

# Mitigated Negative Declaration and Supporting Initial Study

for

Southern California Edison Company's  
Ritter Ranch Substation Project  
Application No. 0705036



Lead Agency:



## California Public Utilities Commission

Energy Division  
505 Van Ness Avenue  
San Francisco, CA 94102

November 2007



2124 Main Street, Suite 200  
Huntington Beach, CA 92648

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# Mitigated Negative Declaration

## Southern California Edison Company's Ritter Ranch Substation Project Application No. 0705036; SCH No. \_\_\_\_\_

### Introduction

Pursuant to California Public Utilities Commission's (CPUC) General Order 131-D, Southern California Edison Company (SCE) has filed an application (0705036) with the CPUC for a Permit to Construct for the Ritter Ranch Substation Project ("Proposed Project"). The application was filed on May 30, 2007, and includes the Proponent's Environmental Assessment (PEA), prepared by SCE pursuant to the CPUC's Rules of Practice and Procedure Rule 2.4 (CEQA Compliance). The Proposed Project includes a new low-profile 66/12 kV substation, four new 12 kV distribution getaways, two existing 66 kV subtransmission lines looped into the proposed substation, and new overhead/underground fiber optic cables and communication equipment to connect the substation to SCE's existing telecommunication system. The Proposed Project would meet the forecasted electrical demands of the Ritter Ranch Development currently under construction in the City of Palmdale. The project would also maintain reliability and enhance operational flexibility in the southwestern portion of the City of Palmdale and adjacent areas of unincorporated Los Angeles County. Construction for the Proposed Project is scheduled to begin in mid-2008 and the project is proposed to be operational by mid-2009, depending on CPUC approval. In accordance with the CPUC's General Order 131-D, approval of this project must comply with the California Environmental Quality Act (CEQA).

Pursuant to CEQA, the CPUC must prepare an Initial Study (IS) for the Proposed Project to determine if any significant adverse effects on the environment would result from project implementation. The IS utilizes the significance criteria outlined in Appendix G of the CEQA *Guidelines*. If the IS for the project indicates that a significant adverse impact could occur, the CPUC would be required to prepare an Environmental Impact Report.

According to Article 6 (Negative Declaration Process) and Section 15070 (Decision to Prepare a Negative Declaration or Mitigated Negative Declaration) of the CEQA *Guidelines*, a public agency shall prepare or have prepared a proposed negative declaration or mitigated negative declaration for a project subject to CEQA when:

- (a) *The IS shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or*
- (b) *The IS identifies potentially significant effects, but:*
  - (1) *Revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and IS are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and*
  - (2) *There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.*

Based on the analysis in the IS, it has been determined that all project-related environmental impacts could be reduced to a less than significant level with the incorporation of feasible mitigation measures. Therefore, adoption of a Mitigated Negative Declaration (MND) will satisfy the requirements of CEQA. The mitigation measures included in this MND are designed to reduce or eliminate the potentially significant environmental impacts described in the IS. Where a measure described in this document has been previously incorporated into the project, either as a specific project design feature or as an Applicant-Proposed Measure, this is noted in the discussion. Mitigation measures are structured in accordance with the criteria in Section 15370 of the CEQA *Guidelines*.

## **Project Description**

SCE proposes to construct the Ritter Ranch Substation Project on an existing graded parcel within the planned Ritter Ranch Development. Primary components of the Proposed Project include the following:

### **Ritter Ranch Substation**

- 66 kV operating/transfer bus with seven circuit breakers
- Two 66/12 kV transformer banks with associated high and low side disconnecting switches
- 12 kV operating/transfer bus equipped for four new 12 kV circuits
- Two 4.8 Mega Volt-Ampere Reactive (MVAR) capacitor banks
- Station Automation 2 (SA-2) System
- Mechanical Electrical Equipment Room (MEER)



### **66 kV Subtransmission Line Loop-Ins**

- Two existing 66 kV subtransmission lines located within an existing right-of-way adjacent to the proposed substation site looped into the substation, resulting in the creation of four 66 kV subtransmission line segments (each approximately 500 feet in length)
- Approximately eight double-circuit tubular steel poles to support the new 66 kV subtransmission line segments

### **Distribution Line Getaways**

- Four new underground 12 kV distribution line getaways from within the Ritter Ranch Substation to the property boundary at Ranch Center Drive

### **Telecommunications System**

- New overhead/underground fiber optic cables between Ritter Ranch and Anaverde Substations and between Ritter Ranch and Shuttle Substations
- New fiber optic multiplex equipment and channel equipment in the MEER

## **Alternatives**

The purpose of an alternatives analysis pursuant to CEQA is to identify options that would feasibly attain the project's objectives while reducing the significant environmental impacts resulting from the Proposed Project. CEQA does not require the inclusion of an alternatives analysis in MNDs because the IS concludes that, with incorporation of mitigation measures, there would be no significant adverse impacts resulting from the Proposed Project. Therefore, no alternatives analysis needs to be provided in the IS. However, pursuant to Section IX.B.1.c of CPUC General Order 131-D, SCE's application did consider site alternatives and other methods to relieve forecast demand. The application discussed advantages and disadvantages of each option, and includes an analysis in the PEA.

## **Environmental Determination**

The Initial Study was prepared to identify the potential environmental effects resulting from Proposed Project implementation, and to evaluate the level of significance of these effects. The IS relies on information in SCE's PEA filed on May 30, 2007, a project site reconnaissance by the CPUC environmental team, and other environmental analyses. Measures addressing potentially significant impacts, proposed by SCE in the PEA, are referred to as Applicant Proposed Measures (APMs) and are incorporated into the Project Description section of the IS/MND. Based on the IS analysis, additional mitigation measures are identified for adoption to ensure that impacts of the Proposed Project would be less than significant. The additional mitigation measures either supplement, or supersede the APMs. SCE

has agreed to implement all of the additional recommended mitigation measures as part of the Proposed Project.

Implementation of the following mitigation measures would avoid potentially significant impacts identified in the Initial Study or reduce them to less than significant levels.

### **Mitigation Measures for Archaeological and Paleontological Resources**

**CUL-1:** When Native American archaeological, ethnographic, or spiritual resources are involved, all identification and treatment shall be conducted by qualified archaeologists who meet the federal standards as stated in the Code of Federal Regulations (CFR) (36 CFR 61), and appurtenant (i.e., pursuant to the National Historic Preservation Act [NHPA], Senate bill [S.B.] 18) Native American representatives. In the event that no such Native American is available, persons who represent tribal governments and/or organizations in the locale in which resources could be affected shall be consulted.

**CUL-2:** Pursuant to Section 5097.98 of the California Public Resources Code and Section 7050.5 of the California Health and Safety Code, if human remains or bone of unknown origin is found during construction, all work shall stop in the vicinity of the find and the Los Angeles County Coroner shall be contacted immediately. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission who shall notify the person it believes to be the most likely descendant. The most likely descendant shall work with the contractor to develop a program for re-interment of the human remains and any associated artifacts. No additional work shall take place within the immediate vicinity of the find until the identified appropriate actions have been implemented. If the Coroner determines that the remains are not related to a crime scene, then a qualified archaeologist who meets the federal standards as stated in the Code of Federal Regulations (CFR) (36 CFR 61) shall be retained to assess the find and make further recommendations.

**PAL-1:** If paleontological remains are discovered in the course of construction activities, construction would be halted or directed away from the discovery, and the potential resource evaluated by a qualified paleontologist. The paleontologist would recommend appropriate measures to record, preserve, or recover the resources. The certified paleontologist would prepare a final mitigation report to be filed with the client, the lead agency, and the repository.

### **Mitigation Measures for Hazardous Materials**

**HAZ-1:** During construction and upon commencement of operations, SCE will have chemical or hazardous substance inventory for all such items that may be at the site. SCE will institute a Hazard Communication Program (HCP) for their employees and will require subcontractor programs in

accordance with OSHA 29 CFR 1910.1200. These programs are designed to educate and protect the employees and subcontractors with respect to any chemicals or hazardous substances that may be present in the work place. It will be required that as every chemical or hazardous material is brought on location, a Material Safety Data Sheet (MSDS) will accompany that material and will become part of the file kept at the field office as required by 29 CFR 1910.1200. All employees will receive the proper training in storage, handling, and disposal of hazardous substances.

**HAZ-2:** If an accidental release occurs during refueling, transformer transport, or construction the release will be cleaned up immediately and reported in accordance with applicable federal, state, and local requirements.

**HAZ-3:** Incorporate features in the substation design to contain the mineral oil if a cooling oil leak occurs. Install remote alarming monitoring equipment to alert the SCE Energy Dispatch Operators in case of high temperatures or low oil levels. Construct the substation with sumps, curbs, or berms to contain spilled oil, and begin cleanup activities immediately after a release has occurred. In addition, implement Best Management Practices (BMPs) through a Spill Prevention Control and Countermeasure (SPCC) Plan to minimize the possibility of any spills or releases from the transformers.

### **Mitigation Measures for Noise**

**NOISE-1:** Construction equipment powered by an internal combustion engine shall be equipped with suitable exhaust and intake silencers, in accordance with manufacturers' specifications, and shall be maintained in good working order.

**NOISE-2:** Stationary construction equipment (i.e., portable power generators, compressors) shall be located at the furthest distance possible from nearby residential units.

### **Mitigation Measures for Transportation and Traffic**

**TRAFFIC-1:** If lane closures are required, SCE would comply with best management practices (BMPs) established by the Work Area Protection and Traffic Control Manual (California Joint Utility Control Committee 1996). These measures might include the use of cones, flagmen, detours, or performance of construction at night if work requires equipment or personnel operation within the road right-of-way.

