaeological, Research, Team
8701 Lava Place
West Hills, California 91304-2126
Phone/Fax: 818-340-6676 - E-mail: robanne@ix.netcom.com

December 1999

EXECUTIVE SUMMARY

At the request of Paul Dashevsky, LARWIN COMPANY, Encino, California, A Phase 1 Archaeological Study of Approximately 176 acres (Conceptual Lotting Study) San Francisquito Canyon, County of Los Angeles, California, was prepared for the client and intended to: Assist the client in achieving compliance with federal, state, and county laws, policies and procedures which regulate the performance of cultural resource studies within the County of Los Angeles; integrate data obtained as a result of a thorough records search phase conducted by the South Central Coastal Information Center, UCLA Institute of Archaeology, Los Angeles (Appendix A); inspect additional historical information available through other facilities, institutions, and agencies; perform an intensive archaeological reconnaissance for the project area, and; provide recommendations for alleviating potential project impacts to all cultural resources encountered during the course of the project. The records search results indicated that:

* No prehistoric archaeological sites have been identified within a one-quarter mile radius of the project area.
* One prehistoric archaeological site has been identified within a one-quarter mile radius of the project area (19-000207).
* One historic archaeological site has been identified within the project area (19-001445). The site was recorded by R.E. Parr on November 3, 1988 during an Archaeological Assessment of the Ranch/Tapia/San Francisquito Control Burn Area, in the Castaic Lake Area, Los Angeles County, California, by the Archaeological Research Unit, University of California, Riverside. The site is located on the edge of a river terrace on the west side of San Francisquito Canyon about three miles north of the canyon mouth at an elevation of around 1310 feet. The site lies at the mouth of a broad flat side canyon. A topographic map dated 1903 shows structures at this location. This historic resource is described as a poured concrete foundation, probably a water well pumping station in an area 10 meters by 15 meters. Recorded features include six massive poured concrete foundation members. Two are horizontal, four are vertical upright columns. Uprights have 1" bolts imbedded in the tops. Two 12" pipes are sunk into the ground vertically between the concrete features. This feature is probably the remnant of a water well pumping station. A thick growth of poison oak covered part of the site, indicating underground water close to the surface. Also, several pieces of "real" 3" x 12" planks are lying adjacent to the feature, indicating a turn-of -the century date. A grove of eucalyptus and pepper about 150 meters north of this site may mark the location of an historic habitation. An examination of the grove revealed a few isolated chunks of concrete. This may have been the location of the structures shown on the 1903 topographic map, and is possibly associated with the pumping station.
* Five prior surveys/excavations have been performed within a within a one-quarter mile radius of the study area (Bleitz and Raab 1990; Parr 1988), Rasson, Snyder, Vellanoweth, and Wells (1992); Scientific Resource Surveys, Inc. 1988; and, Wells, Heuman, Snyder, Vellanoweth, and Rasson (1993). All of these studies overlap portions of the project area.
* No properties are listed on the National Register of Historic Places within a one-quarter mile radius of the study area.

No properties listed on the California State Historic Resources Inventory (HRI) lie within a one-quarter mile radius of the study area.

No California Historical Landmarks (1990), Office of Historic Preservation, California

Department of Parks and Recreation are recorded within a one-quarter mile radius of the project area.

* No California Points of Historical Interest (1992) are listed within a one-quarter mile radius of the project area.

An inspection of the San Fernando 15 minute USGS map series (1900 & 1940), Santa Susana 15 minute USGS map series (1908 & 1941), and the Camulos 15 minute USGS map series (1903 ed.) indicated that by the early 1900s, there was a loose network of improved and unimproved roads in place, and a few scattered structures existed in the general area. Honby, Saugus, Deadman, Dry, San Francisquito, Placerita and Soledad Canyons, Newhall, the Santa Clara River, and the Southern Pacific Railroad Line appear on the early 1900 maps. By 1940, the general area is lightly developed with, several secondary roads passing though the area, and the construction of the Sierra Highway completed.

The archaeological reconnaissance program detailed herein, was conducted by H.E.A.R.T. on Saturday, December 11, 1999 and Thursday, December 16, 1999 to determine if cultural resource remains of a prehistoric or historic archaeological nature would be affected by the proposed project. Robert J. Wlodarski, serving as the Principal Investigator for the project, and Dan Larson serving as Survey Archaeologist conducted an on-foot field reconnaissance for approximately 167 acres along the west side of San Fancisquito Road. The project area can be characterized as being 70% floodplain, canyon drainage/alluvial wash topography; 20% low-lying stream terrace terrain; and 10% low lying knolls, narrow ridges, and steep slopes. The field reconnaissance phase required twenty-two-person-hours to complete. Skies were clear both days, and temperatures were in the mid-to-high-sixties.

The results of the Phase 1 archaeological reconnaissance of the project area generally conformed to the results of prior surveys performed by Bleitz and Raab 1990; Parr 1988; Rasson, Snyder, Vellanoweth, and Wells (1992); Scientific Resource Surveys, Inc. 1988; and, Wells, Heuman, Snyder, Vellanoweth, and Rasson (1993) which encompassed the project area.

Historic archaeological site 19-001445, previously recorded by R.E. Parr on November 3, 1988, was relocated during this survey. Additionally, another loci was discovered and subsequently recorded (Figure 6 and Appendix B). The two loci are oil well platforms constructed between 1925 and 1928. Both platform configurations are similar in that they contain four upright concrete columns, with associated concrete slabs, metal pipes related to drilling, and wood and concrete supports. Locus B was the first platform constructed and was abandoned a short time later when oil was not located. Locus A followed after the abandonment of Locus B and although oil was not located, natural gas was. The well was subsequently capped and abandoned just prior to the collapse of the San Francisquito dam.

Each loci was roughly 20 meters by 20 meters, and contained wood debris related to the platform construction and rigging, including bolts, loose cable at Locus B, concrete foundations, a deep pit at Locus B, metal pipes, concrete material for capping, and access roads. A lone concrete foundation was found roughly halfway between both platforms and most likely served as a temporary dwelling for an on-site manager or supervisor. Both loci represent temporally and functionally related activities pertaining to oil research and development from 1925-1928, and no oil was discovered at either location.

Recommendations

Under CEQA, there are a number of ways to alleviate direct and indirect adverse impacts to cultural resources, including:

1) avoidance of the resource;
2) data retrieval through an assessment and/or salvage phase; or,
3) programs combining avoidance and data salvage phases.

Project design which seeks to avoid cultural resource remains, is preferable to mitigation through salvage programs. CEQA directs public agencies to avoid adverse impacts to cultural resources whenever possible, by in-situ preservation which will avoid damage to a resource by:

a) planning construction to miss the site;
b) planning parks, greenspace, or other open space elements which would incorporate the archaeological site;
c) "capping" or covering the site with a layer of soil; or,
d) deeding the site into a permanent conservation easement.

If an archaeological resource(s) cannot be preserved through some measure of avoidance, *significance* must be addressed under CEQA. Therefore, if future planning cannot avoid adversely impacting either loci constituting CA-LAN-1445-H, then additional work must be conducted to determine the quality of information contained within the resource. Achieving CEQA compliance with regard to mitigating impacts to cultural resources, requires that a plan for the preservation of the resource(s) be developed.

The author recommends that if avoidance is not feasible, that a qualified architectural historian be hired prior to construction to properly research, record, photograph, and document the oil well loci (CA-LAN-1445-H), in an effort to determine its significance under CEQA. Research may involve investigation into assessor's records, as-builts, early architectural drawings, historical maps, historical photographs, building plans and profiles, construction data, mineral surveys, and other information which may aid determining the significance of this resource. Once the evaluation has taken place, the recommendations, including any additional preservation options specified by the architectural historian shall be used by the client to mitigate impacts based on proposed development plans. The mitigation measures may include: nomination of the structure as a city, county, state, or national register property with intent to preserve the structure for future generations; preservation through avoidance; or that the architectural evaluation constitutes final mitigation of the resource.

Conclusions

This report only addresses the areas illustrated in Figures 2-3. The results of this report cannot be used for any changes or modifications to the proposed project as discussed in the context of this report. Any subsequent changes will require additional work. For the most part, an archaeological reconnaissance can only determine with some degree of certainty, whether cultural remains are present on the surface. There is still a slight chance that additional buried prehistoric and/or historic archaeological resources may exist within the project boundaries. Therefore, it is recommended that a RPA qualified archaeologist be contacted immediately should unanticipated cultural resource remains be encountered during construction within the project area.

TABLE OF CONTENTS

LIST OF FIGURES

I. INTRODUCTION

1.1 Scope and Purpose of the Project

At the request of Paul Dashevsky, LARWIN COMPANY, Encino, California, A Phase 1 Archaeological Study of Approximately 176 acres (Conceptual Lotting Study) San Francisquito Canyon, County of Los Angeles, California. The objectives of this study were to:

1. Complete a records search using information on file at the South Central Coastal Information Center, UCLA Institute of Archaeology, Los Angeles.
2. Conduct additional research by consulting historic maps, prior cultural resource studies, and other pertinent data pertaining to the project area.
3. Perform an on-foot archaeological reconnaissance of the project area designed to cover all open space which can reasonably be expected to contain cultural resource remains.
4. Locate and identify all cultural resource remains within the project area which may be subject to impacts based on proposed project plans.
5. Provide a report detailing the results of the reconnaissance program, and addressing cultural resource management concerns based on the results of this investigation.

The project (although at a tentative design stage at present) will consist of approximately 75 proposed lots on either side of the San Francisquito drainage/floodplain, including associated roads, utilities, landscaping, and open space features.

1.3 Location of the Project

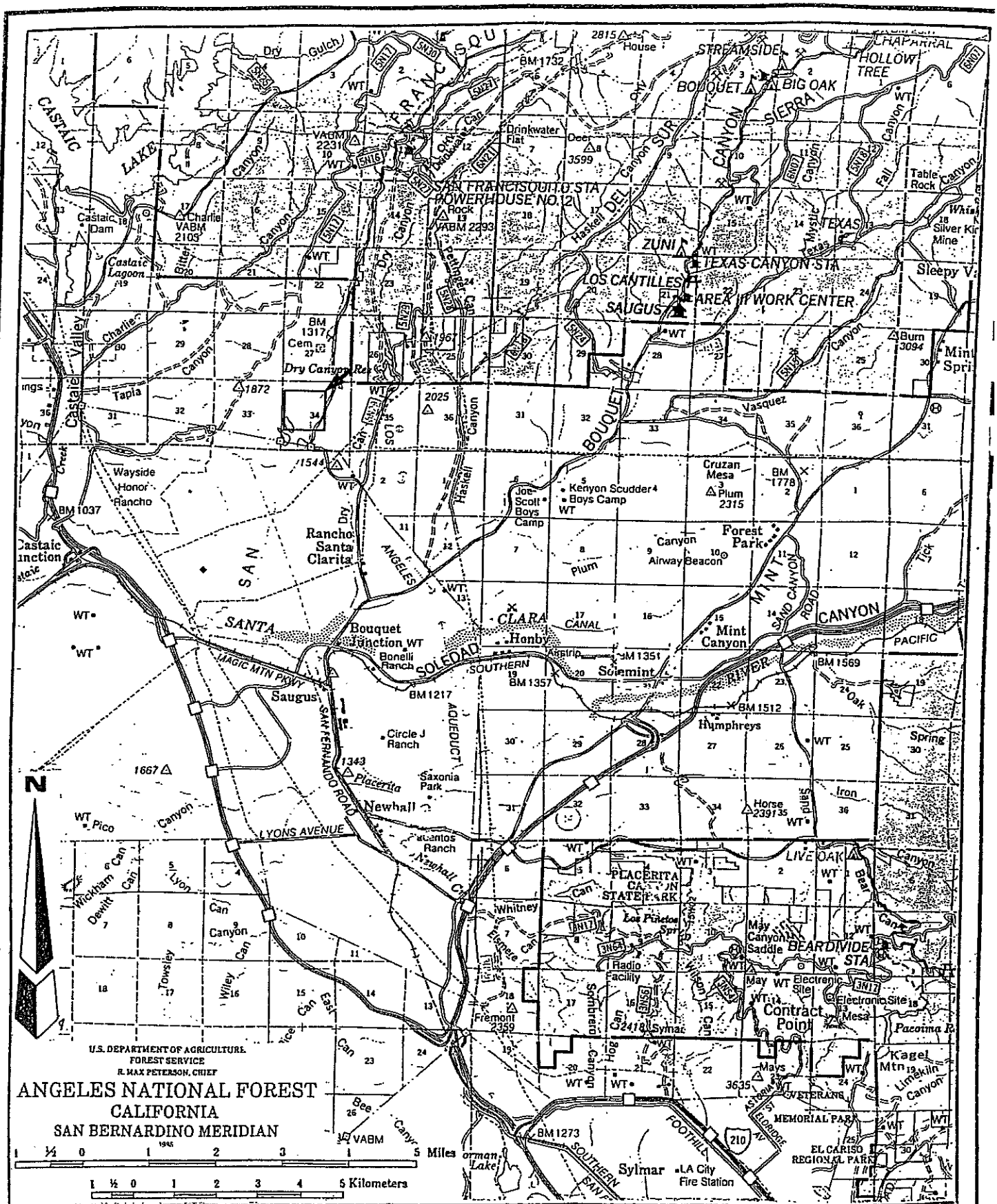
The project area is located north of Bouquet Junction, west of Bouquet Canyon, east of Castaic valley, and south of the former San Francisquito Dam, in the County of Los Angeles (Figure 1). More specifically, the project is located on the Newhall 7.5 minute USGS topographic quadrangle (1952 - photorevised 1969) within Township 5 north, Range 16 west, within section 34 (Figure 2). The parcel is located adjacent and to the west of San Francisquito Canyon Road, roughly one-and-one-half miles northwest of the junction of Dry Canyon and San Francisquito Canyon Roads (Figure 3).

II. ENVIRONMENTAL SUMMARY

2.1 Geology

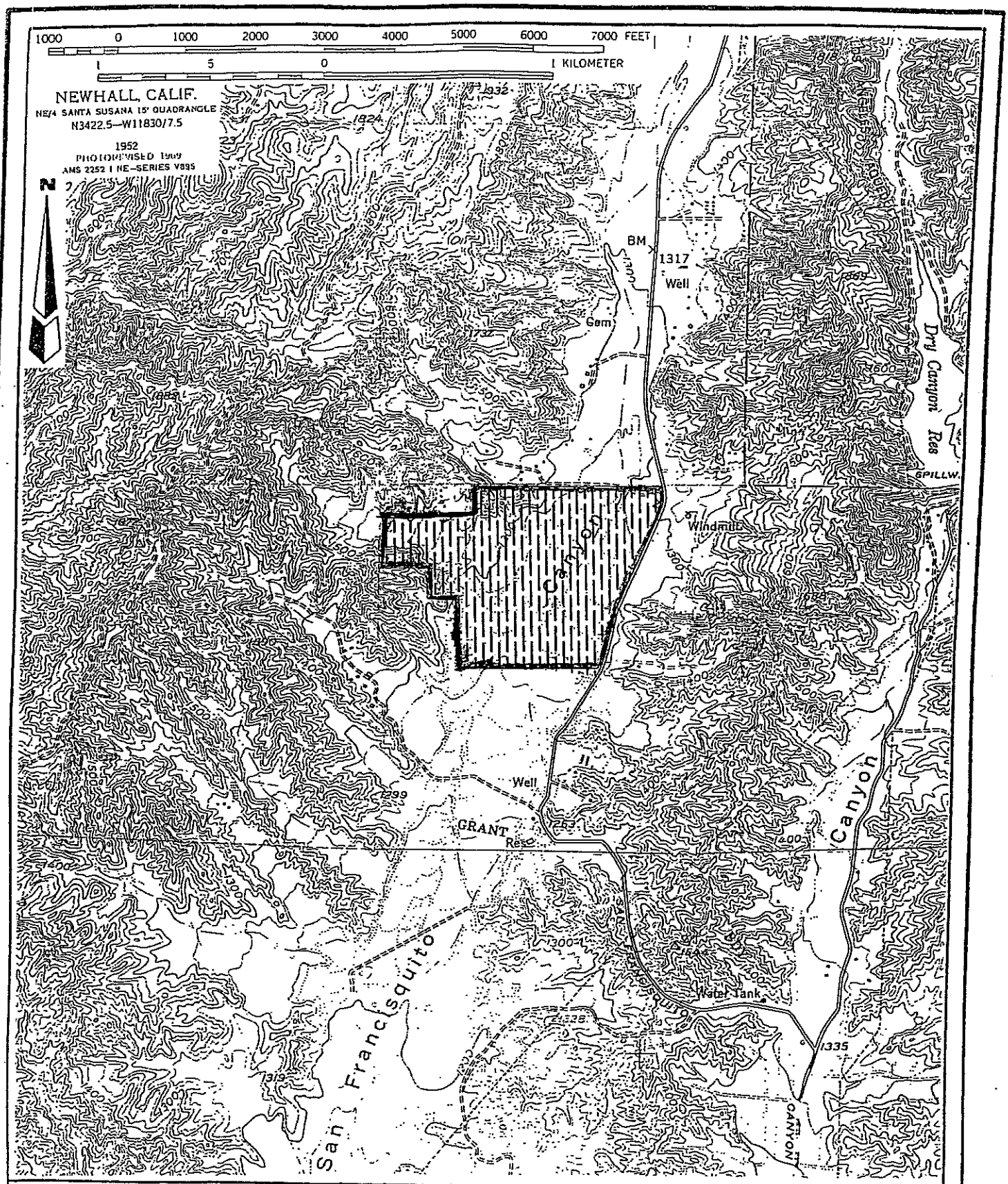
The Santa Clarita River Valley/San Francisquito Canyon physiographic feature, dominates the region. The San Gabriel Mountains are an east-west trending range approximately 60 miles long which are part of the Transverse Range Province. It is a highly rugged mountain range with elevations as high as 9,000 feet (2,700 meters) consisting of igneous and metamorphic rocks. The range separates the San Fernando, San Gabriel and San Bernardino valleys on the south, from the Soledad Basin and Mojave Desert on the north. The area is characterized by steep heavily eroded sedimentary formations.

From the crestline, the ridges for the most part, trend northeast-southwest, terminating in the Santa Clara River Valley. The ridges are generally extremely narrow and steeply eroded, and



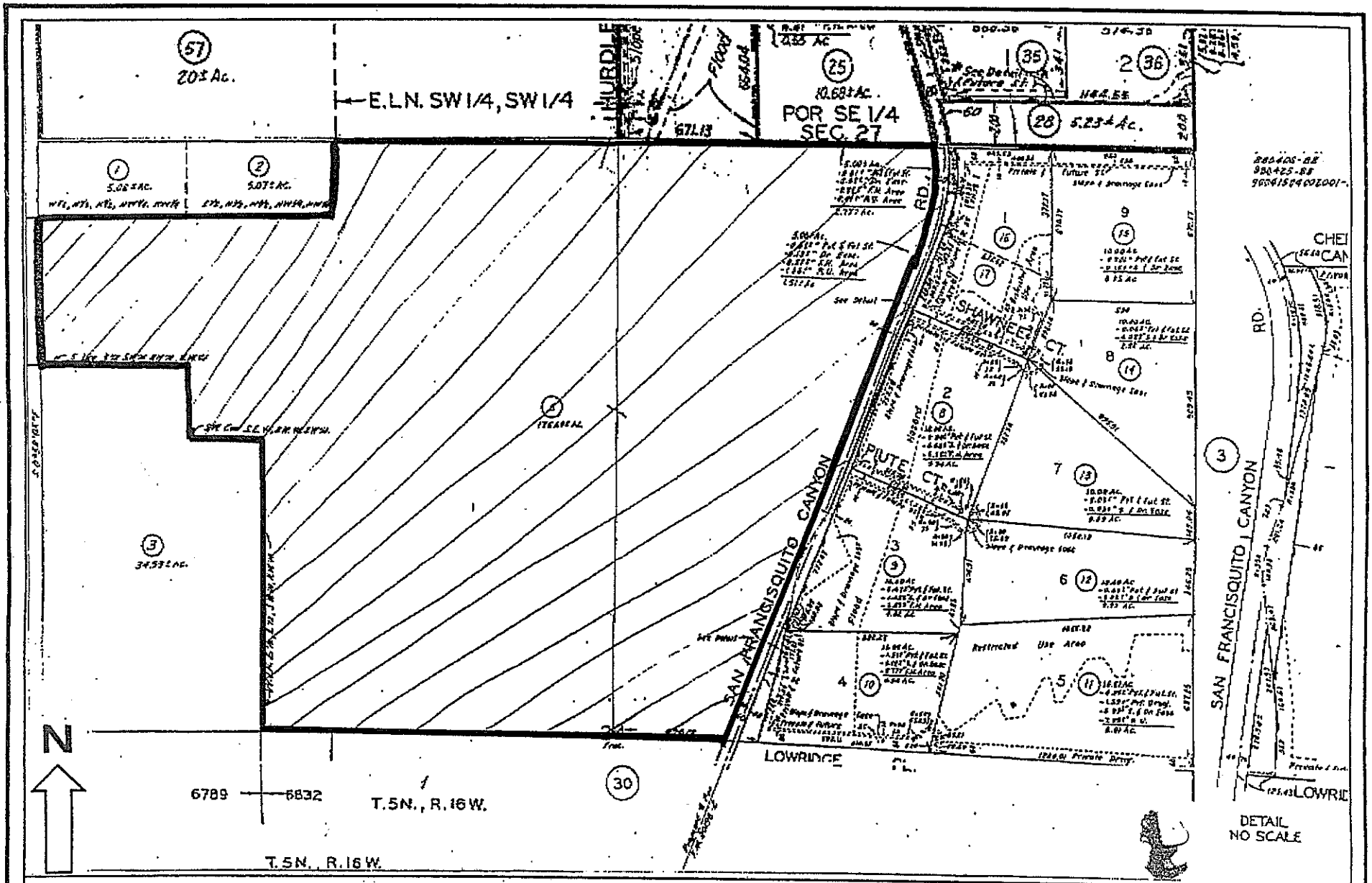
VICINITY MAP

FIGURE 1



LOCATION OF THE SURVEY

FIGURE 2



SITE LOCATION MAP

FIGURE 3

are primarily comprised of sandstone and conglomerate rock. The igneous and metamorphic rocks found in this province vary in age from Precambrian to Cenozoic. The general area contains mostly Miocene non-sedimentary rocks of mudstone, sandstone and conglomerate with gabbroic and noritic rocks occurring in the upper portions. In addition, there are varying amounts of granulite gneisses, anorthosite-syenite, granodiorite, metamorphosed dikes of basalt, andesite and rhyolite and Mesozoic granitic rocks (Carter 1980).

2.2 Soils and Hydrology

The project area is located in a region surrounded by gentle to moderate slopes, knolls, ridges, and a large-to-small alluvial basins with associated drainages. Recent alluvium from the Santa Clara River and major drainages such as San Francisquito, Bouquet, and Mint Canyons, occurs throughout the region. A majority of the drainages in the general area flow seasonally. There is no doubt that the water table at present is significantly different from that which existed during prehistoric times, and even early historic times. A number of major canyon drainages occur within the region including, San Francisquito, Dry, Haskell, Bouquet, Mint, Plum, Sand, Oak Spring, Placerita, and Newhall creek. All of the drainages feed into, or drain from the Santa Clara River Valley from the north and south facing slopes of the local mountain ranges.

2.3 Climate

The general area can be characterized as lying within a zone classified as Mediterranean warm. It lies between the dry climate of the Mojave Desert to the northeast and the humid meso-thermal climate of the Pacific Coast to the south. The region is characterized by warm, dry summers, and mild, moderately wet winters. Temperatures range from approximately one hundred degrees in July and August, to the low thirties in January. Snowfall is rare and rainfall occurs normally between November and April.

2.4 Flora and Wildlife

The general area supports several major plant communities. The vegetation of the Santa Clarita Valley represents an aggregate of introduced and native vegetation which includes: Venturan Sage Scrub which is represented by California Sage, buckwheat and purple sage; Successional Sage Scrub containing predominantly buckwheat; Chaparral which contains chamise, cup-leaf wild-lilac, and manzanita; Annual Grassland dominated by annual grasses and forbs which are largely introduced including wild oat, cheatgrass, and field mustard; Woodland which generally occurs along naturally vegetated hills and is dominated by Elderberry; Willow riparian which is dominated by willow, western cottonwood, and mule-fat; Mule-fat scrub which contains mule-fat, scalebroom, groundsel, and golden-aster, and; Alluvial fan scrub which is principally located on the upper benches of the Santa Clara River and intergrades with Venturan sage scrub. Plants consist of holly-leaf cherry, sugarbush, yerba santa, butterwort, and Our Lords Candle. Wildlife use of the project area consists of seasonally fluctuating populations of quail, rabbit, rodents, and deer, with lizards, snakes, as well as a number of different species of birds.

III CULTURAL SETTING

3.1 Prehistoric Information

At present, the archaeological sample of the Upper Santa Clara River Valley Region is not

sufficient to determine the time period in which people first occupied the area. However, Chester King et al. (1974:14) suggests that people were occupying the area by 2000 B.C. as evidenced by the artifactual assemblage characteristics, and a time-sensitive shell bead recovered from CA-LAn-618, a large village. This period is recognized as the Early Period where there were some changes in the subsistence economy and technology, including a broadening of the ecological zones which were exploited (King and Casebier 1976:26-27).

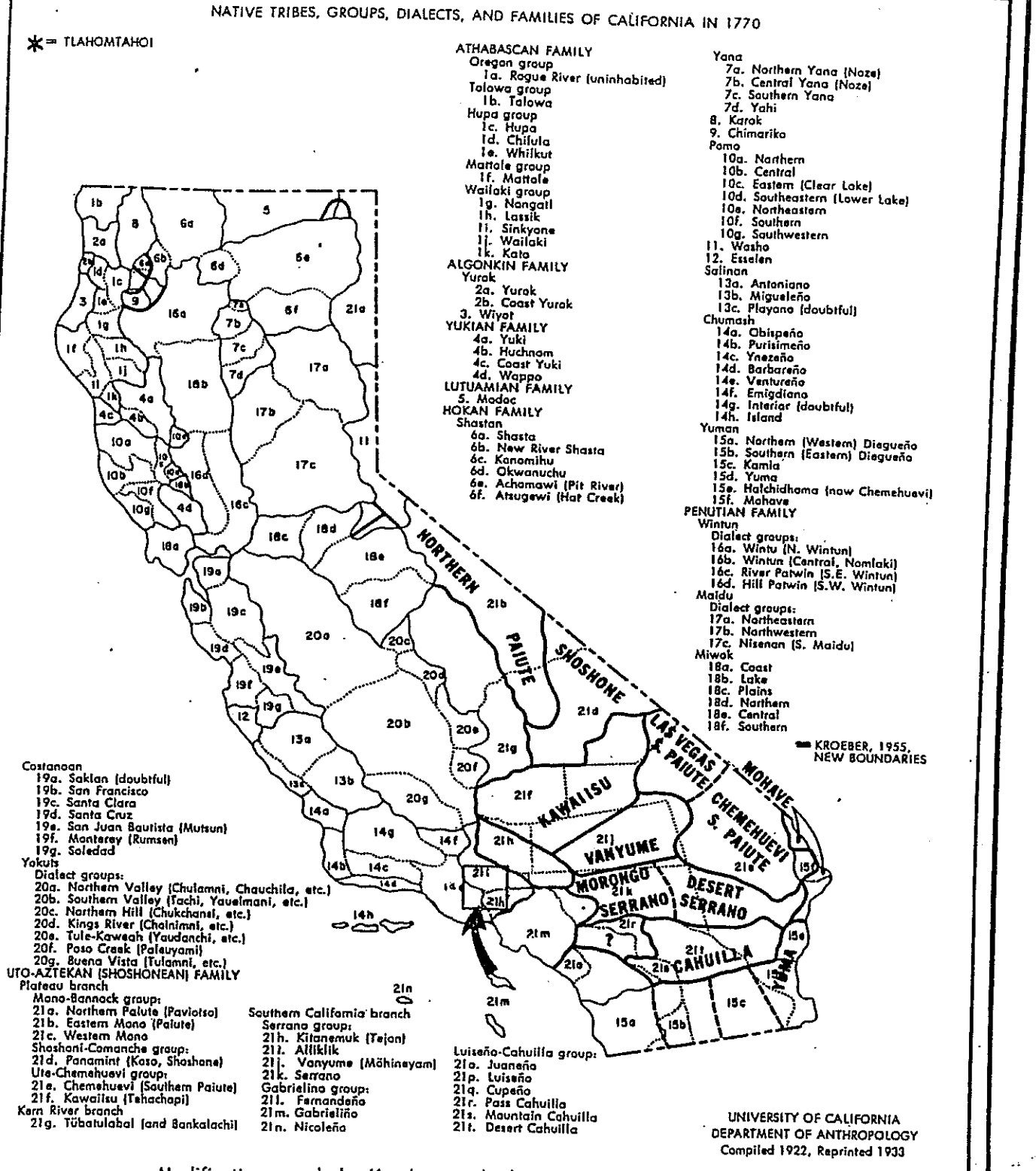
It is probable that the earliest inhabitants of the greater Los Angeles County area were big game hunters who exploited Pleistocene megafauna such as the mammoth. The passage of time, climatic changes, and human predatory patterns no doubt contributed to the extinction of the larger mammals. This in turn lead to a change in human subsistence strategies, where big game hunting gave way to the hunting of smaller game and the collecting of plants and seeds. The latter activity is exemplified by such plant processing implements as the milling stones used in the preparation of vegetal matter such as sage seeds.

A number of chronological sequences have been developed for the southern California region; however, they are in essence, variations of Wallace's (1955) four-part Horizon scheme which was later revised by Warren (1968). Chester King (1982) proposed a chronological sequence for the Chumash with regional applicability, based on changes in ornaments, beads and other diagnostic artifacts through time. This sequencing recognizes at least fifteen prehistoric and two-protohistoric time periods. According to Koerper (1981:118), culture history schemes provide chronological systems of order for recovered archaeological data. These frameworks facilitate descriptions and comparisons among sites and their components.

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. There appears to be a very high degree of inter-regional variation with relation to village structure (Wessel and McIntyre 1985:4). At Vasquez Rocks, the 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 the 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. Two mortuaries from this time period indicate that some form of ranking may have occurred. However, the type of burial practice in use (cremation) limits the number of demographic indicators necessary to clearly suggest hereditary ranking (Wessel and McIntyre 1985:5).

During this time, chlorite schist disk beads commonly occurring in the mortuaries and in the burial practice of cremation, suggest that the population at this time was ancestral to the Shoshonean groups (Tataviam, Serrano, Gabrielino, and Fernandeno) which occupied the general area at the time of the Spanish arrival (Figure 4). From A.D. 750 until approximately A.D. 1769 when the Spanish arrived is referred to as the Late Period. This period witnessed significant changes in the social and economic systems of the people occupying the general area. There is an increase in the number of sites in the area which some researchers believe is the result of a population increase.

Leonard (1971) discusses the Late Period as a time when there are a greater number of more



Modifications made by Kroeber on the basis of research after 1922.

LOCATION OF THE PROJECT AREA IN RELATION TO TRIBAL BOUNDARIES

FIGURE 4

specialized sites in terms of their location and function, and an amplification of all aspects of the cultural system. Other cultural aspects by the Late Period, such as pictograph styles, suggest the possibility that two ethnic components co-existing in this region. It appears that the existing information points toward a culture more like the Chumash than Shoshonean by the end of the Late Period. At this point, it has not been adequately determined whether this bias in ethnic affinity is due to population movement or the absorption of one economic-social system (Shoshonean) by another (Chumash) (Wessel and McIntyre 1985:6).

3.2 Ethnographic and Historical Information

Based on information to date, the area of the project property was inhabited by the Alliklik or Tataviam, who 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. Additional information on the Tataviam can be found in Kroeber (1925), Harrington (1934), Van Valkenburgh (1935), Hanks (1972), C. King et al. (1974), Lopez (1974), Bright (1975), Beeler and Klar (1977), King and Blackburn (1978), McIntyre (1979), and particularly, Greenwood, J. Romani and G. Romani (1991).

Traditionally, it is believed that at historic contact the lower Santa Clara River Valley was occupied by the Ventureno Chumash (Hokan speakers) while the upper Santa Clara River drainage area was occupied by the southern California Shoshonean-speaking Alliklik (a Chumash term meaning "Grunters"), or Tatavium (which represents a Kitanemuk term meaning "people of the sunny slope"). The territorial boundary between these two linguistic groups is the Piru Creek drainage (Hanks 1972). The Tatavium were linguistically related to the Shoshonean-speaking language group of Uto-Aztecan origin. Kroeber (1925) states that the name, Kashtuk, was given to the Shoshonean village on the bluff above Castaic by their Chumash neighbors. The term means "my eyes" or "our eye" (Reynolds 1982:2). However, to this day, a great deal of confusion exists regarding the historic cultural groups which occupied the upper Santa Clara River Valley.

Bright (1975:230) as part of his termed, "Alliklik Mystery," suggests that 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. Perhaps it represents a division of the Takic language distinct from those recognized by Kroeber; or possibly a remnant of an unknown language family in southern California. Beeler and Klar (1977:302) believe that Ventureño Chumash was 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. In the area of Piru Creek and Camulos, there appears to have been a mixed population of Chumash and Takic speakers, although the area was undoubtedly multi-cultural. Villages located in the vicinity of present-day Castaic Junction were linked to the Chumash cultural and economic sphere of influence, and were undoubtedly important trading centers within the Chumash coastal/interior exchange system, as well as important ceremonial centers. Chumash territory stretched from San Luis Obispo to Topanga Canyon, and included the northern Channel Islands of Santa Barbara, Anacapa, Santa Cruz, San Nicholas, and San Miguel (Beeler and Klar 1977; Blackburn 1974; Kroeber 1925; Landberg 1965).

During August 1769, a contingent of Spanish explorers under the leadership of Don Gaspar de

Portola passed through the lower Santa Clara River Valley. The diaries of Miguel Costanso, Fray Juan Crespi, and Pedro Fages identified three villages in the valley during the journey from Castaic (Rancheria del Corral) to the Ventura River (Bolton 1927; Priestley 1972; Teggart 1911). According to (Costanso 1909:29), a great many Indians came to the camp with gifts of seeds, acorns and honeycombs formed on frames of cane. They were very good natured and affectionate people, who expressed themselves by signs and understood all that was said to them in the same manner. The Spanish ascertained that the inland route was mountainous and rugged, while the coastal route was level and easier to travel. The Indians told the Spanish that if they proceeded through the interior, they would have to cross five mountain ranges, and as many valleys, and that upon descending the last range they would have to cross a full and rapid river that flowed between steep banks (the Rio de Santa Clara).

From Castaic, the expedition traveled six leagues (west-southwest) before encountering a village in the Canada de Santa Clara. On Friday, August 11, the expedition camped on the bank of an arroyo where a populous village similar to Rancheria del Corral was situated. On Saturday, August 12, after a march of three leagues over a road cross cut by drainages, the expedition camped on the bank of a stream near a village. On Sunday, August 13, after traveling approximately two leagues, the expedition stopped near a small village situated a short distance from the river. This village differed from the previous villages encountered along the Santa Clara River Valley in that the dwellings were covered with grass, spherical in construction like a half-orange, at the apex of which an air hole was left for the escape of smoke and the entrance of light (Priestley 1972:25).

Missionization, and European diseases brought about a rapid decline in Native American culture, disrupting the traditional social structure, and contributing to a steady demise in population. This decimation continued during the post-mission or Mexican period, until their near cultural extinction in the later Anglo-period (Blackburn 1975, Harrington 1934, King and Blackburn 1978, King 1982, Kroeber 1925, Landberg 1965, and Van Valkenburgh 1934, 1935. The villages located at the juncture of the lower and upper Santa Clara River, in the vicinity of Castaic Junction, were significant trading centers with the Chumash, as well as important ceremonial centers. The Spanish chroniclers noted differences in village organization from east to west along the Rio de Santa Clara. The villages situated east of Santa Paula Creek were distinctly dissimilar in pattern and structure from those documented to the west.

The Santa Clara River Valley changed little from the time of the Spanish until gold was discovered in Placerita Canyon in 1842 on the southern portion of the Del Valle land. In 1841 Jacoba Felix Del Valle's uncle, Francisco Lopez, and two herdsmen discovered gold on the Rancho in Placerita Canyon. In 1842 the first gold, mined from the location, was sent to the Philadelphia Mint. According to legend, Lopez is said to have had a dream about finding gold prior to the historic event. After the discovery, the oak tree that marked the site of discovery was named "The Oak of the Golden Dream" (Grenier 1978:312). However, the demand for cattle to feed the gold rush hoards in northern California prompted the search for easier access to the lands north of Los Angeles and easterly to the Mojave Desert.

Ex-Mission lands,and several major ranchos, were located in the region of the project area including: Rancho Santa Paula y Saticoy, which consisted of 17,773 acres, which was granted to Manuel Jimeno Casarin on April 1, 1843 from Governor Micheltorena, and was patented on

July 15, 1872; Rancho Sespe which consisted of 8,880 acres, and was granted to Carlos Antonio Carrillo by Jose Figueroa on November 9, 1833. The land grant was patented on March 14, 1872; Ex-Mission San Buenaventura lands consisting of 48,822 acres, was granted to Manuel Antonio Rodriguez de Poli from Jose Arnas by Pio Pico on June 8, 1846. The land was patented on August 24, 1874, and; Rancho San Francisco consisted of 48,611 acres, and was granted to Antonio del Valle by Alvarado on January 22, 1839. The rancho was patented on February 12, 1875, and encompassed a portion of the project area.