**TRAFFIC-2:** SCE would limit the number of trips required by encouraging carpooling.

**TRAFFIC-3:** Trucks would use designated truck routes whenever possible.

**TRAFFIC-4:** SCE would encourage the use of alternative routes to the Substation Site, when feasible, and parking in areas that would not have adverse impacts to existing parking availability.

# Initial Study

## Environmental Checklist Form

### B.1 Project Description

#### B.1.1 Project Title

Southern California Edison Company's Ritter Ranch Substation Project

#### B.1.2 Project Sponsor's Name and Address

Southern California Edison Company (SCE)  
2244 Walnut Grove Avenue  
Rosemead, California 91770

#### B.1.3 Lead Agency Name and Address

California Public Utilities Commission  
Energy Division  
505 Van Ness Avenue, Fourth Floor  
San Francisco, California 94102

#### B.1.4 Lead Agency Contact Person and Phone Number

Junaid Rahman, Project Manager  
Energy Division  
California Public Utilities Commission  
505 Van Ness Avenue, Fourth Floor  
San Francisco, California 94102  
(415) 355-5492

### **B.1.5 Project Location**

The Ritter Ranch 66/12 kV Substation is proposed in a rapidly growing area in the southwestern portion of the City of Palmdale and adjacent areas of unincorporated Los Angeles County (**Figure B.1-1**). SCE proposes to construct the Ritter Ranch Substation Project on an existing graded parcel within the planned Ritter Ranch Development. The Proposed Project includes a new low-profile 66/12 kV substation, four new 12 kV distribution getaways, two existing 66 kV subtransmission lines looped into the proposed substation, and new overhead/underground fiber optic cables and communication equipment to connect the substation to SCE's existing telecommunication system. The Proposed Project would meet the forecasted electrical demands of the Ritter Ranch Development currently under construction in the City of Palmdale. The project would also maintain reliability and enhance operational flexibility in the southwestern portion of the City of Palmdale and adjacent areas of unincorporated Los Angeles County.

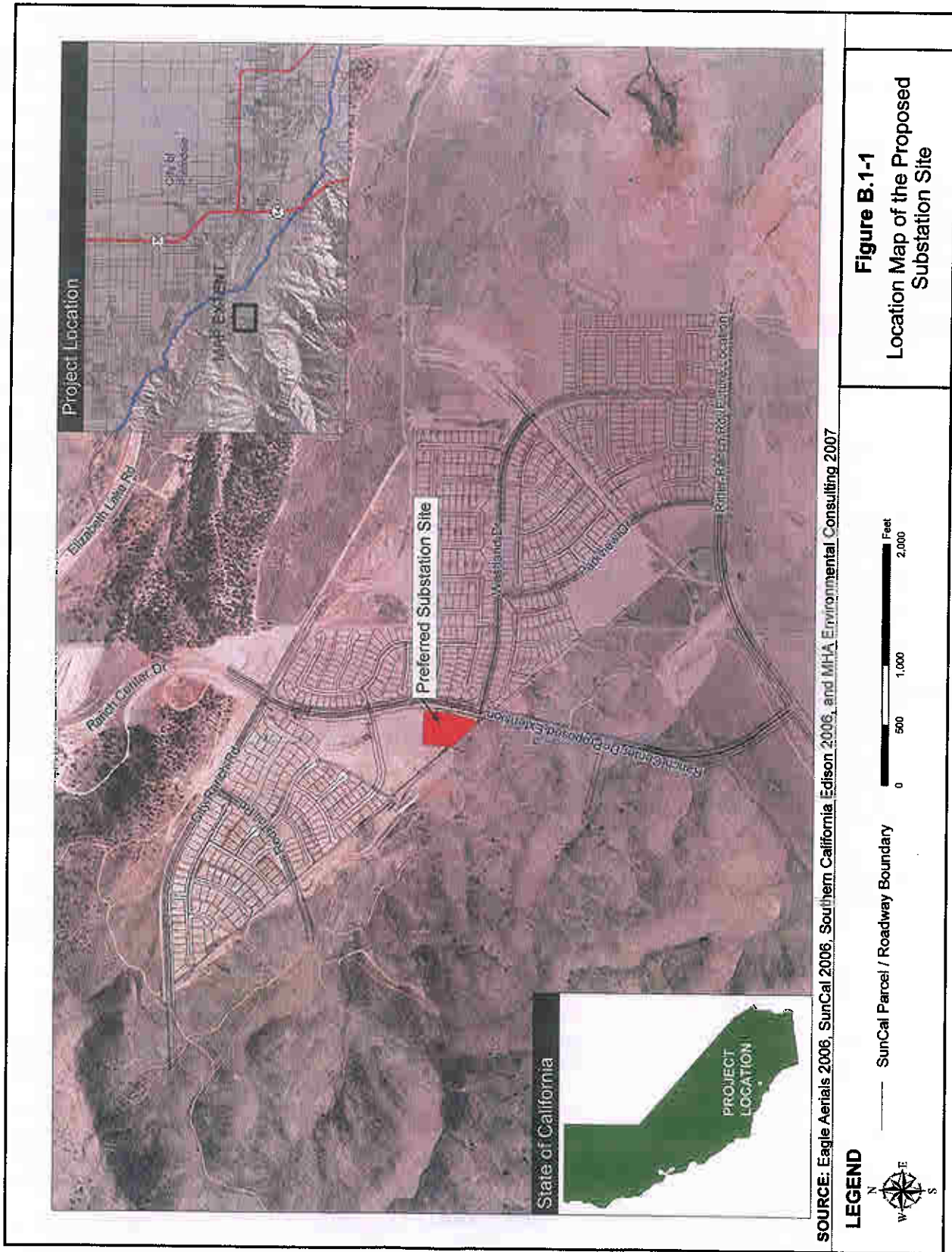
### **B.1.6 Surrounding Land Uses and Setting**

The Ritter Ranch area is located in the southwest corner of the Antelope Valley basin, approximately four miles west of State Route 14. Ritter Ranch is south of Ritter Ridge and Elizabeth Lake Road, west of 30<sup>th</sup> Street West, north of Sierra Highway, and east of Bouquet Canyon Road and the Angeles National Forest (City of Palmdale 1992a). The Angeles National Forest is adjacent to Ritter Ranch on the development's western boundary. Other suburban areas within the City of Palmdale are located northeast of Ritter Ranch.

The proposed Ritter Ranch 66/12 kV Substation is located within Phase 1 of the Ritter Ranch Specific Plan development, in the City of Palmdale (**refer to Figure B.1-1**). All areas adjacent to the proposed Substation Site are graded, undeveloped land that is being prepared for residential, commercial, and recreational development as part of the Ritter Ranch Development (City of Palmdale 1992a).

The area adjacent to the proposed substation would include 46 units of single-family attached (SFA) homes approximately 270 feet north and west of the substation. The substation would be bounded by open space to the north (across an unnamed street), the transmission line corridor to the south, and single-family homes to the east across Ranch Center Drive.

The Ritter Ranch Specific Plan Development Area includes 10,625 acres with approximately 7,200 dwelling units planned for development. The proposed substation would be within Planning Area 5, Phase I of the Ritter Ranch Specific Plan. Planning Area 5 includes 656 acres with 2,587 dwelling units planned. Development will occur in phases. Phase I construction includes roughly 800 housing units, two proposed commercial centers, three parks, and one elementary school.



**Figure B.1-1**  
Location Map of the Proposed  
Substation Site

The northern boundary of the Ritter Ranch Specific Plan is delineated by the Amargosa Creek drainage and Elizabeth Lake Road. Elizabeth Lake Road is currently being widened and realigned from 20<sup>th</sup> Street West to approximately 1,000 feet west of Godde Hill Road.

### **B.1.7 CPUC General Order No. 131-D**

The California Public Utilities Commission (CPUC) General Order (GO) No. 131-D, Section XIV B clarifies that “Local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the Commission’s jurisdiction. However in locating such projects, the public utilities shall consult with local agencies regarding land use matters.” Due to this GO, the public utilities are directed to consider local regulations and consult with local agencies, but the county and city regulations are not applicable as the county and cities do not have jurisdiction over the Proposed Project.

The project is exempt from local land use and zoning regulations and permitting. However, CPUC General Order No. 131-D applies to this project. General Order 131-D Section III C requires “the utility to communicate with, and obtain the input of local authorities regarding land use matters and obtain any non-discretionary local permits.”

### **B.1.8 City of Palmdale General Plan**

Ritter Ranch and the proposed Substation Site are within the Palmdale city limits. The Palmdale General Plan (adopted in January 1993) and the Antelope Valley Area Plan (County of Los Angeles 1986) include the plans and policies relevant in the Project Region.

The City of Palmdale General Plan (Article 95 section 1) contains development standards for electric distribution substations stating:

- 1) Minimum lot or area size shall be as required by the underlying zone, but in no event less than five thousand (5,000) square feet
- 2) All buildings, structures and landscaping shall be compatible with the development of surrounding properties

The Antelope Valley Area Plan (County of Los Angeles 1986) does not contain specific zoning for electric distribution substations.



## B.1.9 Project Overview

SCE proposes to construct the Ritter Ranch Substation to maintain reliability and meet projected electrical load requirements in the City of Palmdale and adjacent areas of unincorporated Los Angeles County (Project Benefits Area). SCE states that the Proposed Project is required to be operational by mid-2009 to ensure that safe and reliable electric service is available to meet customer electrical demands without overloading the existing electric facilities in the Project Benefits Area (**Figure B.1-2**). Pending approval, construction would begin in mid-2008. The Proposed Project would include the following components:

### Ritter Ranch Substation

- 66 kV operating/transfer bus with seven circuit breakers
- Two 66/12 kV transformer banks with associated high and low side disconnecting switches
- 12 kV operating/transfer bus equipped for four new 12 kV circuits
- Two 4.8 Mega Volt-Ampere Reactive (MVAR) capacitor banks
- Station Automation 2 (SA-2) System
- Mechanical Electrical Equipment Room (MEER)

### 66 kV Subtransmission Line Loop-Ins

- Two existing 66 kV subtransmission lines located within an existing right-of-way adjacent to the proposed substation site looped into the substation, resulting in the creation of four 66 kV subtransmission line segments (each approximately 500 feet in length)
- Approximately eight double-circuit tubular steel poles to support the new 66 kV subtransmission line segments

### Distribution Line Getaways

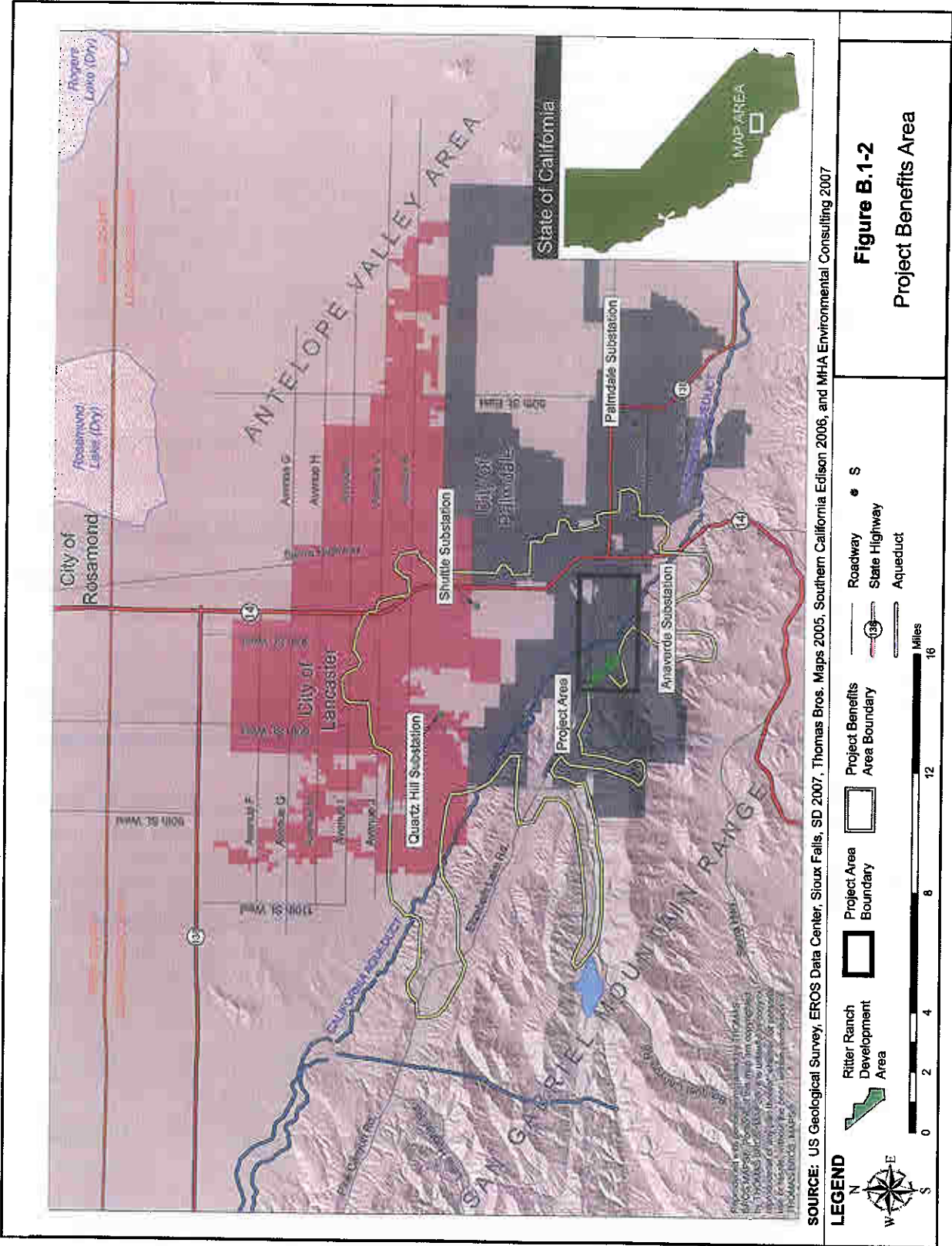
- Four new underground 12 kV distribution line getaways from within the Ritter Ranch Substation to the property boundary at Ranch Center Drive

### Telecommunications System

- New overhead/underground fiber optic cables between Ritter Ranch and Anaverde Substations and between Ritter Ranch and Shuttle Substations
- New fiber optic multiplex equipment and channel equipment in the MEER

#### B.1.9.1 Project Objectives

SCE has identified the following project objectives to meet the Proposed Project's purpose and need described in this chapter:



**Figure B.1-2**  
Project Benefits Area

- Serve long-term projected electrical demand requirements in the Project Benefits Area, including the Ritter Ranch Development, beginning in mid-2009
- Locate new electrical facilities near existing 66 kV subtransmission lines
- Maintain system reliability in the southwestern portion of the City of Palmdale by locating the new electrical facilities in proximity to the Ritter Ranch Development
- Enhance operational flexibility by providing the ability to transfer load between distribution lines and substations
- Maintain system reliability in the southwestern portion of the City of Palmdale by locating the new electrical facilities in proximity to the Ritter Ranch Development
- Enhance operational flexibility by providing the ability to transfer load between distribution lines and substations
- Meet project need while minimizing environmental impacts
- Meet project need in a cost-effective manner

#### **B.1.9.2 Purpose and Need**

The purpose of the Proposed Project is to ensure the availability of safe and reliable electric service to meet customer electrical demands. Under the rules, guidelines, and regulations of the Federal Energy Regulatory Commission (FERC), the North American Electric Reliability Corporation (NERC), the Western Electricity Coordinating Council (WECC), and the California Public Utilities Commission (CPUC), electrical transmission, subtransmission, and distribution systems must have sufficient capacity to maintain safe, reliable, and adequate service to customers. System safety and reliability must be maintained under normal conditions, when all facilities are in service, and also under abnormal conditions. Abnormal conditions result from equipment or line failures, maintenance outages, or outages that cannot be predicted or controlled due to weather, earthquakes, traffic accidents, and other unforeseeable events.

SCE utilizes a multi-step planning process to ensure that development of appropriate system facilities is undertaken in time to meet anticipated increased electrical demand. The planning process begins with development of a peak demand forecast for each substation. Peak demand forecasts are developed using historical data and trends in population data, urbanization data, and meteorological data. Technical engineering studies are then conducted to determine whether forecasted peak demand can be accommodated using existing transmission, subtransmission, and distribution systems. System facilities, such as substations or lines, have specific design loading limits. When projections indicate that these loading limits will be exceeded within an appropriate planning horizon (typically ten years), a project is proposed to maintain the electrical system within designed loading limits. This process has identified the need for the Ritter Ranch Substation Project.

The Project Benefits Area's electrical needs are currently served by SCE's Antelope-Bailey 220 kV System (refer to **Figure B.1-2**). This system is comprised of 220/66 kV substations (Antelope and Bailey

Substations), 66 kV subtransmission lines, 66/12 kV substations, and 12 kV distribution lines. The Anaverde 66/12 kV, Shuttle 66/12 kV, and Quartz Hill 66/12 kV Substations currently provide electrical service to approximately 43,000-metered customers and are the source substations for several rapidly growing developments within the Project Benefits Area.

In order to provide useable power to SCE's customers in the Project Benefits Area, voltage is delivered to Antelope Substation at 220 kV and reduced to 66 kV. The voltage is further reduced from 66 kV to 12 kV at SCE's Anaverde, Shuttle, and Quartz Hill Substations, where it is distributed to SCE's customers. At the present time, the amount of power that can be delivered into the Project Benefits Area is limited to the maximum amount of power that these three substations can, in combination, transmit before their operating limits are exceeded. In 2009, the combined capacity of these three substations will be limited to 298 mega-volt amperes (MVA) under normal operating conditions.

SCE's planning process is designed to ensure that the required capacity and operational flexibility is available to safely and reliably meet the projected peak electrical demands during periods of extreme heat under normal and abnormal conditions. Periods of extreme heat are defined as time durations when the temperature exceeds the ten-year average peak temperature and are termed "1-in-10 year heat storms." SCE adjusts the normal condition peak demand to reflect the forecasted peak demand during a 1-in-10 year heat storm. When this adjusted peak demand exceeds the maximum operating limits of the existing electrical facilities, a project is proposed to maintain the electrical system within specified loading limits.

In 2006, the normal condition peak demand for Anaverde, Shuttle, and Quartz Hill Substations was collectively 225 MVA. As a result of significant developments such as the Ritter Ranch Development (7,500 new homes) and Anaverde Development (5,200 new units) in the City of Palmdale, the normal condition peak demand is projected to increase, on average, by 18 MVA annually (a 6 percent average annual growth rate) between 2007 and 2016. The Ritter Ranch Development is forecast to generate 55 MVA of new demand by 2016.

The transformer capacity, supporting transmission, subtransmission, and distribution facilities must be able to adequately deliver electrical power during a 1-in-10 year heat storm under both normal and abnormal conditions. As discussed above, in 2009 the maximum capacity of substations within the Project Benefits Area will be limited to 298 MVA. In 2009, the 1-in-10 year heat storm peak demand will be 322 MVA. The demand within the Project Benefits Area is forecast to exceed the capacity of the existing electrical facilities in the summer of 2009, thereby requiring additional electrical facilities.