The isolation of the Soledad changed in 1863 when Edward F. Beale commissioned soldiers to excavate a vertical slit, 90 feet deep through the top of the mountains. Beale built a toll house and collected money for the right of passage through Beale's Cut for 22 years until the County of Los Angeles took control. By 1862, the value of gold ore from mining in the area was enough to persuade the County Board of Supervisors to authorize $1,571 for local road work. Gold mining operations continued in San Francisquito until the end of the nineteenth century.

Meanwhile, stage passengers and freight could go by either the San Francisquito Road, the shortest route to Fort Tejon and the Kern County mines, and Soledad Canyon, the best option for the Cerro Gordo mines. Stage-coaching began in 1868 when the 10-mule teams of freighter, Remi Nadeau, carried silver bars from the smelters of the Cerro Gordo mines of the Owens Valley to Los Angeles along the dry bed of the Santa Clara River (Nadeau 1965). Passenger traffic between Los Angeles and San Francisco was via three connecting lines: Flint Bixby's Coast Line Stages to San Buenaventura-Santa Barbara-San Luis Obispo and the rail connection at Salinas; Sam Harper's Atlantic & Pacific Stage Line between Lyons Station south of Newhall and San Buenaventura, and Telegraph Stages, operating between Los Angeles and the Southern Pacific railhead in the San Joaquin Valley, the Owens Valley, and the Cerro Gordo.

Until the Southern Pacific lines joined farther up Soledad Canyon at Lang, the Telegraph Line delivered mail between San Buenaventura and Los Angeles by dropping it off at the Southern Pacific railhead at San Fernando. Going in the opposite direction, the Coast Line would take the mail between Soledad and San Buenaventura---a dangerous journey. Crossing the Santa Clara River when it looked "like the rapids above Niagara Falls" was only in keeping with the spirit of the times (Outland 1973; Coffin 1974; Jackson 1974).

Descriptions of the untamed area by passengers visiting from the east piqued the interest of Thomas A. Scott of the Pennsylvania Railroad. Scott sent his nephew Thomas Bard to buy property, acquiring Rancho San Francisco in April of 1865. Bard's company, Philadelphia and California Petroleum, obtained oil rights throughout Santa Clarita, the lower Santa Clara Valley, and the northern wall of the Santa Susana Range. The venture did not prosper, and Bard was forced to sell Rancho San Francisco. However, with the formation of the Pioneer and Star Oil Companies, Pico Canyon and the little town of Mentryville had their boom as oil flowed down Rice, Wiley, Towsley and Placerita Canyons. In late 1885, the Los Angeles Times stated that C.A. Mentry, superintendent of the Star Oil Works and Pacific Coast Oil, "has charge of one of the largest industries in Southern California" (Reynolds 1985:30).

Bard was forced to put Rancho San Francisco up for auction in 1873. When the Santa Barbara buyers could not make payments, the entire Rancho, excluding Ignacio Del Valle's Camulos Ranch, became the property of Henry Mayo Newhall for $90,000. From that time to the present,

the history of the Santa Clarita Valley was linked to the activities of Newhall, and after his death, to the family company, Newhall Land and Farming (Perkins 1957).

After Henry M. Newhall's death in 1882, his sons and family members incorporated the holdings as the Newhall Land and Farming Company. Figure 5 illustrates the study area in the early 1900s. In 1908 the city of Los Angeles obtained rights to the watershed of the Owens Valley. The project was expanded in the 1920s and the Newhall company granted an easement for the aqueduct pipes, which came down San Francisquito Canyon after St. Francis dam was built in 1927. From there the aqueduct crossed the eastern end of the ranch and extended over the San Fernando Pass to the spillway above San Fernando Reservoir. The Newhall directors also agreed to reservoir spillage of excess water into the Santa Clara River for ranch use. The collapse of the 185-foot high San Francisquito Dam in 1928, which had been located at the top of San Francisquito Canyon, stimulated new mining interests. In some areas the rushing water scoured canyon-lands down to bedrock before turning east to devastate Piru and Fillmore on the way to the ocean (Outland 1977). The dam was never rebuilt after its collapse in 1928. However, the pipelines were replaced and still carry water down the Canyon and across the river bed down to Van Norman Dam in the San Fernando Valley (Robinson 1938).

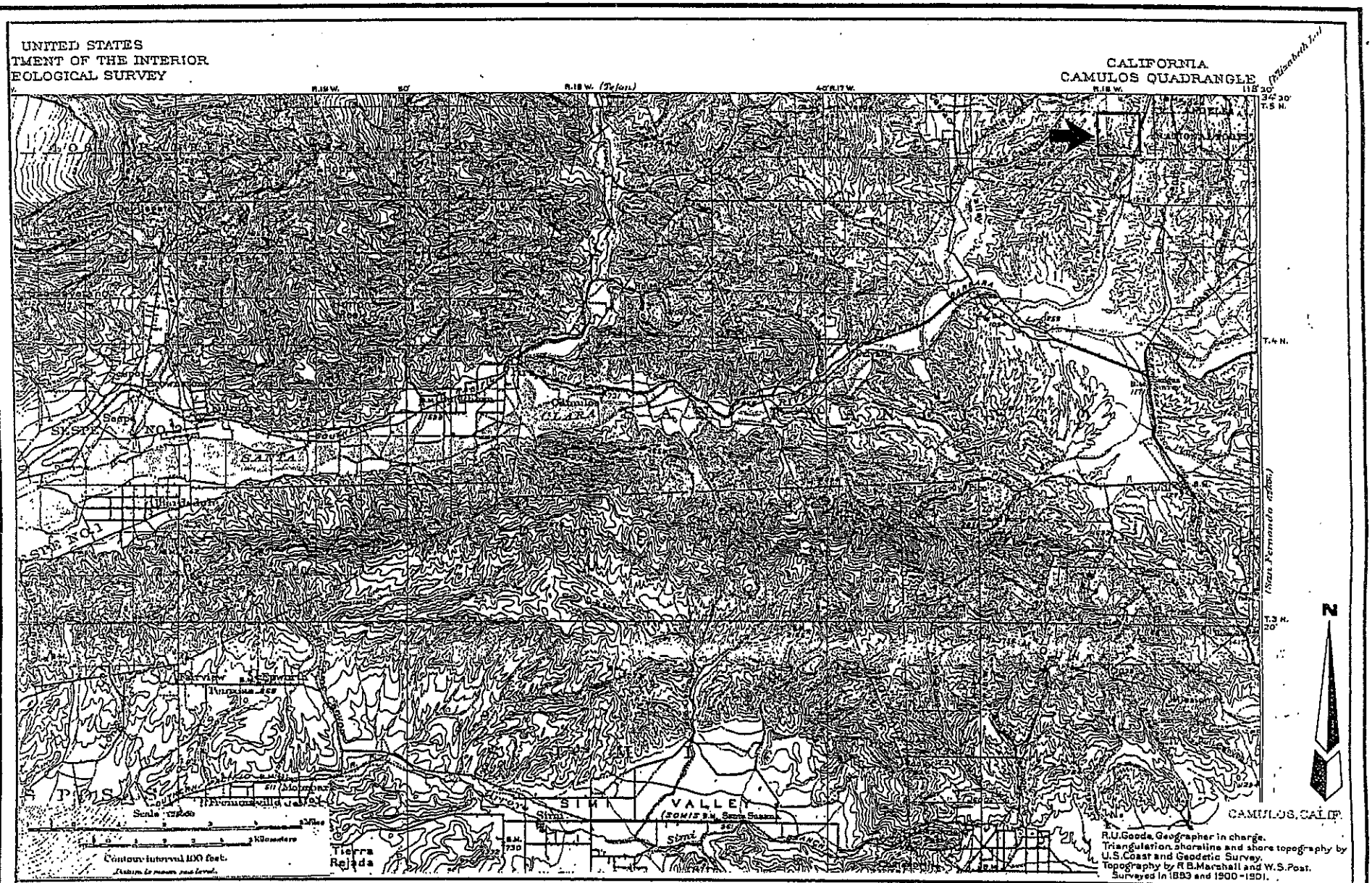
The arrival of the automobile signaled the end of isolation in the valley, and the start of a new era. With the coming of the freeway, the unincorporated county area grew exponentially. The Bermite Corporation, a defense- contractor and ordnance manufacturer, following in the footsteps of its predecessor, the Halifax Powder Company, whose plant south of Soledad Canyon Road, began operations in the first decades of the century. In the 1960s, Newhall Land and Farming Company became involved in the urbanization of the valley, announcing plans to convert 4000 acres into a planned community, Valencia, which was dedicated August 25, 1967. Canyon Country developed to the east of ranch lands; Newhall and Saugus also became attractive to San Fernando Valley and Los Angeles commuters. On December 15, 1987, citizens of the four communities voted to incorporate as the city of Santa Clarita. Presently, there is continuing population growth, and extensive residential, and commercial building. An excellent history for the area can be found by consulting Greenwood and Romani (1991: 16-24). Finally, San Francisquito means "little San Francisco," at it was in this canyon in 1842, that placer gold was discovered by Francisco Lopez.

IV. BACKGROUND RESEARCH SYNTHESIS

As part of this study, a thorough and intensive archival-background research phase was conducted for the study area using information obtained from historic maps, archival data, and prior research studies, included an inspection of the following sources:

1. Information on file at the South Central Coastal Information Center, UCLA Institute of Archaeology, Los Angeles (Appendix A).
2. Historic maps consulted are on file at the Geography Department Map Reference Center, California State University, Northridge, and Bureau of Engineering, Los Angeles City Hall as follows:

   1854-76 Township 5 North, Range 16 West, San Bernardino Meridian (surveyed by F.W. Norris, Henry Hancock, W.P. Reynolds, G.H. Thompson, M.G. Wheeler, and W.H. Norway



PROJECT AREA ON CAMULOS USGS TOPOGRAPHIC MAP (SURVEYED IN 1893)

FIGURE 5

1869	Map of Private Grants and Public Lands Adjacent to Los Angeles and San Diego in the Southern Parts of California (published by Clinton Day).
1874	Plat of Rancho San Francisco confirmed to Jacoba Feliz et al.
1881	Map of the County of Los Angeles, California (by H.J. Stevenson).
1888	Map of the County of Los Angeles, California (by Rowan).
1891	Map of the Reservoir Lands in the County of Los Angeles (by Seebold).
1900	Sectional and Road Map of Los Angeles County Showing Oil and Mining Districts (by Stoll and Thayer).
1900	San Fernando 15 minute USGS map series (surveyed in 1897).
1900-01	Camulos 15 minute USGS map series (surveyed in 1893).
1908	Topographic Map of the Los Angeles Aqueduct and Adjacent Territory (compiled from U.S.G.S. topographic maps; Wheeler's war maps; Le Conte's maps; county maps, and; L.A. Aqueduct maps).
1911	Los Angeles County (by Blunt).
1933	Newhall 15 minute USGS Topographic Quadrangle (surveyed in 1925 & 1929).
1936	Los Angeles and Vicinity Showing Old Adobes and Historic Sites (by Giffen).
1937	U.S. Forest Service Vegetation Map (Santa Susana Quadrangle (15 minute-#161A-surveyed in 1928-1934).
1940	San Fernando 15 minute USGS map series.
1941	Santa Susana 15 minute USGS Topographic Quadrangle.

3. National Register of Historic Places (Federal Register-8/94-supplements to date).
4. California Inventory of Historic Resources (California Department of Parks and Recreation 1976).
5. California Historic Landmarks (California Department of Parks and Recreation 1990).
6. List of Cultural-Historic Monuments-City of Los Angeles and Surroundings-Bureau of Engineering (1977-with updates).
7. California State University Northridge, Dept. of Geography, Map Reference Library.
8. County of Los Angeles, Department of Public Works, Bureau of Engineering.

The records search indicated that:

* No prehistoric archaeological sites have been identified within a one-quarter mile radius of the project area.
* One prehistoric archaeological site has been identified within a one-quarter mile radius of the project area (19-000207).
* One historic archaeological site has been identified within the project area (19-001445). The site was recorded by R.E. Parr on November 3, 1988 during an Archaeological Assessment of the Ranch/Tapia/San Francisquito Control Burn Area, in the Castatc Lake Area, Los Angeles County, California, by the Archaeological Research Unit, University of California, Riverside. The site is located on the edge of a river terrace on the west side of San Francisquito Canyon about three miles north of the canyon mouth at an elevation of around 1310 feet. The site lies at the mouth of a broad flat side canyon. A topographic map

dated 1903 shows structures at this location. This historic resource is described as a poured concrete foundation, probably a water well pumping station in an area 10 meters by 15 meters. Recorded features include six massive poured concrete foundation members. Two are horizontal, four are vertical upright columns. Uprights have 1" bolts imbedded in the tops. Two 12" pipes are sunk into the ground vertically between the concrete features. This feature is probably the remnant of a water well pumping station. A thick growth of poison oak covered part of the site, indicating underground water close to the surface. Also, several pieces of "real" 3" x 12" planks are lying adjacent to the feature, indicating a turn-of-the century date. A grove of eucalyptus and pepper about 150 meters north of this site may mark the location of an historic habitation. An examination of the grove revealed a few isolated chunks of concrete. This may have been the location of the structures shown on the 1903 topo map, and is possibly associated with the pumping station.

* Five prior surveys/excavations have been performed within a within a one-quarter mile radius of the study area (Bleitz and Raab 1990; Parr 1988), Rasson, Snyder, Vellanoweth, and Wells (1992); Scientific Resource Surveys, Inc. 1988; and, Wells, Heuman, Snyder, Vellanoweth, and Rasson (1993). All of these studies overlap portions of the project area.
* No properties are listed on the National Register of Historic Places within a one-quarter mile radius of the study area.
* No properties listed on the California State Historic Resources Inventory (HRI) lie within a one-quarter mile radius of the study area.
* No California Historical Landmarks (1990), Office of Historic Preservation, California Department of Parks and Recreation are recorded within a one-quarter mile radius of the project area.
* No California Points of Historical Interest (1992) are listed within a one-quarter mile radius of the project area.

An inspection of the San Fernando 15 minute USGS map series (1900 & 1940), Santa Susana 15 minute USGS map series (1908 & 1941), and the Camulos 15 minute USGS map series (1903 ed.) indicated that by the early 1900s, there was a loose network of improved and unimproved roads in place, and a few scattered structures existed in the general area. Honby, Saugus, Deadman, Dry, San Francisquito, Placerita and Soledad Canyons, Newhall, the Santa Clara River, and the Southern Pacific Railroad Line appear on the early 1900 maps. By 1940, the general area is lightly developed with, several secondary roads passing though the area, and the construction of the Sierra Highway completed.

V. FIELD RECONNAISSANCE PHASE

5.1 Crew

The crew consisted of Robert Wlodarski, the Principal Investigator of H.E.A.R.T., who has a B.A. in History and Anthropology; an M.A. in Anthropology from California State University Northridge (CSUN); twenty-eight years of professional experience in California archaeology; over 320 individual projects completed; certification in field archaeology, and theoretical/ archival research by the Register of Professional Archaeologists [RPA]; and, is a registered California historian by the California Committee for the Promotion of History [CCPH]. The Principal Investigator was assisted in the field by Dan Larson who has a B.A. in Anthropology from California State University Northridge (CSUN), with over thirty-five years of professional

experience in California archaeology, and meets the qualifications for certification in field archaeology by the Register of Professional Archaeologists [RPA].

5.2 Field Reconnaissance Strategy

As part of the scope of work, a on-foot reconnaissance program was conducted by H.E.A.R.T. on Saturday, December 11, 1999 and Thursday, December 16, 1999. The project area can be characterized as being 70% floodplain, canyon drainage/alluvial wash topography; 20% low-lying stream terrace terrain; and 10% low lying knolls, narrow ridges, and steep slopes. One of the objectives of this study, was to relocate the historic archaeological site 19-00144519. Other objectives included determining if additional cultural resource remains of a prehistoric or historic archaeological nature would face adverse impacts through the implementation of the proposed project. Prior surveys performed by Bleitz and Raab 1990; Parr 1988), Rasson, Snyder, Vellanoweth, and Wells (1992); Scientific Resource Surveys, Inc. 1988; and, Wells, Heuman, Snyder, Vellanoweth, and Rasson (1993) encompassed the project area.

The field reconnaissance phase required twenty-two-person-hours to complete. Skies were clear both days, and temperatures were in the mid-to-high-sixties. All areas which were likely to contain cultural resources were thoroughly inspected. Spacing between surveyors rarely exceeded ten meters. Spot checks were made of the floodplain area due to extensive, past disturbances primarily related to the 1928 San Francisquito Dam disaster. The remainder of the study area was thoroughly inspected by the surveyors.

5.3 Results

Historic archaeological site 19-001445, previously recorded by R.E. Parr on November 3, 1988, was relocated during this survey. Additionally, another loci was discovered and subsequently recorded (Figure 6 and Appendix B). The two loci are oil well platforms constructed between 1925 and 1928. Both platform configurations are similar in that they contain four upright concrete columns, with associated concrete slabs, metal pipes related to drilling, and wood and concrete supports. Locus B was the first platform constructed and was abandoned a short time later when oil was not located. Locus A followed after the abandonment of Locus B and although oil was not located, natural gas was. The well was subsequently capped and abandoned just prior to the collapse of the San Francisquito Dam.

Each loci was roughly 20 meters by 20 meters, and contained wood debris related to the platform construction and rigging, including bolts, loose cable at Locus B, concrete foundations, a deep pit at Locus B, metal pipes, concrete material for capping, and access roads. A lone concrete foundation was found roughly halfway between both platforms and most likely served as a temporary dwelling for an on-site manager or supervisor. Both loci represent temporally and functionally related activities pertaining to oil research and development from 1925-1928, and no oil was discovered at either location.

5.4 Recommendations

Under CEQA, there are a number of ways to alleviate direct and indirect adverse impacts to cultural resources, including:

1) avoidance of the resource;
2) data retrieval through an assessment and/or salvage phase; or,

3) programs combining avoidance and data salvage phases.

Project design which seeks to avoid cultural resource remains, is preferable to mitigation through salvage programs. CEQA directs public agencies to avoid adverse impacts to cultural resources whenever possible, by in-situ preservation which will avoid damage to a resource by:

a) planning construction to miss the site;
b) planning parks, greenspace, or other open space elements which would incorporate the archaeological site;
c) "capping" or covering the site with a layer of soil; or,
d) deeding the site into a permanent conservation easement.

If an archaeological resource(s) cannot be preserved through some measure of avoidance, *significance* must be addressed under CEQA. Therefore, if future planning cannot avoid adversely impacting either loci constituting CA-LAN-1445-H, then additional work must be conducted to determine the quality of information contained within the resource. Achieving CEQA compliance with regard to mitigating impacts to cultural resources, requires that a plan for the preservation of the resource(s) be developed.

The author recommends that if avoidance is not feasible, that a qualified architectural historian be hired prior to construction to properly research, record, photograph, and document the oil well loci (CA-LAN-1445-H), in an effort to determine its significance under CEQA. Research may involve investigation into assessor's records, as-builts, early architectural drawings, historical maps, historical photographs, building plans and profiles, construction data, mineral surveys, and other information which may aid determining the significance of this resource. Once the evaluation has taken place, the recommendations, including any additional preservation options specified by the architectural historian shall be used by the client to mitigate impacts based on proposed development plans. The mitigation measures may include: nomination of the structure as a city, county, state, or national register property with intent to preserve the structure for future generations; preservation through avoidance; or that the architectural evaluation constitutes final mitigation of the resource.

5.5 Conclusions

This report only addresses the areas illustrated in Figures 2-3. The results of this report cannot be used for any changes or modifications to the proposed project as discussed in the context of this report. Any subsequent changes will require additional work. For the most part, an archaeological reconnaissance can only determine with some degree of certainty, whether cultural remains are present on the surface. There is still a slight chance that additional buried prehistoric and/or historic archaeological resources may exist within the project boundaries. Therefore, it is recommended that a RPA qualified archaeologist be contacted immediately should unanticipated cultural resource remains be encountered during construction within the project area.

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APPENDIX A

South Central Coastal Information Center

California Historical Resources Information Center
UCLA Institute of Archaeology
A163 Fowler Building
Los Angeles, California 90095-1510
(Grace Wu, Information Center Staff - December 9, 1999 - Invoice #8241)

South Central Coastal Information Center
California Historical Resources Information System
UCLA Institute of Archaeology
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(310) 825-1980 / FAX (310) 206-4723 / sccic@ucla.edu

Los Angeles
Orange
Ventura

Rob Wlodarski
HEART
8701 Lava Place
West Hills, CA 91304-2126

December 9, 1999

RE: Records Search Request for the San Francisquito Canyon, Los Angeles County, California.

Dear Mr. Wlodarski,

As per your request received on December 7, we have conducted a records search for the above referenced project. This search includes a review of all recorded historic and prehistoric archaeological sites within a one-quarter mile radius of the project area as well as a review of all known cultural resource survey and excavation reports. In addition, we have checked our file of historic maps, the National Register of Historic Places, the California State Historic Resources Inventory, the California Points of Historical Interest, and the listing of California Historical Landmarks in the region. The following is a discussion of our findings for the project area.

PREHISTORIC RESOURCES:

No prehistoric sites have been identified within a one-quarter mile radius of the project area. Two prehistoric sites (19-000207, 19-001445) with an historic component have been identified within a one-quarter mile radius of the project area (see enclosed map). One of these (19-001445) is located within the project area.

HISTORIC RESOURCES:

No historic archaeological sites have been identified within a one-quarter mile radius of the project area.

Inspection of our historic maps – Santa Susana (1908 and 1941) 15' series – indicated that in 1908, there existed a loose network of unimproved and improved roads with a few scattered structures in the vicinity of the project area. Numerous waterways ran through the surrounding canyons. In 1941, the project area's vicinity showed additional unimproved roads marked.

The California State Historic Resources Inventory lists no properties that have been evaluated for historical significance within a few blocks radius of the project area.

The National Register of Historic Places lists no properties within a one-quarter mile radius of the project area.

The listings of the California Historical Landmarks (1990) of the Office of Historic Preservation, California Department of Parks and Recreation, indicate that there are no California Historical Landmarks within a one-quarter mile radius of the project area.

The California Points of Historical Interest (1992) identifies no properties within a one-quarter mile radius of the project area.

The listings of the City of Los Angeles Historic-Cultural Monuments indicated that there are no landmarks within a one-quarter mile radius of the project area.

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS:

Five surveys and/or excavations have been conducted within a one-quarter mile radius of the project area (see enclosed map and bibliography). All five of these are within or bordering the project area. Four additional investigations are located within the Newhall quadrangle and potentially within the project area. These investigations are not mapped due to insufficient locational information.

Please forward a copy of any reports resulting from this project to our office as soon as possible. Due to the sensitive nature of site location data, we ask that you do not include record search maps in your report. If you have any questions regarding the results presented herein, please feel free to contact our office at (310) 825-1980.

Invoices are mailed approximately two weeks after records searches are completed. This enables your firm to request further information under the same invoice number. Please reference the invoice number listed below when making inquires. Requests made after invoicing will result in the preparation of a separate invoice with a $15.00 handling fee.

Sincerely,

Grace Wu
Information Center Staff

Enclosures:

(X) Map
(X) Bibliography
( ) Site list
( ) HRI
( ) Site records
( ) Survey reports
(X) Confidentiality Form
( ) Invoice # 8241

APPENDIX B

SITE RECORD
(CA-LAN-1445-H - Locus A and Locus B)

All archaeological site information contained within this report is strictly confidential and to be used solely for planning purposes. Under no circumstances shall this information be made available for public dissemination

State of California - The Resources Agency
Department of Parks and Recreation
ARCHAEOLOGICAL SITE RECORD *UPDATE*

Permanent Trinomial: CA-LAN-1445-H
Locus A and Locus B
Agency Designation:_____

1. COUNTY: Los Angeles

2. USGS QUADRANGLE(S): Newhall, California 7.5 minute (1952-photorevised 1969)

3. UTM COORDINATES: Zone 11: 3816130 [north] - 357850 [east]-Locus A: Oil Well Platform 1
   UTM COORDINATES: Zone 11: 3816130 [north] - 357540 [east]-Locus B: Oil Well Platform 2

4. TOWNSHIP: 5 North, RANGE: 16 West - northern portion of Section 16.

5. MAP COORDINATES: Locus A: Oil Well Platform 1 - 99mm south & 183mm west of NE map corner; Locus B: Oil Well Platform 2 - 99mm south & 196mm west of NE map corner.

6. ELEVATION: Locus A approximately 1280 feet; and Locus B approximately 1330 feet.

7. LOCATION: Locus A is located approximately 1200 feet (360m) east and 1100 (330m) feet south of the junction of San Francisquito Canyon Road, and a dirt road paralleling Lady Linda Road traveling west along the northern section line of section 34 of Township. Locus B is situated approximately 1100 feet (330m) due east of Locus 1 up a broad alluvial canyon, on the south side of a dirt access road.

8. PREHISTORIC: (NO) HISTORIC: (YES) PROTOHISTORIC: (NO) ETHNOGRAPHIC (NO)

9. SITE DESCRIPTION: The two loci are oil well platforms constructed between 1925 and 1928. Both platforms are similar in that they contain four upright concrete columns, with associated concrete slabs, metal pipes related to drilling, and wood and concrete supports. Locus B was the first platform constructed and was abandoned a short time later when oil was not located. Locus A followed after the abandonment of Locus B and although oil was not located, natural gas was. The well was subsequently capped and abandoned just prior to the collapse of the San Francisquito dam.

10. AREA: Each loci encompasses roughly 20 meters by 20 meters.

11. DEPTH OF DEPOSIT: The concrete columns and drilling pipes may be deep.

12. FEATURES: Wood debris related to the platform construction and rigging; bolts; cable at locus B; concrete foundations; a deep pit at Locus B; access roads; metal pipes; and concrete material for capping.

13. ARTIFACTS: See features: wood, pipes, concrete, bolts.

14. NON-ARTIFACTUAL CONSTITUENTS AND FAUNAL REMAINS: None.

15. DATE RECORDED/UPDATED: Locus A was originally recorded by R.E. Parr in 1988, and rerecorded by Robert J. Wlodarski and Dan A. Larson on December 11 & 16, 1999. Locus B was recorded by Robert J. Wlodarski and Dan A. Larson on December 16, 1999.

17. AFFILIATION: Historical, Environmental, Archaeological, Research, Team, 8701 Lava Place, West Hills, California 91304-2126 - 818-340-6676 - E-mail: robanne@ix.netcom.com

18. HUMAN REMAINS: None observed.

19. INTEGRITY OF SITE/SITE DISTURBANCES: Fair. Some degrading since being abandoned in 1928. Survived the San Francisquito Dam disaster in 1928. Concrete foundations still remain with scattered, and related debris.

20. NEAREST WATER: San Francisquito River adjacent to Locus A, and small creek adjacent to Locus B on the south.

21. LARGEST BODY OF WATER WITHIN 1 KM: San Francisquito River adjacent on east.

22. OFF- SITE VEGETATION: Oak, cottonwood, willow, poison oak, sage, buckwheat.

23. ON-SITE VEGETATION: Oak, cottonwood, willow, poison oak, sage, buckwheat.

24. SITE SOIL: Silty, clay, loam; alluvium; riverwash; primarily sedimentary.

25. SURROUNDING SOIL: Same.

26. GEOLOGY: River bottomland, and alluvial deposits.

27. LANDFORM: River Terrace and alluvium from east trending canyon.

28. SLOPE: Slight and to the east toward the San Francisquito River. Less than 15%.

29. EXPOSURE: Total

30. LANDOWNER/TENANT: Private owner.

31. REMARKS: Both loci represent temporally and functionally related activities pertaining to oil research and development from 1925-1928. No oil was discovered. Neither site exhibits qualities unique to oil exploration in the region, nor do they singularly or together appear to meet the criteria for significance under CEQA. If future development plans will impact these resources, and architectural evaluation designed to accurately document these resources should be performed. Completion of such as study should suffice as an adequate mitigation measure.

32. REFERENCES: Parr, Robert E., 1988, Environmental Impact Evaluation: An Archaeological Assessment of the Ranch/Tapia/San Fran Control Burn Areas Located in the Castaic Lake Area of Los Angeles County, California. Report (LA573) on file, South Central Coastal Information Center, The Institute of Archaeology, Los Angeles, California.

33. NAME OF THE PROJECT: A Phase 1 Archaeological Study of Approximately 176 acres (Conceptual Lotting Study) San Francisquito Canyon, County of Los Angeles, California

34. TYPE OF INVESTIGATION: Phase 1 Archaeological Study.

35. SITE ACCESSION NUMBER: None CURATED AT: N/A

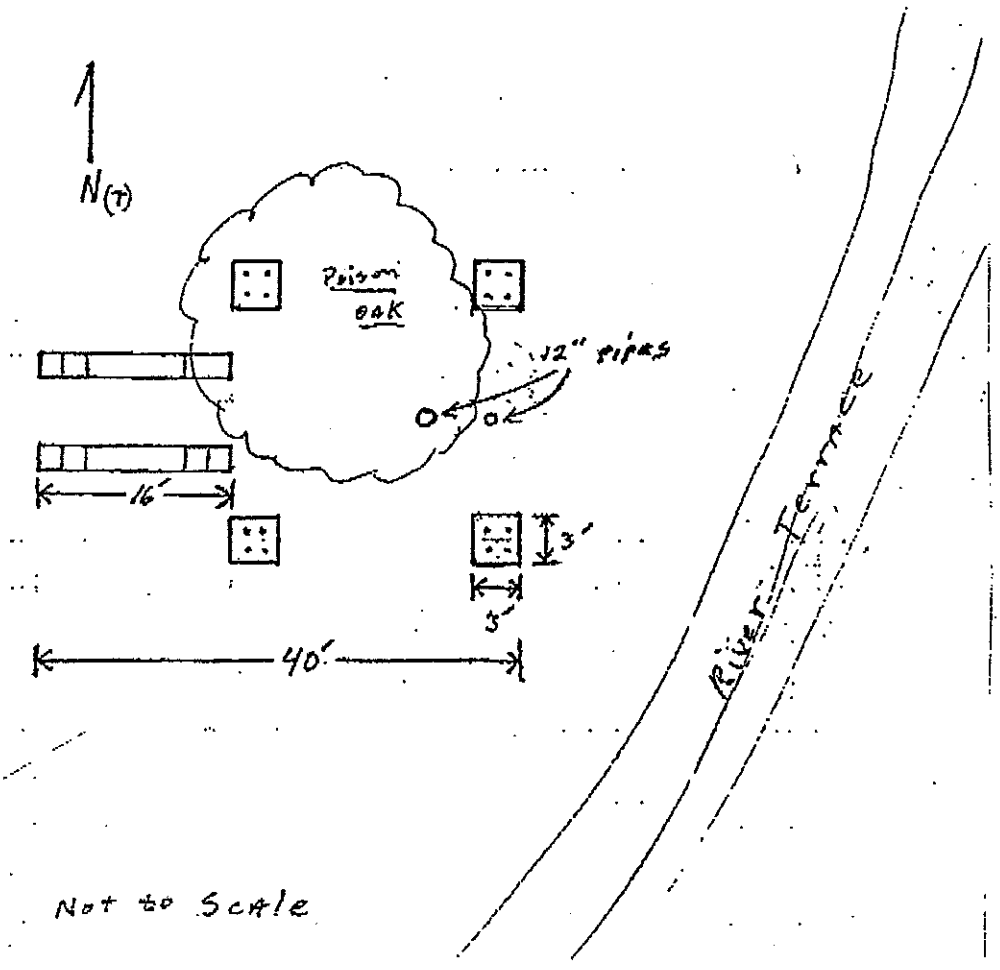
36. PHOTOGRAPHS: Yes

37. PHOTO ACCESSION NUMBER: CA-LAN-1445-H, L-1 & L-2: 1-55.

REPORT FILED AT: Historical, Environmental, Archaeological, Research, Team, 8701 Lava Place, West Hills, California 91304-2126 - Phone/Fax: 818-340-6676

ARCHAEOLOGICAL SITE MAP

All archaeological site information contained within this report is strictly confidential and to be used solely for planning purposes. Under no circumstances should this information be available for public dissemination

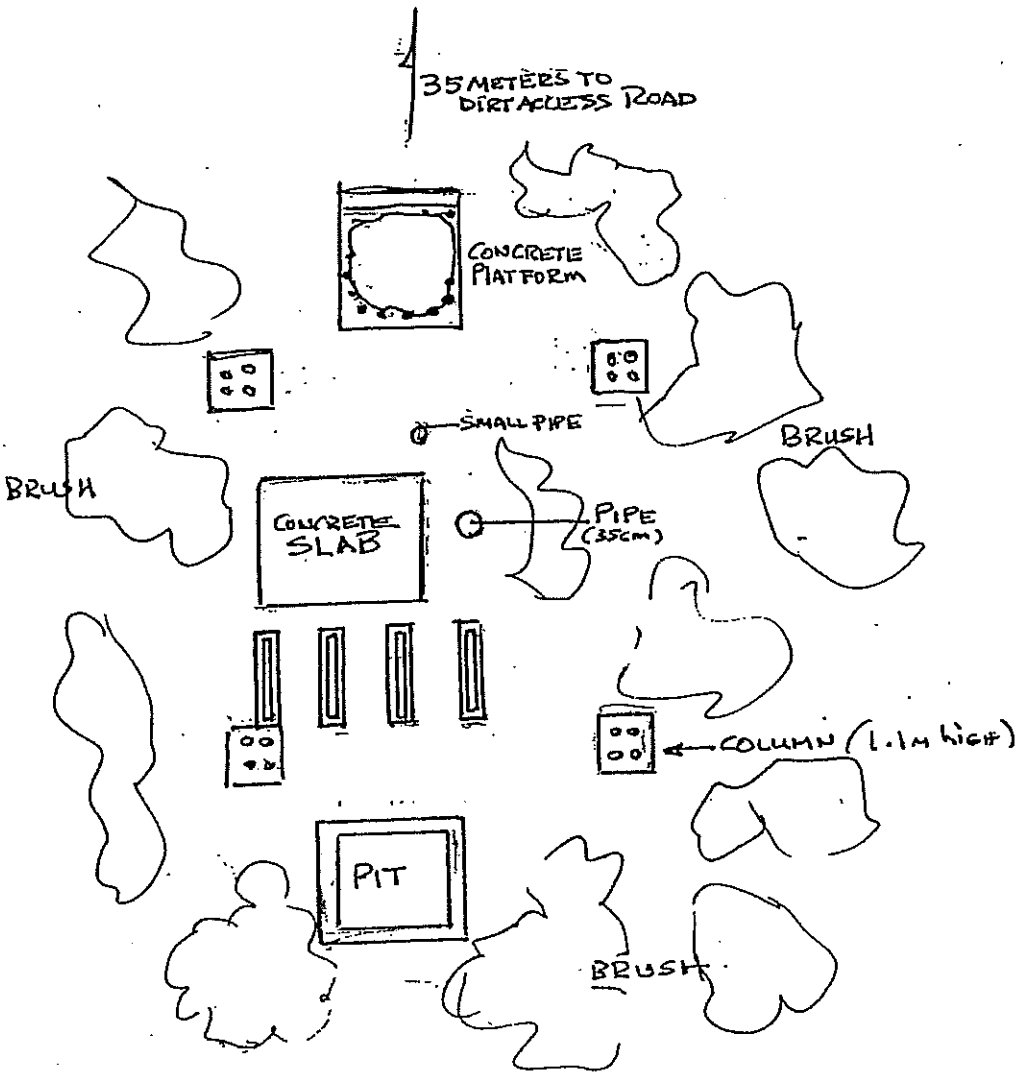


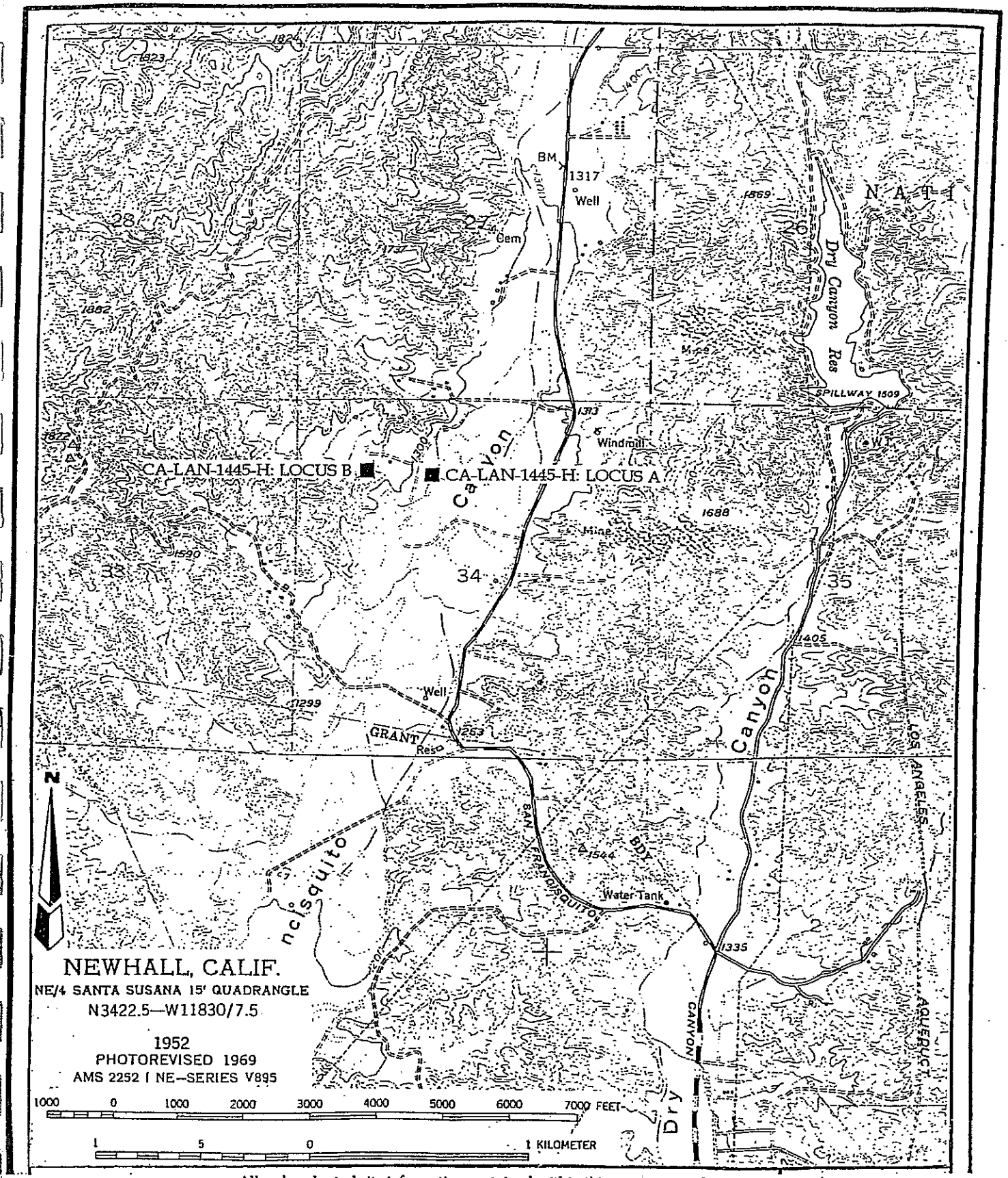
State of California - The Resources Agency
Department of Parks and Recreation
ARCHAEOLOGICAL SITE RECORD *UPDATE*

Permanent Trinomial: CA-LAN-1445-H
Locus B
Agency Designation:_____

ARCHAEOLOGICAL SITE MAP

All archaeological site information contained within this report is strictly confidential and to be used solely for planning purposes. Under no circumstances should this information be available for public dissemination





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State of California - The Resources Agency
Department of Parks and Recreation
ARCHAEOLOGICAL SITE RECORD *UPDATE*

Permanent Trinomial: CA-LAN-1445-H
Locus A and Locus B
Agency Designation:_____

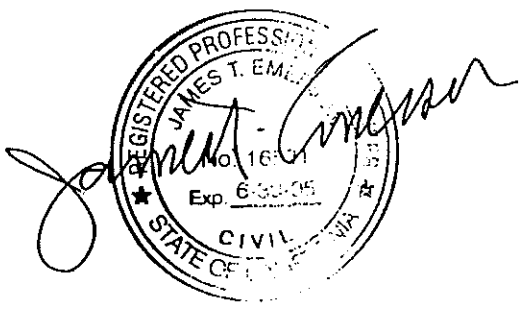
SEWER AREA STUDY
CALCULATIONS
SAN FRANCISQUITO CANYON

FOR

TRACT No. 53189

JUNE, 2005
JN. 99628-3
BY; MIKE G

B & E Engineers
24 West Saint Joseph St.
Arcadia Ca. 91007-2854
TEL. (626) 446-4449
FAX. (626) 446-6566



San Francisquito Canyon
Sewer Area Study

Table of Contents

Tables

Figures

Appendix

Section 1. General

1-1 Downstream Sewer System

The downstream sewer system is illustrated on Figure 1. Sewage from Tract 53189 will flow to the most northerly existing manhole in Stoney Creek Road via a pump station. Southerly of that point sewage is conveyed by the existing Los Angeles County sewer system in pipes ranging from 10" to 24" to a connection with the LACSD Trunk sewer. The Trunk is located in Dickason Drive between MH 607 and 606 as shown on SMD Index Map N-1294. The LACSD Trunk Sewer flows to the treatment plant located on The Old Road, on the west side of the I-5 Freeway at Rye Canyon Road.