## B.1.10 Project Components

### B.1.10.1 Ritter Ranch Substation

The Ritter Ranch Substation would be an unstaffed, automated, 56 MVA 66/12 kV low-profile substation. The substation would be equipped with a Station Automation 2 (SA-2) System, which is a micro-processor based system that controls all the equipment at the site. The system sends information to SCE's Vincent Switching Center in Lancaster and SCE's Grid Control Center in Alhambra. The Ritter Ranch Substation would be an unstaffed substation; however, maintenance or other authorized SCE personnel would interface with the SA-2 System as needed.

The substation would be served by looping two existing 66 kV subtransmission lines into the substation from the adjacent transmission right-of-way (ROW). The Substation Site is an approximate three-acre graded parcel (**Figure B.1-3**). The substation footprint (area contained within the perimeter wall) is approximately 2.5 acres. The 0.5 acres of land outside the substation perimeter wall would be used for driveways, buffers, and landscaping.

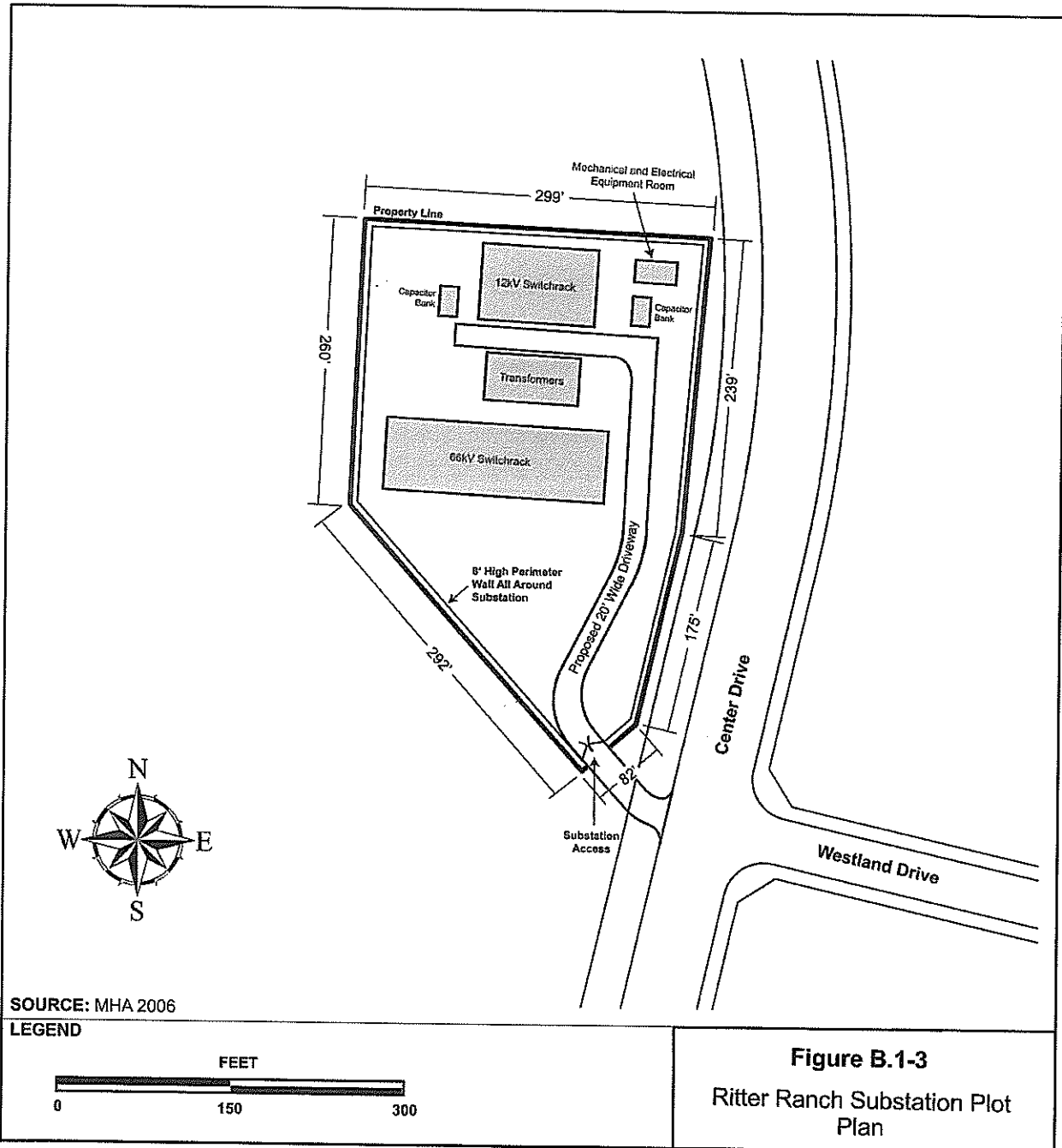
The substation would incorporate low-profile design features, which limit the height of electrical equipment and structures to approximately 17 feet. In contrast, standard substation design generally includes substation electrical equipment up to 30 feet in height. The substation would be equipped with two 28 MVA 66/12 kV transformers, two 4.8 MVAR 12 kV capacitor banks, and four 12 kV distribution circuit positions (see **Figure B.1-3 for the Ritter Ranch Substation Plot Plan**).

The 66 kV switchrack would be designed with an operating and transfer bus configuration with one circuit breaker and three group disconnects at each bay, except for a bus-tie position that would have one circuit breaker and one disconnect. The 12 kV switchrack would be a low-profile design with an operating bus and a transfer bus. One prefabricated Mechanical and Electrical Equipment Room (MEER) would be erected to house control and relay racks, battery and battery chargers, AC and DC distribution switchboards, and telecommunication equipment. The MEER would also include one restroom with a sink and toilet (serviced by municipal water, which will be available within the Ritter Ranch development at the time of substation construction). Electrical equipment housed within the substation would consist of the following:

- **66 kV Switchrack.** The proposed 66 kV, low-profile steel switchrack would consist of ten bays: four positions for lines, two for bank positions, one bus tie, and three vacant positions. The operating and transfer buses would each be 190 feet long and consist of one 1590 kcmil (thousand circular mils) Aluminum Conductor Steel Reinforced (ACSR) per phase. Six switchrack positions would each be equipped with a circuit breaker and three group disconnect switches. One switchrack position would be equipped with a circuit breaker and one group disconnect switch. A

control cable trench from the switchrack to the MEER would be installed. The switchrack dimensions would be approximately 17' H x 190' L x 64' W.

- **Transformers.** Transformation would consist of two 28 MVA 66/12 kV transformers with isolating switch disconnects on high and low sides, surge arresters and neutral current transformers. The transformer area dimensions would be approximately 15' H x 80' L x 42' W.



- **Capacitor Banks.** Two 12 kV, 4.8 MVAR capacitor banks would be installed. The capacitor bank enclosure dimensions would be approximately 17' H x 16' L x 13' W.
- **MEER.** A MEER would be erected and equipped with air conditioning, control and relay panels, battery and battery charger, AC and DC distribution, human machine interface (HMI) rack, communication equipment, telephone and local alarm. MEER dimensions would be approximately 12' H x 36' L x 20' W.

### **Lighting**

Under normal conditions, the Ritter Ranch Substation would not be illuminated at night. Lighting would be used only when required for maintenance activities or emergency repairs. Lighting would consist of high-pressure sodium lights located in the switchracks, around the transformer banks, and in areas of the yard where maintenance activities may be required. Lights would be controlled by a manual switch and would normally be in the off position. These lights would be directed downward and shielded to reduce glare outside the facility.

### **Landscaping**

Landscaping around the proposed substation would be designed to filter views from residential areas and other potential sensitive receptors located near the substation. Landscaping would be established around the substation. The eastern side of the property along Ranch Center Drive is being landscaped by SunCal prior to construction of the substation, and will be maintained by the Ritter Ranch Home Owners Association. SCE would develop a landscaping and irrigation plan that considers the Ritter Ranch Specific Plan and SCE's design criteria.

Irrigation and landscaping would be installed after the substation wall is constructed and a water meter is installed. Municipal water service within the development will be available prior to construction of the Ritter Ranch Substation and facilities.

### **Drainage**

SunCal would install the subsurface drainage system to receive drainage from the Substation Site, and would install a drainage pipeline along the south property line as part of the storm water system for the Ritter Ranch Development. SCE would be responsible for directing storm water run-off to the subsurface drainage system and would prepare drainage plans for the substation. SunCal has already installed a stormdrain catch basin along Ranch Center Drive, near the southeastern portion of the property. Surface water sheet flow would be directed around the equipment to minimize the potential for trench and MEER flooding.

The substation would create approximately 0.6 acres of new impervious surface. The 2.5 acres inside the substation wall would consist of approximately 0.5 acres of impervious surface and approximately 2 acres of 4-inch thick untreated crushed rock. The 0.5 acres outside the substation wall would consist of approximately 0.1 acres of impervious surface and approximately 0.4 acres of landscaping.

Site drainage installations would be consistent with the National Pollutant Discharge Elimination System (NPDES) permit requirements, local ordinances, and best engineering practices. Transformers in the substation would use mineral oil for cooling, which could be released if a leak or rupture of the transformers occurs during a seismic event or other accident. The substation design would incorporate Spill Prevention Control and Countermeasure (SPCC) Plan design requirements, such as curbs and berms to control spills.

As part of the Ritter Ranch Development utilities infrastructure, both water and sewer lines are being installed in the public ROW along the substation frontage in Ranch Center Drive. SunCal is installing lateral connecting lines for water and sewer to service Ritter Ranch Substation. These lines are being brought to the perimeter of the substation property.

### **Mechanical and Electrical Equipment Room**

The substation MEER would include a restroom containing a sink and a toilet. SCE would provide the plumbing appliances and all water and sewer lines within the substation property using industry accepted materials. SCE would also obtain all appropriate permits from the City of Palmdale prior to installation of the internal plumbing, as required. A water meter hook-up permit would be obtained from the local water company or district that will be serving the Ritter Ranch Development prior to installation of the meter. Dimensions of the MEER are 36 feet long, 20 feet wide and 12 feet high. The MEER would have light tan or beige walls and roof. Dark brown would trim the roofline, wall joints, and doorway. The MEER would not have eaves or roof overhangs. The roof and all exterior walls would be steel.

### **Security and Access**

The proposed substation would be enclosed on all four sides by an 8-foot high perimeter wall. The wall would be consistent with the homebuilder's designs, and subject to SCE's safety requirements. The block wall will be a tan colored slump-stone and will include periodic pilasters. The substation entrance would have a locked gate for two-way traffic access to the substation. Access gates would be a minimum of 8 feet high by 16 feet wide. A band of at least three strands of barbed wire would be affixed near the top of the perimeter wall inside of the substation and would not be visible from the outside. SCE would conform to setback requirements in the Ritter Ranch Specific Plan to the extent feasible. A 20-foot wide asphalt concrete driveway would be provided for vehicular traffic inside the substation.



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### B.1.10.2 66 kV Subtransmission Line Loop-in

Both existing 66 kV subtransmission lines from Antelope Substation (the Antelope-Anaverde and the Antelope-Acton-Palmdale-Shuttle lines) are required to supply power to the new substation and maintain reliability. Looping these two 66 kV subtransmission lines into the substation would create four new 66 kV subtransmission line segments that would provide the source of power for the substation. Each new 66 kV line segment would be approximately 500 feet long and would be constructed on new double-circuit tubular steel poles (TSP). One loop-in would connect the existing Antelope-Anaverde 66 kV subtransmission line located in the adjacent transmission corridor to the substation, creating two new 66 kV lines: the Antelope-Ritter Ranch No. 1 and the Anaverde-Ritter Ranch 66 kV subtransmission lines. The second loop-in would connect the existing Antelope-Acton-Palmdale-Shuttle 66 kV subtransmission line located in the adjacent transmission corridor to the substation, creating two new 66 kV lines: the Antelope-Ritter Ranch No. 2 and the Acton-Palmdale-Ritter Ranch-Shuttle 66 kV subtransmission lines.

The Ritter Ranch Substation may be expanded at some point in the future, with an additional line. Expansion is speculative at this time and is not considered in this IS.

Looping the existing 66 kV subtransmission lines into the Ritter Ranch Substation would require installing eight double-circuit TSPs with new 954 Stranded Aluminum Conductors (SAC). The locations of these poles from the Ritter Ranch Substation to the existing corridor are shown in **Figure B.1-4**. The distance between TSPs would vary from 107 to 245 feet.

The TSP risers would have a dull to medium gray galvanized surface. The manufacturer dulls the poles by applying acid to the pole surface after fabrication. This is a standard method, and would provide the poles with a finish that would generally match that of other SCE facilities in the corridor. Poles would dull further as they weather after installation.

Two of the eight TSPs (Poles 1 and 2) would be interset along the existing 66 kV double-circuit line to reduce line tension and facilitate looping lines into the substation (see **Figure B.1-4**). The next two TSPs (Poles 3 and 4) would intercept the existing 66 kV lines redirecting the lines northeast towards the substation. From Poles 3 and 4, redirected 66 kV lines would cross beneath the existing privately owned Sagebrush 220 kV transmission line<sup>1</sup>, and would enter the substation. The remaining four TSPs (Poles 5, 6, 7 and 8) would be installed inside the substation, and would route the new 66 kV lines into their respective switchrack positions.

Once the new poles are installed, 954 SAC conductors would be strung on the new TSPs to loop the existing 66 kV subtransmission lines into the substation. Each line (four total) would consist of

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<sup>1</sup>The 220 kV Sagebrush line, owned by a third party, is located in the position closest to the substation. In order to cross under the Sagebrush line, SCE would coordinate with the owner to obtain a consent letter to cross their right-of-way.

approximately three conductors at 500 feet each for a total of 1,500 linear feet per line. Each conductor would be supported using dead-end assemblies consisting of single gray polymer insulators suspended by hardware and attached to steel cross-arms on the TSPs in a vertical and triangular configuration.

If necessary, an additional TSP (Pole 9) would be interset on the Sagebrush 220 kV transmission line to ensure that proper clearance between the new 66 kV line segments and the existing 220 kV line is maintained under all loading conditions, in accordance with CPUC GO 95. This interset pole would only be necessary should the owner of the Sagebrush line decide to load the 220 kV transmission line to levels that exceed the design of the line.

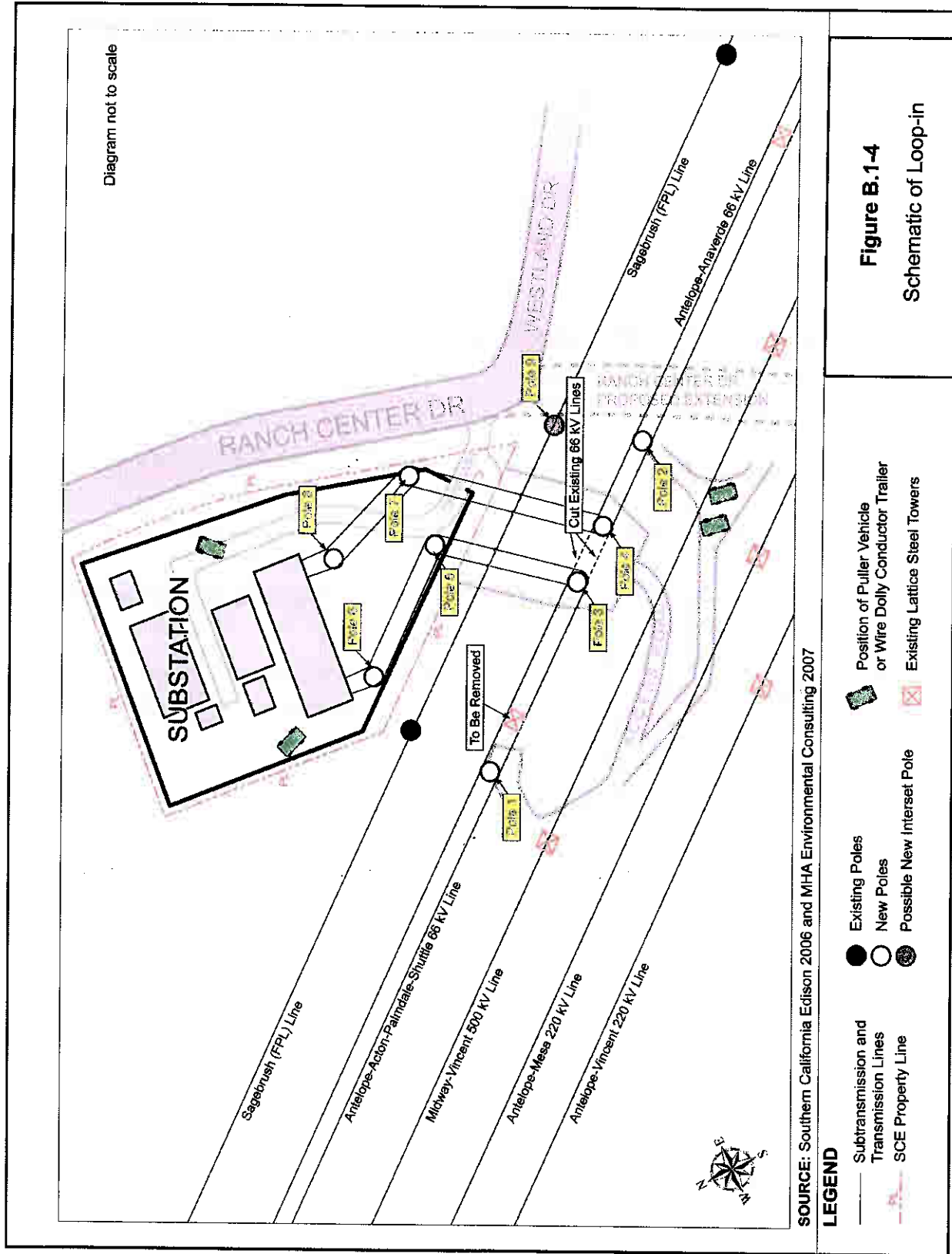
Two new, permanent unpaved access roads would be constructed to provide a maintenance access route to the new TSPs. One “spur”, or “stub”, road would be constructed from an existing access road to Pole 2. This road would be approximately 133 feet long and 20 feet wide and would have a slope of approximately 5.2 percent. A second spur road would be constructed from an existing access road to Poles 3 and 4. This road would be approximately 217 feet long and 20 feet wide and would have a slope of approximately 13.8 percent. All turn radii would be 50 feet (the SCE standard).

#### **B.1.10.3 Distribution Line Getaways**

Two underground duct banks, spaced six feet apart, and each consisting of six 5-inch conduits, would start at the 12 kV switchrack power cable trench and would be routed towards the east corner of the Substation Site. Two of the 5-inch conduits would be used for telecommunications and the remaining ten for 12 kV distribution getaways. The duct banks would be installed from the 12 kV power cable trench to the property boundary at Ranch Center Drive.

#### **B.1.10.4 Telecommunications System**

In addition to a new substation and 66 kV subtransmission lines, the substation would require a diverse communication loop. These facilities are required for communicating with and monitoring substation equipment. The telecommunications system would include a multiplexer in the MEER and new fiber optic cables to nearby Anaverde and Shuttle Substations.



**Figure B.1-4**

Schematic of Loop-in

The underground portion would be installed in underground vaults and conduits installed by the developer as part of the Ritter Ranch Development and other projects.