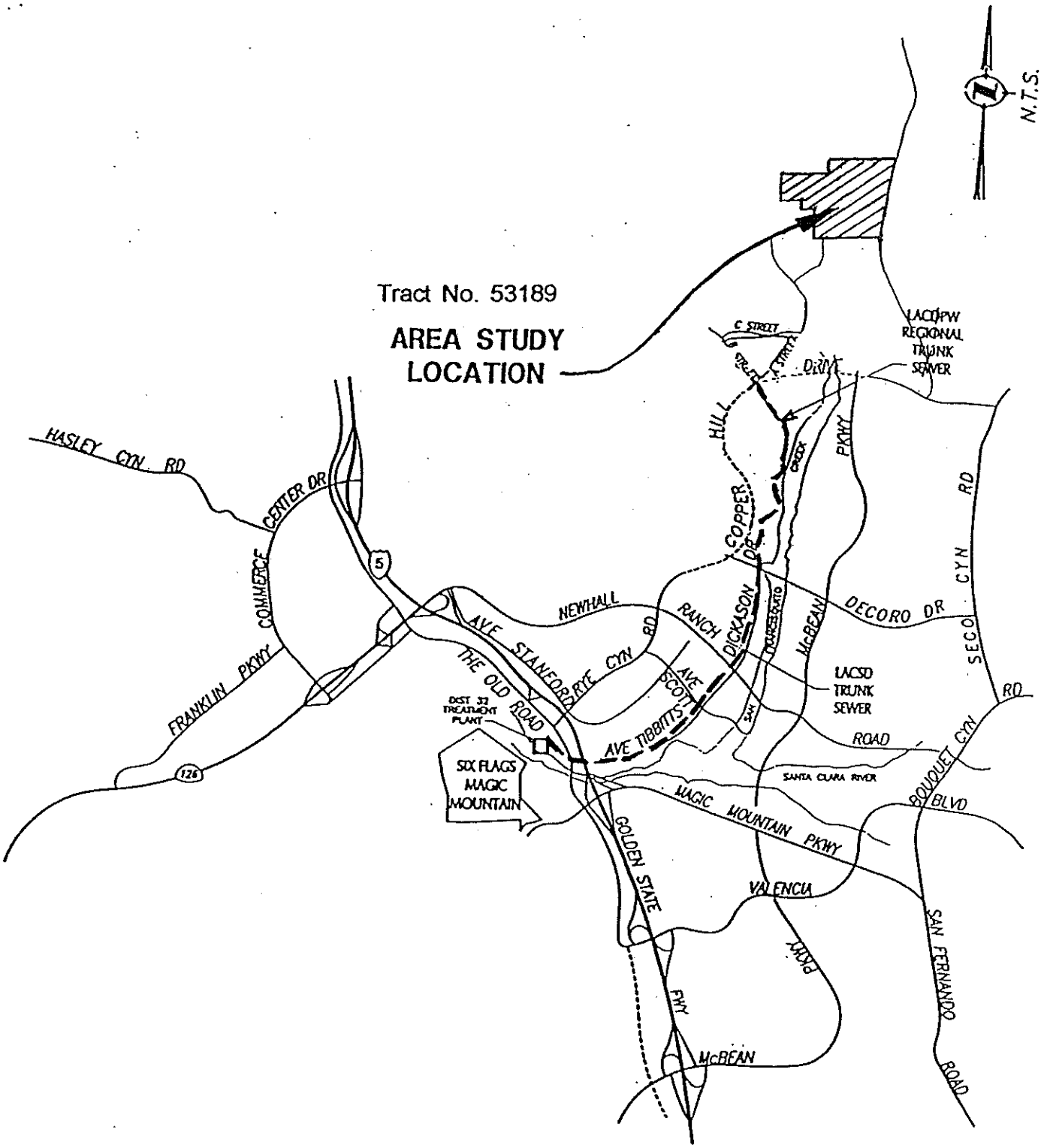
1-2 Sewage Generation Factors

Our tributary area includes three land use categories. The average generation factors shown below on Table 1 were obtained from the Los Angeles County Department of Public Works (LACDPW). Where possible, actual residential lot counts were used for calculating flows. Therefore, the table below shows the average Dwelling Unit Flow as well as the average flow per acre.

We also contacted appropriate school district to obtain ultimate student enrollment to calculate school sewage flow.

Table 1 - Average Sewage Peak Flow Factors

Land Use	Average Peak Flow
R-1 (if only acreage known)	0.004 cfs/Acre
R-1 (if number of Dwelling Units known)	0.001 cfs/DU
School (Elementary and Jr. High)	10 gal/Students
Open Space	0.00004 cfs



VICINITY MAP

FIGURE 1

Section 2 Sewer System Design Criteria

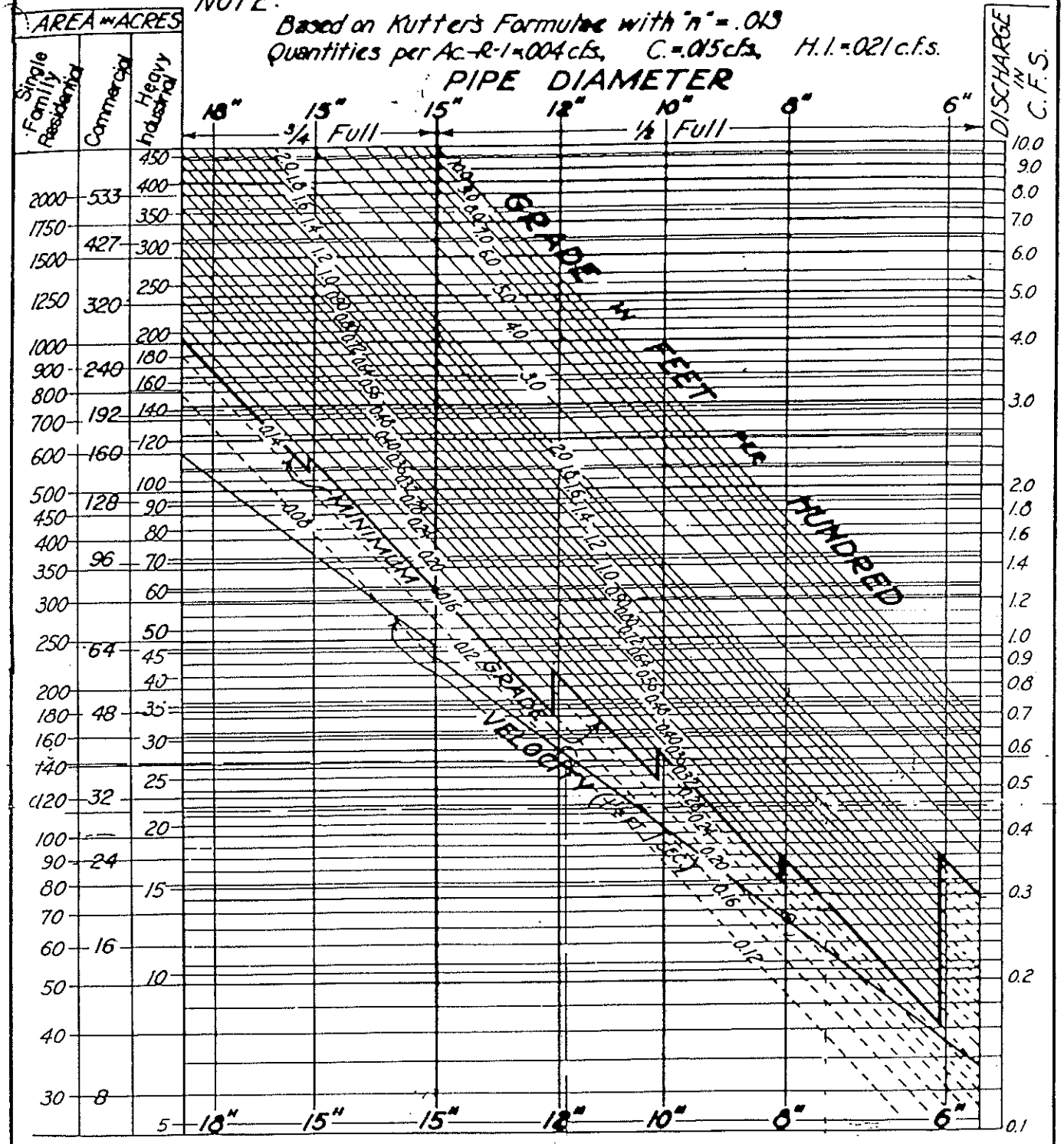
The following criteria, provided by LACDPW, were used to size the proposed pipes:

- **Kutter's n=0.013**
- **D/d ratio for Peak flow must be 0.5 or less for 15" pipes & below.**
- **D/d ratio for Peak flow must be 0.75 or less for 18" pipes & above, the calculations shown are to 0.5 D/2 using Kutter's formula-Flow Master.**
- **Minimum flow from pump to be 0.27 cfs**
- **8" Diameter minimum per LACDPW.**
- **Minimum pipe cover to be 7 feet**
- **Minimum slopes to be as shown in Table 2:**

Table 2 - Minimum Slope

Pipe Diameter Inches	Minimum Slope ft/ft.
8	0.0040
10	0.0032
12	0.0024
15	0.0016

Figure 2 shows flow diagram for the Design of Circular Sanitary Sewers provided by LACDPW.



FLOW DIAGRAM FOR THE DESIGN OF CIRCULAR SANITARY SEWERS

FIGURE 2

COUNTY OF LOS ANGELES
DEPARTMENT OF COUNTY ENGINEER - FACILITIES

ASSISTANT DEPUTY

COUNTY ENGINEER

COUNTY ENGINEER STANDARD S-C4

DATE: 3/80

DESIGN RCE 10443

Section 3 Sewage Flow Analysis

Figure 3 shows the existing zoning for the project area. This used the most recent information available.

Sewage flow from pump station to have 1.5 safety factor.

Table 3 listed the Tributary Area by number, the average or Dwelling Unit count, each land use and the total flow for each area. The table is used in conjunction with map 1 and 2 in determining cumulative flow for each sewer line.

Exhibit 1 shows all Tributary Areas, land use categories and summation flows.

Existing Zoning For Project Area

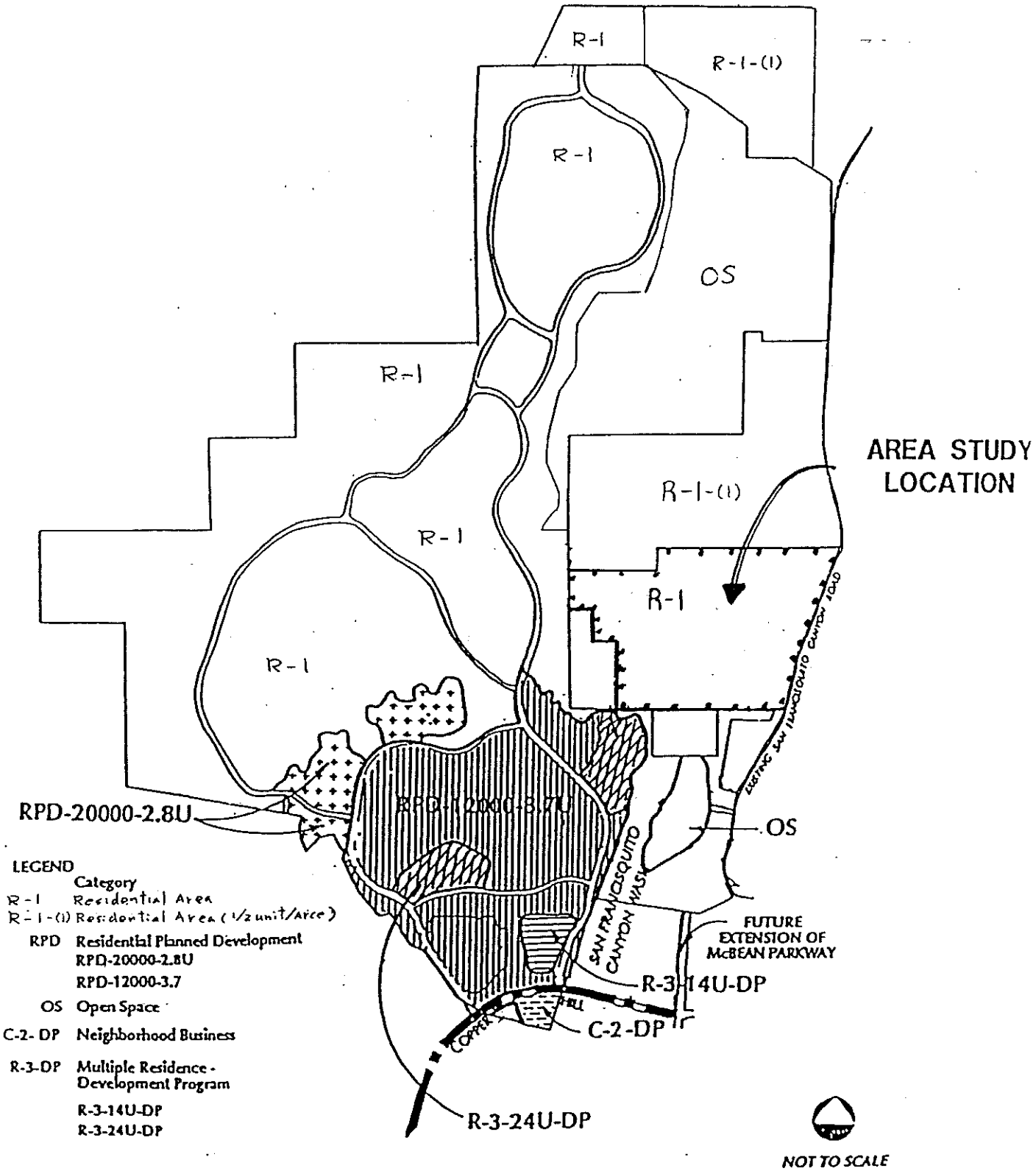


FIGURE 3

Table 3 Tributary Area and Calculated flows

TRIBUTARY AREA No.	AREA (Acres) UNITS	LAND USE	Total Peak Flow
1	33 Ac.	R-1	33 x 0.004 = 0.132 cfs.
2	84 Units	R-1	84 x 0.001 = 0.084 cfs.
3	116 Units	R-1	116 x 0.001 = 0.116 cfs.
4	108 Ac.	R-1- (1)	1/2 Unit x Ac. 54 x 0.001 = 0.054 cfs.(Land Use Map)
5	278 Ac.	Open Space	278 x 0.00004 = 0.011 cfs.
6	114 Ac.	R-1- (1)	1/2 Unit x Ac. 57 x 0.001 = 0.057 cfs.(Land Use Map)
7 (ProjectSite)	60 Units	R-1	60 x 0.001 = 0.060 cfs.
8	46 Units	R-1	46 x 0.001 = 0.046 cfs.
9	35 Ac.	R-1	35 x 0.004 = 0.140 cfs.
10	16 Ac.	R-1	16 x 0.004 = 0.076 cfs.
11	187 Ac.	R-1	187 x 0.004 = 0.748 cfs.
12	44 Ac.	R-1	44 x 0.004 = 0.176 cfs.
13	38 Ac.	R-1	38 x 0.004 = 0.152 cfs.
14	51 Ac.	Open Space	51 x 0.00004 = 0.002 cfs.
15	231 Ac.	R-1	231 x 0.004 = 0.924 cfs.
16	220 Ac.	R-1	220 x 0.004 = 0.880 cfs.
17	78 Ac.	R-1	511.9 x 0.0016 = 0.819 cfs.
18	1500 Students	School	1500x10=15000gal/Day / 1440=10.416gal/min / 449 =0.023 cfs
19	1395 Students	School	1395x10=13950gal/Day / 1440=9.375gal/min / 449 =0.020 cfs

Section 4 Pipe Capacity Analysis

The proposed sewer system capacity is summarized in the tables 4 - 1, 4 - 2 and 4 - 3 – Model Results Summary – Peak Flow.

Map 1 and 2 show pipe segment by number, size and slope from our projects connection point to the 24" Trunk Sewer.

Flow at pump station to be increased by 1.5 safety factor.
Therefore, $Q_{pump} = 0.182$ cfs x 1.5 = 0.273 cfs.
The above Q will be used in down stream calculation.

Table 4 - 1 Model Results Summary - Peak Flow

REACH No.	TRIBUTARY AREAS	PIPE SIZE	SLOPE	Q =cfs.(CALC.)	Q Allowable (cfs.) Table S-C4	COMMENTS
①	A4+A5+A6+A7	8"	2.00%	0.273	0.80	OK
②		8"	1.56%	0.273	0.70	OK
③		8"	1.40%	0.273	0.60	OK
④	A1+A2+A4+A5+A6+A7+A8+A12	10"	5.96%	0.665	2.75	OK
⑫		10"	8.00%	0.665	3.00	OK
⑬		10"	3.96%	0.665	2.00	OK
⑭		10"	3.92%	0.665	2.00	OK
⑮	A1+A2+A4+A5+A6+A7+A8+A9+A12	15"	0.76%	0.805	2.75	OK
⑯	A1+A2+A4+A5+A6+A7+A8+A9+A10+ A12+A13	15"	0.48%	1.033	2.25	OK
⑰		15"	0.48%	1.033	2.25	OK
⑱	A1+A2+A4+A5+A6+A7+A8+A9+A10+ A12+A13	15"	1.20%	1.109	4.50	OK
⑲		15"	1.24%	1.109	4.50	OK
⑳		15"	3.14%	1.109	5.50	OK
㉑		15"	0.52%	1.109	2.50	OK
㉒		15"	0.48%	1.109	2.50	OK
㉓		15"	1.28%	1.109	4.50	OK
㉔	A1+A2+A4+A5+A6+A7+A8+A9+A10+A12+A13+A14	15"	0.60%	1.111	2.50	OK

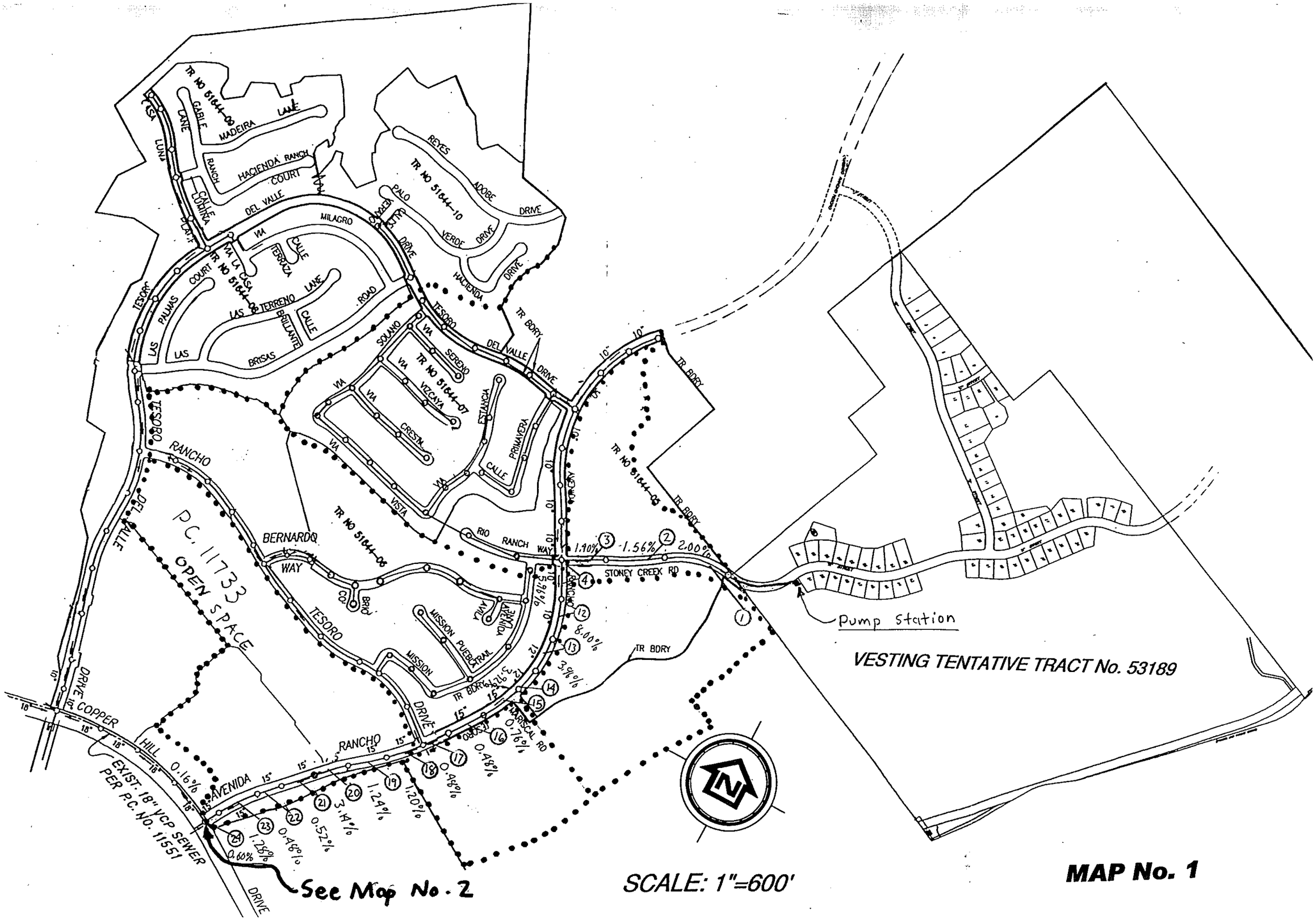
Table 4-2 Model Results Summary - Peak Flow

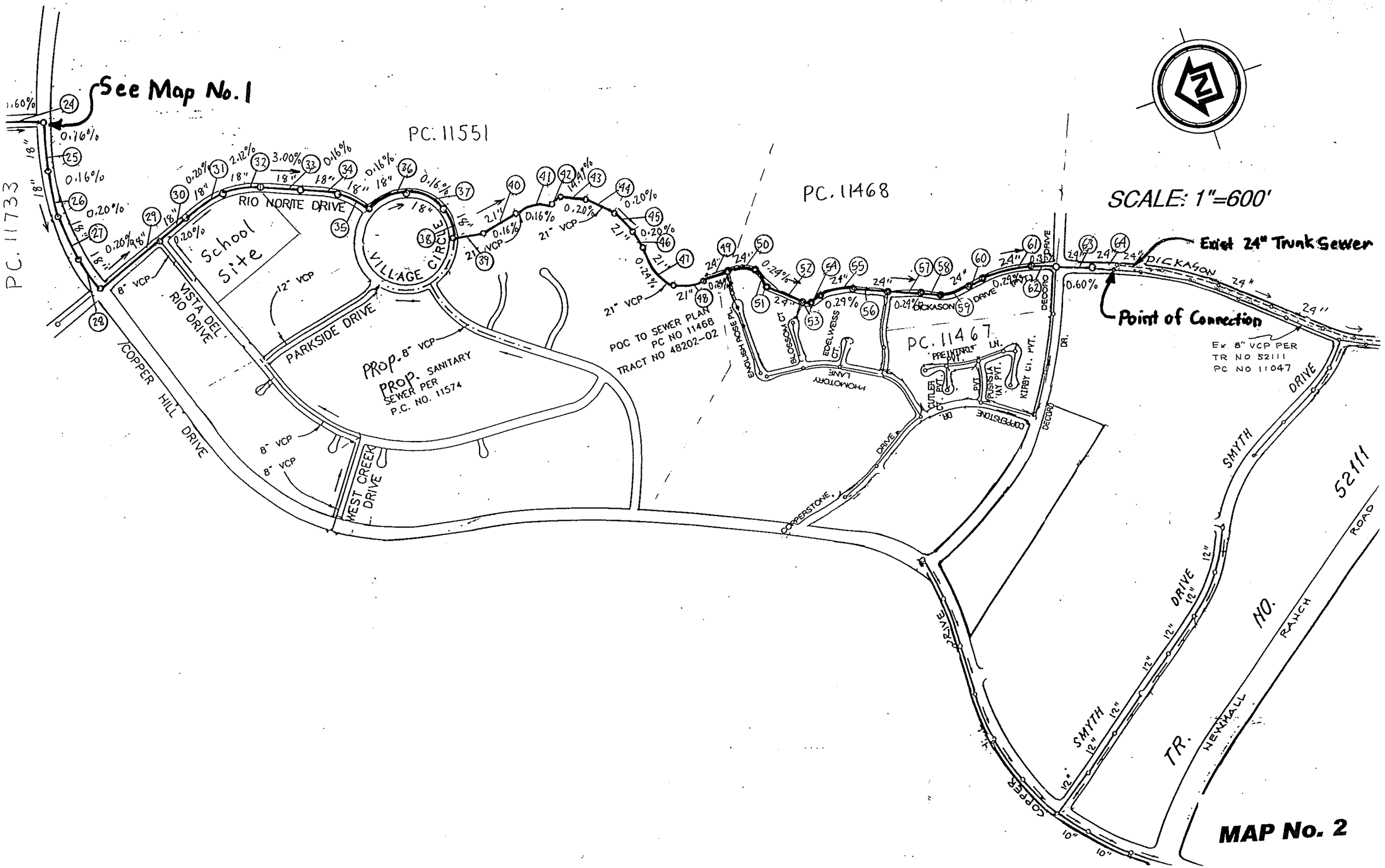
REACH No.	TRIBUTARY AREAS	PIPE SIZE	SLOPE	Q =cfs.(CALC.)	Q Allowable (cfs.) Flowmaster Calcs 3/4 full	COMMENTS
(25)	A1+A2++A4+A5+A6+A7+A8 A9+A10+A12+A13+A14	18"	0.16%	1.111	3.80	OK
(26)		18"	0.16%	1.111	3.80	OK
(27)		18"	0.20%	1.111	4.26	OK
(28)		18"	0.20%	1.111	4.26	OK
(29)	A1+A2+A3+A4+A5+A6+A7+A8 A9+A10+A11+A12+A13+A14	18"	0.20%	1.975	4.26	OK
(30)		18"	0.20%	1.975	4.26	OK
(31)		18"	2.12%	1.975	13.11	OK
(32)		18"	3.00%	1.975	16.60	OK
(33)		18"	0.16%	1.975	3.80	OK
(34)		18"	0.16%	1.975	3.80	OK
(35)		18"	0.16%	1.975	3.80	OK
(36)		18"	0.16%	1.975	3.80	OK
(37)		18"	0.16%	1.975	3.80	OK
(38)		18"	0.16%	1.975	3.80	OK
(39)	A1+A2+A3+A4+A5+A6+A7+A8+A9+ A10+A11+A12+A13+A14+A15+A16+ A18+A19	21"	0.16%	2.942	2.78	OK
(40)		21"	0.16%	2.942	5.78	OK
(41)		21"	0.16%	2.942	5.78	OK
(42)		21"	14.49%	2.942	55.47	OK
(43)		21"	0.20%	2.942	6.47	OK
(44)		21"	0.20%	2.942	6.47	OK
(45)		21"	0.20%	2.942	6.47	OK
(46)		21"	0.24%	2.942	7.10	OK
(47)		21"	0.24%	2.942	7.10	OK
(48)		24"	0.24%	2.942	10.20	OK
(49)		24"	0.24%	2.942	10.20	OK
(50)		24"	0.24%	3.832	10.20	OK
(51)		24"	0.24%	3.832	10.20	OK
(52)		24"	0.24%	3.832	10.20	OK

Table 4-3 Model Results Summary - Peak Flow

REACH No.	TRIBUTARY AREAS	PIPE SIZE	SLOPE	Q =cfs.(CALC.)	Q Allowable (cfs.) Flowmaster Calcs 3/4 full	COMMENTS
(53)	A1+A2+A3+A4+A5+A6+A7+A8+A9+ A10+A11+A12+A13+A14+A15+A16+ A17+A18+A19	24"	0.24%	3.832	10.20	OK
(54)		24"	0.24%	3.832	10.20	OK
(55)		24"	0.24%	3.832	10.20	OK
(56)		24"	0.24%	3.832	10.20	OK
(57)		24"	0.24%	3.832	10.20	OK
(58)		24"	0.24%	3.832	10.20	OK
(59)		24"	0.24%	3.832	10.20	OK
(60)		24"	0.24%	3.832	10.20	OK
(61)		24"	0.24%	3.832	10.20	OK
(62)		24"	0.36%	3.832	12.52	OK
(63)	ALL AREAS	24"	0.60%	4.611	16.18	OK
(64)	ALL AREAS	24"	0.60%	4.611	16.18	OK

Appendix


TR NO 51644-08
GABLE
CANE
MADEIRA
LANE
LUNA
RANCH
HACIENDA RANCH
COURT
CALLE
LOMITA
DEL VALLE
REYES
TR NO 51644-10
ADOBE
DRIVE
PALO
VERDE
DRIVE
HACIENDA
DRIVE
MILAGRO
VIA
TERRAZA
CALLE
VIA LA CASA
TR NO 51644-09
TESORO
COURT
LAS PALMAS
LAS TERRENO
LANE
ROAD
LAS BRISAS
BRILLANTE
CALLE
SOLANO
VIA
SERENO
TR NO 51644-07
VIZCAYA
VIA
VIA
CRESTA
ESTANCIA
PRIMAVERA
CALLE
VIA
VISTA
TR BDRY
DEL VALLE
DRIVE
10"
10"
TR BDRY
TESORO
RANCHO
DEL VALLE
BERNARDO
WAY
TR NO 51644-06
RIO RANCH WAY
1.90%
1.56%
2.00%
STONEY CREEK RD
P.C. 11733
OPEN SPACE
BRIO
COURT
TESORO
MISSION PUEBLO TRAIL
MISSION
ARROYO
VIA
8.00%
3.91%
TR BDRY
TR BDRY
DRIVE
DRIVE
COPPER
HILL
RANCHO
CARMEL RD
0.76%
0.48%
0.46%
1.20%
1.24%
3.14%
0.52%
0.49%
1.26%
0.60%
0.16%
AVENIDA
EXIST. 18" YCP SEWER
PER P.C. NO. 11551
DRIVE
See Map No. 2
TR NO 51644-05
TR BDRY
Pump Station
VESTING TENTATIVE TRACT No. 53189
SCALE: 1"=600'
MAP No. 1


See Map No. 1
PC. 11551
PC. 11468
PC. 11467
PC. 11733
SCALE: 1"=600'
RIO NORTE DRIVE
School Site
VILLAGE CIRCLE
VISTA DEL RIO DRIVE
PARKSIDE DRIVE
COPPER HILL DRIVE
WEST CREEK DRIVE
COPPERSTONE DRIVE
PRAIRIE DRIVE
DICKASON DRIVE
SMYTH DRIVE
HENNHALL RANCH ROAD
PROP. 8" VCP
PROP. SANITARY SEWER PER P.C. NO. 11574
POC TO SEWER PLAN PC NO 11468 TRACT NO 48202-02
Exist 24" Trunk Sewer
Point of Connection
Ex 8" VCP PER TR NO 52111 PC NO 11047
MAP No. 2

Findings of Fact and Statement of Overriding Considerations

Project No. 00-081
Tentative Tract Map No. 53189

SCH No. 2000071052

County of Los Angeles
Department of Regional Planning
320 West Temple Street
Los Angeles, California 90012-3225

November 30, 2006

A. INTRODUCTION

The California Environmental Quality Act (CEQA) Guidelines Section 15091 and Public Resources Code Section 21081 provides that:

(a) No public agency shall approve or carry out a project for which an environmental impact report has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:

(1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final Environmental Impact Report (EIR).

(2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

(3) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

CEQA further requires that, where the decision of the public agency allows the occurrence of significant effects which are identified in the final EIR, but are not at least substantially mitigated, the agency shall state in writing the specific reasons to support its action based on the final EIR and/or other information in the record (State CEQA Guidelines §15093).

The Regional Planning Commission (RPC) of the County of Los Angeles (the "County") hereby certifies the Final Environmental Impact Report (FEIR) for Project No. 00-081, State Clearinghouse Number 2000071052, which consists of the Draft EIR (DEIR) and technical appendices, the FEIR, the Response to Comments and other supporting documents, and finds that it represents the independent judgment of the Lead Agency and has been completed in compliance with the CEQA (Public Resources Code §§21000 *et seq*.), the Los Angeles County Environmental Document Reporting Procedures and Guidelines, and the State CEQA Guidelines (California Administrative Code Section §§15000 *et seq.*), and that the RPC has received, reviewed, and considered the information contained in the FEIR, the application for the Project, as defined above, all hearings and submissions of testimony from officials and departments of the County, the Applicant, the public and other municipalities and agencies.

Having reviewed the information contained in the DEIR and FEIR and the record of proceedings, as well as the requirements of CEQA and the State CEQA Guidelines regarding recirculation of Draft EIRs, and having analyzed the changes in the DEIR that have occurred since the close of its public review period, the County finds that there is no new significant information in the FEIR and finds that recirculation is not required. The County has made no decisions that constitute an irretrievable commitment of resources toward the Project prior to certification of the FEIR, nor has the County previously committed to a definite course of action with respect to the Project. Copies of all the documents incorporated by reference in the FEIR are and have been available upon request at all times at the Department of Regional Planning (DRP), custodian of record for such documents or other materials.

Having received, reviewed, and considered the foregoing information; as well as any and all other information in the record, the RPC hereby makes findings pursuant to, and in accordance with Section 21081 of the Public Resources Code.

The Project 00-081/TTM 53189 DEIR identified certain significant or potentially significant effects that may occur as a result of the implementation of the Project. Thus in accordance with the provisions of CEQA and State CEQA Guidelines, the County of Los Angeles hereby adopts these findings and following evidence as part of the approval of the Project and related applications. Section C discusses those environmental effects that the initial study found not to be potentially significant and therefore did not need to be discussed by the FEIR. Section D details the potential environmental effects, which will no longer be significant because of the mitigation that will be incorporated into the Project, or due to project features which have been incorporated into the design of the Project in accordance with the finding required under Section 21081(a)(1).

The DEIR also discussed four potential alternatives to the proposed Project, including: (1) No Project; (2) Small Lot Alternative; (3) 30 Large Lot Alternative; and (4) 52 Lot Alternative. Potential environmental impacts of each of these alternatives were discussed at the CEQA-prescribed level of detail and comparisons were made to the proposed Project. This range of reasonable alternatives has permitted a reasoned choice to be made by the RPC in directing specific changes to the Project. The RPC has reviewed each of the alternatives and recommends approval of the revised Project, as revised during the public hearing process.

Section E identifies the significant environmental effects of the Project 00-081/TTM 53189 Project, which cannot feasibly be mitigated to a level considered less than significant. Finally, Section F sets forth the statement of overriding considerations adopted by the County of Los Angeles pursuant to Section 21081(b) of CEQA with respect to those significant effects on the environment which cannot be feasibly mitigated or avoided.

This Statement of Findings of Fact and Overriding Considerations is based upon substantial evidence in the administrative record for the Project, which is hereby incorporated by reference. It is not intended to be inclusive of all facts contained within the administrative record which support the findings set forth herein, but rather identifies the key principal facts in the administrative record that provide substantial evidence supporting these findings. Additional facts in support of the County's findings may be found in the FEIR and the administrative record as a whole. The FEIR and all supporting data referred to in these findings of fact can be found at the County of Los Angeles, Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012-3225.

The following Findings and Statement of Overriding Considerations are made relative to the FEIR for the Project 00-081/TTM 53189. The mitigation measures described herein are consistent with those included in the Mitigation Monitoring Program, set forth in a separate document and adopted pursuant to Government Code Section 21081.6.

BACKGROUND

In accordance with State CEQA Guidelines Section 15063, the County of Los Angeles prepared an Initial Study/environmental checklist for the Project and distributed it along with the Notice of Preparation (NOP) to responsible and interested agencies and key interest groups. The County distributed the Initial Study and NOP of the DEIR for the Project on July 13, 2000. The NOP was circulated to appropriate public agencies and interested groups and individuals for a 30-day comment period which ended August 11, 2000. The DEIR includes the Initial Study and the comment letters received during the public review period in response to the NOP.

The NOP notified local agencies and the public that an EIR was being prepared and solicited their comments regarding any environmental concerns they had with the Project. Impacts areas identified by the comments received on the Project, Notice of Preparation of an EIR as being potentially significant included: Geotechnical, Flood, Fire, Water Quality, Air Quality, Biota, Cultural Resources, Visual Qualities, Traffic/Access, Sewage Disposal, Education, Utilities, and Environmental Safety.

The DEIR is comprised of two volumes including the DEIR analysis and technical appendices. The DEIR submitted to the State Clearinghouse, Governor's Office of Planning and Research, and circulated for public review on February 2, 2006. The 45-day comment period required by State CEQA Guidelines Section 15087 concluded on March 20, 2006

A public hearing on the land division project and DEIR was held by the RPC on March 29, 2006. Upon consideration of the comments received during the DEIR public review period as well as at the public hearing, the RPC directed the project applicant (SunCal) to revise the tract map design. Revisions to the tract map were to include fewer and larger lots that are capable of accommodating equestrian activities in order to reflect the rural character of the existing neighborhood.

As a result, a conceptual map design for 56 single-family lots was presented to the RPC on May 10, 2006. The RPC again instructed the project applicant to consider the comments received at the May 10, 2006 public hearing and re-design the tract map in light of those comments. The tract map was further revised and re-submitted to the County on June 19, 2006 and considered by the RPC on August 16, 2006. The revised tract map addressing the issues brought before the RPC includes 45 residential lots, which represents a 25 percent reduction in the number of lots originally proposed for the site (i.e. 60 lots originally proposed). All of the residential lots are a minimum of 15,000 square feet, which allows for equestrian uses on each property. A total of seven lots are a minimum of one acre, addressing the request for larger lots on the project site. It was determined that the DEIR provided an adequate analysis of the new tract map and a re-circulation of the DEIR was unnecessary because the development footprint remained unchanged and overall impacts of the development would be reduced due to the elimination of 15 lots.

Twenty-one letters were received during the 45-day public review period. The County of Los Angeles prepared responses to these letters and distributed the responses to comments to the agencies that provided comments on the DEIR on November 17, 2006.

The RPC, as recommended by the County of Los Angeles DRP, having reviewed and considered the information contained in the FEIR (as defined herein) hereby determines that the Project 00-081/TTM 53189 FEIR, comprised of the Project 00-081/TTM 53189 DEIR, a list of persons, organizations, and public agencies commenting on the Project 00-081/TTM 53189 DEIR, comments received from the public and interested agencies, the Responses to Comments prepared by the County, and all attachments and documents incorporated by reference is complete and adequate, and has been prepared in accordance with CEQA and the State CEQA Guidelines.

B. PROJECT DESCRIPTION

The Project involves the construction of 45 residential single family lots, three large open space lots, and four debris basin lots on the 185.8 acre site. All project development will occur on the west side of San Francisquito Canyon Creek, with the exception of the development of two equestrian/hiking trails: the Cliffie Stone Trail along the San Francisquito Canyon Road and the

Butterfield Overland Stage Trail located between the eastern Significant Ecological Area (SEA) No. 19 boundary and the Cliffie Stone Trail.

The 45 residential lots would range in size from 15,060 square feet to 46,346 square feet, or 0.35 to 1.06 acres, respectively. The footprint of the residential development would lie entirely within the western portion of the site, west of the San Francisquito Canyon SEA, and has been designed to preserve the majority of the biological resources on-site. The homes would be developed in a sideways "T" shape along three planned roadways; "A" Street will run north-south along the edge of the San Francisquito Canyon Creek and will connect to Stoney Creek Road in Tesoro del Valle to the south and with Las Tunas Trail to the north, "B" Street will run east-west and will connect "J" Lane in Tesoro del Valle with "A" Street, and "C" Street will connect "B" Street with a private property north of the project site.

Approximately 77 percent of the project site is designed to be preserved as open space within Lots 46, 47, and 48. The open space lots will be granted to the County of Los Angeles and will remain as open space in perpetuity. These open space lots will be maintained through a Homeowner's Association (HOA), consistent with the approved conditional use permit. The three open space lots include:

- Lot 46 4,422,347 square feet (101.5 acres)
- Lot 47 1,221,649 square feet (28.0 acres)
- Lot 48 578,379 square feet (13.28 acres)

Lot 46 includes the portion of SEA No. 19 along the eastern portion of the project site from north to south, as well as its associated floodplain. This lot also contains the two proposed County designated equestrian/hiking/biking trails. The Cliffie Stone Trail would be located adjacent to San Francisquito Canyon Road and the Butterfield Overland Stage Trail would be located further west, but would not impact SEA No. 19. In the northeast corner of Lot 46, a small portion of the existing dirt road extension of Lady Linda Lane would be paved from San Francisquito Canyon Road. This paved area would be approximately the length of a driveway and would include approximately 3,370 square feet, or 0.08-acre. This small driveway would not impact the SEA No. 19 and would be located over the existing dirt road.

Lot 47 includes property in the southwest portion of the project site that contains holly-leaf cherry woodland. Lot 48 is located in the northwest corner of the site and includes the steeper hillsides and ridgetops. The large majority of these open space lots will be preserved in their natural state, although some portions of these lots will include fuel modification zones and manufactured slopes vegetated with native plants.

Four debris basins will be developed on the project site and are designated as Lots 49, 50, 51, and 52. Debris basins are constructed earthen depressions that are designed to capture stormwater runoff and allow the debris and silt to settle out before entering natural drainages or storm drain systems. The accumulated debris and silt will require periodic removal in order to ensure the proper functioning of the basins. The four debris basin lots on the project site will be dedicated to the County of Los Angeles. Therefore, these lots will become the property of the County and will be maintained by the County in perpetuity.

C. ENVIRONMENTAL EFFECTS THE INITIAL STUDY FOUND NOT TO BE POTENTIALLY SIGNIFICANT

Environmental factors found to have no impact or a less than significant impact are discussed in Section 7.0 of the DEIR, pages 7-1 to 7-4 (see the Initial Study in Appendix A of the DEIR).

NOISE

Potential Effects: The County has determined that the project site is not located near a high noise source, such as an airport, railroad, freeway, or industrial land use. The residential land use is not considered to be "sensitive" or in proximity to other sensitive uses, such as schools, hospitals, or senior citizens facilities. The residential land use proposed for the project site is compatible with neighboring land uses and would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity. Therefore, potential noise impacts were determined to be less than significant.

Findings: No mitigation measures are required.

MINERAL RESOURCES

Potential Effects: According to the Special Management Areas map in the Los Angeles County General Plan, no known mineral resources are located in the vicinity of the project site. The nearest area indicated as having mineral resources is approximately four miles southwest of the project site. The project is not located within and would not 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. The project would not 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. Therefore, potential mineral resources impacts were determined to be less than significant.

Findings: No mitigation measures are required.

AGRICULTURAL RESOURCES

Potential Effects: The County has determined that the Project would not 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. The project is consistent with the current zoning and General Plan land use designation and would not conflict with a Williamson Act contract. The project would not involve other changes in the existing environment which could result in conversion of farmland to non-agricultural use. Therefore, potential agriculture resources impacts were determined to be less than significant.

Findings: No mitigation measures are required.

FIRE/SHERIFF

Potential Effects: The project site would be within the jurisdiction of the Santa Clarita Valley Sheriff Station located at 23740 Magic Mountain Parkway in Valencia. The station is located approximately 4-5 miles from the project site. The County of Los Angeles Sheriff's Department anticipates that non-emergency response time to a request for service to the project site would be approximately 20-30 minutes. The priority response time would be approximately 7-12 minutes and the response time under emergency circumstances would be approximately

4-7 minutes. All response times are approximations only and would be dependent upon both the employment of area radio cars and traffic conditions.

This station serves an area of 656 square miles with a population of approximately 200,000 residents. The ideal officer to population ratio is one deputy per 1,000 residents and with the current staffing of 171 sworn deputies currently assigned, their ratio is less than ideal at one deputy for every 1,169 residents. Assuming a residential density of 3.01 persons per dwelling unit, the Project will generate a population increase of 136. Based on this population increase, the project would not require additional deputies to the station and impacts to Sheriff services would be less than significant.

The Sheriff's Department is concerned about their ability to provide an adequate level of service to all policed areas due to the rapidly expanding population of the Santa Clarita Valley area. There is no developer "fee" mechanism in place to contribute to the Sheriff's Department that would offset any impacts, and the Sheriff's Department has a budget set by the Board of Supervisors. Therefore, there is no mechanism in place to reduce impacts of the project to zero. With the Project, the creation of more lots would result in an increase in property tax revenue for the County, although the increase in property taxes may not cover the increase in all services to be provided by the County. Nevertheless, impacts to the Sheriff's Department are less than significant.

The County of Los Angeles Fire Department assesses a developer fee for the Santa Clarita Valley for the benefit of the Consolidated Fire Protection District. This includes all of the unincorporated area within the zone of the City of Santa Clarita. The City of Santa Clarita collects developer fees and transfers the revenue to the District upon request. As detailed in Section 3.3 of the DEIR, the project applicant will pay all applicable developer fees, which will provide funds for the fire protection facilities that are required by new development.

Findings: No mitigation measures are required.

GENERAL

Potential Effects: The County has determined that the project would not result in an inefficient use of energy resources or result in a major change in the patterns, scale, or character of the general area or community. The Project would not reduce the amount of agricultural land. Therefore, general impacts were determined to be less than significant.

Findings: No mitigation measures are required.

LAND USE

Potential Effects: The County has determined that the Project is consistent with the existing Santa Clarita Valley Area Plan (SCVAP) land use designation for the site. The project is consistent with the hillside management criteria and would not divide an established community. It was determined that potentially significant impacts may result based on an analysis of the SEA compatibility criteria. The analysis of the Project's compatibility with SEA criteria is presented in conjunction with the Biota Factor. Potential land use impacts were determined to be less than significant.

The SCVAP land use designations for the project site include Hillside Management Area (HM), Non-Urban 1 (N-1), and Floodway/Floodplain (W). Figure 2.3-1 of the DEIR presents the land use designations per the SCVAP and the slope densities on the project site. The "W"

designation refers to the central portion of the project site and contains the SEA, which accounts for 54.3 acres of the project site and does not allow for residential development. The large majority of the remaining portion of the project site is designated as N-1, which includes 127 acres and requires a maximum of 0.5 dwelling units per acre for slope ranges less than 50 percent (1 du per 20 acres for slopes above 50 percent). The area designated as N-1 could contain approximately 60 residential units, given the various ranges of slope on the site. Approximately 4.6 acres of the project site are included within the HM area, which could contain a total of 1.5 units, based on the range of slopes on the site. Therefore, based on the land use designation in the SCVAP, the project site could contain a total of approximately 61 units. The Project as analyzed in the DEIR contains a total of 60 residential lots, which is in conformance with the SCVAP land use designations. The revised tract map contains 45 lots, which is also in conformance with SCVAP land use designations.

The Los Angeles County General Plan designates the area as Non-Urban and SEA No. 19. The Non-urban land use designation includes the foothill and high desert areas of the County that are not planned for urban use or scheduled to receive urban service. A wide variety of land uses are allowed within the Non-urban land use, including residential development, local highway-oriented commercial and industrial uses, as well as local industrial uses. The Project site is zoned by the County of Los Angeles as R-1-7,000 (Single-Family Residence Zone) and A-2-2 (Heavy Agricultural Zone).

The R-1-7,000 is applied to the eastern portion of the project site (approximately 75 acres), including the SEA No. 19, and indicates a residential zone with a minimum lot size of 7,000 square feet. In theory, within the land designated R-1-7,000, a total of approximately 460 single family lots could be created within this portion of the project site. The A-2-2 zone (Heavy Agricultural Zone) is applicable to the land west of the SEA No. 19 (approximately 111 acres), and requires a two acre minimum lot size. In theory, within the land designated A-2-2, a total of 55 single family lots could be created within this portion of the project site. Based on the current zoning, a total of approximately 515 dwelling units would be allowable (exclusive of consideration for hillside management or SEA restrictions). The Project includes only 60 dwelling units, in conformance with the SCVAP land use designation, which is considerably less dense than what is allowed under the Los Angeles County zoning designation for the site. The revised tract map contains 45 lots, which is also in conformance with SCVAP land use designations.

Findings: No mitigation measures are required.

POPULATION/HOUSING/EMPLOYMENT/RECREATION

Potential Effects: The Project involves the development of single-family residential development. The County has determined that the Project would not exceed official regional or local population projections and would not induce substantial direct or indirect growth in an area. The project would not displace existing housing, displace substantial numbers of people, result in a substantial job/housing imbalance, or create a substantial increase in vehicle miles traveled. The project would not require new or expanded recreational facilities for future residents. Therefore, potential population/housing/employment/recreation impacts were determined to be less than significant.

The Los Angeles General Plan states that four acres per thousand population is required to satisfy the demand for local park facilities. The General Plan also states that Santa Clarita Valley requires six acres per thousand population in order to satisfy the regional demand for park facilities. As part of the Project, the project applicant will provide the Quimby obligation of

$75,058, which is representative of the 45 lots included in the revised tract map and is equitable to 0.45 acres of recreational facilities.

Findings: No mitigation measures are required.

SOLID WASTE

Potential Effects: The County of Los Angeles has recently adopted an ordinance, effective March 6, 2005, that requires all construction projects to recycle at least 50 percent of construction wastes. The ordinance amends Title 20- Utilities of the Los Angeles County Code- by adding Chapter 20.87- Construction and Demolition Debris Recycling and Reuse.

The ordinance states that at least 50 percent of all construction and demolition (C&D) debris, soil, rock, and gravel removed from a project site must be recycled or reused unless a lower percentage is approved by the Director of Public Works. A Recycling and Reuse Plan (RRP) must be submitted to the Department of Public Works, Environmental Programs Division, after an application for a permit has been filed for a project. The RRP must contain a project description and the estimated total weight of the project C&D debris, with separate estimates for: (1) soil, rock, and gravel; (2) all other inert materials; and (3) all other project C&D debris. The ordinance also requires that annual progress reports be submitted to the Director for review. Therefore, compliance with the County Ordinance would ensure that construction-related impacts to solid waste would be less than significant.

Waste haulers within the County unincorporated areas are already required to collect recycled materials. The Department of Public Works will make pamphlets available to new residents of Project site that explains the benefits of recycling and encourage recycling. Therefore, long-term operational solid waste generated by the residential homes would be less than significant due to the availability of recycling services.

Findings: No mitigation measures are required.

D. FINDINGS ON POTENTIALLY SIGNIFICANT IMPACTS REDUCED TO A LEVEL CONSIDERED LESS THAN SIGNIFICANT

The County of Los Angeles, having reviewed and considered the information contained in the FEIR, the appendices to the FEIR, and the administrative record, finds, pursuant to CEQA and the State CEQA Guidelines, that changes or alterations, which have been required in, or incorporated into the Project 00-081/TTM 53189, mitigate, avoid, or substantially lessen potentially significant environmental effects in the following categories: geotechnical hazards, flood hazards, fire hazards, water quality, biota, cultural resources, visual qualities, traffic/access, sewage disposal, education, water utilities, and environmental safety.

1.0 HAZARDS ANALYSIS

1.1 Geotechnical Hazards

Please refer to DEIR Section 3.1, pages 3-1 to 3-13 for an analysis of potential impacts to geotechnical hazards from the project.

Potentially Significant Impact Reduced with the Implementation of Mitigation Measures

The project site is in a seismically active region and people and structures could be exposed to seismic ground shaking and secondary seismic-related impacts, including liquefaction. The Project would involve approximately 246,000 cubic yards (cy) of raw excavation, approximately 600,000 cy of alluvium removal, and approximately 86,000 cy of excavation for the bank stabilization levee (discussed below), for a total of approximately 932,000 cy of earthmoving/grading that would be balanced on-site.

The majority of the Project would be constructed over alluvial deposits, which tend to be highly susceptible to liquefaction-induced ground displacement. In the event of earthquake related ground shaking events, there is a high probability of liquefaction at some locations in the project site that are underlain by alluvium. The majority of the project design avoids development in the hillsides.

Potential Cumulative Effect

Generally, geotechnical issues are site-specific and are usually limited to areas within the development boundaries of the project site. Any incremental contribution of the Project to soils and geological impacts is not considered cumulatively considerable because: development of the project site is allowed by the General Plan; the Project would comply with the applicable requirements of the Uniform Building Code; and, the mitigation requirements would be implemented. With incorporation of the mitigation measures, the project would not result in significant cumulative impacts related to geotechnical hazards.

Finding

(1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effects as identified in the final EIR to a less than significant level.

Facts in Support of Finding

Significant effects have been substantially lessened to a level that is less than significant through the incorporation of the following project design features and mitigation measures:

Project Design Features:

- The compact footprint of the project design has reduced the extent of remedial alluvial removals anticipated as well as minimized the total graded area.

- Drainage devices (i.e. interceptor drain/concrete swales) shall be constructed at the mouth of the swale behind Lot 22 to convey drainage and sediment to appropriate storm drain inlets.

- Manufactured slopes shall be contoured to conform to the natural topography to the greatest extend feasible.

- The project shall comply with the Uniform Building Code (UBC) and compliance shall be verified by the Department of Public Works prior to issuance of grading permits. Development on the project site shall comply with the applicable provisions of the UBC, which regulate the design and construction of excavations, foundations, retaining walls

and other elements to control the effects of seismic ground shaking and adverse soil conditions.

Mitigation Measures:

3.1-1. During construction, all grading and earthwork shall be conducted in conformance with the recommendations set forth in the geotechnical investigation and review sheets from A.G.I. Geotechnical, Inc.; shall be performed under the observation of a registered geotechnical engineer in order to achieve proper sub-grade preparation, selection of satisfactory materials, and placement and compaction of all engineered fill; and shall be verified by the Department of Public Works.

3.1-2. Removal of alluvial and colluvial soils shall be required during grading and prior to fill replacement. The removed soil shall be re-compacted as engineered fill in accordance with the recommendations in the Geotechnical Investigation and Response to Review Sheets by AGI Geotechnical, Inc.; shall be performed under the observation of a registered geotechnical engineer; and shall be verified by the Department of Public Works. The specific depth and extent of removals shall be determined during grading based upon observation and testing. Removal of compressible materials shall be required in areas planned for development.

1.2 Flood Hazards

Please refer to DEIR Section 3.2, pages 3-14 to 3-20 for an analysis of potential impacts to flood hazards from the project.

Potentially Significant Impact Reduced with the Implementation of a Mitigation Measure

With the implementation of the Project, the post development drainage area would increase from 188 acres to 192 acres. The drainage pattern would remain separated into three subwatersheds; however, some of the flow in the internal drainage areas would be redirected internally after grading. The Project would create impervious surfaces such as roads, sidewalks, homes, and driveways. The replacement of the currently undeveloped and exposed ground with impervious surfaces would reduce stormwater infiltration. The project will not cause substantial alterations to existing drainage pattern, nor will it cause a substantial increase in the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site. No housing will be placed within the flood zone.

The boundary line for FEMA Zone A crosses Lots 25 through 29 and results in a minimal intrusion of the project footprint into the currently delineated flood zone. However, as a result of the hydrology evaluation on the project site, the FEMA Zone A line has been determined to be inaccurately depicted on the project site. As currently depicted, the FEMA zone line crosses over the raised streambed bank; therefore, the FEMA line appears to be inaccurate based on the hydrology study.

The Project site is adjacent to the San Francisquito Canyon Creek, which is wide and contains a braided stream flow. The current Flood Hazard Limits per the Los Angeles County Guidelines, as depicted on the VTTM 53189, is close to or crosses three areas on the project site, including the northern portion of “A” Street, Lot 24, and Lot 25. Prior to mitigation, this minor intrusion onto or near the edge of these properties could result in significant impacts to the graded pads along the San Francisquito Canyon Creek in a major storm event.

Potential Cumulative Effect

The Q from the project site would be slightly increased by 49.7 cfs from pre- to post-development conditions. This represents an approximate increase of 0.18 percent to the overall flow of the San Francisquito Canyon Creek. However, this negligible increase would not negatively impact private property downstream. The Project site would not connect to any existing storm drain system; therefore, the Project would not contribute to cumulative impacts on the capacities of downstream storm drain facilities to accommodate storm flows. Since the Project would not represent a significant change in the quantity of flow in the Creek; the largest adjacent development (Tesoro del Valle) would also not result in a significant impact to flow in the creek; and it can be assumed that all other future developments tributary to the San Francisquito Canyon Creek would be subject to the same County Flood Control requirements. With incorporation of the mitigation measures, the project would not result in significant cumulative impacts related to hydrology hazards.

Finding

(1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effects as identified in the final EIR to a less than significant level.

Facts in Support of Finding

Significant effects have been substantially lessened to a level that is less than significant through the incorporation of the following project design features and mitigation measures:

Project Design Features:

- Energy dissipaters will be constructed at every storm drain outlet that drains into San Francisquito Canyon Creek in order to slow the flow velocity and to minimize potential erosion. The ultimate size and design of the energy dissipaters will be determined in the final design stages of the project according to the Los Angeles County Public Works Department standards.

- An underground bank stabilization levee system will be constructed below the graded pads along the existing floodplain boundary from the northern project boundary near Lady Linda Lane and southerly to Lot 30. The levee system would extend approximately 20 vertical feet below the ground and would be constructed with ungrouted rip-rap. Upon completion of the levee construction, the excavation would be entirely backfilled with existing creek soil and approximately four horizontal feet (two vertical feet) of above ground levee “free board” space would be visible.

Mitigation Measures:

3.2-1. The project applicant shall submit a CLOMR to FEMA and receive a notice of approval from FEMA for the adjustment to the Zone A flood limits prior to any grading within the existing FEMA flood limits. The existing FEMA flood limits will be fenced with chain link fencing during grading activities on the site until the CLOMR has been approved.

1.3 Fire Hazards

Please refer to DEIR Section 3.3, pages 3-21 to 3-27 for an analysis of potential impacts to fire hazards from the project.

Potentially Significant Impact Reduced with the Implementation of Mitigation Measures

The introduction of residential development into VHFHSZ areas increases the risk of exposing people and property to wildland fires along the interface between development and naturally vegetated open space areas, as well as increasing the probability of wildfires due to more frequent human contact with adjacent natural open spaces. Development of the Project would convert currently undeveloped land to residential land uses. The project site is within a designated Very High Fire Hazard Severity Zone (VHFHSZ) area and potential exposure to fire hazards is a concern due to the open space hillsides and history of fire in the region.

Potential Cumulative Effect

The rapid growth of the Santa Clarita Valley region has resulted in considerable residential development within VHFHSZ areas, which translates into increased risks of exposure to wildfire for homeowners who live along this wildland interface. However, the rapid development of Santa Clarita and the surrounding areas is also facilitating the urbanization of much of the property surrounding the project site and decreasing the amount of open space that would be subject to wildfires. The increased urbanization also removes areas from being classified as VHFHSZ. All new projects in the VHFHSZ must comply with County's fuel modification and landscaping requirements. Therefore, the significant amount of residential development existing, underway, and planned for the area surrounding the project site, which is subject to fuel modification requirements, would result in a reduced risk of danger from wildland fires for the entire area. With incorporation of the mitigation measures, the project would not result in significant cumulative impacts related to fire hazards.

Finding

(1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effects as identified in the final EIR to a less than significant level.

Facts in Support of Finding

Significant effects have been substantially lessened to a level that is less than significant through the incorporation of the following project design features and mitigation measures:

Project Design Features:

- In an effort to avoid off-site fuel modification, a six-foot solid fire wall will be located along the backyard property boundary of Lots 1 through 7 to provide adequate fire protection for these lots. This fire wall would negate the need for the off-site fuel modification Zone C.

Mitigation Measures:

3.3-1. As required by Section 1117.2.1 of the County of Los Angeles Fire Code (Title 32), a fuel modification plan, landscape plan, and an irrigation plan shall be submitted to the

Forestry Division and the County Department of Regional Planning and must be approved prior to the issuance of a grading permit. The project shall comply with the all applicable requirements of Los Angeles County Code Title 32, Fire Code.

3.3-2. The CC&Rs of the Homeowner's Association shall state that structures constructed with flammable materials are prohibited in the backyards of Lots 24 through 32 in order to maintain the 100-foot fuel modification buffer without impacting the SEA. The HOA shall enforce this requirement.

3.3-3. Prior to issuance of a grading permit, the project applicant shall pay the required fire mitigation fee for fire services provided by the County of Los Angeles.

2.0 RESOURCES

2.1 Water Quality

Please refer to DEIR Section 4.1, pages 4-1 to 4-11 for an analysis of potential impacts to water quality from the project.

Potentially Significant Impact Reduced with the Implementation of Mitigation Measures

The Project could result in short-term construction impacts to surface water quality from grading activities, construction of structures, roadways, and infrastructure improvements, and other construction-related activities. Construction activities would result in disturbance of soils on the project site. Stormwater runoff from the project site during construction could contain soils and sediments from these activities. Spills or leaks from heavy equipment and machinery, construction staging areas, or building sites can also enter runoff. Typical pollutants used during construction could include petroleum products such as fuel, oil and grease, and heavy metals from equipment; detergents; plaster; acids; lime; glues; paints; cleaning agents; and curing compounds that could contain hazardous constituents.

The project construction activities would be directly adjacent to the San Francisquito Canyon Creek. Pollutants from construction activities that enter the surface runoff have the potential to seep into the Alluvial Aquifer. Therefore, adverse water quality impacts could result if polluted runoff entered downstream receiving waters.

Conversion of a portion of the site from vacant land to residential uses would increase the long-term pollutant load in the surface runoff from storm events. The runoff would include various pollutants from non-point sources, including automotive leaks and spills, pesticides and herbicides, dust debris, litter, lawn clippings, animal waste, and other organic matter. This pollutant load would eventually be transported downstream in the San Francisquito Canyon Creek to the Santa Clara River during storms. The San Francisquito Canyon Creek is not listed as a 303(d) impaired water body. However, the Creek is tributary to the Santa Clara River, which is listed as a 303(d) impaired water body for three constituents (i.e., chloride, bacteria, nitrate/nitrite).

Potential Cumulative Effect

The project, in conjunction with the existing development and planned development, would result in a cumulatively considerable impact to surface water runoff due to construction activities and post-development runoff. The pollutants generated by the Project would be mitigated on-site through the use of debris basins, desilting inlets, and catch basins/fossil filters, as well as

the use of BMPs during construction activities. Therefore, on a cumulative basis, with the implementation of the project's mitigation measures, the project's contribution to cumulative water quality impacts would not be cumulatively considerable. Based on the requirements of local, state, and federal regulations, the cumulative (planned and under construction) projects would also be required to mitigate potential water quality impacts through the NPDES permit requirements and implementation of SUSMP requirements. With incorporation of the mitigation measures, the project would not result in significant cumulative impacts to water quality.

Finding

(1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effects as identified in the final EIR to a less than significant level.

Facts in Support of Finding

Significant effects have been substantially lessened to a level that is less than significant through the incorporation of the following project design features and mitigation measures:

Project Design Features:

- The project design includes four debris basins, desilting inlets, and fossil filter catch basins inserts to satisfy the Los Angeles County Department of Public Works SUSMP requirements.

- Energy dissipaters will be installed at stormwater discharge locations to minimize erosion in the San Francisquito Canyon Creek.

- Manufactured slopes shall be landscaped with native, drought tolerant vegetation as soon as practicable after completion of grading to reduce potential erosion and sediment discharges.

Mitigation Measures:

4.1-1. Prior to the issuance of a grading permit, the project applicant shall be responsible for filing a Notice of Intent and the appropriate fees to the State Water Quality Control Board in order to obtain coverage under the NPDES General Construction Permit for construction activities. Pursuant to the permit requirements, the project applicant shall develop a Stormwater Pollution Prevention Plan that incorporates Best Management Practices, including sandbags along roadways and temporary desilting basins, for minimizing construction related pollutants in the site runoff.

4.1-2. Prior to issuance of a grading permit, the project applicant shall apply for annexation into the service area of the Los Angeles County Sanitation District No. 36. The Project will comply with the Los Angeles County Sanitation District No. 36 requirements that prohibit the installation of self-regenerating water softeners. The Homeowner's Association CC&Rs shall specifically prohibit the use of self-regenerating water softeners.

4.1-3. All storm drain inlets and catch basins with the project area shall be stenciled with prohibitive language (such as: NO DUMPING – DRAINS TO OCEAN) and/or graphical icons to discourage illegal dumping. Signs and prohibitive language shall be posted at

public access points along the San Francisquito Canyon Creek within the project area and all signs and stenciled shall be maintained by the Homeowner's Association.

4.1-4. The use of herbicides and pesticides will be prohibited from use on the manufactured slopes adjacent to the rear of Lots 24 through 32 along the SEA. The CC&Rs of the HOA will specifically prohibit the use of such chemicals by the landscape contractors hired by the Homeowner's Association to maintain the common areas on the site.

2.2 Biota

Please refer to DEIR Section 4.3, pages 4-22 to 4-59 for an analysis of potential impacts to biota from the project.

Potentially Significant Impact Reduced with the Implementation of Mitigation Measures

Implementation of the Project will impact a total of 57.2 acres that consists of ten different vegetation types. Three of these vegetation types are special status vegetation types: coastal sage scrub, mixed chaparral/ holly-leaf cherry woodland, and alluvial sage scrub. The Project would impact coastal sage scrub (2.0 acres), mixed chaparral/holly-leaf cherry woodland (0.8 acres), and alluvial sage scrub (4.7 acres).

Project implementation would also impact approximately 0.17 acre of non-wetland intermittent drainage under the jurisdiction of the USACE and the CDFG. This loss of any USACE or CDFG jurisdiction would represent a potentially significant impact. Braunton's milk-vetch was not observed during focused surveys. However, Braunton's milk-vetch is a plant that germinates following soil disturbance or fire. Therefore, it has a limited potential to occur on the project site. Any impacts on this species would be considered significant. Slender mariposa lily is a CNPS List 1B species. The lilies observed on the project site had characteristics of both slender mariposa lily and club-haired mariposa lily, and were likely intermediate between these two varieties. A total of approximately 317 individuals were observed on the project site during 2005 surveys.

The Santa Ana sucker, unarmored threespine stickleback, and arroyo toad may occur on the project site during or after heavy rainfall events. The morphology of the San Francisquito Canyon wash is not conducive to supporting reproduction or foraging of the Santa Ana sucker or the unarmored threespine stickleback on the site. These species have potential to occur as transients on the site during periods of inundation, but otherwise would not be likely to occur within the on-site portion of San Francisquito Canyon. The western spadefoot, a federally listed Species of Concern and a California Species of Special Concern, was observed at two localities on the project site during 2005 spring surveys. Two pond locations were identified and were confirmed to have tadpoles. Each of the pond locations would be located within or adjacent to the graded footprint for the project. Indirect impacts due to landscaping, noise, urban pollutants, and night lighting could impact plants and wildlife on the project site.

Potential Cumulative Effect

Water quality, riparian habitats, and wetlands have significantly declined in southern California. Any impacts to waters of the United States on the project site would be cumulatively significant prior to mitigation. Coastal sage scrub, which has been significantly reduced in southern California, has the potential to provide habitat that would support the coastal California gnatcatcher. This habitat has largely been converted to agricultural, industrial, and residential

land uses and much of the remaining habitat is adjacent to urbanized areas. Therefore, prior to mitigation, any loss of coastal sage scrub would be significant.

Construction related impacts to the holly-leaf cherry woodland on the project site would be avoided through the project design; however, direct impacts related to Zone B brush management and the 50-foot encroachment would be potentially significant. This habitat is considered to be sensitive and worthy of special consideration by the CDFG. Therefore, prior to mitigation, the loss of holly-leaf cherry woodland would be significant, as would the prevention of its recovery.

Alluvial sage scrub has also been significantly reduced in southern California and also has the potential to provide habitat that would support the coastal California gnatcatcher. This habitat has also been converted to other uses through agricultural, industrial, and residential development. Without mitigation, any loss of alluvial sage scrub would be significant. Several special status plant species have the potential to occur on the project site. Focused surveys were conducted in 2004 and 2005. The results of these surveys will be used to either avoid the species through project design or mitigate for the loss of the species through a Mitigation Program consistent with the terms and conditions of Section 7 consultation with the USACE.

The western spadefoot was identified on the project site on April 14, 2005 in two separate pond locations. The ponds would fall within the development footprint and impacts to the toads would be significant prior to mitigation. Another special status species with a likelihood of being located on the project site is the loggerhead shrike, which was likely impacted by the recent Copper fire due to loss of habitat. Since it is expected that project development would impact potential forage (but not potential breeding) habitat for this species, impacts would be less than significant. However, the reduction in forage habitat could result in a cumulative impact for the loggerhead shrike.

The Santa Ana sucker, unarmored threespine stickleback, and arroyo toad may occur on the project site during or after heavy rainfall events. Impacts to these animals as well as the coast horned lizard, coastal western whiptail, ringneck snake, coast patch-nosed snake, and loggerhead shrike would be considered potentially cumulatively significant. The project site is expected to ultimately be surrounded by residential areas and ranchland on all sides. This situation would impair the movement of wildlife regardless of the implementation of the Project. With incorporation of the mitigation measures, the project would not result in significant cumulative impacts to biota resources.

Finding

(1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effects as identified in the final EIR to a less than significant level.

Facts in Support of Finding

Significant effects have been substantially lessened to a level that is less than significant through the incorporation of the following project design features and mitigation measures:

Project Design Features:

- As a standard condition of approval for the project, the three open space parcels (Nos. 46, 47, and 48) will be shown on the proposed Tentative Tract Map as open

space and will be granted to the County of Los Angeles and will remain as open space in perpetuity.

- As a standard condition of approval for the project, levee construction will be conducted outside of the rainy season and will avoid any ponded water potentially present on the project site.