Telecommunications lines would be installed from Anaverde Substation to the Ritter Ranch Substation and then from the Ritter Ranch Substation to the Shuttle Substation. The telecommunications lines would be installed in four route segments. The location of overhead and underground segments for the telecommunications line installation is shown on **Figure B.1-5**.

From Ritter Ranch Substation to Anaverde Substation, the telecommunications lines would be installed in underground conduit through the eastern portion of the Ritter Ranch Development, in an existing duct bank. The telecommunications system would then be installed on existing poles, as shown on **Figure B.1-5**, currently extending between the eastern edge of the proposed Ritter Ranch Development to Anaverde Substation. If underground conduit were available through the Anaverde Development at the time of construction, SCE would use those conduits. The Anaverde Development will abut the Ritter Ranch Development. The exact route of where the underground conduit would be installed through the Anaverde development (if this option were available) is not known at this time.

From Ritter Ranch Substation to the Shuttle Tie-In tap point, telecommunications lines would be installed entirely in underground duct banks along Ranch Center Drive through the Ritter Ranch Development and along Elizabeth Lake Road up to Tierra Subida Avenue, where the Shuttle Substation Tie-In tap point is located.

## **B.1.11 Project Construction Methods**

### **B.1.11.1 Substation Construction**

The entire Substation Site would be fine graded at a consistent slope of between one and two percent and compacted to 90 percent of the maximum dry density. After fine grading, below grade construction would commence. Once all below grade construction is complete, SCE would perform localized fine grading where necessary to compensate for surface irregularities due to excavation work. It is estimated that approximately 6,500 cubic yards of imported fill would be required if the site is graded to a one percent slope. The actual quantity of fill to be imported to the site would be calculated as part of the final engineering and design.



- Powerlines Legend**
- Proposed Telecom Route (Above Ground)
  - Proposed Telecom Route (Underground)
  - Sagebrush (FPL) Line
  - Anaverde-Antelope 66KV Line
  - Antelope-Anaverde-Palmdale 66KV Line
  - Anaverde-Hellier-Rockair 66KV Line
  - Antelope-Anton-Palmdale-Shuttle 66KV Line
  - Antelope-Mesa 220KV Line
  - Antelope-Vincent 220KV Line
  - Michay-Vincent 500KV Line

SOURCE: Eagle Aerial 2006, SunCal 2006, Southern California Edison 2006, and MHA Environmental Consulting 2007

- LEGEND**
- Proposed SunCal Development
  - Proposed Ritter Ranch Substation
  - Shuttle Substation Tie-in Tap Point
  - Anaverde Substation Tie-in Point

**Figure B.1-5**  
Proposed Telecommunications  
Route

The final design of the foundation and grounding would be based on the geotechnical report that was completed in February 2007. Soil excavation would be necessary to install foundations, trenches, and the perimeter wall. Earthwork for the substation would result in approximately 725 cubic yards of excavated soil. The excess soil would either be used as fill (as described above), disposed of off-site at an appropriately licensed waste facility, or would be reused by the developer. All construction activities would be in compliance with SCE's Storm Water Pollution Prevention Plans (SWPPP).

After grading and site preparation are completed, the perimeter wall, foundations and below-grade facilities (e.g., ground-grid, conduit, etc.) would be constructed, followed by installation of the above-grade structures and the electrical equipment. Equipment would be brought to the site using access routes described below. Any damage to in-place landscaping along Ranch Center Drive would be repaired by SCE.

### **Staging and Access**

During construction, material would be staged within the enclosed Substation Site. Most trucks would use major streets to access the Ritter Ranch Development (i.e. Elizabeth Lake Road) and would then utilize the local subdivision roads through the development to the Substation Site.

It is anticipated that roads within the Phase I area of the Ritter Ranch Development would be paved when substation construction begins. No access to the Substation Site is expected to be on unpaved roads. Transformers would be delivered by heavy transport vehicles and off-loaded on site by large cranes with support trucks. A traffic control service would be used for transformer delivery.

### **Labor and Equipment**

Construction would be performed by SCE construction crews and/or by contractors under the direction of SCE field supervisors. Anticipated construction personnel and equipment are summarized in **Table B.1-1**.

**Table B.1-1 Substation Construction Personnel and Equipment Summary**

<b>Construction Phase</b>	<b>Duration</b>	<b>Number of Personnel</b>	<b>Equipment</b>	<b>Estimated Usage/Day (Hrs)</b>
Site Management	Length of Construction	12	1 Office Trailer (electric)	8
Civil Construction- Below Grade/ Perimeter Wall Construction and Localized Fine Grading	100 Days	12	2 Crew Trucks (gasoline or diesel)	2
			1 Dump Trucks (diesel)	2
			1 Cement Truck (diesel)	3
			1 Bobcat (diesel)	3
			1 Skip Loader (diesel)	4
			1 Forklift (diesel)	4

**Ritter Ranch Substation Project  
INITIAL STUDY**

<b>Construction Phase</b>	<b>Duration</b>	<b>Number of Personnel</b>	<b>Equipment</b>	<b>Estimated Usage/Day (Hrs)</b>
			1 Stake Truck (gasoline or diesel)	2
			1 Grader (diesel)	4
			1 Carry-all (gasoline)	2
MEER	10 Days	4	1 Stake Truck (gasoline or diesel)	2
			2 Crew Trucks (gasoline or diesel)	2
			1 Diesel Generator	6
			1 Lift Truck (gasoline)	3
Transformer Testing and Preparation	10 Days	15	2 Pick-up Trucks (gasoline or diesel)	2
			1 Boom Truck (diesel)	3
			1 Processing Trailer (electric)	6
			1 Forklift (diesel)	4
			1 Boom Truck (diesel)	3
			1 Tool Trailer (electric)	3
Electrical Construction	100 Days	10	3 Crew Trucks (gasoline or diesel)	2
			1 Flat Bed (gasoline)	2
			1 Crane (diesel)	4
			1 Forklift (diesel)	6
Transformer Installation Crew	1 Day	6	2 Crew Trucks (gasoline or diesel)	2
			1 Low-boy Hauler/Tractor Truck (diesel)	6
			1 Asphalt Paver (diesel)	4
			1 Stake Truck (gasoline or diesel)	4
			2 Crew Trucks (gasoline or diesel)	2
Paving Crew	10 Days	6	1 Tractor (diesel)	3
			1 Dump Truck (diesel)	3
			1 Barbergreen (diesel)	8
			Paddle Scraper (diesel)	6
Test Crew	120 Days	2	1 Test Truck (gasoline)	3

### B.1.11.2 66 kV Subtransmission Line Loop-In Construction

#### Grading and Site Preparation

The area between the proposed substation and the centerline of the existing 66 kV subtransmission line is approximately 140 feet long by 140 feet wide and would be cleared of vegetation as necessary for construction. SunCal is installing a six-foot tall wall at the development's southern property boundary with the Sagebrush line easement. The wall would not interfere with installation of the subtransmission line loop-in. Small areas of cut and fill, approximately 80 feet long by 80 feet wide, would be necessary around the proposed locations for Poles 3 and 4. According to CPUC General Order 95, SCE is required to maintain 30 feet of clearance between wires and roads accessed by vehicles, and 25 feet of clearance for areas not accessed by vehicles (pedestrian only). Some minor grading may be required to accommodate the new lines with proper clearance.<sup>2</sup> Pole 2 would be installed at the end of a new spur road, and would not require additional grading for pole installation. Pole 1 would be installed immediately adjacent to the existing access road, and would not require additional grading for the road or pole installation.

Erecting TSPs typically requires an excavated hole of seven to nine feet in diameter and 20 to 40 feet deep (for a total of 167 to 376 cubic yards of soil removed). After excavating foundation holes, reinforcing steel (rebar cages) would be installed and concrete placed to create TSP foundations. All construction activities would be in compliance with SCE's SWPPP.

#### Equipment Installation

**Pole and Conductor Installation.** Material and equipment would be stored at the Substation Site. This would include conductor reels, wire stringing equipment, poles, line trucks, cross arms, insulators, and any other incidental materials. Installing TSPs and conductors would occur in two phases. The first phase would involve erecting Poles 3, 4, 5, 6, 7 and 8, and installing conductors into their designated substation rack positions from Poles 3 and 4. This operation involves a two-step process, which would be done for each of the four new 66 kV line segments going into the substation. The first step involves pulling new conductors from the rack inside the substation, through Poles 6 and 5 to Pole 3 (this step is repeated twice—once for each new line segment). The second step involves pulling the new conductors from the rack inside the substation, through Poles 8 and 7 to Pole 4 (this step is repeated twice – once for each new line segment).<sup>3</sup>

Conductor pulling would be in accordance with SCE specifications and similar to process methods detailed in the Institute of Electrical and Electronics Engineers (IEEE) Standard 524-1992 (Guide to the

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<sup>2</sup> Should grading be required, SCE would include this as part of their consent letter, as indicated in footnote 2.

<sup>3</sup> Tower M9-T4 would be removed entirely, including the footings. The resulting holes would be filled with excavated material (native soil) from the construction of Pole 1 and the soil would be compacted.



Installation of Overhead Transmission Line Conductors). Conductors are pulled using individual reels, with ropes strung along the poles. Conductors are pulled from each pull location using a conductor pulling machine and are pulled three at a time (one complete circuit per pull).

The second phase would involve installing Poles 1 and 2, and redirecting the existing 66 kV lines into the substation. Existing conductors would be lowered between Towers M9-T3 and M9-T5 and would be fastened to Poles 1, 2, 3 and 4. First, Tower M9-T4 would be removed and conductors would be attached to Poles 1 and 2. Conductors would then be attached to Poles 3 and 4. Finally, conductors would be removed between Poles 3 and 4 so that the 66 kV lines can be redirected into the substation.