Mitigation Measures:

4.3-1. The loss of coastal sage scrub, holly-leaf cherry woodland, and alluvial sage scrub (i.e., proposed roadway expansion) within the impact area is considered a significant impact prior to mitigation. These vegetation types will be restored onsite or, if appropriate, offsite at a ratio of not less than 1:1, as agreed to by the County of Los Angeles Department of Regional Planning and the Project Applicant. A revegetation program will be implemented in accordance with a County-approved landscape palette on all graded areas not utilized for improvements or structures. The revegetation program will be submitted to the County of Los Angeles Department of Regional Planning for review and approval by a qualified biologist prior to issuance of grading permits. Restoration will consist of seeding and container planting of appropriate species. Impacts are considered less than significant after implementation of the following measures:

A detailed restoration program will be developed prior to map recordation and implemented and will contain the following items:

a. *Responsibilities and qualifications of the personnel to implement and supervise the plan*. The responsibilities of the landowner, specialists, and maintenance personnel that will supervise and implement the plan will be specified.

b. Site selection. The site(s) for mitigation will be determined in coordination with the project applicant and the Los Angeles Department of Regional Planning. The site will be located in a dedicated open space area and will be contiguous with other natural open space areas.

c. Site preparation and planting implementation. The site preparation will include: (1) protection of existing native species; (2) trash and weed removal; (3) native species salvage and reuse (i.e., duff); (4) soil treatments (i.e., imprinting, decompacting); (5) erosion control measures (i.e., rice or willow wattles); and (6) seed mix application.

d. Schedule. Establishment of restoration/revegetation sites will be conducted between October 1st and January 30th. Seeding and planting of container plants will take place immediately after preparation of the restoration sites.

e. Maintenance plan/guidelines. The maintenance plan will include: (1) weed control; (2) herbivory control; (3) trash removal; (4) irrigation system maintenance; (5) maintenance training; and (6) replacement planting.

f. Monitoring Plan. 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 three to five years.

The monitoring will be conducted for three to five years, depending upon the performance of the mitigation site.

g. Long-term preservation. 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.

h. Performance standards will be identified and will apply for the revegetation of sage scrub. Revegetation 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.

In addition, 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 of the construction boundary.

4.3-2. Upon completion of construction activities, impacts to approximately 0.17 acre of non-wetland USACE and CDFG jurisdictional waters will be mitigated within the project boundaries through the creation of 0.17 acre of non-wetland jurisdictional waters. In addition to this assurance of "no net loss" of USACE and CDFG jurisdictional area within the project boundaries, another 0.17 acre of non-wetland jurisdictional area will be restored or enhanced on the project site for a total of 2:1 replacement. Acquisition of a Section 404 "dredge and fill" permit from the USACE (possibly through the use of Nationwide Permit No. 39), a Section 1602 "streambed alteration" permit from the CDFG, and a Section 401 water quality certification or waiver will be obtained from the Regional Water Quality Control Board.

Prior to the final submittal of an application for an USACE permit or CDFG agreement, the Project Applicant will develop a mitigation plan for the USACE, CDFG, and Los Angeles Department of Regional Planning. The objective of the mitigation is to ensure no net loss of habitat values as a result of the project. The detailed restoration program will contain the following items:

a. Responsibilities and qualifications of the personnel to implement and supervise the plan. The responsibilities of the landowner, specialists and maintenance personnel that would supervise and implement the plan will be specified.

b. Site selection. The site(s) for the mitigation will be determined in coordination with the project applicant and resource agencies. The site will be located in a dedicated open space area and will be contiguous with other natural open space.

c. Site preparation and planting implementation. The site preparation will include: (1) protection of existing native species; (2) trash and weed removal; (3) native species salvage and reuse (i.e. duff); (4) soil treatments (i.e., imprinting, decompacting); (5) temporary irrigation installation; (6) erosion control measures

(i.e., rice or willow wattles); (7) native seed mix application; and (8) native container species.

d. Schedule. A schedule will be developed which includes planting to occur in late fall and early winter, between October 1st and January 30th.

e. Maintenance plan/guidelines. The maintenance plan will include: (1) weed control; (2) herbivory control; (3) trash removal; (4) irrigation system maintenance; (5) maintenance training; and (6) replacement planting.

f. Monitoring Plan. 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 resource agencies; (4) monthly reports for the first year and bimonthly reports thereafter; and (5) annual reports which will be submitted to the resource agencies for three to five years. The site will be monitored and maintained for five years to ensure successful establishment of riparian habitat within the restored and created areas; however, if there is successful coverage prior to five years, the Project Applicant may request from USACE and CDFG to be released from monitoring requirements.

g. Long-Term Preservation. 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.

h. Performance standards will be identified and will apply for the restoration of riparian habitat. Revegetation 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 and restored and/or created habitat areas.

This revegetation/enhancement plan may be combined with the revegetation plan required by Mitigation Measure 4.3-1, if appropriate.

4.3-3. Braunton's milk-vetch was not detected during the special status plant surveys. Prior to issuance of a grading permit, a follow-up survey for this species will be conducted in any area partially disturbed for surveyor access or geotechnical studies, or areas that may have recently burned in a wildfire. If Braunton's milk vetch is found in the study area during follow-up surveys, the applicant will be required to consult with the USFWS and CDFG to obtain a permit under Section 7 or 10(a) of the federal Endangered Species Act and a Section 2081 concurrence from CDFG under the state Endangered Species Act to impact this species. The consultation process will include preparation of a mitigation plan to avoid, relocate, or minimize impacts on this species. This plan will be submitted to and approved by the USFWS and CDFG.

4.3-4. Slender mariposa lilies (Calochortus clavatus ssp. gracilis), possibly hybridized with club-haired mariposa lilies (Calochortus clavatus ssp. clavatus), have been observed during special status plant surveys on the site. Impacts on the slender mariposa lily population are considered significant under the CEQA, but can be mitigated to a level less than significant by the following measures.

a. Preparation and Submittal of Mitigation Plan: A Mitigation Plan will be prepared by a qualified biologist. The plan will include: (1) a summary of mitigation area conditions; (2) a discussion of the mitigation program and anticipated success; (3) guidelines for mitigation area preparation; (4) guidelines for bulb collection; (5) guidelines for transporting and replanting salvaged bulbs; (6) guidelines for long-term site maintenance and performance monitoring; (7) site status documentation; and (8) a discussion of site performance standards such as survival rate.

b. Collection and Transplantation of Bulbs: Prior to any ground-disturbing activities, the slender mariposa lily population located within the project impact area will be transplanted to an onsite mitigation area. The mitigation area is located in Open Space Lot 47 and is outside of the proposed grading footprint and fuel modification areas. The bulbs will be transplanted directly into the mitigation area on the same day they are collected by a landscape contractor experienced in native habitat maintenance, and the plants will be protected from herbivores by the installation of wire cages.

c. Supervision and Documentation of Transplantation: Bulb trans-plantation efforts will be documented by a biological monitor, who will keep field notes including the number and condition of bulbs transplanted.

d. Establishment of Maintenance and Monitoring Plan: Performance criteria and remediation measures will be reviewed and approved by the County. Program monitoring will occur over a five-year period, including qualitative monitoring visits during the first season after transplant, monthly visits during the first lily blooming season (February – June 2006) to assess establishment success, non-native species coverage, and general site conditions, and additional monitoring visits to assess site conditions that may affect future success of lily establishment. Remedial measures, such as invasive species control or soil amendments, will be recommended as needed in a timely manner to facilitate compliance with required performance standards. Any necessary contingency planting would be performed using seeds collected from adjacent lily populations located on the site, outside the project impact area.

4.3-5. A relocation program for the western spadefoot will be conducted during the spring prior to construction at the height of the breeding season for this species (February through May as determined by a qualified biologist monitoring a known location of this species). A detailed methodology for this effort will be submitted and approved by CDFG prior to implementation of the relocation program. Results of the relocation program will be provided to CDFG and the County of Los Angeles.

The intent of the relocation plan will be to capture and relocate as many western spadefoots as possible. Western spadefoots will be relocated to an area of suitable habitat that takes into consideration habitat requirements for all life stages of the toad, as approved by CDFG. The site will be granted to the County of Los Angeles and will be located in an area of preserved open space protected from future development. The relocation breeding pool will be no smaller in size, and similar or better in quality, as the habitat within the project impact area where the western spadefoots are captured.

4.3-6. A qualified biologist, approved by the County, will install pit-fall traps and arrays beginning at least one week prior to the commencement of vegetation removal. The qualified biologist will be present to monitor the traps during vegetation removal and will also opportunistically salvage and relocate the coastal western whiptail as well as other special status amphibians and reptiles to similar habitat within proposed open space in San Francisquito Canyon.

4.3-7. Trimming of some native plants and clearing of non-native invasive species for fuel modification will be monitored by a qualified biologist if it occurs during the peak bird nesting season. If possible, dependent upon the growth cycle of targeted annuals and the requirements of the Fire Department, brush management will be conducted outside of the peak bird nesting season (March 15 to September 15) to ensure that potential impacts to nesting birds are avoided.

4.3-8. Prior to the issuance of a grading permit, a Landscape Plan, prepared by HRP LanDesign, will be submitted and approved by the Los Angeles County Department of Regional Planning. The Landscape Plan requires the planting of native, drought tolerant plant species. Implementation of the Landscape Plan and brush management requirements will be coordinated with the project biologist and approved by the Los Angeles Department of Regional Planning.

4.3-9. Seven days prior to the start of construction activities, a qualified biologist will conduct a survey to determine if any raptors are nesting in or adjacent to the impact area. If nesting is not occurring, construction work can proceed. If an active nest is present, construction work will be prohibited within 500 feet of the nest (or as otherwise determined by the project biologist) until fledglings have left the nest. Results of the surveys will be provided to CDFG and the County.

4.3-10. Prior to the issuance of a grading permit, the Project Applicant will apply for coverage under the State Water Resources Control Board's General Permit for Storm Water Discharge Associated with Construction Activity (Construction Activities General NPDES Permit) and will comply with all the provisions of the permit, including the development of a Storm Water Pollution Prevention Plan, which includes provisions for the implementation of Best Management Practices and erosion control measures. Best Management Practices will include both structural and non-structural measures. The purpose of this mitigation measure is to insure that site runoff does not adversely affect SEA No. 19 and downstream biological resources.

4.3-11. The Codes, Covenants and Restrictions (CC&Rs) of the Homeowner's Association (HOA) shall require that all backyard lighting in Lots 24 through Lot 32, which are adjacent to the SEA No. 19, must not be directed into the SEA. For these lots, all backyard lighting must be mounted to the home structure and may not be freestanding or placed on backyard fences.

4.3-12. The portion of SEA No. 19 located within the Project site will be recorded as Open Space Lot No. 46 with approval of the Tentative Tract Map. Backyard fencing will be constructed behind all lots to protect open space areas, including the SEA No. 19 upon completion of site preparation and grading. This fencing would be required in order to prevent intrusion by future residents of the development and their pets. The fencing will discourage people and pets from entering the SEA. The fence will include permeable materials (i.e., wrought iron) in order to maintain view from the properties. Signs will be evenly spaced along the western edge of the SEA near Lots 24 through 32 indicating

that areas on the other side of the signs contain sensitive biological resources. The signs will be installed and maintained throughout the life of the project by the HOA. The CC&Rs of the HOA shall disclose the existence of the SEA and the responsibility each homeowner has for ensuring its protection.

4.3-13. Should lighting be required by the County to illuminate San Francisquito Canyon Road upon widening of the roadway, a lighting plan will be submitted to the County for review prior to approval of the roadway project. The lighting plan shall demonstrate that illumination from the proposed road expansion will be directed away from natural open space areas on and adjacent to the project impact area. If the County determines that the proposed lighting plan would potentially indirectly impact adjacent biological resources, the lighting plan will be redesigned or additional mitigation consistent with Mitigation Measure 4.3-15 will be required.

4.3-14. Prior to the County's initiation of the San Francisquito Road expansion and/or the Cliffie Stone Trail construction, a tree survey will be conducted within the area of the proposed roadway expansion and trail area. All trees meeting the County Tree Ordinance requirements will be tagged, mapped, and evaluated to determine the approximate number of trees that would be impacted. Project design will be altered to avoid and minimize impacts on oak trees to the extent practicable, particularly if a heritage tree would be impacted. The heritage trees on the project site are adjacent to the proposed road alignment.

Upon approval of the final design plans for the proposed roadway and trail alignment, the Project Applicant will develop a detailed oak woodland mitigation plan and submit the plan to the County for review and approval. The objective of the mitigation plan is to ensure no net loss of habitat values as a result of the project implementation. Required replacement trees shall be in the ratio of at least 2:1, consistent with the Los Angeles County Oak Tree Ordinances (Ord. 82-0168, adopted in 1982). The mitigation plan shall require that a biological monitor be present during project grading to record the exact number of native trees impacted.

4.3-15. Prior to issuance of a grading permit for construction of the San Francisquito Road expansion and/or the Cliffie Stone Trail, special status plant and wildlife surveys will be conducted. The results of these surveys and associated mitigation will be submitted to Los Angeles County Regional Planning Department for approval.

4.3-16. Upon completion of the levee construction, the excavation area shall be entirely backfilled with existing San Francisquito Creek soil and only the four horizontal feet of above ground levee "free board" space would be visible. The impacted area shall be restored onsite with alluvial sage scrub habitat in accordance with the requirements of the County of Los Angeles Department of Regional Planning approved revegetation program. The levee shall be constructed with ungrouted rip-rap, which would allow for percolation of water, accumulation of transported soils, and establishment of plant life.

2.3 Cultural Resources

Please refer to DEIR Section 4.4, pages 4-60 to 4-67 for an analysis of potential impacts to cultural resources from the project.

Potentially Significant Impact Reduced with the Implementation of Mitigation Measures

The SCCIC reported that five non-Native American cultural resources were recorded within one mile of VTTM 53189. The project is less than 0.25 miles from the Angeles National Forest, which is California Historical Landmark No. 717. Other than the National Forest, only a historic ranch complex (on the Tesoro del Valle project site) associated with film star Harry Carey (CA-LAN-2071-H) is a property located within one mile of the project site, which is eligible for listing with the National Register of Historic Places.

Two oil wells (circa 1925-1928) are located on the project site approximately 1,100 feet apart and are designated as CA-LAN-1445H, Locus A and Locus B. The structural remains, consisting of generic concrete footings for oil derricks, were determined not to have enough structural remains to warrant an architectural evaluation. All of the features associated with CA-LAN-1445H, including the two oil wells and two concrete slabs and a pit feature of unknown purpose, were related to oil drilling activities that occurred between 1925 and 1928. No significant archaeological deposits were identified in any of the trenching locations performed on the site.

Potential Cumulative Effect

Potential impacts to any archaeological or paleontological resources that may be discovered during grading for the project would be mitigated to a level of less than significant through archaeological and paleontological evaluation, as required in the mitigation measures. With incorporation of the mitigation measures, the project would not result in significant cumulative impacts to cultural resources.

Finding

(1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effects as identified in the final EIR to a less than significant level.

Facts in Support of Finding

Significant effects have been substantially lessened to a level that is less than significant through the incorporation of the following mitigation measures:

Mitigation Measures:

4.4-1. In accordance with PRC 5097.94, if human remains are found, construction activity in the area of the find must halt and the Los Angeles County coroner must be notified within 24 hours of the discovery. If the coroner determines that the remains are not recent, the coroner will notify the Native American Heritage Commission for consultation.

4.4-2. The applicant shall agree to suspend construction in the vicinity of an archaeological resource encountered during ground-disturbing activities at the site and leave the resource in place until a qualified archaeologist can examine them and determine appropriate mitigation measures.

4.4-3. A qualified paleontologist shall be retained to attend pre-grade meetings and to monitor earthmoving activities, including grading and trenching below a depth of eight feet in lower alluvial areas of the site and all grading and cutting in elevated hilly areas of the

site. If fossil resources are uncovered, a subsurface evaluation may be needed to assess the discovery. In the event that fossils are exposed, the paleontologist shall be allowed to temporarily divert or re-direct grading in the area of the exposure to recover potentially significant fossils. Because the Saugus Formation is known to contain tiny microfossils, the paleontologist shall periodically screen sediment samples in order to identify these resources. Excavated significant fossil finds shall be offered, on a first right-of-refusal basis, to a repository with a retrievable collection system and an educational and research interest in the materials such as the Natural History Museum of Los Angeles County.

2.4 Visual Qualities

Please refer to Draft EIR Section 4.5, pages 4-68 to 4-90 for an analysis of potential impacts to visual qualities from the project.

Potentially Significant Impact Reduced with the Implementation of a Mitigation Measure

The prominent aesthetic features of the project site are based in the natural landscape, including the undeveloped hillsides in the western and northern reaches of the project site as well as the flat scrubland of the San Francisquito Canyon Creek. The Project would involve the construction of 45 single-family homes and would require approximately 246,000 cubic yards of raw grading balanced on-site (932,000 cy of total grading, including alluvium removal). The implementation of the Project would alter the aesthetics of the project site by constructing homes on currently undeveloped land.

Potential Cumulative Effect

The Project will not significantly alter the views of the surrounding hillsides or topography of the area and will remain in the lower, flatter portion of the project site; therefore, the project design will maintain the character of the open space in the surrounding areas. Prominent ridgelines will not be developed and the San Francisquito Canyon Creek will be preserved, further emphasizing the project's conformity to the natural features of the site. The visual impacts of the Project would be negligible in the context of the surrounding planned development and development currently under construction. The project would not result in significant cumulative impacts to visual qualities.

Finding

(1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effects as identified in the final EIR to a less than significant level.

Facts in Support of Finding

Significant effects have been substantially lessened to a level that is less than significant through the incorporation of the following project design features and mitigation measures:

Project Design Features:

- Approximately 80 percent of the project site is preserved as open space in Lots 46, 47, and 48. Approximately 122.6 acres, or 66 percent of the project site, would remaining as undisturbed open space not impacted by fuel modification, in order to maintain the natural and aesthetic features of the project site.

- The final configuration of the Cliffie Stone Trail and the Butterfield Overland Stage Trail will be determined by the County of Los Angeles Parks and Recreation Department. The trails will not traverse the SEA and it is the intent of the applicant that the trails shall avoid oak tree impacts.

Mitigation Measures:

4.5-1. At the completion of construction activities, all manufactured slope areas shall be landscaped. Landscaping plans for the project site would use native vegetation (i.e., oaks, coastal sage scrub) on manufactured slopes that are adjacent to naturally vegetated areas to minimize the potential visual impacts of development. The plan materials, placement, and maintenance of the native revegetation would be approved by the Fire Department, Department of Regional Planning, and by the project biologist. The manufactured slope behind Lot 23 would be constructed at a 3:1 grade to ensure slope stability and to minimize potential erosion along the hillside area. This manufactured slope shall be contoured to reflect the natural topography to the greatest extent feasible in order to enhance the aesthetic qualities of the slope area.

3.0 SERVICES

3.1 Traffic/Access

Please refer to DEIR Section 5.1, pages 5-1 to 5-15 for an analysis of potential impacts to traffic/access from the project.

Potentially Significant Impact Reduced with the Implementation of a Mitigation Measure

Weekday AM peak hour trips generated by the Project are expected to be 45 (11 inbound trips and 34 outbound trips). Weekday PM peak hour trips generated by the Project are expected to be 61 (39 inbound trips and 22 outbound trips). A total of 574 trips are expected to be generated over a 24-hour period on a typical workday, including 287 inbound trips and 287 outbound trips. The County of Los Angeles Department of Public Works considers the increase in volume to capacity and level-of-service (LOS) to indicate that a cumulative significant traffic impact is anticipated with the addition of cumulative traffic growth (i.e. project and related projects traffic) at the Avenida Rancho Tesoro/Copper Hill Drive. The McBean Parkway and Copper Hill Drive intersection is expected to operate at LOS E during the AM peak hour an LOS F during the PM peak hour. Therefore, this intersection is anticipated to be significantly impacted due to cumulative traffic growth during the AM and PM peak hours prior to mitigation.

Potential Cumulative Effect

Avenida Rancho Tesoro and Copper Hill Drive intersection is expected to operate at an acceptable LOS during both the AM and PM peak hours under the “With Related Projects” scenario. However, the County of Los Angeles Department of Public Works considers the increase in V/C and LOS to indicate that a cumulative significant traffic impact is anticipated with the addition of cumulative traffic growth (i.e. project and related projects traffic) at the Avenida Rancho Tesoro/Copper Hill Drive. The McBean Parkway and Copper Hill Drive intersection is expected to operate at LOS E during the AM peak hour an LOS F during the PM peak hour. Therefore, this intersection is anticipated to be significantly impacted due to cumulative traffic growth during the AM and PM peak hours prior to mitigation. With incorporation of the mitigation measures, the project would not result in significant cumulative impacts to traffic/access.

Finding

(1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effects as identified in the final EIR to a less than significant level.

Facts in Support of Finding

Significant effects have been substantially lessened to a level that is less than significant through the incorporation of the following mitigation measures:

Mitigation Measures:

5.1-1. Prior to issuance of occupancy permits, the project applicant will contribute its pro-rata fair share (1.3 percent) of the costs of restriping the McBean Parkway and Copper Hill Drive intersection.

3.2 Sewage Disposal

Please refer to Draft EIR Section 5.2, pages 5-16 to 5-18 for an analysis of potential impacts to sewage disposal from the project.

Potentially Significant Impact Reduced with the Implementation of Mitigation Measures

The project area is currently outside the jurisdictional boundaries of the Sanitation Districts and would have to be annexed into District No. 32 before sewerage service could be provided to the Project.

Potential Cumulative Effect

The Project would not contribute to any cumulative impacts to wastewater services because its impacts are mitigated by the payment of connection and annexation fees, as are the impacts of other projects in the area. Additionally, both the SCVJSS Treatment Plant system and the Rye Canyon trunk sewer have sufficient capacity to transport and treat the Project's wastewater with the current infrastructure, prior to any facility expansions. With incorporation of the mitigation measures, the project would not result in significant cumulative impacts to sewage disposal.

Finding

(1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effects as identified in the final EIR to a less than significant level.

Facts in Support of Finding

Significant effects have been substantially lessened to a level that is less than significant through the incorporation of the following project design features and mitigation measures:

Mitigation Measures:

5.2-1. Prior to the issuance of connection permits and building permits, the project applicant shall complete the annexation process into County Sanitation District No. 32 and pay all applicable annexation fees to the County Sanitation Districts of Los Angeles County.

5.2-2. After approval of the annexation by the Board of Directors of County Sanitation District No. 32 of Los Angeles County and prior to the issuance of occupancy permits, the project applicant shall pay connection fees to the County Sanitation Districts of Los Angeles County.

3.3 Education

Please refer to DEIR Section 5.3, pages 5-18 to 5-22 for an analysis of potential impacts to education from the project.

Potentially Significant Impact Reduced with the Implementation of Mitigation Measures

The Saugus Unified School District (SUSD) is currently experiencing capacity problems due to the rapid growth within the Santa Clarita Valley. The Project would generate additional students who would have to be enrolled into a school system that is already at capacity. The SUSD uses the generation factor of 0.431 children per single-family home to anticipate the new student enrollment that would be generated by a new residential development. Using this generation factor, the Project would result in the addition of 19.4 new elementary students for the SUSD.

The Project would be serviced by the Rio Norte Junior High School for grades 7-8 and by the Valencia High School for grades 9-12. William S. Hart School District (WHSD) student generation rate for new residential development is 0.1770 junior high students per single family household and 0.2601 senior high school students per single family household, for a total student generation rate of 0.4371. Using these generation rates, the Project would result in approximately 8.0 new junior high students and approximately 11.7 senior high school students, for a total of 19.7 new students in the WHSD. The Rio Norte Junior High School and the Valencia High School are both at capacity, and therefore the WHSD cannot currently accommodate students generated by the Project.

The Santa Clarita Valley Bookmobile is not adequately serving the community due to the growth in the demand for library services in the area. According to the Public Library, any increase in population would result in the need for additional facility space and library items.

Potential Cumulative Effect

The area of consideration for cumulative impacts to school facilities includes the SUSD and the WHSD. Both of these school districts are currently operating beyond capacity and are actively planning for the expansion of school facilities to accommodate new student populations. All development projects within the two school districts are required to pay for potential impacts to the respective districts through the Statutory School Fees pursuant to Senate Bill 50. Therefore, the impacts associated with the regional growth are mitigated incrementally as each development provides payment to the districts. Because the project would also contribute payments to the two affected school districts, no cumulative impacts would result from the implementation of the Project.

The same system is established for the mitigation of library impacts. The County of Los Angeles Public Library Facilities Mitigation Fee Program eliminates the impacts associated with new development. Because the Project would contribute payments to the County for library services, as would all other new development in the area, no cumulative impacts would result from the implementation of the Project.

Finding

(1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effects as identified in the final EIR to a less than significant level.

Facts in Support of Finding

Significant effects have been substantially lessened to a level that is less than significant through the incorporation of the following project design features and mitigation measures:

Mitigation Measures:

5.3-1. Prior to the issuance a grading permit, the project applicant shall pay developer fees to the Saugus Union School District pursuant to the requirements established in SB50.

5.3-2. Prior to the issuance a grading permit, the project applicant shall pay developer fees to the William S. Hart School District pursuant to the requirements established in SB50, or shall negotiate a separate agreement with the WHSD for school mitigation.

5.3-3. Prior to the issuance a grading permit, the project applicant shall pay the Facilities Mitigation Fee Program for library services.

3.4 Water Utilities

Please refer to Draft EIR Section 5.4, pages 5-22 to 5-35 for an analysis of potential impacts to water utilities from the project.

Potentially Significant Impact Reduced with the Implementation of Mitigation Measures

The Project's projected water demand would be approximately 54 acre-feet per year. The timing of the project places it well within the timeframe for calculating "planned future uses" within the 2030 water supply projection included in the 2005 UWMP (project build-out is expected to be before 2030). Sufficient water supplies, including groundwater supplies, are available to serve the project from existing and planned entitlements and resources without substantially depleting groundwater supplies. All facilities would need to be constructed according to Newhall County Water District (NCWD) standards, the water supplier for the project.

Potential Cumulative Effect

Based on the demand projections through the year 2020 included in the 2005 CLWA Urban Water Management Plan, the water supply would be adequate if the Project were developed in addition to existing and other planned future uses. Thus, cumulative impacts to water supply, including groundwater supply, would be less than significant since all projected demand through 2020 can be met with the planned water supply.

Finding

(1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effects as identified in the final EIR to a less than significant level.

Facts in Support of Finding

Significant effects have been substantially lessened to a level that is less than significant through the incorporation of the following mitigation measures:

Mitigation Measures:

5.4-1. Prior to issuance of a grading permit, the developer shall submit to the NCWD all plans, designs, and fire department requirements for the development in order that the NCWD may design the necessary water system facilities required for the development in accordance with the NCWD's Rules and Regulations; or, at the NCWD's option, the water system may be designed by the developer, subject to the NCWD's review and approval.

5.4-2. Prior to issuance of a grading permit, the developer shall grant the NCWD any and all easements required for water service, together with a policy of title insurance, satisfactory to the NCWD, guaranteeing the NCWD's title to such easements.

5.4-3. Prior to issuance of a grading permit, the developer shall, in accordance with the NCWD'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, and if NCWD elects to design the water system all costs and expenses of design.

4.0 OTHER ANALYSES

4.1 Environmental Safety

Please refer to DEIR Section 6.1, pages 6-1 to 6-3 for an analysis of potential impacts to environmental safety from the project.

Potentially Significant Impact Reduced with the Implementation of a Mitigation Measure

According to the California Department of Oil, Gas, and Geothermal Resources (DOGGR), two abandoned oil wells are located on the project site and neither well was successful and they were both abandoned shortly after drilling in 1935. If oil wells are not properly abandoned with adequate filling and plugging of the wells, groundwater contamination could result. The abandonment procedure for well #301 was not provided in the DOGGR files. The abandoned oil wells on-site may pose a hazard to future development if it is determined that the abandonment procedures were not adequate.

Potential Cumulative Effect

The presence of the two abandoned oil wells would be mitigated through the re-abandonment procedures specified by the California Department of Oil, Gas, and Geothermal Resources and reduce the potential hazards associated with those wells to less than significant levels. The mitigation of this hazard would reduce direct impacts to less than significant and no cumulatively considerable hazards are present on the project site.

Finding

(1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effects as identified in the final EIR to a less than significant level.

Facts in Support of Finding

Significant effects have been substantially lessened to a level that is less than significant through the incorporation of the following mitigation measures:

Mitigation Measures:

6.1-1. Prior to issuance of a grading permit, the two abandoned oil wells on the project site will be re-abandoned according to current California Department of Conservation, Division of Oil, Gas, and Geothermal Resources standards. Vegetation temporarily impacted by the re-abandonment process will be reseeded with native plant material mix.

5.0 FINDINGS REGARDING ALTERNATIVES

Under State CEQA Guidelines Section 15126.6, a description of the range of reasonable alternatives to the project must be included in an EIR. In addition, a No Project alternative must be analyzed in comparison to the project. Four project alternatives analyzed in Section 8.0 of the DEIR were selected for analysis, including the following: Alternative 1: No Project (page 8-4); Alternative 2: Small Lot Alternative (pages 8-4 to 8-8); Alternative 3: 30 Large Lot Alternative (pages 8-9 to 8-12); and Alternative 4: 52 Lot Alternative (pages 8-12 to 8-16). Subsequent to issuance of the DEIR, the RPC directed the applicant to revise the tract map to include fewer lots (i.e. 45 lots).

5.1 No Project Alternative

Under the No Project Alternative, the Project would not occur and the environmental effects from the Project would be avoided. The only land uses that would be allowed to continue would be the existing land uses. Therefore, the project site would remain in an undeveloped condition. Because this alternative does not propose any development on the land and all of the existing conditions would remain intact, all environmental impacts associated with the Project would be eliminated.

Finding

This alternative would be the environmentally superior alternative because all of the existing natural open space and vegetation would be preserved and there would be no construction or operation related environmental impacts. However, this alternative would result in non-residential use of land. The project site is anticipated for residential development by the SCVAP. Additionally, this alternative does not achieve any of the project objectives stated in Section 2.5 of the DEIR, with the exception of Objective 6, which states that the natural drainage features of the San Francisquito Canyon SEA No. 19 should be preserved. Section 15126.6(2) of the State CEQA Guidelines states that “if the environmentally superior alternative is the “no project” alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.”

5.2 Small Lot Alternative

In this alternative, lot sizes would be smaller in size, similar to the adjacent Tesoro del Valle project site. A reasonable alternative lot size for comparison to the Project was therefore assumed to be 6,000 to 7,000 square feet. Under this alternative, a total of 60 single-family residential lots with the same internal roadway system would be developed on the project site. Lot sizes in the Project average approximately 13,000 square feet; this alternative would result in lot sizes approximately 40 to 50 percent smaller. Reduced lot sizes would allow for a more compact development and would allow for a redistribution of the lots to less environmentally-sensitive areas. For example, the majority of the lots could be reduced in length along the eastern side of "A" Street near the boundary of SEA No. 19, yielding a broader development buffer along the SEA. Additionally, lots could be eliminated from the hillside areas of the project site. The internal roadway system ("A", "B", and "C" Streets) would remain as currently depicted in the tract map in order to satisfy County requirements for multiple points of access to the site and for connection to the adjacent Tesoro del Valle development.

Geotechnical, hydrology, water quality, air quality impacts would be reduced due to a reduction in the grading footprint and associated reduced grading. Although construction-related air quality impacts for NO_X emissions were determined to be significant with the tract map design and this alternative would reduce these emissions somewhat, it is highly unlikely that this alternative could reduce construction-related air quality impacts to a level less than significant. All other impacts remain the same because the number of residential units is unchanged.

Finding

This alternative would reduce some of the impacts associated with the development, including construction-related air quality emissions. However, it is highly unlikely that this alternative could reduce construction-related air quality impacts to a level less than significant. The reduced size of the lots and more clustered/urban design would not satisfy the community's desire to have the area maintain its rural and equestrian character and would reduce the diversity of housing sizes planned for the area. For these reasons, the Small Lot Alternative was rejected by the applicant.

5.3 30 Large Lot Alternative

In this alternative, the development footprint of the project site would remain similar in size. However, instead of developing 60 lots, this alternative would double the size of each lot, resulting in a total of 30 lots on the project site. The internal roadway system ("A", "B", and "C" Streets) would remain as currently depicted in the tract map in order to satisfy County requirements for multiple points of access to the site.

Hydrology, water quality, operational air quality impacts, traffic/access, sewage disposal, education, and utilities would be reduced due to a reduction in the number of lots on the project site. However, construction-related air quality impacts would not be reduced because the grading footprint would remain generally the same.

Finding

This alternative would reduce some of the impacts associated with the development, but would not reduce construction-related air quality impacts. It would provide fewer homes for the Santa Clarita Valley area, which is rapidly growing in population. Developable land is at a

premium in the region and this Alternative would not provide as much housing as the project design. For these reasons, the 30 Large Lot Alternative was rejected by the applicant.

5.4 52 Lot Alternative

In this alternative, Lots 1-8 would be eliminated from the project design as depicted in the DEIR. The project site would be developed in the same footprint as is currently depicted in the tract map, with the exception of the land currently depicted as Lots 1-8, resulting in a total of 52 lots. The internal roadway system ("A", "B", and "C" Streets) would remain as currently depicted in the tract map in order to satisfy County requirements for multiple points of access to the site. This alternative would eliminate a substantial amount of the development in the hillside areas of the site.

The reduced footprint and reduced number of lots would result in a reduction in impacts to all environmental areas except fire hazards and environmental safety. Construction-related air quality impacts for NO_X emissions were determined to be significant with the tract map design analyzed in the DEIR and this alternative would reduce these emissions somewhat; however, it is highly unlikely that this alternative could reduce construction-related air quality impacts to a level less than significant.

Finding

This alternative would provide fewer homes for the Santa Clarita Valley area, which is rapidly growing in population. Developable land is at a premium in the region and this Alternative would not provide as much housing as the project. For these reasons, the 52 Lot Alternative was rejected by the applicant.

5.5 Environmentally Superior Alternative

The No Project Alternative is the environmentally superior alternative. However, the No Project alternative incorporates no beneficial effects. As specified in the State CEQA Guidelines Section 15126 (d)(2) if the No Project Alternative is the environmentally superior alternatives, the EIR shall also identify an environmentally superior alternative among the other alternatives. Of the alternatives considered, the 52 Lot Alternative is superior to the Project.

As previously described in the Section A. Introduction of this document, a public hearing on the land division project and DEIR was held by the County of Los Angeles RPC on March 29, 2006. Upon consideration of the comments received during the DEIR public review period as well as at the public hearing, the RPC directed the project applicant (SunCal) to revise the tract map. Revisions to the tract map were to include fewer and larger lots that are capable of accommodating equestrian activities in order to reflect the rural character of the existing neighborhood.

As a result, a conceptual map design for 56 single-family lots was presented to the RPC on May 10, 2006. The RPC again instructed the project applicant to consider the comments received at the May 10, 2006 public hearing and re-design the tract map in light of those comments. The tract map was further revised and re-submitted to the County on June 19, 2006 and considered by the RPC on August 16, 2006. The revised tract map addressing the issues brought before the RPC includes 45 residential lots, which represents a 25 percent reduction in the number of lots originally proposed for the site (i.e. 60 lots originally proposed). All of the residential lots are a minimum of 15,000 square feet, which allows for equestrian uses on each

property. A total of seven lots are a minimum of one acre, addressing the request for larger lots on the project site.

Therefore, although the 52 Lot Alternative would reduce many of the environmental impacts of the design that was analyzed in the DEIR, it was determined to be less desirable than the 45 lot design that resulted from the recommendations of the RPC. The 45 lot tract map has fewer residential lots than the 52 Lot Alternative, thereby resulting in a further minimization of operational impacts to air quality, water quality, traffic/access, sewage disposal, education, and utilities. The grading footprint would remain the same as the original design proposed in the DEIR; therefore the 45 lot design would not reduce grading-related impacts to visual qualities, air quality, water quality, or hydrology.

Finding

(3) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

6.0 GROWTH-INDUCING IMPACTS

Please refer to DEIR Section 9.0, pages 9-1 to 9-2 for an analysis of potential impacts to growth-inducing impacts and significant irreversible impacts from the project.

Potential Growth-Inducing Effects

The project has the potential to foster some economic growth within the County, although the development of 45 lots would have a negligible effect on local or regional population growth. The project would not extend or expand services, utilities, or infrastructure beyond those areas already planned for by the Santa Clarita Valley Area Plan. The Project would not facilitate the use of or encourage development along San Francisquito Canyon Road because the road does not provide access to the project site. The extension of utilities would not promote development in other areas because the developable land surrounding the project site is currently entitled for development, with the exception of some property between the Project site and Tesoro del Valle. These properties (if developed in the future) would be served through the extension of utilities from Tesoro del Valle; therefore, development of these properties would not be hastened by the project.

Finding

The project will not result in significant growth-inducing impacts.

7.0 MITIGATION MONITORING PROGRAM

Section 21081.6 of the Public Resources Code requires that when a public agency is making the finding required by State CEQA Guidelines Section 15091(a)(1), codified as Section 21081(a) of the Public Resources Code, the public agency shall adopt a reporting or monitoring program for the changes to the project when it has adopted or made a condition of approval, in order to mitigate or avoid significant impact on the environment.

The RPC hereby finds that the Mitigation Monitoring Program, which is presented as a separate document, meets the requirements of Section 21081.6 of the Public Resources Code by providing for the implementation and monitoring of project conditions intended to mitigate potential environmental impacts.

E. UNAVOIDABLE SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROJECT

In accordance with State CEQA Guidelines Section 15126.2(b), the FEIR identifies one potential significant impact that can be mitigated but not reduced to a level of insignificance. With the application of the identified and feasible mitigation measures described in the FEIR, this environmental effect has been mitigated as much as is feasibly practicable but remain unavoidable adverse environmental effects.

5.0 AIR QUALITY

Please refer to DEIR Section 4.2, pp. 4-12 to 4-22 for an analysis of potential impacts to air quality from the project.

Potentially Significant Impact Reduced with the Implementation of a Mitigation Measure

Air quality impacts of a project may occur during construction and operation on both a regional and local scale. Construction impacts include airborne dust from grading, demolition and dirt hauling and gaseous emissions from heavy equipment, delivery and dirt hauling trucks, employee vehicles, and paints and coatings. Operational impacts occur from utility usage and vehicles traveling to and from the completed site. These impacts may affect regional pollutants, such as ozone, or localized pollutants, such as carbon monoxide, where the impacts occur very close to the source.

Peak daily and peak quarter construction emissions resulting from the Project would not exceed the SCAQMD significance thresholds for carbon monoxide (CO), volatile organic compounds (VOC), oxides of sulfur (SO_X), or particulate matter (PM_{10}). However, peak daily and peak quarter construction emissions resulting from the Project would exceed the SCAQMD significance thresholds for NO_X, and therefore, would result in a significant impact. Incorporation of the mitigation measures below would reduce this impact to the extent feasible; however, this impact remains a significant unavoidable adverse impact. Implementation of the Project would not result in any significant cumulative impacts that cannot be mitigated to a less than significant level.

The No Project/No Build Alternative evaluated in the DEIR would avoid the remaining unavoidable adverse impacts from the construction-related emissions of the Project. Although the No Project/No Build Alternative is technically feasible, it would not meet any of the objectives for the Project. Similarly, although the Small Lot Alternative evaluated in the DEIR would lessen (but not avoid) the unavoidable adverse impacts of the Project, it would not be feasible due to the local community desire to maintain equestrian-compatible lot sizes on the project site. Smaller lots would be incompatible with the equestrian activities of the area and the large-lot character of the existing ranches to the east and north.

The following mitigation measures are recommended to reduce to the extent feasible the long-term air quality impact from mobile source emissions associated with implementation of the Project:

Potential Cumulative Effect

Fugitive dust emissions during construction, which would be reduced to less than significant with mitigation, could be worsened at the local level and be cumulatively considerable in the short-term if there are projects under construction simultaneously in the immediate vicinity. The Project's NO_X construction emissions would be significant on a project-basis; NO_X emissions would also be cumulatively significant given the likely simultaneous construction with the Tesoro del Valle project. Grading for the adjacent Tesoro del Valle project Area A is completed and there are no plans to begin grading of Areas B through D over the next two years. Therefore, the Project will not cumulatively contribute to significant fugitive dust emissions.

At the regional level, operational emissions from new growth in the subregion have been modeled by the SCAG and the results are incorporated into the 2003 AQMP, adopted on August 1, 2003. SCAG considers that any project which is within the population and employment growth projections for the year 2015 for the subregion is mitigated by the AQMP at the regional level. The Project would contribute incrementally to regional air pollution through operational emissions from additional vehicles; however, emissions from the completed Project would not add cumulatively considerable emissions to the region or the subregion. Therefore, the Project would not result in cumulative regional air quality impacts. There would be no significant cumulative impacts from operation of the Project at a local level. Emissions from background conditions were included in the Project analysis and no significant impacts would result.

Finding

(1) Specific economic, legal, social, technological and/or other considerations make infeasible the mitigation measures or project alternatives identified in the FEIR.

Facts in Support of Finding

Significant effects have been substantially lessened through the incorporation of the following mitigation measures:

Mitigation Measures:

4.2-1. Per the SCAQMD Rule 403 Implementation Handbook, the project applicant shall implement the following BMPs to minimize fugitive dust emissions. This requirement shall be included in the construction plans and verified by the County Engineer.

- Visible roadway dust tracked from the project site to public paved roadways as the result of active operations shall be removed at the conclusion of each workday.
- Gravel or a comparable substance shall be placed at the entrance to the project site to remove excess dust and debris from the tires of construction vehicles.
- Bulk material tracked onto paved public roadways should either be prevented or removed within one hour.

4.2-2. The project applicant will require that all coatings are SCAQMD-compliant and will use pre-coated materials to the extent feasible.

4.2-3. The following mitigation measures used in the URBEMIS 2002 model will reduce PM10 fugitive dust emissions and equipment gaseous emissions.

- Apply soil stabilizers to inactive areas.
- Replace ground cover in disturbed areas quickly.
- Water exposed surfaces three times daily.
- Cover all stockpiles with tarps.
- Water all haul roads three times daily.
- Reduce speed on unpaved roads to 15 miles per hour.
- Turn off equipment when not in use for longer than 5 minutes.

F. STATEMENT OF OVERRIDING CONSIDERATIONS

With the incorporation of the mitigation measures, the Project will have a significant and unavoidable impact on air quality due to short-term construction-related emissions. Having reduced the effects of the selected Project by adopting the conditions of approval and the mitigation measures, and having balanced the benefits of the selected Project against the Project's potential unavoidable significant adverse impacts, the RPC hereby determines that the benefits of the Project outweigh the potential unavoidable adverse impacts and that the unavoidable adverse impacts are nonetheless "acceptable," based on the following overriding considerations. Any one of these overriding considerations is sufficient to support the RPC's determinations herein.

Planning Context

The economic character of the unincorporated County of Los Angeles has changed dramatically over the past 10 to 20 years. The need for the Project derives in part from projections of County growth in population, creating an increased demand for dwelling units.

Project Objectives

The Project successfully satisfies the following objectives:

1. Provides single-family housing within the Santa Clarita Valley that contributes to the local diversity of housing and lot sizes for existing and future residents and that is consistent with the type and size of housing satisfying the market demands in this area.

2. Provides high-quality housing that will help to meet the existing and future demand and help alleviate the housing shortage in the Santa Clarita Valley.

3. Provides a residential development that conforms to the existing Santa Clarita Valley Area Plan land use designation and density requirements.

4. Incorporates design techniques, such as developing a compact project footprint that avoids sensitive biological resources and hilltop development and preserves open space, in order to create a visually harmonious project.

5. Preserves the natural drainage features of the San Francisquito Canyon SEA No.19 that transects the property.

County of Los Angeles Objectives

The County of Los Angeles's objectives for the Project are those goals from the General Plan Land Use Element which are applicable to the Project. The Project successfully satisfies the following objectives:

Los Angeles County General Plan

Land Use Element:

1. Require that new developments in non-urban areas have adequate accessibility to paved roads and water lines of sufficient capacity.

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.

Conservation, Open Space, and Recreation:

8. Preserve significant ecological areas by appropriate measures, including preservation, mitigation, and enhancement.

Santa Clarita Valley Areawide Plan

Land Use Element:

1.1 Accommodate the year 2010 population and land use demand as projected for the Santa Clarita Valley, designating sufficient area for appropriate use and a reasonable excess to provide adequate flexibility.

5.1 Concentrate land use growth in and adjacent to existing urban, suburban, and rural communities. Within these areas, encourage development of bypassed lands designated and appropriate for development.

5.2 Direct future growth away from areas exhibiting high environmental sensitivity to development unless appropriate mitigating measures can be implemented.

Environmental Resources Management Element:

2.1 Protect identified resources in Significant Ecological Areas by appropriate measures including preservation, mitigation and enhancement.

2.3 Require site level analysis of proposed development projects within Significant Ecological Areas to insure that adverse impacts upon resources within identified Significant Ecological Areas are minimized.

Trails:

6.2 Encourage developers to accommodate trail needs within and between equestrian developments, including the construction of private feeder routes into the main trails system. The provision of local trails is particularly compatible with the hillside management and open space provisions of this plan.

Project Benefits

Addition of Housing – The development of the Project would contribute 45 additional housing units to the County of Los Angeles. All of the significant air quality impacts are temporary and construction related, and all other impacts, with the exception of the referenced air quality, would be mitigated to less than significant. Therefore, the long-term benefits associated with developing the Project outweigh the temporary impacts of construction.

Dedication of Property – Approximately 80 percent of the project site will be preserved as open space and will be dedicated to the County of Los Angeles. Included in this open space dedication is the preservation of the portion of SEA No. 19 that is located within the project boundaries; thereby protecting habitat for the endangered threespine stickleback in perpetuity. Additionally, this open space preservation maintains the wildlife corridor that connects the SEA to the Angeles National Forest.

Employment Opportunities – The Project will create temporary construction jobs, including opportunities for highly trained workers, which would contribute to the local economy of the County of Los Angeles during the construction period.

Park Funds – The applicant will contribute funds (in an amount to be determined between the County of Los Angeles and applicant) to the County of Los Angeles Parks and Acquisition Fund. These funds will be available to the County for use in the development of local and regional parkland.

Equestrian Compatible – The Project contains large lots that are a minimum of 15,000 square feet in order to allow for equestrian uses on the properties and to maintain the rural equestrian nature of the surrounding area.

Preservation of Existing Horse Trails – An extension of the Cliffie Stone Trail is incorporated into the proposed project design and will be connected to the Cliffie Stone Trail in the adjacent Tesoro del Valle development. In addition to the Cliffie Stone Trail, existing Butterfield Overland Stage Trail will be slightly widened to 12 feet for recreational horse riding, hiking, and biking. The southernmost leg of the Butterfield Overland Stage Trail would be moved slightly eastward of its current location in order to avoid impacts to the SEA. The Lady Linda Loop Trail and the Harris Trail will be also retained on site.

Environmental Stewardship – The project design clusters development to avoid sensitive habitats, including the preservation of the SEA No. 19, oak woodland, cherry woodland, and other plant communities. Open space lots would be preserved in perpetuity through dedication to the County of Los Angeles.

G. SECTION 21082.1(C)(3) FINDINGS

Pursuant to Public Resource Code § 21082.1(c)(3), the RPC hereby finds that the FEIR reflects the independent judgment of the lead agency.

H. CUSTODIAN OF RECORDS

The custodian of the documents or other material that constitute the record of proceedings upon which the RPC's decision is based is the County of Los Angeles Department of Regional Planning located at 320 West Temple Street, Los Angeles, California 90012.

VESTING TENTATIVE TRACT MAP NO. 53189
ENVIRONMENTAL IMPACT REPORT
SCH No. 2000071052

EIR Mitigation Monitoring Program

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November 15, 2006

EIR MITIGATION MONITORING PROGRAM

TRACT MAP 53189

MITIGATION MEASURE	TIMING	RESPONSIBLE PARTY	VERIFICATION
Geotechnical Hazards (Section 3.1)			
MM 3.1-1 During construction, all grading and earthwork shall be conducted in conformance with the recommendations set forth in the geotechnical investigation and review sheets from A.G.I. Geotechnical, Inc.; shall be performed under the observation of a registered geotechnical engineer in order to achieve proper sub-grade preparation, selection of satisfactory materials, and placement and compaction of all engineered fill; and shall be verified by the Department of Public Works.	During all construction activities.	County Department of Public Works	Review of grading plans and on-site field check
MM 3.1-2 Removal of alluvial and colluvial soils shall be required during grading and prior to fill replacement. The removed soil shall be re-compacted as engineered fill in accordance with the recommendations in the Geotechnical Investigation and Response to Review Sheets by AGI Geotechnical, Inc.; shall be performed under the observation of a registered geotechnical engineer; and shall be verified by the Department of Public Works. The specific depth and extent of removals shall be determined during grading based upon observation and testing. Removal of compressible materials shall be required in areas planned for development.	During grading activities.	County Department of Public Works	Review of grading plans and on-site field check
Flood Hazards (Section 3.2)			
MM 3.2-1 The project applicant shall submit a CLOMR to FEMA and receive a notice of approval from FEMA for the adjustment to the Zone A flood limits prior to any grading within existing FEMA flood limits. The existing FEMA flood limits will be fenced with chain link fencing during grading activities on the site until the CLOMR has been approved.	Prior to grading within the existing FEMA flood limits.	County Department of Public Works	Review CLOMR and notice of approval from FEMA
Fire Hazards (Section 3.3)			
MM 3.3-1 As required by Section 1117.2.1 of the County of Los Angeles Fire Code (Title 32), a fuel modification plan, landscape plan, and an irrigation plan shall be submitted to the Forestry Division and the County Department of Regional Planning and must be approved prior to the issuance of a grading permit. The project shall comply with the all applicable requirements of Los Angeles County Code Title 32, Fire Code.	Prior to the issuance of a grading permit.	County Department of Regional Planning and County Fire Department	Review of a fuel modification plan, landscape plan, and an irrigation plan
MM 3.3-2 The CC&Rs of the Homeowner's Association shall state that structures constructed with flammable materials are prohibited in the backyards of Lots 24 through 32 in order to maintain the 100-foot fuel modification buffer without impacting the SEA. The HOA shall enforce this requirement.	Prior to issuance of building permits, the CC&Rs will be submitted to County for review.	County Department of Regional Planning	Review and recording of CC&Rs

EIR MITIGATION MONITORING PROGRAM

TRACT MAP 53189 (Continued)

MITIGATION MEASURE	TIMING	RESPONSIBLE PARTY	VERIFICATION
MM 3.3-3 Prior to issuance of a building permit, the project applicant shall pay the required fire mitigation fee for fire services provided by the County of Los Angeles.	Prior to the issuance of a building permit.	County Fire Department	Receipt and/or proof of payment
Water Quality (Section 4.1)			
MM 4.1-1 Prior to the issuance of a grading permit, the project applicant shall be responsible for filing a Notice of Intent and the appropriate fees to the State Water Quality Control Board in order to obtain coverage under the NPDES General Construction Permit for construction activities. Pursuant to the permit requirements, the project applicant shall develop a Stormwater Pollution Prevention Plan that incorporates Best Management Practices, including sandbags along roadways and temporary desilting basins, for minimizing construction related pollutants in the site runoff.	Prior to the issuance of a grading permit.	County Department of Public Works	Review of approved NPDES General Construction Permit
MM 4.1-2 Prior to issuance of a grading permit, the project applicant shall apply for annexation into the service area of the Los Angeles County Sanitation District No. 36. The proposed project will comply with the Los Angeles County Sanitation District No. 36 requirements that prohibit the installation of self-regenerating water softeners. The Homeowner's Association CC&Rs shall specifically prohibit the use of self-regenerating water softeners.	Prior to the issuance of a grading permit.	County Department of Public Works	Review of annexation application to Los Angeles County Sanitation District No. 36
MM 4.1-3 All storm drain inlets and catch basins with the project area shall be stenciled with prohibitive language (such as: NO DUMPING – DRAINS TO OCEAN) and/or graphical icons to discourage illegal dumping. Signs and prohibitive language shall be posted at public access points along the San Francisquito Canyon Creek within the project area and all signs and stenciled shall be maintained by the Homeowner's Association.	Prior to the issuance of certificate of occupancy.	County Department of Public Works	Onsite field check
MM 4.1-4 The use of herbicides and pesticides will be prohibited from use on the manufactured slopes adjacent to the rear of Lots 24 through 32 along the SEA. The CC&Rs of the Homeowner's Association will specifically prohibit the use of such chemicals by the landscape contractors hired by the HOA to maintain the common areas on the site.	Prior to issuance of building permits, the CC&Rs will be submitted to County for review.	County Department of Regional Planning	Review and recording of CC&Rs
Air Quality (Section 4.2)			
MM 4.2-1 Per the SCAQMD Rule 403 Implementation Handbook, the project applicant shall implement the following BMPs to minimize fugitive dust emissions. This requirement shall be included in the construction plans and verified by the County Engineer. • Visible roadway dust tracked from the project site to public paved	During all grading and/or earthmoving activities.	County Department of Public Works	Review of construction plans and onsite field check

EIR MITIGATION MONITORING PROGRAM

TRACT MAP 53189 (Continued)

MITIGATION MEASURE	TIMING	RESPONSIBLE PARTY	VERIFICATION
roadways as the result of active operations shall be removed at the conclusion of each workday. • Gravel or a comparable substance shall be placed at the entrance to the project site to remove excess dust and debris from the tires of construction vehicles. • Bulk material tracked onto paved public roadways should either be prevented or removed within one hour.			
MM 4.2-2 The project applicant will require that all coatings are SCAQMD-compliant and will use pre-coated materials to the extent feasible.	Prior to issuance of certificate of occupancy.	County Department of Public Works	Onsite field check
MM 4.2-3 The following mitigation measures used in the URBEMIS 2002 model will reduce PM_{10} fugitive dust emissions and equipment gaseous emissions. • Apply soil stabilizers to inactive areas. • Replace ground cover in disturbed areas quickly. • Water exposed surfaces three times daily. • Cover all stockpiles with tarps. • Water all haul roads three times daily. • Reduce speed on unpaved roads to 15 miles per hour. • Turn off equipment when not in use for longer than 5 minutes.	During all construction activities.	County Department of Public Works	Onsite field check
Biota (Section 4.3)			
MM 4.3-1 The loss of coastal sage scrub, holly-leaf cherry woodland, and alluvial sage scrub (i.e., proposed roadway expansion) within the impact area is considered a significant impact. These vegetation types will be restored onsite or, if appropriate, offsite at a ratio of not less than 1:1, as agreed to by the County of Los Angeles Department of Regional Planning and the Project Applicant. A revegetation program will be implemented in accordance with a County-approved landscape palette on all graded areas not utilized for improvements or structures. The revegetation program will be submitted to the County of Los Angeles Department of Regional Planning for review and approval by a qualified biologist prior to issuance of grading permits. Restoration will consist of seeding and container planting of appropriate species. Impacts are considered less than significant after implementation of the following measures:	Submit vegetation program prior to the issuance of a grading permit.	County Department of Regional Planning	Review of restoration program and onsite field check.

EIR MITIGATION MONITORING PROGRAM

TRACT MAP 53189 (Continued)

MITIGATION MEASURE	TIMING	RESPONSIBLE PARTY	VERIFICATION
A detailed restoration program will be developed prior to map recordation and implemented and will contain the following items: a. Responsibilities and qualifications of the personnel to implement and supervise the plan. The responsibilities of the landowner, specialists, and maintenance personnel that will supervise and implement the plan will be specified. b. *Site selection*. The site(s) for mitigation will be determined in coordination with the project applicant and the Los Angeles Department of Regional Planning. The site will be located in a dedicated open space area and will be contiguous with other natural open space areas. c. *Site preparation and planting implementation*. The site preparation will include: 1) protection of existing native species, 2) trash and weed removal, 3) native species salvage and reuse (i.e., duff), 4) soil treatments (i.e., imprinting, decompacting), 5) erosion control measures (i.e., rice or willow wattles), and 6) native seed mix application. d. *Schedule.* Establishment of restoration/revegetation sites will be conducted between October 1st and January 30th. Seeding and planting of container plants will take place immediately after preparation of the restoration sites. e. Maintenance plan/guidelines. The maintenance plan will include: 1) weed control, 2) herbivory control, 3) trash removal, 4) irrigation system maintenance, 5) maintenance training, and 6) replacement planting. f. Monitoring Plan. 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 three to five years. The monitoring will be conducted for three to five years, depending upon the performance of the mitigation site. g. Long-term preservation. 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. h. Performance standards will be identified and will apply for the revegetation of sage scrub. Revegetation 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			

EIR MITIGATION MONITORING PROGRAM

TRACT MAP 53189 (Continued)

MITIGATION MEASURE	TIMING	RESPONSIBLE PARTY	VERIFICATION
adjacent existing habitats, as determined by quantitative testing of existing, restored, and created habitat areas. In addition, 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.			
MM 4.3-2 Upon completion of construction activities, impacts to approximately 0.17 acre of non-wetland ACOE and CDFG jurisdictional waters will be mitigated within the project boundaries through the creation of 0.17 acre of non-wetland jurisdictional waters. In addition to this assurance of "no net loss" of ACOE and CDFG jurisdictional area within the project boundaries, another 0.17 acre of non-wetland jurisdictional area will be restored or enhanced on the project site for a total of 2:1 replacement. Acquisition of a Section 404 "dredge and fill" permit from the ACOE (possibly through the use of Nationwide Permit No. 39), a Section 1602 "streambed alteration" permit from the CDFG, and a Section 401 water quality certification or waiver will be obtained from the Regional Water Quality Control Board. Prior to the final submittal of an application for an ACOE permit or CDFG agreement, the Project Applicant will develop a mitigation plan for the ACOE, CDFG, and Los Angeles Department of Regional Planning. The objective of the mitigation is to ensure no net loss of habitat values as a result of the project. The detailed restoration program will contain the following items: a. Responsibilities and qualifications of the personnel to implement and supervise the plan. The responsibilities of the landowner, specialists and maintenance personnel that would supervise and implement the plan will be specified. b. *Site selection.* The site(s) for the mitigation will be determined in coordination with the project applicant and resource agencies. The site will be located in a dedicated open space area and will be contiguous with other natural open space.	Upon completion of construction activities and as required by ACOE and CDFG.	County Department of Regional Planning, U.S. Army Corps of Engineers, and California Department of Fish and Game	Review of mitigation plan and onsite field check.

EIR MITIGATION MONITORING PROGRAM

TRACT MAP 53189 (Continued)

MITIGATION MEASURE	TIMING	RESPONSIBLE PARTY	VERIFICATION
c. *Site preparation and planting implementation.* The site preparation will include: 1) protection of existing native species, 2) trash and weed removal, 3) native species salvage and reuse (i.e. duff), 4) soil treatments (i.e., imprinting, decompacting), 5) temporary irrigation installation, 6) erosion control measures (i.e., rice or willow wattles), 7) native seed mix application, and 8) native container species. d. *Schedule.* A schedule will be developed which includes planting to occur in late fall and early winter, between October 1st and January 30th. e. *Maintenance plan/guidelines.* The maintenance plan will include: 1) weed control, 2) herbivory control, 3) trash removal, 4) irrigation system maintenance, 5) maintenance training, and 6) replacement planting. f. *Monitoring Plan.* 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 resource agencies, 4) monthly reports for the first year and bimonthly reports thereafter, and 5) annual reports which will be submitted to the resource agencies for three to five years. The site will be monitored and maintained for five years to ensure successful establishment of riparian habitat within the restored and created areas; however, if there is successful coverage prior to five years, the Project Applicant may request from ACOE and CDFG to be released from monitoring requirements. g. *Long-Term Preservation*. 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. h. Performance standards will be identified and will apply for the restoration of riparian habitat. Revegetation 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 and restored and/or created habitat areas. This revegetation/enhancement plan may be combined with the revegetation plan required by Mitigation Measure 4.3-1, if appropriate.			
MM 4.3-3 Braunton's milk-vetch was not detected during the special status plant surveys. Prior to issuance of a grading permit, a follow-up survey for this species will be conducted in any area partially disturbed for surveyor access or geotechnical studies, or areas that may have recently burned in a wildfire. If Braunton's milk vetch is found in the study area during follow-up	Prior to the issuance of a grading permit.	County Department of Regional Planning	Review of follow-up Braunton's milk-vetch survey results

EIR MITIGATION MONITORING PROGRAM

TRACT MAP 53189 (Continued)

MITIGATION MEASURE	TIMING	RESPONSIBLE PARTY	VERIFICATION
surveys, the applicant will be required to consult with the USFWS and CDFG to obtain a permit under Section 7 or 10(a) of the federal Endangered Species Act and a Section 2081 concurrence from CDFG under the state Endangered Species Act to impact this species. The consultation process will include preparation of a mitigation plan to avoid, relocate, or minimize impacts on this species. This plan will be submitted to and approved by the USFWS and CDFG.			
MM 4.3-4 Slender mariposa lilies (Calochortus clavatus ssp. gracilis), possibly hybridized with club-haired mariposa lilies (Calochortus clavatus ssp. clavatus), have been observed during special status plant surveys on the site. Impacts on the slender mariposa lily population are considered significant under the CEQA, but can be mitigated to a level less than significant by the following measures. a. Preparation and Submittal of Mitigation Plan: A Mitigation Plan will be prepared by a qualified biologist. The plan will include: 1) a summary of mitigation area conditions; 2) a discussion of the mitigation program and anticipated success; 3) guidelines for mitigation area preparation; 4) guidelines for bulb collection; 5) guidelines for transporting and replanting salvaged bulbs; 6) guidelines for long-term site maintenance and performance monitoring, 7) site status documentation; and 8) a discussion of site performance standards such as survival rate. b. Collection and Transplantation of Bulbs: Prior to any ground-disturbing activities, the slender mariposa lily population located within the project impact area will be transplanted to an onsite mitigation area. The mitigation area is located in Open Space Lot 47 and is outside of the proposed grading footprint and fuel modification areas. The bulbs will be transplanted directly into the mitigation area on the same day they are collected by a landscape contractor experienced in native habitat maintenance, and the plants will be protected from herbivores by the installation of wire cages. c. Supervision and Documentation of Transplantation: Bulb transplantation efforts will be documented by a biological monitor, who will keep field notes including the number and condition of bulbs transplanted. d. Establishment of Maintenance and Monitoring Plan: Performance criteria and remediation measures will be reviewed and approved by the County. Program monitoring will occur over a five-year period, including qualitative monitoring visits during the first season after transplant, monthly visits during the first lily blooming season (February – June 2006) to assess establishment success, non-native species coverage, and general site	Submit lily mitigation plan prior to the issuance of a grading permit.	County Department of Regional Planning	Review of mitigation plan and onsite field check

EIR MITIGATION MONITORING PROGRAM

TRACT MAP 53189 (Continued)

MITIGATION MEASURE	TIMING	RESPONSIBLE PARTY	VERIFICATION
conditions, and additional monitoring visits to assess site conditions that may affect future success of lily establishment. Remedial measures, such as invasive species control or soil amendments, will be recommended as needed in a timely manner to facilitate compliance with required performance standards. Any necessary contingency planting would be performed using seeds collected from adjacent lily populations located on the site, outside the project impact area.			
MM 4.3-5 A relocation program for the western spadefoot will be conducted during the spring prior to construction at the height of the breeding season for this species (February through May and as determined by a qualified biologist monitoring a known location of this species). A detailed methodology for this effort will be submitted and approved by CDFG prior to implementation of the relocation program. Results of the relocation program will be provided to CDFG and the County of Los Angeles. The intent of the relocation plan will be to capture and relocate as many western spadefoots as possible. Western spadefoots will be relocated to an area of suitable habitat that takes into consideration habitat requirements for all life stages of the toad, as approved by CDFG. The site will be granted to the County of Los Angeles and will be located in an area of preserved open space protected from future development. The relocation breeding pool will be no smaller in size, and similar or better in quality, as the habitat within the project impact area where the western spadefoots are captured.	Submit spadefoot relocation plan prior to the issuance of a grading permit.	County Department of Regional Planning and California Department of Fish and Game	Review of relocation plan and onsite field check
MM 4.3-6 A qualified biologist, approved by the County, will install pit-fall traps and arrays beginning at least one week prior to the commencement of vegetation removal. The qualified biologist will be present to monitor the traps during vegetation removal and will also opportunistically salvage and relocate the coastal western whiptail as well as other special status amphibians and reptiles to similar habitat within proposed open space in San Francisquito Canyon.	Prior to commencement of vegetation removal.	County Department of Regional Planning	Review of survey results and onsite field check
MM 4.3-7 Trimming of some native plants and clearing of non-native invasive species for fuel modification, will be monitored by a qualified biologist if it occurs during the peak bird nesting season. If possible, dependent upon the growth cycle of targeted annuals and the requirements of the Fire Department, brush management will be conducted outside of the peak bird nesting season (March 15 to September 15) to ensure that potential impacts to nesting birds are avoided.	CC&Rs incorporating these provisions will be submitted to County for review prior to final map recordation.	County Department of Regional Planning	Review of CC&Rs

EIR MITIGATION MONITORING PROGRAM

TRACT MAP 53189 (Continued)

MITIGATION MEASURE	TIMING	RESPONSIBLE PARTY	VERIFICATION
MM 4.3-8 Prior to the issuance of a grading permit, a Landscape Plan, prepared by HRP LanDesign, will be submitted and approved by the Los Angeles County Department of Regional Planning. The Landscape Plan requires the planting of native, drought tolerant plant species. Implementation of the Landscape Plan and brush management requirements will be coordinated with the project biologist and approved by the Los Angeles Department of Regional Planning.	Prior to the issuance of a grading permit.	County Department of Regional Planning	Review of landscape plan and onsite field check
MM 4.3-9 Seven days prior to the start of construction activities, a qualified biologist will conduct a survey to determine if any raptors are nesting in or adjacent to the impact area. If nesting is not occurring, construction work can proceed. If an active nest is present, construction work will be prohibited within 500 feet of the nest (or as otherwise determined and approved by Department of Regional Planning biologist) until fledglings have left the nest. Results of the surveys will be provided to CDFG and the County.	Seven days prior to the start of construction activities.	County Department of Regional Planning	Review of survey results
MM 4.3-10 Prior to the issuance of a grading permit, the Project Applicant will apply for coverage under the State Water Resources Control Board's General Permit for Storm Water Discharge Associated with Construction Activity (Construction Activities General NPDES Permit) and will comply with all the provisions of the permit, including the development of a Storm Water Pollution Prevention Plan, which includes provisions for the implementation of Best Management Practices and erosion control measures. Best Management Practices will include both structural and non-structural measures. The purpose of this mitigation measure is to insure that site runoff does not adversely affect SEA No. 19 and downstream biological resources.	Prior to the issuance of a grading permit.	County Department of Public Works	Review of application for NPDES permit and onsite field check
MM 4.3-11 The Codes, Covenants and Restrictions (CC&Rs) of the Homeowner's Association (HOA) shall require that all backyard lighting in Lot 24 through Lot 32, which are adjacent to the SEA No. 19, must not be directed into the SEA. For these lots, all backyard lighting must be mounted to the home structure and may not be freestanding or placed on backyard fences.	Prior to the issuance of building permits, the CC&Rs will be submitted to County for review.	County Department of Regional Planning	Review and recording of CC&Rs and onsite field check
MM 4.3-12 The portion of SEA No. 19 located within the proposed project site will be recorded as Open Space Lot No. 46 with approval of the Tentative Tract Map. Backyard fencing will be constructed behind all lots to protect open space areas, including the SEA No. 19 upon completion of site preparation and grading. This fencing would be required in order to prevent intrusion by future residents of the development and their pets. The fencing will discourage people and pets from entering the SEA. The fence will	Prior to the issuance of building permits.	County Department of Regional Planning	Onsite field check

EIR MITIGATION MONITORING PROGRAM

TRACT MAP 53189 (Continued)

MITIGATION MEASURE	TIMING	RESPONSIBLE PARTY	VERIFICATION
include permeable materials (i.e., wrought iron) in order to maintain view from the properties. Signs will be evenly spaced along the western edge of the SEA near Lot 24 through Lot 32 indicating that areas on the other side of the signs contain sensitive biological resources. The signs will be installed and maintained throughout the life of the project by the HOA. The CC&Rs of the HOA shall disclose the existence of the SEA and the responsibility each homeowner has for ensuring its protection.			
MM 4.3-13 Should lighting be required by the County to illuminate San Francisquito Canyon Road upon widening of the roadway, a lighting plan will be submitted to the County for review prior to approval of the roadway project. The lighting plan shall demonstrate that illumination from the proposed road expansion will be directed away from natural open space areas on and adjacent to the project impact area. If the County determines that the proposed lighting plan would potentially indirectly impact adjacent biological resources, the lighting plan will be redesigned or additional mitigation consistent with Mitigation Measure 4.3-15 will be required.	Prior to the initiation of the San Francisquito Road expansion (if roadway expansion is required by the County of Los Angeles).	County Department of Public Works	Review of lighting plan
MM 4.3-14 Prior to the initiation of the San Francisquito Road expansion and/or the Cliffie Stone Trail construction, a tree survey will be conducted within the area of the proposed roadway expansion and trail area. All trees meeting the County Oak Tree Ordinance requirements will be tagged, mapped, and evaluated to determine the approximate number of trees that would be impacted. Project design will be altered to avoid and minimize impacts on oak trees to the extent practicable, particularly if a heritage tree would be impacted. The heritage trees on the project site are adjacent to the proposed road alignment. Upon approval of the final design plans for the proposed roadway and trail alignment, the Project Applicant will develop a detailed oak woodland mitigation plan and submit the plan to the County for review and approval. The objective of the mitigation plan is to ensure no net loss of habitat values as a result of the project implementation. Required replacement trees shall be in the ratio of at least 2:1, consistent with the Los Angeles County Oak Tree Ordinances (Ord. 88-0157, adopted September 13, 1988). The mitigation plan shall require that a biological monitor be present during project grading to record the exact number of native trees impacted.	Prior to the initiation of the San Francisquito Road expansion and/or the Cliffie Stone Trail construction (if roadway expansion is required by the County of Los Angeles).	County Department of Regional Planning	Review tree survey results
MM 4.3-15 Prior to the issuance of a grading permit for the construction of the San Francisquito Road expansion and/or the Cliffie Stone Trail, special status plant and wildlife surveys will be conducted. The results of these surveys and associated mitigation will be submitted to Los Angeles County	Prior to the issuance of a grading permit.	County Department of Regional Planning	Review results of special status plant and wildlife surveys

EIR MITIGATION MONITORING PROGRAM

TRACT MAP 53189 (Continued)

MITIGATION MEASURE	TIMING	RESPONSIBLE PARTY	VERIFICATION
Regional Planning Department for approval.			
MM 4.3-16 Upon completion of the levee construction, the excavation area shall be entirely backfilled with existing San Francisquito Creek soil and only the four horizontal feet of above ground levee "free board" space would be visible. The impacted area shall be restored onsite with alluvial sage scrub habitat in accordance with the requirements of the County of Los Angeles Department of Regional Planning approved revegetation program. The levee shall be constructed with ungrouted rip-rap, which would allow for percolation of water, accumulation of transported soils, and establishment of plant life.	Prior to issuance of building permit.	County Department of Regional Planning and Department of Public Works	Review revegetation program and onsite field check
Cultural Resources (Section 4.4)			
MM 4.4-1 In accordance with PRC 5097.94, if human remains are found, construction activity in the area of the find must halt and the Los Angeles County coroner must be notified within 24 hours of the discovery. If the coroner determines that the remains are not recent, the coroner will notify the Native American Heritage Commission for consultation.	During all construction activities.	County Department of Regional Planning	Onsite field check
MM 4.4-2 The applicant shall agree to suspend construction in the vicinity of an archaeological resource encountered during ground-disturbing activities at the site and leave the resource in place until a qualified archaeologist can examine them and determine appropriate mitigation measures.	During all construction activities.	County Department of Regional Planning	Onsite field check
MM 4.4-3 A qualified paleontologist shall be retained to attend pre-grade meetings and to monitor earthmoving activities, including grading and trenching below a depth of eight feet in lower alluvial areas of the site and all grading and cutting in elevated hilly areas of the site. If fossil resources are uncovered, a subsurface evaluation may be needed to assess the discovery. In the event that fossils are exposed, the paleontologist shall be allowed to temporarily divert or re-direct grading in the area of the exposure to recover potentially significant fossils. Because the Saugus Formation is known to contain tiny microfossils, the paleontologist should periodically screen sediment samples in order to identify these resources. Excavated significant fossil finds shall be offered, on a first right-of-refusal basis, to a repository with a retrievable collection system and an educational and research interest in the materials such as the Natural History Museum of Los Angeles County.	Prior to commencement of grading activities and during grading activities.	County Department of Regional Planning	Retention of a qualified paleontologist

EIR MITIGATION MONITORING PROGRAM

TRACT MAP 53189 (Continued)

MITIGATION MEASURE	TIMING	RESPONSIBLE PARTY	VERIFICATION
Visual Qualities (Section 4.5)			
MM 4.5-1 At the completion of construction activities, all manufactured slope areas shall be landscaped. Landscaping plans for the project site would use native vegetation (i.e., oaks, coastal sage scrub) on manufactured slopes that are adjacent to naturally vegetated areas to minimize the potential visual impacts of development. The plan materials, placement, and maintenance of the native revegetation would be approved by the Fire Department, Department of Regional Planning, and by the project biologist. The manufactured slope behind Lot 23 would be constructed at a 3:1 grade to ensure slope stability and to minimize potential erosion along the hillside area. This manufactured slope shall be contoured to reflect the natural topography to the greatest extent feasible in order to enhance the aesthetic qualities of the slope area.	Landscaping shall be completed prior to issuance of occupancy permits and the Landscape Plan shall be submitted and approved by the Department of Regional Planning prior to the issuance of a grading permit.	County Department of Regional Planning	Review of landscape plans and onsite field check
Traffic/Access (Section 5.1)			
MM 5.1-1 Prior to the issuance of occupancy permits, the project applicant will contribute its pro-rata fair share (1.3 percent) of the costs of restriping the McBean Parkway and Copper Hill Drive intersection.	Prior to the issuance of occupancy permits.	County Department of Public Works	Receipt and/or proof of payment
Sewage Disposal (Section 5.2)			
MM 5.2-1 Prior to the issuance of connection permits and building permits, the project applicant shall pay connection fees to the County Sanitation Districts of Los Angeles County.	Prior to the issuance of connection permits and/or building permits.	County Department of Public Works and County Sanitation Districts of Los Angeles County	Receipt and/or proof of payment
MM 5.2-2 After approval of the annexation by the Board of Directors of County Sanitation District No. 32 of Los Angeles County and prior to the issuance of occupancy permits, the project applicant shall pay annexation fees to the County Sanitation Districts of Los Angeles County.	After approval of the annexation by the Board of Directors of County Sanitation District No. 32 of Los Angeles County and prior to the issuance of occupancy permits.	County Department of Public Works and County Sanitation Districts of Los Angeles County	Receipt and/or proof of payment
Education (Section 5.3)			
MM 5.3-1 Prior to the issuance of a building permit, the project applicant shall pay developer fees to the Saugus Union School District pursuant to the requirements established in SB50.	Prior to the issuance of a building permit.	County Department of Public Works and Saugus Union School District	Receipt and/or proof of payment

EIR MITIGATION MONITORING PROGRAM

TRACT MAP 53189 (Continued)

MITIGATION MEASURE	TIMING	RESPONSIBLE PARTY	VERIFICATION
MM 5.3-2 Prior to the issuance of a building permit, the project applicant shall pay developer fees to the William S. Hart School District pursuant to the requirements established in SB50, or shall negotiate a separate agreement with the WHSD for school mitigation.	Prior to the issuance of a building permit.	County Department of Public Works and William S. Hart School District	Receipt and/or proof of payment
MM 5.3-3 Prior to the issuance of a building permit, the project applicant shall pay the Facilities Mitigation Fee Program for library services.	Prior to the issuance of a building permit.	County Department of Public Works and County Public Library	Receipt and/or proof of payment
Water Utilities (Section 5.4)			
MM 5.4-1 Prior to issuance of a building permit, the developer shall submit to the NCWD all plans, designs, and fire department regulations for the development in order that the NCWD may design the necessary water system facilities required for the development in accordance with the NCWD's Rules and Regulations; or, at the NCWD's option, the water system may be designed by the developer, subject to the NCWD's review and approval.	Prior to the issuance of a building permit.	County Department of Regional Planning and Newhall County Water District	Review of development plans
MM 5.4-2 Prior to the issuance of a building permit, the developer shall grant the NCWD any and all easements required for water service, together with a policy of title insurance, satisfactory to the NCWD, guaranteeing the NCWD's title to such easements.	Prior to the issuance of a building permit.	County Department of Regional Planning and Newhall County Water District	Review of proposed easements
MM 5.4-3 Prior to the issuance of a building permit, the developer shall, in accordance with the NCWD'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, and if NCWD elects to design the water system, all costs and expenses of design.	Prior to the issuance of a building permit.	County Department of Regional Planning and Newhall County Water District	Receipt and/or proof of payment
Environmental Safety (Section 6.1)			
MM 6.1-1 Prior to issuance of a building permit, the two abandoned oil wells on the project site will be re-abandoned according to current California Department of Conservation, Division of Oil, Gas, and Geothermal Resources standards. Vegetation temporarily impacted by the re-abandonment process will be reseeded with native plant material mix.	Prior to the issuance of a building permit.	County Department of Regional Planning and California Department of Conservation, Division of Oil, Gas, and Geothermal Resources	Onsite field check

Volume III –Final EIR
Responses to Comments

Project No. 00-081
Tentative Tract Map No. 53189

SCH No. 2000071052

County of Los Angeles
Department of Regional Planning
320 West Temple Street
Los Angeles, California 90012-3225

November 13, 2006

VOLUME III

TABLE OF CONTENTS

Section **Page**

APPENDICES

INTRODUCTION

CALIFORNIA ENVIRONMENTAL QUALITY ACT GUIDELINES

The purpose of this document is to present public comments and responses to those comments received on the Draft Environmental Impact Report (EIR) for the Project No. 00-081/Tentative Tract Map No. 53670 project (State Clearinghouse No. 2000071052) located in the unincorporated County of Los Angeles, California.