**Energization of Connection.** The final step in completing the subtransmission line loop-in involves energizing the new conductors. The existing Antelope-Anaverde 66 kV subtransmission line and the Antelope-Action-Palmdale-Shuttle 66 kV subtransmission line would be de-energized in order to complete the loop-in. De-energizing and reconnecting lines to new poles could potentially be performed at night when loads are lower. Work would be scheduled for completion in approximately one night. Once the connection (also known as a cut-over) is complete, subtransmission lines would be returned to service.

### **Staging and Access**

Staging for pole and conductor installation would occur within a corridor, approximately 140 feet long and 140 feet wide ("Staging Corridor"), between the proposed Ritter Ranch Substation and the centerline of the existing 66 kV subtransmission line easement. This Staging Corridor is not graded and contains mostly grassy and shrubby vegetation, which would be removed as necessary. Poles, spoils piles, and any equipment would be placed within the Staging Corridor. The Staging Corridor would be revegetated after completing construction, except for the access road, spur roads and pads detailed previously. Preceding substation and loop-in construction, SunCal will install a 6 foot tall wall, approximately 22 feet north of the Sagebrush line (at the edge of their easement). The wall would not interfere with staging materials or erecting the line. SCE would not anticipate impacting or damaging the wall during construction. Any incidental damage to the wall would be repaired at the completion of construction.

Poles and conductors would be delivered to the site using truck routes that are similar to those described for substation equipment delivery. Equipment for pulling overhead conductor would be positioned within the Staging Corridor adjacent to the new poles. Two pulling sites would be needed, and these sites would be located within existing spur roads. No additional soil disturbance would occur as a result of the overhead conductor pulling activity.

**Labor and Equipment**

Equipment necessary for pole and conductor installations includes a heavy line truck, a bucket truck, a prefabrication truck, conductor pulling machines, and cable dollies. Equipment necessary for conductor pulling includes conductor feeding equipment, conductor pulling equipment, crane, line truck, bucket truck, prefabrication truck, and related equipment. Labor and equipment are shown in **Table B.1-2**.

**B.1.11.3 12 kV Distribution Line Getaway Installation**

Installing the two underground duct banks for the 12 kV distribution line getaways (and telecommunications systems) would involve excavating two trenches approximately 20 feet long from the 12 kV switchrack to the substation's eastern property line. Each trench, approximately 18-inches wide and 60-inches deep, would be excavated with a backhoe. The 5-inch polyvinyl chloride (PVC) conduits would be placed in each trench, covered with a layer of slurry, and paved. A vault would be installed at the beginning and the end of each section of trench. Four 12 kV underground distribution lines and the two telecommunications lines would be installed in the conduits.

**Table B.1-2 Subtransmission Line Loop-In Construction Personnel and Equipment Summary**

Construction Phase	Duration	Number of Personnel	Equipment	Estimated Usage/Day (hrs)
Access Road Grading	1 Day	2	1 Grader (772 John Deer) (diesel)	9
Installing Steel Pole Fittings	10 Days	6	1 Utility Truck (diesel) 1 Drill Rig (diesel) 1 Cement Truck (diesel)	10
Setting New Steel Poles	5 Days	6	1 Cement Truck (diesel) 1 Drill Rig (diesel) 1 Crane (diesel) 1 Crew Truck (diesel) 1 Utility Truck (diesel) 1 SUV (gasoline)	10
Installing Overhead Conductor	8 Days	6	1 Conductor Pulling Machine (diesel) 1 Cable Dolly (diesel) 1 Utility Truck (diesel) 1 Line Truck (diesel) 1 SUV (gasoline)	10

**Labor and Equipment**

Construction would be performed by SCE construction crews and/or by contractors under the supervision of SCE personnel. Anticipated construction personnel and equipment for the trenching work are summarized in **Table B.1-3**, 12 kV Distribution Line Getaway Construction Personnel and Equipment Summary.

**Table B.1-3 12 kV Distribution Line Getaway Construction Personnel and Equipment Summary**

Construction Phase	Duration	Number of Personnel	Equipment	Estimated Usage/Day (hrs)
Distribution Getaway Construction	2 days	8	1 – Crew Truck (Gas/Diesel)	1
			1 – Dump Truck (Gas/Diesel)	6
			1 – Backhoe (Diesel)	6

**B.1.11.4 Telecommunications System Construction**

**Grading and Site Preparation**

New telecommunications lines would be installed in underground duct banks and on overhead lines. SCE would utilize existing duct banks that are located primarily along roads, in vaults behind sidewalks along Elizabeth Lake Road and within the Ritter Ranch Development (refer to **Figure B.1-5**). Installing the telecommunications cable would not require any additional ground disturbance.

**Equipment Installation**

Telecommunications cable installation would consist of both overhead and underground segments, depending on the location. Overhead cable would be installed from Ritter Ranch Substation to Anaverde Substation by attaching two cross arms on either existing 12 kV distribution poles or on newly installed poles.

Overhead cable would be installed by attaching two cross arms on distribution poles. This would require the use of a bucket truck. Rollers would be installed on the cross arms. A truck with a cable reel would be set up at one end of the section to be pulled, and a truck with a winch would be set up at the other end. Cable would be pulled onto the cross arms with pull rope. Then, cable would be permanently secured to the cross arms. Lengths of cable on reels are approximately 20,000 feet. After securing on cross arms, fiber strands in the cable from one reel would be spliced to fiber strands in the cable from the next reel to form one continuous path. Four people and two trucks would be used. A crew can install up to 2,000 feet of cable in one day and complete three splices in one day.

The underground portion of the telecommunications system would be placed in a two- to five-inch diameter duct bank conduit provided and installed by SunCal within the Ritter Ranch Development. At Elizabeth Lake Road, lines would be placed in the duct bank and pulled using a truck at either end of each segment of line. A pull rope would be installed to pull in an inner duct. This inner duct comes with a pull rope to install the cable. A section may be as long as 2,000 feet. After installation in the duct banks, the fiber strands in the cable from one section would be spliced to the fiber strands in the cable from the next section to form one continuous path. Four people and two trucks would be used.

**Staging and Access**

Either SCE's Antelope Valley Service Center in Lancaster or the Substation Site would be used for staging materials and equipment. Crews would utilize the same access routes as those utilized by substation construction crews, as well as public streets and SCE easements between Ritter Ranch and Anaverde Substations.

**Labor and Equipment**

Trenching for installation of duct banks within the Ritter Ranch Substation would occur either immediately before or at the same time as construction of the underground 12 kV distribution line getaways. Installation of the telecommunications lines, including laying lines in the underground conduits and installing overhead telecommunications cable, would require approximately two weeks with a crew of four men, three trucks, and one van. Telecommunication construction equipment and labor is shown in **Table B.1-4**.

**Table B.1-4 Telecommunications System Construction Personnel and Equipment Summary**

Construction Phase	Duration	Number of Personnel	Equipment	Estimated Usage/Day (hrs)
Communications Installation Phase	28 days	4	1 Vans (gasoline or diesel)	1
			1 Bucket Truck (diesel)	6
			1 Reel Truck (diesel)	6
			3 Crew Trucks (gasoline or diesel)	6

**SOURCE:** SCE 2006

## B. 2 Environmental Determination

### B.2.1 Environmental Factors Potentially Affected

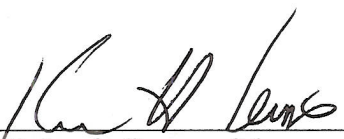
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" and requiring implementation of mitigation as indicated by the checklist on the following pages.

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Aesthetics                    | <input type="checkbox"/> Agriculture Resources              | <input type="checkbox"/> Air Quality                       |
| <input type="checkbox"/> Biological Resources          | <input type="checkbox"/> Cultural Resources                 | <input type="checkbox"/> Geology/Soils                     |
| <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology/Water Quality            | <input type="checkbox"/> Land Use/Planning                 |
| <input type="checkbox"/> Mineral Resources             | <input type="checkbox"/> Noise                              | <input type="checkbox"/> Population/Housing                |
| <input type="checkbox"/> Public Services               | <input type="checkbox"/> Recreation                         | <input checked="" type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities/Service Systems     | <input type="checkbox"/> Mandatory Findings of Significance |  |

### B.2.2 Environmental Determination

On the basis of this initial evaluation:

- I find that the Proposed Project COULD NOT have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.
- I find that although the Proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.
- I find that the Proposed Project MAY have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.
- I find that the Proposed Project may have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.
- I find that although the Proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the Proposed Project, nothing further is required.

  
Kenneth E. Lewis, Program Manager  
Analysis Branch, Energy Division  
California Public Utilities Commission

11/7/07  
Date

### B.3 Environmental Analysis and Mitigation

This section of the IS/MND presents the recognized environmental checklist standards of significance provided in Appendix G of the CEQA Guidelines. The checklist achieves the important statutory goal of integrating the requirements of CEQA with the environmental requirements of other laws.

Title 14 of the California Code of Regulations (Section 15064) provides the basic guidance for lead agencies in determining the significance of a project's effects and requiring mitigation to reduce the effect to less than significant in order to prepare a negative declaration. The checklist serves as a tool to assist the CPUC in determining the significance of particular effects.

The following terminology is used to evaluate the level of significance of impacts:

- A finding of *no impact* is made when the analysis concludes that the project would not affect the particular environmental issue.
- An impact is considered *less than significant* if the analysis concludes that there would be no substantial adverse change in the environment and that no mitigation is needed
- An impact is considered *less than significant with mitigation* if the analysis concludes that there would be no substantial adverse change in the environment with the inclusion of the mitigation measure(s) described.
- An impact is considered *potentially significant* if the analysis concludes that there could be a substantial adverse effect on the environment.