A Draft EIR was initially available for a 45-day public review and comment period from February 2, 2006 through March 20, 2006. In accordance with the State of California Environmental Quality Act (CEQA) Guidelines §15088, the County of Los Angeles, as the lead agency, has evaluated the comments received on the Draft EIR and has prepared written responses to these comments.

As required by CEQA Guidelines §15132, the Final EIR shall consist of:

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

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

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

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

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

This document is to be included with the Draft EIR (Volume I) and the Technical Appendices (Volume II) to comprise the Final EIR.

Comments submitted on the Draft EIR included comments about the need to preserve the rural and equestrian nature of the project site. Each comment letter is included in Appendix A and each question/comment is manually numbered on the letter. The responses to each question/comment in the body of this report incorporate the corresponding numbering system.

PUBLIC HEARING COMMENTS REGARDING PROJECT NO. 00-081/TRACT MAP 53189

A public hearing on the land division project and Draft EIR was held by the County of Los Angeles Regional Planning Commission (RPC) on March 29, 2006. Upon consideration of the comments received during the Draft EIR public review period as well as at the public hearing, the RPC directed the project applicant (SunCal) to revise the tract map. Revisions to the tract map were to include fewer and larger lots that are capable of accommodating equestrian activities in order to reflect the rural character of the existing neighborhood. The equestrian nature and rural character of the project site are discussed on pages 4-70 and 4-74 in Section 4.5 Visual Qualities, of the Draft EIR.

As a result, a conceptual map design for 56 single-family lots was presented to the RPC on May 10, 2006. The RPC again instructed the project applicant to consider the comments received at the May 10, 2006 public hearing and re-design the tract map in light of those comments. The tract map was further revised and re-submitted to the County on June 19, 2006

and considered by the RPC on August 16, 2006. The revised tract map addressing the issues brought before the RPC includes 45 residential lots, which represents a 25 percent reduction in the number of lots originally proposed for the site (i.e. 60 lots originally proposed). All of the residential lots are a minimum of 15,000 square feet, which allows for equestrian uses on each property. A total of seven lots are a minimum of one acre, addressing the request for larger lots on the project site.

A request from the community for a visual screening of the project site from San Francisquito Canyon Road and a landscape plan for the project site includes the planting of cottonwood trees along the eastern edge of the subdivided lots adjacent to the western boundary of SEA No. 19. These trees will be planted in clumps to reflect a naturalized landscape and will partially obscure views of the developed project site from San Francisquito Canyon Road.

REVISED PROJECT DESCRIPTION

The proposed project involves the construction of 45 residential single family lots, three large open space lots, and four debris basin lots on the 185.8 acre site. All project development will occur on the west side of San Francisquito Canyon Creek, with the exception of the development of two equestrian/hiking trails: the Cliffie Stone Trail along the San Francisquito Canyon Road and the Butterfield Overland Stage Trail located between the eastern SEA No. 19 boundary and the Cliffie Stone Trail.

Residential Lots

The 45 residential lots would range in size from 15,060 square feet to 46,346 square feet, or 0.35 to 1.06 acres, respectively. The footprint of the residential development would lie entirely within the western portion of the site, west of the San Francisquito Canyon SEA, and has been designed to preserve the majority of the biological resources on-site. The homes would be developed in a sideways "T" shape along three planned roadways; "A" Street will run north-south along the edge of the San Francisquito Canyon Creek and will connect to Stoney Creek Road in Tesoro del Valle to the south and with Las Tunas Trail to the north, "B" Street will run east-west and will connect "J" Lane in Tesoro del Valle with "A" Street, and "C" Street will connect "B" Street with a private property north of the project site.

Open Space Lots

Approximately 77 percent of the project site is designed to be preserved as open space within Lots 46, 47, and 48. The open space lots will be granted to the County of Los Angeles and will remain as open space in perpetuity. These open space lots will be maintained through a Homeowner's Association (HOA), consistent with the approved conditional use permit. The three open space lots include:

- Lot 46 4,422,347 square feet (101.5 acres)
- Lot 47 1,221,649 square feet (28.0 acres)
- Lot 48 578,379 square feet (13.28 acres)

Lot 46 includes the portion of SEA No. 19 along the eastern portion of the project site from north to south, as well as its associated floodplain. This lot also contains the two proposed County designated equestrian/hiking/biking trails. The Cliffie Stone Trail would be located adjacent to San Francisquito Canyon Road and the Butterfield Overland Stage Trail would be located further west, but would not impact SEA No. 19. In the northeast corner of Lot 46, a small portion of the existing dirt road extension of Lady Linda Lane would be paved from

San Francisquito Canyon Road. This paved area would be approximately the length of a driveway and would include approximately 3,370 square feet, or 0.08-acre. This small driveway would not impact the SEA No. 19 and would be located over the existing dirt road.

Lot 47 includes property in the southwest portion of the project site that contains holly-leaf cherry woodland. Lot 48 is located in the northwest corner of the site and includes the steeper hillsides and ridgetops. The large majority of these open space lots will be preserved in their natural state, although some portions of these lots will include fuel modification zones and manufactured slopes vegetated with native plants.

Debris Basin Lots

Four debris basins will be developed on the project site and are designated as Lots 49, 50, 51, and 52. Debris basins are constructed earthen depressions that are designed to capture stormwater runoff and allow the debris and silt to settle out before entering natural drainages or storm drain systems. The accumulated debris and silt will require periodic removal in order to ensure the proper functioning of the basins. The four debris basin lots on the project site will be dedicated to the County of Los Angeles. Therefore, these lots will become the property of the County and will be maintained by the County in perpetuity.

LIST OF RESPONDENTS

The following is a list of the organizations and public agencies that submitted comments on the Draft EIR on or before the close of the 45-day public review period on March 20, 2006.

No.	Commenter	Department	Date of Correspondence
Public Agencies			
1	State of California	OPR- State Clearinghouse	March 29, 2006
2	State of California	Department of Highway Patrol	March 7, 2006
3	County of Los Angeles	Department of Parks and Recreation	March 16, 2006
4	County of Ventura	Planning Division	March 8, 2006
5	County of Ventura	Transportation Department	March 2, 2006
6	Santa Monica Mountains Conservancy	N/A	March 20, 2006
7	Santa Clarita Organization for Planning the Environment	N/A	August 16, 2006
Private Individuals			
8	Lynn Brown, Ntl. Trail Coordinator	Equestrian Trails, Inc.	March 12, 2006
9	Linda Leger	San Francisquito Canyon Preservation Association	March 12, 2006
10	Amy L. Safdeye	Skyblue Funding and Realty	March 12, 2006
11	Sherrie Stolarik, Area II Director Corrals 69 Corrals 77 Corral 9 Corral 86	Equestrian Trails, Inc. Newhall Trail Riders Saugus Saddle Club Little Rock Vasquez Vaquers	March 12, 2006
12	Ruth L. Gerson, President	Recreation & Equestrian Coalition	March 13, 2006
13	Cheryl and Jack Hawkins	N/A	March 15, 2006
14	Al Huber, President	Acton/Agua Dulce Trails Council	March 15, 2006
15	Nancy L. Pitchford	N/A	March 15, 2006
16	Sherrie Stolarik-1, Area II Director	Equestrian Trails, Inc.	March 15, 2006
17	March Watton	BackCountry Horsemen of California	March 15, 2006
18	Sherrie Stolarik-2, Area I Director (Linda Leger) (Lynn Brown, Ntl. Trail Coordinator)	Equestrian Trails, Inc. San Francisquito Canyon Preservation Association Equestrian Trails, Inc.	March 16, 2006
19	Susana Rovero	N/A	March 17, 2006

No.	Commenter	Department	Date of Correspondence
20	Cheryl and Jack Hawkins	N/A	March 20, 2006
21	John E. Evans	Montalvo Properties, LLC	March 23, 2006

RESPONSES TO COMMENTS

LETTER 1 – OPR - STATE CLEARINGHOUSE

This letter acknowledges the closure of the state's 45-day public review period. No response is necessary.

LETTER 2 – DEPARTMENT OF CALIFORNIA HIGHWAY PATROL

CHP 1 Response:

As described on page 7-1 of the Draft EIR, the EIR acknowledges that law enforcement agencies including the County Sheriff's Department are concerned about its ability to provide an adequate level of service to all policed areas due to the rapidly expanding population of the Santa Clarita Valley area. This same concern is shared by the Department of California Highway Patrol (CHP). There is no developer "fee" mechanism in place to contribute to the CHP that could offset any impacts, and most of the CHP's expenses are paid for by the State of California's Motor Vehicle Account (MVA), which derives its revenues primarily from vehicle registration and driver license fees. With the proposed project, more lots will be created with a likely incremental increase in automobile registrations. The increased vehicle registration and driver license fees revenue will help offset the additional costs expended by the CHP; although the increase in revenues may not fully cover the increase in services to be provided by the CHP. Nevertheless, impacts to the CHP from the proposed project are considered less than significant.

LETTER 3 – DEPARTMENT OF PARKS AND RECREATION

DPR 1 Response:

Page 7-3 of the Draft EIR specifies a Quimby fee of $91,917 for the Department of Parks and Recreation. The applicable fee recalculated for the reduced number of lots in the revised approved tract map is $71,709. Therefore, the original $91,917 is no longer the appropriate in-lieu fee and reference to this amount is hereby deleted from the Draft EIR.

LETTER 4 – COUNTY OF VENTURA - PLANNING DIVISION

This letter acknowledges the receipt of the Draft EIR and introduces other letters from the County of Ventura. No response is necessary.

LETTER 5 – COUNTY OF VENTURA - TRANSPORTATION DEPARTMENT

VTD-1 Response:

This letter seems to concur with the Draft EIR that there would be no adverse site-specific or cumulative impacts to Ventura County roads. No changes to the EIR are necessary.

LETTER 6 – SANTA MONICA MOUNTAINS CONSERVANCY

SMMC-1 Response:

Hillside management projects in rural areas require that a minimum of 70 percent open space on the project site be retained. The Draft EIR acknowledges San Francisquito Creek (open

space Lot #61 in the Draft EIR and Lot #46 in the revised tract map) as habitat for a number of sensitive species. As stated on page 2-7 of Section 2.0, Project Description and on page 4-48 of the Biota Section, as a condition of approval for the project, as stated the three open space parcels (Lot Nos. 61, 62, and 63 [or Lot Nos. 46, 47, and 48 on the revised tract map]) will be shown on the proposed Tentative Tract Map as open space and will be granted to the County of Los Angeles and will remain as open space in perpetuity as a condition of approval.

SMMC-2 Response:

As discussed in the Draft EIR on page 2-7 of Section 2.0, Project Description and on page 4-48 of the Biota Section, the open space lots will be granted to the County of Los Angeles. The County appreciates and commends the Mountains Recreation and Conservation Authority (MRCA) in its stewardship of open space and the County will continue to work with the MRCA. In accordance with CEQA Guidelines Section 15090, the Planning Commission and/or Board of Supervisors will review and consider the information contained in the Final EIR (including this Response to Comments document) prior to approving the project. No changes to the EIR are required.

SMMC-3 Response:

Please see response in SMMC-1. The open space lots will be dedicated to the County and the lots are conditioned to remain as open space.

SMMC-4 Response:

Fuel modification boundaries and distances from the habitable structures are described on pages 3-24 through 3-26 of Section 3.0, Hazards Analysis and are graphically depicted in Figure 4.3-2 as the Impact Area boundary. These areas are essentially the same for the approved revised tract map.

SMMC-5 Response:

As stated on page 2-7 of Section 2.0, Project Description and on page 4-48 of the Biota Section, the open space lots will be granted to the County of Los Angeles and will remain as open space in perpetuity. The County concurs with the comment that the primary purpose of the open space is for the permanent protection of natural resources.

As stated in Mitigation Measure (MM) 4.3-1, MM 4.3-2, and MM 4.3-5 in Section 4.3, Biological Resources, the protection of mitigation areas for vegetation impacts (coastal sage scrub, holly-leaf cherry woodland, and alluvial sage scrub), U.S. Army Corps of Engineers and California Department of Fish and Game jurisdictional impacts, and the western spadefoot impact is required as a condition of approval. Therefore, the mitigation areas for the sensitive biological resources on the project site would be under long-term preservation pursuant to mitigation measure requirements.

LETTER 7 – SANTA CLARITA ORGANIZATION FOR PLANNING THE ENVIRONMENT

SCOPE-1 Response:

The proposed project largely avoids impacts to the Significant Ecological Area (SEA) No. 19. Development of the project would result in only 0.05-acre of permanent impacts to SEA No. 19, which includes impacts from the levee and from the drainage structure. The proposed project has been reviewed and commented on by the County SEA Technical Advisory Committee (SEATAC) and no additional changes to the design are required.

As discussed on page 3-17, Section 3.2.2 of the Draft EIR, the project applicant will file a Conditional Letter of Map Revision (CLOMR) with FEMA to correct the FEMA map and move the flood zone line easterly towards the creek bed in order to accurately reflect the current hydrology of the creek. The CLOMR will be completed and approved prior to grading plan approval. Upon completion of the construction of the proposed project, a Letter of Map Amendment (LOMA) would be issued for the site, confirming the new alignment of the FEMA Zone A line. The proposed project would not be constructed in the 100-year floodplain, and potential impacts from flood hazards are therefore less than significant. No changes to the EIR are required.

SCOPE-2 Response:

Please see response in SCOPE-1 Response. Additionally, the proposed project does not include paving in the creek or SEA No. 19. As required in Mitigation Measure 4.3-16 on page 4-55, the proposed levee system would be constructed with ungrouted rip-rap, which would allow for percolation of water, accumulation of transported soils, and establishment of plant life; therefore, the levee would not create impervious surfaces within the creek. No changes to the EIR are required.

SCOPE-3 Response:

The water supply analysis presented in Section 5.4 of the Draft EIR is based on the 2005 Urban Water Management Plan, which is the approved and appropriate document for projecting the available regional water supply in the Santa Clarita Valley. Additionally, Newhall County Water District has issued a Water Service Availability letter for the project. No changes to the EIR are required.

SCOPE-4 Response:

Please see responses in SCOPE-2 Response and SCOPE-3 Response.

SCOPE-5 Response:

Please see response in SCOPE-1 Response. The proposed project is in conformance with the County of Los Angeles General Plan. Page 4-55 of the Draft EIR presents the project's conformance with the SEA Compatibility Criteria. No changes to the EIR are required.

LETTER 8 – EQUESTRIAN TRAILS, INC.

EQTrails-1 Response:

At the request of the County of Los Angeles Regional Planning Commission, the project applicant has revised the tract map to fully support the existing equestrian character of the neighborhood. The revised tract map includes 45 equestrian-compatible lots, a 25 percent reduction in the number of residential lots from original tract map design. Additionally, all of the residential lots are a minimum of 15,000 square feet, which allows for equestrian uses on each lot, and seven lots are a minimum of one acre each, thereby satisfying the request for larger lots on the project site. Therefore, the new tract map design includes lots that can fully support equestrian activities.

EQTrails-2 Response:

The new tract map design includes lots that can fully support equestrian activities and will further enhance the historic equestrian use of this area.

EQTrails-3 Response:

See EQTrails-1 Response. The proposed project would not result in a loss of horse-keeping properties or trail systems. The project site is currently vacant and does not support horse-keeping. Additionally, the Cliffie Stone Trail and Butterfield Overland Stage Trail would be incorporated into the project. These two trails and other existing trails, including the existing Harris Trail and Lady Linda Loop Trail, would be retained in perpetuity by the County of Los Angeles and would further preserve the equestrian lifestyle in the area.

LETTER 9 – MS. LINDA LEGER - SAN FRANCISQUITO CANYON PRESERVATION ASSOCIATION

Leger-1 Response:

See EQTrails-1 Response.

Leger-2 Response:

See EQTrails-2 Response.

Leger-3 Response:

See EQTrails-3 Response.

LETTER 10 – MS. AMY L. SAFDEYE - SKYBLUE FUNDING AND REALTY

Safdeye-1 Response:

Although the original project design of 60 residential lots is consistent with the zoning and General Plan, the applicant has re-designed the project for 45 lots within the original development footprint. All lots have the potential for horse keeping.

Safdeye-2 Response:

See Safdeye-1 and EQTrails-1 Responses.

Safdeye-3 Response:

All of the residential lots in the new tract map are a minimum of 15,000 square feet, which allows for equestrian uses on the lots, and seven lots are a minimum of one acre each, thereby satisfying the community request for larger lots on the project site. The open space lots will be deeded to the County of Los Angeles and will remain as open space in perpetuity, but there will be no deed-restrictions for exclusive horse use on the private residential lots.

Safdeye-4 Response:

As stated on page 2-9 of Section 2.0, Project Description, the traffic circulation is discussed and the project design does not include access to San Francisquito Canyon Road. Access to the project site would be through two planned roadway connections in the Tesoro del Valle development. The current access to off-site properties via Lady Linda Lane will remain in its current state, with the exception of improvements to the driveway intersection of Lady Linda Lane and San Francisquito Canyon Road. However, this improvement would not allow access to the project site or alter the existing access to off-site properties.

Safdeye-5 Response:

As described on page 2-10 of Section 2.3.4, Recreation, the Cliffie Stone Trail and Butterfield Overland Stage Trail are incorporated into the project as recommended by the Department of Parks and Recreation. These two trails and other existing trails, including the existing Harris Trail and Lady Linda Loop Trail will be retained in the open space lots in perpetuity by the County of Los Angeles. Trail access from the project site to the Tesoro del Valley property will be via the Cliffie Stone Trail.

Safdeye-6 Response:

Grading and construction activities would impact Lady Linda Loop Trail, although portions of the existing trail would remain accessible. For safety purposes, access to the portions of Lady Linda Loop Trail that are adjacent to grading and construction activities would be temporarily prohibited during these activities.

Safdeye-7 Response:

As stated in the fifth paragraph on page 2-7 of Section 2.0, Project Description, the open space lots will be granted to the County of Los Angeles and will remain as open space in perpetuity. The activities allowed within the SEA No. 19 (i.e. San Francisquito Canyon Creek) are governed by the County. Passive recreational uses are considered compatible with the resources within an SEA.

LETTER 11 – CORRALS 69, 77, 9, AND 86, AND EQUESTRIAN TRAILS, INC.

Corrals-1, Corrals-2, and Corrals-3 Response:

See EQTrails-1, EQTrails-2, and EQTrails-3 Responses, respectively.

LETTER 12 – RECREATION & EQUESTRIAN COALITION

REC-1 Response:

See EQTrails-2 Response

REC-2 Response:

See EQTrails-3 Response

LETTER 13 – CHERYL AND JACK HAWKINS

Hawkins-1 through Hawkins-7 Response:

See Safdeye-1 through Safdeye-7 Responses, respectively.

LETTER 14 – ACTON/AGUA DULCE TRAILS COUNCIL

AADTC-1 Response:

The approved project will not result in a loss of horse-keeping properties or trail systems. The project site is currently vacant and does not support horse-keeping. The project site is zoned both A-2-2 and R-1-7,000; therefore, the project site is zoned for either agricultural or for residential land uses. The project design acknowledges the established equestrian nature of the existing community, reflected by the incorporation of the Cliffie Stone and Butterfield Overland Stage Trails into the project, as described on page 2-10 of Section 2.3.4, Recreation. These two trails and other existing trails, including the existing Harris and Lady Linda Loop Trails, would be retained by the County of Los Angeles. See also EQTrail-1 Response.

AADTC-2 Response:

See Safdeye-1 Response

AADTC-3 through AADTC-8 Responses:

See Safdeye-2 through Safdeye-7 Responses, respectively.

LETTER 15 – NANCY L. PITCHFORD

Pitchford-1 through Pitchford-7 Responses:

See Safdeye-1 through Safdeye-7 Responses, respectively.

LETTER 16 – SHERRIE STOLARIK-1 - EQUESTRIAN TRAILS, INC.

Stolarik-1-1 through Stolarik-1-7 Responses:

See Safdeye-1 through Safdeye-7 Responses, respectively.

LETTER 17 – MARCH WATTON - BACKCOUNTRY HORSEMEN OF CALIFORNIA

Watton-1 Response:

See EQTrails-1 Response.

LETTER 18 – SHERRIE STOLARIK-2 EQUESTRIAN TRAILS INC. AND SAN FRANCISQUITO CANYON PRESERVATION ASSOCIATION

Stolarik-2-1 Response:

See Safdeye-1 Response.

Stolarik-2-2 Response:

This comment does not make a statement concerning the adequacy of Draft EIR.

Stolarik-2-3 Response:

The project Draft EIR acknowledges the established equestrian nature of the existing community.

Stolarik-2-4 Response:

As described on page 2-10 of Section 2.3.4, Recreation, the connection of the Cliffie Stone Trail in Tesoro del Valle has yet to be determined and would be decided by the County Department of Parks and Recreation and that property owner. The Cliffie Stone Trail within the project site has an alignment as requested by the Department of Parks and Recreation.

Stolarik-2-5 Response:

See Stolarik-2-4 Response. This is an issue beyond the control of the current project proponent as the two tract maps mentioned are owned by other parties.

Stolarik-2-6 Response:

The project design includes an alignment of the Butterfield Overland Stage Trail into the project, as described on page 2-10 of Section 2.3.4, Recreation.

Stolarik-2-7 Response:

As stated in the fifth paragraph on page 2-7 of Section 2.0, Project Description, the open space lots will be granted to the County of Los Angeles and will remain as open space in perpetuity. The Lady Linda Loop and Harris Trails would be retained in the open space lots in perpetuity by the County of Los Angeles. The alignment of the trail would be moved eastward near the project development in order to maintain the connectivity of the trail.

Stolarik-2-8 Response:

See Stolarik-2-7 Response.

LETTER 19 – SUSANA ROVERO

Rovero-1 Response:

See Safdeye-1 Response.

LETTER 20 – CHERYL AND JACK HAWKINS

Hawkins-2-1 Response:

See Safdeye-1 Response.

LETTER 21 – MONTALVO PROPERTIES, LLC

Montalvo-1 Response:

The analysis presented in Section 5.3 Education, of the Draft EIR reflects the input from the Saugus Union School District and the William S. Hart Union High School District. The project applicant is not a party to the School Facilities Funding Agreement between the Saugus Union School District and Montalvo Properties, LLC. Consistent with current State law, mitigation measures presented on page 5-22 of the Draft EIR are consistent with the direction provided by the school districts for mitigating the impact of the proposed project. No changes to the EIR are necessary.

Montalvo-2 Response:

The traffic study prepared by Linscott, Law & Greenspan Engineers and summarized in Section 5.1 Traffic/Access, of the Draft EIR, was conducted in accordance with the County of Los Angeles and City of Santa Clarita guidelines. The Tesoro del Valle onsite roads were sized to accommodate traffic from the Tesoro del Valle development and to maintain an acceptable reserve capacity for changes in trip behavior and background conditions, as is the standard for development within the County of Los Angeles. The Tesoro del Valle entitlement approval acknowledged that development of the proposed project would occur in the future, as evidenced by the requirement to provide a connection from Tesoro del Valle to the proposed project site in Area B. Additionally, the cumulative impacts analysis, presented in Table 5-4 on page 5-6 of the Draft EIR, accounts for the entitled, but currently unbuilt, units on Tesoro del Valle and concluded that impacts were less than significant. No changes to the EIR are necessary.

Montalvo-3 Response:

Fair-share payments for medians and round-a-bouts within the Tesoro del Valle project are not environmental issues addressed in the Draft EIR for the proposed project. No changes to the EIR are necessary.

Montalvo-4 Response:

The analysis of the low density threshold for the project site presented in the Draft EIR in Figure 2.5 is incorrect. The Table is hereby revised, as presented below. However, the change in the analysis for the low density threshold does not alter the analysis in the Draft EIR or the conclusions about development density on the project site. The approved project density falls between the low and the high density thresholds.

Slope Ranges	Maximum Density Thresholds							Low Density Thresholds	
	W	N-1		HM		Totals			
	Area (ac)	Area (ac)	Units	Area (ac)	Units	Area (ac)	Units	Area (ac)	Units
0-24.99%	53.88	106.2	53.1	0.69	0.35	160.77	53.49	106.89/5 @ 1/5	21.38
25-49.99%	0.34	12.69	6.35	2.26	1.13	15.29	7.53	14.95/10 @ 1/10	1.5
50-100%	0.11	8.12	0.41	1.63	0.08	9.75	0.49	9.75/10 @ 1/20	0.49
Totals	54.33	127.01	59.86	4.58	1.56	185.81	61.42		23.37

Montalvo-5 Response:

Compensation to Montalvo Properties, LLC pursuant to the "Agreement for the Protection of Significant Ecological Area No. 19" is not an environmental issue that should be addressed in this Draft EIR. No changes to the EIR are necessary.

APPENDIX A

COMMENT LETTERS RECEIVED FOR TRACT MAP 53189

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Arnold Schwarzenegger
Governor

Sean Walsh
Director

March 29, 2006

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

Subject: SunCal Burnam Project / Project No. 00-081 / Tentative Tract Map 53189
SCH#: 2000071052

Dear Daniel Fierros:

The enclosed comment (s) on your Draft EIR was (were) received by the State Clearinghouse after the end of the state review period, which closed on March 20, 2006. We are forwarding these comments to you because they provide information or raise issues that should be addressed in your final environmental document.

The California Environmental Quality Act does not require Lead Agencies to respond to late comments. However, we encourage you to incorporate these additional comments into your final environmental document and to consider them prior to taking final action on the proposed project.

Please contact the State Clearinghouse at (916) 445-0613 if you have any questions concerning the environmental review process. If you have a question regarding the above-named project, please refer to the ten-digit State Clearinghouse number (2000071052) when contacting this office.

Sincerely,

Terry Roberts

Terry Roberts
Senior Planner, State Clearinghouse

Enclosures
cc: Resources Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

DEPARTMENT OF CALIFORNIA HIGHWAY PATROL
28648 The Old Road
Valencia, CA 91355
(661)294-5540
(800) 735-2929 (TT/TDD)
(800) 735-2922 (Voice)

Clear
3-20-06
l ate

March 7, 2006

File No.: 540.9107.13086

State Clearinghouse
1400 Tenth Street
Sacramento, CA. 95814

This is in response to your letter regarding SCH # 2000071052. The proposed 185.8 acre project will consist of 60 new homes, 3 open spaces and 3 public facilities. The proposed project will be located in the unincorporated area of Los Angeles County and 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.

This project, in conjunction with several other proposed developments within the same geographical area, will significantly increase traffic volume on San Francisquito Canyon Road, Copperhill Drive and all roads in the surrounding area. Additionally, we have great concern for the proposed additional roadways which would necessitate additional resources and officers to provide traffic enforcement, emergency incident management, public service, assistance and accident investigation. 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.

CHP - 1

Sergeant R. Miler 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,

S. V. BERNARD, Captain
Commander
Newhall Area

cc: Southern Division
Special Projection Section

COUNTY OF LOS ANGELES
DEPARTMENT OF PARKS AND RECREATION
"Creating Community Through People, Parks and Programs"
Russ Guiney, Director

March 16, 2006

TO: Hsiao-Ching Chen
Department of Regional Planning
Analysis Section

FROM: Bryan Moscardini
Park Project Coordinator

SUBJECT: **DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) FOR VTTM 53189 / NO. 00-81 / SCH 2000071052**

The Department of Parks and Recreation has reviewed the DEIR for the proposed project. The applicant's Quimby fee has been updated to reflect the current obligation for this project (0.60 acres). The document states a Quimby fee of $91,917 will be paid, whereas the current in-lieu fee should be $95,612 (attached). CHP - 1

If you have any questions, please contact me at (213) 351-5133.

BM(c:response-VTTM 53189)

c: Parks and Recreation (James Barber, Joan Rupert, Patrick Reynolds, Jeremy Bok)

enclosure

LOS ANGELES COUNTY
DEPARTMENT OF PARKS AND RECREATION

PARK OBLIGATION REPORT

Tentative Map #	**53189**	DRP Map Date: **11/07/2005**	SCM Date: / /	Report Date: **01/12/2006**
Park Planning Area #	**35B**	**CASTAIC/VAL VERDE**		Map Type: **REV. (REV RECD)**

Total Units **60** = Proposed Units **60** + Exempt Units **0**

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:	**0.60**
IN-LIEU FEES:	**$95,612**

Conditions of the map approval:

The park obligation for this development will be met by:

The payment of $95,612 in-lieu fees.

Trails:

See also attached Trail Report. CLIFFIE STONE (SAN FRANCISQUITO CREEK) and HARRIS TRAIL - For trail requirments, please contact Jeremy Bok, Acting Trails Coordinator at (213) 351-5137.

Contact Patrocenia T. Sobrepeña, Departmental Facilities Planner I, Department of Parks and Recreation, 510 South Vermont Avenue, Los Angeles, California, 90020 at (213) 351-5120 for further information or an appointment to make an in-lieu fee payment.

For information on Hiking and Equestrian Trail requirements contact Trail Coordinator at (213) 351-5135.

By: _____

James Barber, Advanced Planning Section Head

Supv D 5th
March 16, 2006 16:09:50
QMB02F.FRX

LOS ANGELES COUNTY
DEPARTMENT OF PARKS AND RECREATION

PARK OBLIGATION WORKSHEET

Tentative Map # **53189**	DRP Map Date: **11/07/2005**	SMC Date: / /	Report Date: **01/12/2006**
Park Planning Area # **35B**	**CASTAIC/VAL VERDE**		Map Type: **REV. (REV RECD)**

The formula for calculating the acreage obligation and or In-lieu fee is as follows:

(P)eople x (0.003) Goal 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.

Goal = The subdivision ordinance allows for the goal of 3.0 acres of park land for each 1,000 people generated by the development. This goal 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 **60** = Proposed Units **60** + Exempt Units **0**

	People*	Goal (3.0 Acres / 1000 People)	Number of Units	Acre Obligation
Detached S.F. Units	**3.36**	**0.0030**	**60**	**0.60**
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 =	**0.60**

Park Planning Area = **35B CASTAIC/VAL VERDE**

Goal	Acre Obligation	RLV / Acre	In-Lieu Base Fee
@(0.0030)	0.60	$159,353	**$95,612**

Lot #	Provided Space	Provided Acres	Credit (%)	Acre Credit	Land
None					
			Total Provided Acre Credit:	**0.00**	

Acre Obligation	Public Land Crdt	Priv. Land Crdt	Net Obligation	RLV / Acre	In-Lieu Fee Due
0.60	0.00	0.00	0.60	$159,353	**$95,612**

Supv D 5th
March 16, 2006 16:09:54
QMB01F.FRX

RESOURCE MANAGEMENT AGENCY
county of ventura

Planning Division
Christopher Stephens
Director

March 8, 2006

Mr. Daniel Fierros
County of Los Angeles
Department of Regional Planning
Impact Analysis Section, Room 1348
320 West Temple Street
Los Angeles, CA 90012

FAX #: (213) 626-0434

SUBJECT: SunCal Burnam Project, Co. Project #00-081; NOC of Draft EIR

Thank you for the opportunity to review and comment on the above subject document. Attached are the comments that we have received resulting from an intra-county review of the projects.

Any responses to these comments should be sent directly to the commenter, with a copy to Carl Morehouse, Ventura County Planning Division, L#1740, 800 S. Victoria Avenue, Ventura, CA 93009.

If you have any questions regarding any of the comments, please contact the appropriate respondent. Overall questions may be directed to Carl Morehouse at (805) 654-2476.

Sincerely,

Christopher Stephens
County Planning Director

Post-it® Fax Note 7671	Date 3/8/06	# of pages ▸ 2
To D. Fierros	From C. Morehouse	
Co./Dept.	Co.	
Phone #	Phone #	
Fax #	Fax #	

Attachment

County RMA Reference Number 06-006

PUBLIC WORKS AGENCY
TRANSPORTATION DEPARTMENT
Traffic, Advance Planning & Permits Division
MEMORANDUM

DATE: March 2, 2006

TO: Resource Management Agency, Planning Division
Attention: Carl Morehouse

FROM: Nazir Lalani, Deputy Director NL

SUBJECT: Review of Document 06-006 Suncal Burnham Project
DEIR for Suncal Burnham Project. The project consists of 60 single-family residential units located north of the City of Santa Clarita in the unincorporated area of Los Angeles County.
Lead Agency: **County of Los Angeles**

The Public Works Agency -- Transportation Department has reviewed the DEIR for the Suncal Burnham Project. The project proposes to construct 60 single-family dwelling units. The project is located in the unincorporated area of Los Angeles County, north of the City of Santa Clarita. The regional access to the project will be via Interstate 5 and SR 126.

The project location is outside of Ventura County jurisdiction. The Traffic Study indicates that this project will generate 574 ADT. However, the Study did not analyze any roadways or intersections in Ventura County. No adverse site-specific or cumulative impacts to County Roads were identified in the DEIR. CHP - 1

Our review is limited to the impacts this project may have on Ventura County's Regional Road Network.

Please call me at 654-2080 if you have questions.

F:\transpor\LanDev\Non_County\06-006 LA.doc

STATE OF CALIFORNIA–THE RESOURCES AGENCY
SANTA MONICA MOUNTAINS CONSERVANCY
RAMIREZ CANYON PARK
5750 RAMIREZ CANYON ROAD
MALIBU, CALIFORNIA 90265
PHONE (310) 589-3200
FAX (310) 589-3207
ARNOLD SCHWARZENEGGER, Governor

March 20, 2006

Daniel Fierros
County of Los Angeles
Department of Regional Planning
320 West Temple Street
Los Angeles, California 90012

Comments on Draft Environmental Impact Report for Sun Cal Burnam Project/ Project No. 00-08, Tentative Tract Map No. 53189, Adjacent to San Francisquito Creek

Dear Mr. Fierros:

The Santa Monica Mountains Conservancy (Conservancy) offers the following comments on the Draft Environmental Impact Report (DEIR) for the Sun Cal Burnam Project/ Project No. 00-08, Tentative Tract Map (TTM) No. 53189. Lots 61-63 (total of 148.5 acres of the 186-acre site) are proposed to be granted to the County of Los Angeles, to remain as open space in perpetuity, to be maintained by the Homeowners' Association (DEIR, p. 2.8-2.9). According to the DEIR, the large majority of these open space lots will be preserved in their natural state, although some portions will include fuel modification zones and manufactured slopes vegetated with native plants. While we concur with the intent to preserve the open space onsite, we respectfully suggest that the proposed mitigation measures do not provide assurance that the open space will be preserved in perpetuity. San Franciquito Creek is a Significant Ecological Area and it supports western spadefoot toad, unarmored threespine stickleback, and Santa Ana sucker. CHP - 1

The Conservancy recommends that the County include in the mitigation measures in the Final Environmental Impact Report (FEIR) and in the conditions of approval the requirement to dedicate fee title of the land to Mountains Recreation and Conservation Authority (MRCA) the open space lots prior to vegetation removal or grading, at no cost to the MRCA. In addition, this mitigation measure should include the requirement to establish a fund for long-term maintenance and management on the order of $12,000 annually. This can be set up through the establishment of a non-wasting endowment by the developer, or a Community Facilities District. The proposed project and every alternative must require that the funding mechanism be established prior to grading or vegetation removal. This funding would be used to cover management of the open space and rare plant and wildlife populations and to provide ranger patrol for any nuisance problems. SMMC-2

This mitigation is warranted given the size of the project, the location of the project in a biologically sensitive area, and the extent of the environmental impacts. This would assure that the future of the open space is not determined by the sometimes evolving goals of a jurisdiction, or by the sometimes conflicting goals of homeowners' associations. One of the mandates of a park and open space agency such as MRCA is to protect the natural resources on the land it owns and MRCA has years of experience doing this type of work. SMMC-3

For fuel modification areas in this open space, easements can be granted to the Homeowners' Association to allow for privately funded fuel modification on public land. The FEIR should clearly designate the boundaries of the open space lots and the locations of fuel modification areas. SMMC-4

The FEIR must clearly state that the primary purpose of the open space is for permanent protection of natural resources, and that uses incompatible with that purpose would not be allowed. SMMC-5

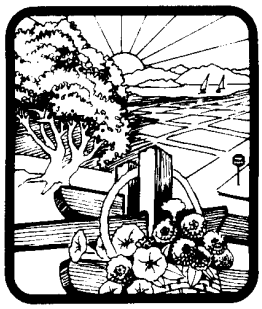
Thank you for the opportunity to comment. Please contact Judi Tamasi of our staff at (310) 589-3200, ext. 121 if you have any questions.

Sincerely,

PAUL EDELMAN
Deputy Director for
Natural Resources and Planning

cc: State Clearinghouse

SCOPE
Santa Clarita Organization for Planning and the Environment
TO PROMOTE, PROTECT AND PRESERVE THE ENVIRONMENT, ECOLOGY
AND QUALITY OF LIFE IN THE SANTA CLARITA VALLEY
POST OFFICE BOX 1182, SANTA CLARITA, CA 91386



8-16-06

LA County Regional Planning Commission
320 W. Temple St.
Los Angeles, CA 90012

Re: Vesting Tract Map # 53189 San Francisquito Canyon Agenda Item 6

Dear Commissioners:

CHP - 1 We would like to state our opposition to building in a Significant Ecological Area and in a flood plain. Further San Francisquito Creek is one of the most significant recharge areas for the Santa Clara River. Continued

Scope-2 narrowing and paving of this creek will reduce water recharge as will as the ability to supply water from the local aquifer.

SMMC-2 We believe that this project continues to have the significant water issues that we have brought before you in all recent project proposal, including continued reliance on the polluted Saugus aquifer before any remediation facilities are in place to clean up the water supply and reliance on the disputed 41,000 AF transfer that is not final under the Monterey Agreement. We request that a water supply scenario for this project be evaluated that does not rely on these two currently unavailable water sources. Further, this EIR does not analyzed the drought scenerio indicted in the most recent Dept. of Water Resources Reliability Report that could lower state way supplies to as little a 5%. Since all new development in the Santa Clarita Valley will now depend of Water from this source, it is imperative that this scenario be evaluated.

SMMC-4 As global warming continues to occur, reducing snowfall in the Sierras, we will have to rely more and more on our local water resources. Continued paving over of these resources will significantly affect our ability to provide water supply to the Santa Clarita Valley in the future. We include by reference the Climate Change Report (www.climatechange.ca.gov) just issued by the Governor's Office and the climate change report issued by the Department of Water Resources available on their website.

SMMC-5 We request that these issues, including water supply and failure to abide by the requirements of the General Plan as it pertains to the SEA be addressed and mitigated before any approval for this project is given.

Thank you for your time and consideration of these concerns.

Sincerely,
Lynne Plambeck
President

Equestrian Trails, Inc.®

ORGANIZED 1944

13741 Foothill Boulevard, Suite 100
Sylmar, California 91342
(818) 362-6819 • FAX (818) 362-9443
ETI@1stnetusa.com

March 12, 2006

Regional Planning Commission
Department of Regional Planning
Room 150, Hall of Records
320 West Temple Street
Los Angeles, CA 90012

Re: Subject: SunCal Project, Tract 53189, San Francisquito Cyn
Hearing Date – March 29th, 2006

Dear Commissioners:

Equestrian Trails Inc. strongly opposes the proposed development of 60 Non-equestrian lots in a well established equestrian neighborhood. CHP - 1

We wish to support Supervisor Michael D. Antonovich in his efforts to protect the historic equestrian use of this area. It is a short sighted to consider allowing this type of development. Horse keeping properties are a unique feature to these neighborhoods, and in the future will enhance the property values of this area, as the Cities of Burbank and Glendale have discovered. Scope-2

Equestrian Trails doesn't wish to see any further loss of horse keeping properties or trail systems in beautiful Santa Clarita. We seek to preserve the trail system that was so diligently developed by the Santa Clarita Trails Advisory Committee (SCVTAC) and to preserve our equestrian lifestyle as set in motion by our Honorable 5th District Supervisor Michael D. Antonovich. SMMC-2

Respectfully submitted,

Lynn Brown
National Trail Coordinator

(3)

March 12, 2006

Regional Planning Commission
Department of Regional Planning
Room 150, Hall of Records
320 West Temple Street
Los Angeles, CA 90012

Re: Subject: SunCal Project, Tract 53189, San Francisquito Cyn
Hearing Date – March 29th, 2006

Dear Commissioners:

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Respectfully submitted,

Lenda Leger
San Francisquito Cyn Preservation association

3/12/2006

March 12, 2006

Regional Planning Commission
Department of Regional Planning
Room 150, Hall of Records
320 West Temple Street
Los Angeles, CA 90012

Dear Commissioners:

Subject: SunCal Project, Tract 53189, San Francisquito Canyon
Hearing Date – March 29th, 2006

It is with great concern and opposition regarding this project and the proposed loss of our equestrian lifestyle that this letter is being sent. The proposed project of 60 NON-EQUESTRIAN lots that are located in the heart of our well-established equestrian neighborhood is unacceptable. The project would only be acceptable if it remains equestrian, adequate lot size to allow for horses.

We are grateful that the Board of Supervisors unanimously voted to protect, preserve, and expand this 'equestrian heritage' lifestyle on which they voted February 26, 2003. We wish to honor and uphold this vote by stating that this rural A2-2 zone be retained with a minimum of 6 to 10 homes on lot sizes up to 5 acres, as they are contingent with the surrounding neighborhood, i.e, Tesoro del Valle Phases B and C and the proposed Tapia Ranch Project, Tracts 51644 and 53822, respectively. The smaller lot sizes are a non-conforming use and deny the inherent rights of this zone, which is Agricultural. Tesoro del Valle will retain A2-2 zoning with large lots per the approved Conditional Use Permit dated May 1999, with the minimum being 2 acres in Phases B and C which will be westerly of this proposed project. CHP - 1

We seek to preserve the trail system that was so diligently developed by the Santa Clarita Trails Advisory Committee (SCVTAC) and to preserve our equestrian lifestyle as set in motion by our Honorable 5th District Supervisor Michael D. Antonovich.

In order to preserve this well established equestrian community of over 400 horses and the filled-to-capacity riding and boarding facilities, our requests are also set forth in the Conditions below:

Condition No. 1 – Minimum lot sizes specified by the A2-2 zoning for 6 to 10 homes. Scope-2

Condition No. 2 -- Lot sizes are to retain 2,000 to 2,500 sq feet deed restriction for horses so that they will remain horse property in perpetuity. SMMC-2

Condition No. 3 - No access to San Francisquito Canyon Road. Residents in emergencies from creek flooding may have access to the proposed Stonycreek Road. SMMC-3

Condition No. 4 -- Trails named the San Francisquito Creek Trail, Lady Linda Loop Trail, and the Harris Trail to be retained in perpetuity by the County Department of Parks and Recreation as accepted by the Santa Clarita Trails Advisory Committee (SCVTAC) with the Harris Trail connecting to the Cliffie Stone Regional Trail located on Tesoro de Valle's Tract No. 51644, Phases A, B, and C. SMMC-4

Condition No. 5 – The Lady Linda Loop Trail be allowed for use during all construction phases so as to not impact commercial and private boarding facilities i.e, Amber Rose and Jump for Joy Ranches, Don E Brook Farms, Rovero Ranch, Lazy D, Summerhill, Three Aces, Rancho San Francisquito, Amber Grove, etc. SMMC-5

Condition No. 6 - As conditioned in Westcreek C.U.P, low-impact passive recreation to be allowed such as horseback riding, hiking, and bird watching throughout open space lots, i.e, San Francisquito Creek. Safdeye - 7

Respectfully submitted,

Amy L. Safdeye
Skyblue Funding and Realty
23030 Lyons Avenue #101
Newhall, CA. 91321

cc: The Honorable Michael D. Antonovich
5th District Supervisor
County of Los Angeles
869 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012

Phone – 213-974-5555
Fax – 213-974-1010, email:

(5)

March 12, 2006

Regional Planning Commission
Department of Regional Planning
Room 150, Hall of Records
320 West Temple Street
Los Angeles, CA 90012

Re: Subject: SunCal Project, Tract 53189, San Francisquito Cyn
Hearing Date – March 29th, 2006

Dear Commissioners:

Equestrian Trails Inc. strongly opposes the proposed development of 60 Non-equestrian lots in a well established equestrian neighborhood. CHP - 1

We wish to support Supervisor Michael D. Antonovich in his efforts to protect the historic equestrian use of this area. It is a short sighted to consider allowing this type of development. Horse keeping properties are a unique feature to these neighborhoods, and in the future will enhance the property values of this area, as the Cities of Burbank and Glendale have discovered.

Equestrian Trails doesn't wish to see any further loss of horse keeping properties or trail systems in beautiful Santa Clarita. We seek to preserve the trail system that was so diligently developed by the Santa Clarita Trails Advisory Committee (SCVTAC) and to preserve our equestrian lifestyle as set in motion by our Honorable 5th District Supervisor Michael D. Antonovich. SMMC-2

Respectfully submitted,

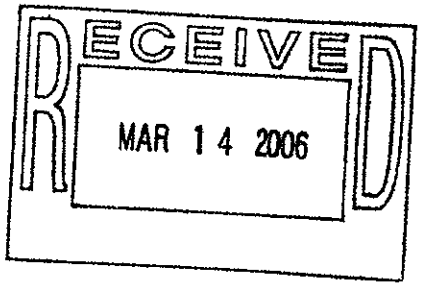
Corrals 69 Newhall Trail Riders
Corral 77 Saugus Saddle Club
Corral 9 Little Rock
Corral 86 Vasquez Vaqueros

Area 11 Director for
Equestrian Trails, Inc
Steve Stolarik

3/12/2006

REC
RECREATION & EQUESTRIAN COALITION

P.O. Box 245
Agoura Hills, CA 91376
Phone: 818.991.1236
Fax: 818 889.4540
www.gotorec.org



March 13, 2006

Regional Planning Commission
Department of Regional Planning
Room 150, Hall of Records
320 West Temple Street
Los Angeles, CA 90012

Re: SunCal Project, Tract 53189, San Francisquito Cyn

Dear Commissioners:

We wish to support Supervisor Antonovich in his efforts to protect the cultural and historic equestrian use of this area. Horse keeping properties are a unique feature to these neighborhoods, and it would be detrimental to consider allowing the proposed type of development. Equestrian properties enhance the property values of all developments, as evidenced in the cities of Rolling Hills, Palos Verdes, Burbank, Glendale and Agoura Hills. CHP - 1

We recommend that Regional Planning not permit any further loss of horse keeping properties or trail systems in the Santa Clarita area. It is very important both to preserve the trail system that was developed and mapped by the Santa Clarita Trails Advisory Committee (SCVTAC) and to preserve the equestrian lifestyle - all of which is strongly supported by the 5th District's Supervisor Michael D. Antonovich. Scope-2

Thank you for your consideration.

Sincerely,

Ruth L. Gerson

Ruth L. Gerson
President

6

March 15, 2006

Regional Planning Commission
Department of Regional Planning
Room 150, Hall of Records
320 West Temple Street
Los Angeles, CA 90012

Dear Commissioners:

Subject: SunCal Project, Tract 53189, San Francisquito Cyn
Hearing Date – March 29th, 2006

It is with great concern and opposition regarding this project and the proposed loss of our equestrian lifestyle that this letter is being sent. The proposed project of 60 NON-EQUESTRIAN lots that **are** located in the heart of our well-established equestrian neighborhood is unacceptable. The project would **only** be acceptable if it remains equestrian, adequate lot size to allow for horses.

We are grateful that the Board of Supervisors unanimously voted to protect, preserve, and expand **this 'equestrian heritage'** lifestyle **on which they voted February** 26, 2003. We wish to honor and uphold this vote by stating that this rural A2-2 zone be retained with a minimum of 6 to 10 homes on lot sizes up to 5 acres, **as they are** contingent with the surrounding neighborhood, i.e, Tesoro del Valle Phases B and C and the proposed Tapia Ranch Project, Tracts 51644 and 53822, respectively. The smaller lot sizes are a non-conforming use and deny the inherent rights of this zone, which is **Agricultural.** Tesoro del Valle will retain A2-2 zoning with large lots per the approved Conditional Use Permit dated May 1999, with the minimum being 2 acres in Phases B and C which will be westerly of this proposed project. CHP - 1

We seek to preserve the trail **system that was so diligently developed** by the Santa Clarita Trails Advisory Committee (SCVTAC) and **to** preserve our equestrian lifestyle as set in motion by our Honorable 5th District Supervisor Michael D. Antonovich.

In order to preserve this well established equestrian community of over 400 horses and the filled-to-capacity riding and boarding facilities, our requests are also set forth in the Conditions below:

Condition No. 1 – Minimum lot sizes specified by the A2-2 zoning for 6 to 10 homes. Scope-2

Condition No. 2 -- Lot sizes are to retain 2,000 to 2,500 sq feet **deed restriction** for horses **so that they will remain horse property in perpetuity.** SMMC-2

Condition No. 3 - No access to San Francisquito Canyon Road. Residents in emergencies from creek flooding may have access to the proposed Stonycreek Road. SMMC-3

Condition No. 4 -- Trails named the San Francisquito Creek Trail, Lady Linda Loop Trail, and the Harris Trail to be retained in perpetuity by the County Department of Parks and Recreation as accepted by the Santa Clarita Trails Advisory Committee (SCVTAC) with the Harris Trail connecting to the Cliffie Stone Regional Trail located on Tesoro de Valle's Tract No. 51644, Phases A, B, and C. SMMC-4 2-5

Condition No. 5 – The Lady Linda Loop Trail be allowed for use during all construction phases so as to not impact commercial and private boarding facilities i.e, Amber Rose and Jump for Joy Ranches, Don E Brook Farms, Rovero Ranch, Lazy D, Summerhill, Three Aces, Rancho San Francisquito, Amber Grove, etc. SMMC-5

Condition No. 6 - As conditioned in Westcreek C.U.P, low-impact passive recreation to be allowed such as horseback riding, hiking, and bird watching throughout open space lots, i.e, San Francisquito Creek. Safdeye - 2-7

Respectfully submitted,

Cheryl + Jack Hawkins
23001 Rivermeade.
Santa Clarita, Ca. 91390

c: The Honorable Michael D. Antonovich
5th District Supervisor
County of Los Angeles
869 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012

Phone – 213-974-5555
Fax – 213-974-1010, email: mantonovich@bos.co.la.ca.us

Acton Agua Dulce Trails Council

(7)

March 15, 2006

Regional Planning Commission
Department of Regional Planning
Room 150, Hall of Records
320 West Temple Street
Los Angeles, CA 90012

Dear Commissioners:

Subject: SunCal Project, Tract 53189, San Francisquito Canyon
Hearing Date – March 29th, 2006

The Acton/Aqua Dulce Trails Council (the "Council") was formed in 1989 for the expressed purpose of developing, supporting and maintaining multi-purpose trails in the area. The Council actively works to enhance the rural, equestrian lifestyle in our area.

It is with concern and some experience with these issues that we oppose this project in its present form. We are concerned with the proposed loss of equestrian properties and resulting negative impact on it's lifestyle. The proposed project consists of 60 non-equestrian lots located in the heart of a well-established equestrian neighborhood. We believe that this is totally inconsistent with the existing area, its character and its flavor. We strongly suggest that development of the property only go forward if it remains equestrian, adequate lot size to allow for horses and is consistent with the entire neighborhood. CHP - 1

We understand that the Board of Supervisors unanimously voted to protect, preserve, and expand this 'equestrian heritage' lifestyle when they voted on February 26, 2003. We encourage Regional Planning to uphold this vote by reinforcing this retaining the rural A2-2 zone with a minimum of 6 to 10 homes on lot sizes of 5 acres, as they are contingent with the surrounding neighborhood. This includes Tesoro del Valle Phases B and C and the proposed Tapia Ranch Project, Tracts 51644 and 53822, respectively. Smaller lot sizes in this area constitute a non-conforming use. Tesoro del Valle will retain A2-2 zoning with large lots per the approved Conditional Use Permit dated May 1999, with the minimum being 2 acres in Phases B and C, which will be westerly of this proposed project. AADTC - 2

We seek to preserve the trail system that was so diligently developed by the Santa Clarita Trails Advisory Committee (SCVTAC) and to preserve our equestrian lifestyle as set in motion by our Honorable 5th District Supervisor Michael D. Antonovich.

We urge you to preserve this established equestrian community of over 400 horses and the filled-to-capacity riding and boarding facilities, our requests
are also set forth in the Conditions below:

Condition No. 1 – Minimum lot sizes as specified by the A2-2 zoning, which will result in 6 to 10 homes. AADTC - 3

Condition No. 2 -- Lot sizes are to retain 2,000 to 2,500 sq feet deed restriction for horses so that they will remain horse property in perpetuity. AADTC - 4

Condition No. 3 - No access to San Francisquito Canyon Road. Residents in emergencies from creek flooding may have access to the proposed Stonycreek Road. AADTC - 5

Condition No. 4 -- Trails named the San Francisquito Creek Trail, Lady Linda Loop Trail, and the Harris Trail must be retained by the County Department of Parks and Recreation as accepted by the Santa Clarita Trails Advisory Committee (SCVTAC) with the Harris Trail connecting to the Cliffie Stone Regional Trail located on Tesoro de Valle's Tract No. 51644, Phases A, B, and C. AADTC - 6

Condition No. 5 – The Lady Linda Loop Trail be allowed for use during all construction phases so as to not impact commercial and private boarding facilities i.e, Amber Rose and Jump for Joy Ranches, Don E Brook Farms, Rovero Ranch, Lazy D, Summerhill, Three Aces, Rancho San Francisquito, Amber Grove, etc. AADTC - 7

Condition No. 6 - As conditioned in Westcreek C.U.P, low-impact passive recreation to be allowed such as horseback riding, hiking, and bird watching throughout open space lots, i.e, San Francisquito Creek. AADTC - 8

Respectfully submitted,

Al Huber
President
Acton/Agua Dulce Trails Council

cc: Michael D. Antonovich 5th District Supervisor
Acton Town Council
Agua Dulce Town Council
Sherrie Stolick

N. L. Pitchford
19222-E Ave. of the Oaks
Newhall, CA 91321

March 15, 2006

Regional Planning Commission
Department of Regional Planning
Room 150, Hall of Records
320 West Temple Street
Los Angeles, CA 90012

Dear Commissioners:

Subject: SunCal Project, Tract 53189, San Francisquito Cyn
Hearing Date – March 29th, 2006

It is with great concern and opposition regarding this project and the proposed loss of our equestrian lifestyle that this letter is being sent. The proposed project of 60 NON-EQUESTRIAN lots that are located in the heart of our well-established equestrian neighborhood is unacceptable. The project would only be acceptable if it remains equestrian, adequate lot size to allow for horses.

We are grateful that the Board of Supervisors unanimously voted to protect, preserve, and expand this 'equestrian heritage' lifestyle on which they voted February 26, 2003. We wish to honor and uphold this vote by stating that this rural A2-2 zone be retained with a minimum of 6 to 10 homes on lot sizes up to 5 acres, as they are contingent with the surrounding neighborhood, i.e, Tesoro del Valle Phases B and C and the proposed Tapia Ranch Project, Tracts 51644 and 53822, respectively. The smaller lot sizes are a non-conforming use and deny the inherent rights of this zone, which is Agricultural. Tesoro del Valle will retain A2-2 zoning with large lots per the approved Conditional Use Permit dated May 1999, with the minimum being 2 acres in Phases B and C which will be westerly of this proposed project.] CHP - 1

We seek to preserve the trail system that was so diligently developed by the Santa Clarita Trails Advisory Committee (SCVTAC) and to preserve our equestrian lifestyle as set in motion by our Honorable 5th District Supervisor Michael D. Antonovich.

In order to preserve this well established equestrian community of over 400 horses and the filled-to-capacity riding and boarding facilities, our requests are also set forth in the Conditions below:

Condition No. 1 – Minimum lot sizes specified by the A2-2 zoning for 6 to 10 homes.] Scope-2

Condition No. 2 -- Lot sizes are to retain 2,000 to 2,500 sq feet deed restriction for horses so that they will remain horse property in perpetuity.] SMMC-2

Condition No. 3 - No access to San Francisquito Canyon Road. Residents in emergencies from creek flooding may have access to the proposed Stonycreek Road.] SMMC-3

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Condition No. 6 - As conditioned in Westcreek C.U.P, low-impact passive recreation to be allowed such as horseback riding, hiking, and bird watching throughout open space lots, i.e, San Francisquito Creek. Safdeye - 7

Respectfully submitted,

Nancy L. Pitchford

c: The Honorable Michael D. Antonovich
5th District Supervisor
County of Los Angeles
869 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012

Phone – 213-974-5555
Fax – 213-974-1010, email: mantonovich@bos.co.la.ca.us

March 15, 2006

Regional Planning Commission
Department of Regional Planning
Room 150, Hall of Records
320 West Temple Street
Los Angeles, CA 90012

Dear Commissioners:

Subject: SunCal Project, Tract 53189, San Francisquito Cyn
Hearing Date – March 29th, 2006

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We are grateful that the Board of Supervisors unanimously voted to protect, preserve, and expand **this 'equestrian heritage'** lifestyle **on which they voted February** 26, 2003. We wish to honor and uphold this vote by stating that this rural A2-2 zone be retained with a minimum of 6 to 10 homes on lot sizes up to 5 acres, **as they are** contingent with the surrounding neighborhood, i.e, Tesoro del Valle Phases B and C and the proposed Tapia Ranch Project, Tracts 51644 and 53822, respectively. The smaller lot sizes are a non-conforming use and deny the inherent rights of this zone, which is **Agricultural.** Tesoro del Valle will retain A2-2 zoning with large lots per the approved Conditional Use Permit dated May 1999, with the minimum being 2 acres in Phases B and C which will be westerly of this proposed project. CHP - 1

We seek to preserve the trail **system that was so diligently developed** by the Santa Clarita Trails Advisory Committee (SCVTAC) and **to** preserve our equestrian lifestyle as set in motion by our Honorable 5th District Supervisor Michael D. Antonovich.

In order to preserve this well established equestrian community of over 400 horses and the filled-to-capacity riding and boarding facilities, our requests are also set forth in the Conditions below:

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Condition No. 2 -- Lot sizes are to retain 2,000 to 2,500 sq feet **deed restriction** for horses **so that they will remain horse property in perpetuity.** SMMC-2

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Condition No. 4 -- Trails named the San Francisquito Creek Trail, Lady Linda Loop Trail, and the Harris Trail to be retained in perpetuity by the County Department of Parks and Recreation as accepted by the Santa Clarita Trails Advisory Committee (SCVTAC) with the Harris Trail connecting to the Cliffie Stone Regional Trail located on Tesoro de Valle's Tract No. 51644, Phases A, B, and C. SMMC-4

Condition No. 5 – The Lady Linda Loop Trail be allowed for use during all construction phases so as to not impact commercial and private boarding facilities i.e, Amber Rose and Jump for Joy Ranches, Don E Brook Farms, Rovero Ranch, Lazy D, Summerhill, Three Aces, Rancho San Francisquito, Amber Grove, etc. SMMC-5

Condition No. 6 - As conditioned in Westcreek C.U.P, low-impact passive recreation to be allowed such as horseback riding, hiking, and bird watching throughout open space lots, i.e, San Francisquito Creek. Safdeye -

Respectfully submitted,

Sherrie Stolarik - Area II Director, Equestrian Trails, Inc -
Santa Clarita Valley Trails Advisory Committee member

c: The Honorable Michael D. Antonovich
5th District Supervisor
County of Los Angeles
869 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012

Phone – 213-974-5555
Fax – 213-974-1010, email: mantonovich@bos.co.la.ca.us

Ms. Sherrie Stolarik
25241 Carson Way
Stevenson Ranch, CA 91381-1605

Sherrie Stolarik

From: "Sherrie Stolarik" <shereo@socal.rr.com>
To: "Sherrie Stolarik" <shereo@socal.rr.com>
Sent: Saturday, March 18, 2006 10:24 AM
Subject: Fw: Letter re SunCal San Fran. development

8

----- Original Message -----
From:
To:
Sent: Wednesday, March 15, 2006 8:01 PM
Subject: Fw: Letter re SunCal San Fran. development

Hi, another ltr from Marcy Watton of
the BackCountry Horsemen of which
she and I and Steve Colf are members.
We are sending to Reg. Planning and M.Antonovich.
Sherrie

----- Original Message -----
From:
To:
Sent: Wednesday, March 15, 2006 2:55 PM
Subject: Letter re SunCal San Fran. development

Marcy A. Watton
P.O. Box 816
Leona Valley, CA 93551
(661) 270-0333

March 15, 2006

Regional Planning Commission
Department of Regional Planning
Room 150, Hall of Records
320 West Temple Street
Los Angeles, CA 90012

Re: SunCal Project, Tract 53189, San Francisquito Canyon
Hearing date: March 29, 2006

To whom it may concern:

I am opposed to the non-equestrian style development of residential lots in a well established equestrian community. The proposed development has many equestrian facilities, and trails, surrounding it. To lose another chunk of rural zoning would be devastating to an area already feeling the squeeze of sprawling housing tracts.

Supervisor Antonovich has promised to support his equestrian constituents, and this development appears to be a touchstone to test that promise; this development could gut the equestrian

community by potentially cutting off access to trails, and most assuredly would limit equestrian use not only by the loss of the rural acreage, but by placing non-equestrian homes in close proximity to equestrian facilities, which has spelled a death-knell in every instance in the past.

Scope-2

Please stop the sprawl. Please help keep what remains of our valuable rural-wilderness interface RURAL. Thank you for your CONSIDERATION.

Sincerely,

Member
Backcountry Horsemen of California
Redshank Riders Unit

3/18/2006

March 16, 2006

Mr. Daniel Fierrros
Department of Regional Planning
City of Los Angeles
320 West Temple Street, Room 1346
Los Angeles, CA 90012

Re: Tract No. 53189:

Public Hearing is scheduled for March 29, 2006

1. Community is opposed except for upholding the equestrian community with A2-2 zoning, minimum 2 acres, and upholding the unanimous vote of the Board of Supervisors to protect, preserve, enhance, and expand the Equestrian Lifestyle. This development further erodes and deletes our rural area. Minimum of 10 homes. No deed restrictions to horses and livestock as is in keeping with the A2-2 heavy agricultural. — Stolarik - 2 - 1

2. All Planning Depts were instructed to look at zoning, variances, CUPs, affecting horsekeeping areas. — Scope-2

3. THIS IS A WELL ESTABLISHED EQUESTRIAN AREA. — SMMC-2

4. Tesoro del Valle's Phase B is approx. 500 acres with 122 homes on large acreage lot sizes along with Phase C of approx. 600 acres with large acreage lot sizes of 115 homes. Cliffie Stone Trail to run thru Phase A to B to C and connect to the proposed Tapia Ranch Project again zoned A2-2. Cliffie Stone Trail also access the Angeles Forest. — SMMC-3

4. **Cliffie Stone Trail** is in the Tesoro Del Valle Tract No. 51644 and travels from Phase A to C to adjoin with the proposed Tapia Ranch Project Tract No .53822. — SMMC-4

5. **Santa Clarita Valley Trails Advisory Committee (SCVTAC)** mapped the Lady Linda Loop Trail (which is the **San Francisquito Creek Trail** also known as the Historical **Butterfield-Overland Stagecoach Route** from 1858. Trail travels on eastern banks north and south and criss-crosses the **stream bed to the western banks.** — SMMC-5

6. **Lady Linda Loop Trail** is a circle trail and the portion that lies on the western banks connects all ranches to the Cliffie Stone Trail south to the proposed Westcreek Trail (also known as the San Francisquito Creek Trail) all the way to the Santa Clara River Trail. — Safdeye - 7

7. **Harris Trail** will leave the western end of the Lady Linda Loop Trail and travel west to meet with the Cliffie Stone Trail in Phase B of Tesoro del Valle.

Stolarik - 2 - 8

Enclosed are Press Bulletin, etc.

Sherrie Stolarik
Area 11 Director,
Equestrian Trails, Inc

San Francisquito Cyn Preservation Assoc.
Linda Leigh

Lynn Brown
National Trail Coordinator, Equest Trails, Inc
Calif State Horsemens Assoc
Recreation + Equestrian Coalition

Numerous individuals

Proud Supporter of The Fund for Animals

Ms Sherrie Stolarik
25241 Carson Way
Stevenson Rnh CA 91381

(2

March 17, 2006

I am attaching a second letter.

I just got back from the Suncal companies meeting at the Hyatt, (copy of letter enclosed).

Suncal Companies was not cooperative in working with the rural community of San Francisquito Canyon, in regards to their project. They are not willing to work with us, and make it compatible to the neighbors, and surrounding ranch homes, of this beautiful canyon. Instead they want to put high density, in a rural equine setting. This is unacceptable. I am requesting to not allow this to happen, and to request larger lots for Equestrian Ranch homes only, with minimum lot sizes specified by the A2-2 zoning, 6-10 homes with a minimum of 5 acres each. The majority of tract 53189 is unbuildable, due to the natural wash. There are more than enough high density houses being built all around this canyon, please do not allow them to ruin the beauty of this canyon with high density. CHP - 1
There are two lots, by this project that are 5 acres zoned A2-2, how can Suncal companies state this is not effecting the surrounding lots, when it really is.San Francisquito Canyon is a very rural Equestrian homes, if you could only come out and visit the project site, and the canyon, you would understand. Please do not allow this canyon to be swallowed up by high density.

The City of Santa Clarita is opposed to this project.

Susana Rovero & Family

Property of 23125 W. Piute (San Francisquito)

March 20, 2006

Supervisor Mike Antonovich
Department of Regional Planning Room 150
Hall of Records
320 W. Temple Street
Los Angeles, California 90012

CASE: 0081-(5)
Tract # 53189

Dear Supervisor Antonovich:

As you know, those of us who live in our San Francisquito Canyon equestrian community in Santa Clarita are very concerned about the SunCal development being proposed for the mouth of our rustic canyon. My husband Jack, and I attended SunCal's meeting on Thursday night, March 22, at the Hyatt to see what they had to say regarding any changes/improvements to their original plans presented last year.

As far as we could determine, even though last year they indicated that they intended to really listen to the concerns and suggestions of our equestrian community, and wanted to blend with our community, it apparently fell on deaf ears.

This community is not so much against growth, because it's inevitable, but is interested in responsible growth to be commensurate with the existing community - which is totally equestrian. They have indicated that they will still develop 66 lots on a very small portion of the 185.8 acres they own - most of which is in the riverbed and can't be developed anyway, which they already knew. The majority of these lots are strictly residential size. They have some 15,000 sq. ft. lots, but reality dictates, unless they promote these as equestrian lots, they will most likely be residential with pools. If they kept the lots at 2 acres commensurate with the rest of the canyon they could stand to make a hefty profit. Land is scarce and acreage for custom homes right now is at a premium. For them it's a matter of profit, which as a business person, I do understand. But to come into an existing community solely for the purpose of profit, regardless of the wishes and concerns of those who will be coexisting with them, is unconscionable. CHP - 1

When one of the SunCal representatives stood up (a woman who I believe is their Marketing person) and stated that when they bought the property they knew they had the right to build 66 homes on it and that's what they're going to do, that pretty much said it all. This is no different than any individual moving into an existing neighborhood, bringing old cars, junk, trash, having wild parties saying "it's my property, and I can do whatever I want - regardless of how it affects the rest of the neighborhood." Sure, they may be able to get away with it by law, but it isn't in the best interest of the neighborhood. I'm not saying that SunCal is bringing junk and trash, but they are bringing urban-style living into a rural-style community. The reason we all moved to this canyon is because it is rural, open spaces and is a different kind of lifestyle. I'm sure that when these lots are marketed they will emphasize the "rural, country living" aspect of this canyon - which, ironically, they will actually be destroying.

I know that your office has already set a precedent with the Tesoro del Valle development regarding land use and size for equestrian. If they will reconsider the size of the lots to accommodate equestrian needs – at least 1 – 2 acres, I know that at least I will be satisfied with the development.

Cheryl & Jack Hawkins

Cheryl and Jack Hawkins
Amberwood Grove Ranch
23001 Riverview Road
Santa Clarita, Ca. 91390
661-296-1350
rdhdwmnscv@aol.com

March 23, 2006

Attention: Nooshin Paidar
County of Los Angeles
Department of Regional Planning
Room 1346
320 West Temple Street
Los Angeles, CA 90012

Re: Environmental Impact Report - Vesting Tentative Tract Map No. 53189

Dear Mrs. Nooshin Paidar,

After reviewing the Environmental Impact Report Volume I for Vesting Tentative Tract Map No. 53189, the following items listed in this document should be addressed:

1. In Section 5 page 18, the EIR states, "The new students generated by the proposed project would likely be served by the Tesoro del Valle Elementary School, which was constructed in 2003-04 and is scheduled to open on August 17, 2005. This school is designed with 27 permanent classrooms and will be able to be expanded to accommodate eight to ten additional classrooms. The Tesoro del Valle Elementary School will have a capacity for 720 students and will accommodate students being generated by the Tesoro master planned development."
    a. Observation:
        1. Burnam students would be allowed to attend the Tesoro del Valle elementary school only if through compliance with the "School Facilities Funding Agreement" between the Saugus Union School District and Montalvo Properties LLC (see paragraph #21). The agreement establishes a priority for the Tesoro del Valle Project students to attend the Tesoro del Valle elementary school. If the District determines surplus capacity exits and after consultation with Montalvo, may designate the use of the excess capacity for non-project student. If such an event occurs, then a mitigation fee is to be paid to Montalvo.

CHP - 1

2. Traffic
    a. Observation:
        1. The Tesoro del Valle onsite roads were designed to accommodate the ultimate build-out of the project and not other adjacent property owners. It would appear appropriate to access the site specific and cumulative impacts on the Tesoro onsite roads by starting with the Tesoro build-out traffic as the base and then add the Burnam's traffic. This would evaluate Burnam's actual impact and availability of road capacity without placing an undue mitigation impact on Tesoro. An example of the current traffic study that is questionable is the approach used in tables 5-1, 5-2, & 5-3, where the studies were conducted in September 2003 (when only 42 homes had closed escrow in Tesoro) and a 6.6% ambient growth factor was used thru 2005. This does not measure the actual growth which to date at the end of year 2005 would reflect that Tesoro has closed and occupied over 900 homes.

Scope-2

3. If future road improvements to improve safety (i.e. medians and round-a-bouts) are constructed in Tesoro del Valle area A, the Burnams should be conditioned to pay their fair share of such incremental safety improvements.

SMMC-2

4. In the EIR, Figure 2.5 SCVAP Land Use and Slope Density, the Maximum Density table has an incorrect density threshold count.

    a. Observation:

    1. The Low Density Threshold for slope ranges 0-24.99% has the incorrect number of total units since the formula did not use the total area. The formula should be (106.2+.69) /5 = 21.38.

    2. The Low Density Threshold for slope ranges 25- 49.99% has the incorrect number of total units since the formula did not use the total area. The formula should be (12.69+2.26) /10= 1.5. SMMC-3

    3. Therefore the total number of low density units should be 21.38+1.5 = 22.88 not 54.83 has indicated on the table.

    4. The number of units in the N-1 column is also incorrect. 53.10+6.35+.41 = 59.86.

    5. The number of units in HM column is also incorrect. 0.35+1.13+0.08= 1.56

5. The Tesoro del Valle water and sewer utility infrastructure plan was designated to serve only the Tesoro Project. The Burnam project does not have the right to unilaterally decide to connect to the Tesoro water and sewer lines unless Montalvo Properties LLC agrees to and is compensated for as specified by the "Agreement for the Protection of Significant Ecological Area No.19." The Burnam project should be required to: acknowledge the existence of this Agreement and to receive a Letter of Approval and satisfaction from Montalvo Properties LLC with appropriate commitment to financial consideration. SMMC-4

Thank you for your time and cooperation in this matter.

Sincerely,

John E. Evans

Representative of Montalvo Properties, LLC

Cc:

Bernie Clougherty
Timothy Collins
Paul Novak
Dick Wirth
Beth Burnam

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