Each resource topic section includes a description of the environmental setting, provides an explanation to the checklist impact questions, and describes mitigation measures adopted by SCE to reduce potential impacts to less-than-significant levels.

#### B.3.1 Aesthetics

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
within a state scenic highway?				
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**B.3.1.1 Environmental Setting**

**Regional and Local Context**

The Substation Site is located in a currently uninhabited area in the upper the Anaverde Valley. This portion of the valley encompasses the initial development phases of the Ritter Ranch Specific Plan development area. The Anaverde Valley is visually oriented to the east, opening toward Lake Palmdale and the City of Palmdale. The Anaverde Valley is visually distinct. It is defined on the north by low ridgelines, formed by the San Andreas Fault, that are vegetated with junipers. The Sierra Pelona Mountains form the southern backdrop of the valley.

The substation would be located on level, recently graded land (**Figures B.3-1 through B.3-4**) at the edge of gently rolling to steep hills. **Figure B.3-5** illustrates the surrounding land uses as envisioned in the Ritter Ranch Specific Plan. Surrounding land uses include:

- North and West: Residential lands to be developed to a density of 10 to 16 dwelling units per acre.
- East: Ranch Center Drive, a major arterial street servicing Ritter Ranch, and single family residential development at 6 to 8 units per acre.
- South: the Antelope-Bailey transmission line corridor composed of five parallel transmission line facilities. Single family residential will be developed on the ridgelines to the south of the transmission line corridor.

The Antelope-Bailey transmission line corridor is characterized by a rolling topography covered by grasslands that were historically grazed. The immediate foreground south of the corridor is composed of a predominantly natural landscape backdropped by the Sierra Pelona Mountains. Dominant visual features of the existing characteristic landscape that will remain after Ritter Ranch is developed are the backdrop



**Figure B.3-1 View Looking Southeast Toward Development Area and the Antelope Bailey Transmission Line Corridor. Proposed Substation Site is Located in the Center of the Photograph.**



**Figure B.3-2 View of the Antelope-Bailey Transmission Line Corridor Looking Southwest from the Proposed Substation Site.**

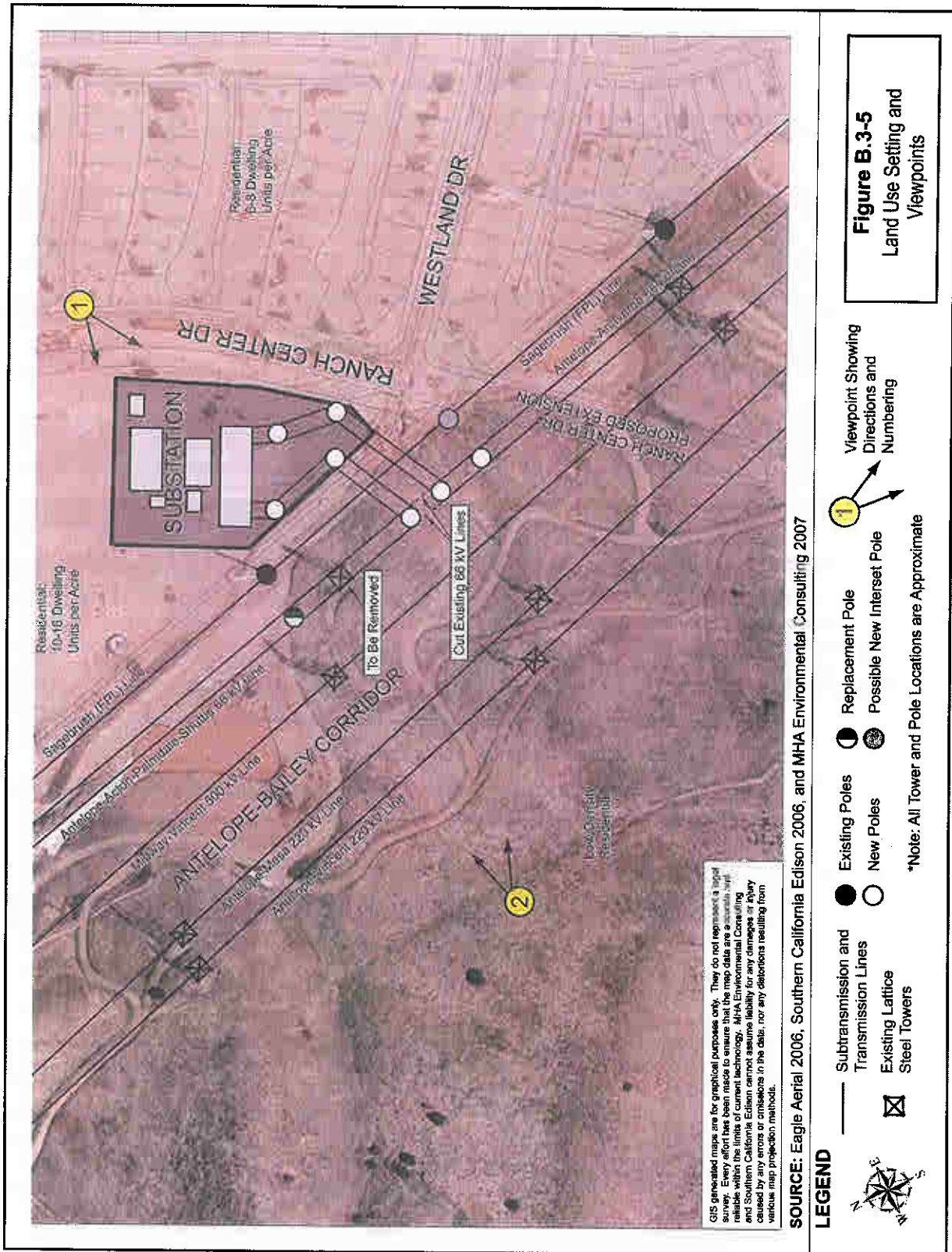




**Figure B.3-3 View Looking Northeast Across the Antelope-Bailey Transmission Line Corridor and Ritter Ranch Development. Proposed Substation Site is located in the center of the photograph.**



**Figure B.3-4 View Looking East Across the Ritter Ranch Development.**



of the Sierra Pelona Mountains and the Antelope-Bailey transmission line corridor. The California Aqueduct is located to the east and is visible from the surrounding hillsides. The aqueduct can be seen traversing the lower portion of the Anaverde Valley. The nearest existing inhabited areas within view of the Substation Site are approximately 3 miles away, further east of the California Aqueduct. After development of Ritter Ranch Phase I, Ranch Center Drive and its intersection with Westland Drive will be a dominant feature of the immediate setting.

### **Visual Inventory Methodology**

A visual setting is described in terms of the existing *landscape character and visual quality* of the viewshed. Existing landscape character is an overall visual and cultural impression of landscape attributes — the physical appearance and cultural context of a landscape that gives it an identity and sense of place. Existing landscape character is determined by landforms, vegetation patterns, waterbodies, and cultural features. Visual quality is a judgment as to a landscape's attractiveness, as determined by attributes broadly recognized as being valued and preferred by most viewers. Visual quality is expressed as a range of valued landscape attributes, often described in terms such as form, line, color, and texture. Combinations of these factors lead to evaluations of landscape character and visual quality, such as:

- High – a landscape of exceptional quality and beauty, valued for its scenic attributes.
- Moderate – a landscape that is common or average within the landscape character type.
- Low – a landscape that appears dull or monotonous, or is lacking in scenic features.

### **Viewer Sensitivity**

The existing landscape setting and its viewers are characterized in terms of their overall *visual sensitivity*. Viewer sensitivity is a measure of public concern for changes to scenic quality and is one significance threshold for evaluating visual impacts. Viewer activity, view duration, distance away from seen objects (foreground, middleground, background), adjacent land uses, and special planning designations such as scenic route designation are used to characterize viewer sensitivity.

After development of Ritter Ranch is complete, potentially affected viewer groups in the Project Area will be motorists along Ranch Center Drive and the adjacent residents. Ranch Center Drive will be a major arterial road and community access route. Sensitivity levels would be considered low from the perspective of the motorists as Ranch Center Drive is not designated as a scenic corridor. Sensitivity levels would be considered potentially moderate from the perspectives of adjacent residences as views from residences are stationary.

### B.3.1.2 Environmental Analysis

*a) Would the project have a substantial adverse effect on a scenic vista?*

*NO IMPACT.* There are no existing, publicly accessible scenic vistas within the vicinity of the Substation Site. Proposed parks near the Substation Site would be visually screened from the substation by residential development. Therefore, no impact on such features would occur.

*b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?*

*NO IMPACT.* The Proposed Project would not damage any existing scenic resources as seen from any designated or eligible State scenic highway. There are no rock formations, historic structures or other striking visual features on the proposed site or in its immediate vicinity. Therefore, no impacts would occur.

*c) Would the project substantially degrade the existing visual character or quality of the site and its surroundings?*

*LESS THAN SIGNIFICANT IMPACT.* The visual character of the area near the Substation Site is dominated by the presence of existing transmission line facilities. **Figures B.3-6 and B.3-7** show views of the Substation Site from two representative points in the Project Area where the substation would be visible. These viewpoints are along Ranch Center Drive and from future residential areas to be developed above the substation south of the Antelope-Bailey transmission line corridor. These locations are depicted on **Figure B.3-5**.

When traveling south on Ranch Center Drive, the substation would not be seen until it is in the immediate foreground view because of the planned high-density residential development. When traveling north on Ranch Center Drive, the substation would not be seen until it is in the immediate foreground view because of the hillside topography in the Antelope-Bailey transmission line corridor. With motorists traveling at 45 miles per hour on Ranch Center Drive, the substation would be in the motorist's cone of vision for approximately 7 to 9 seconds in either direction.

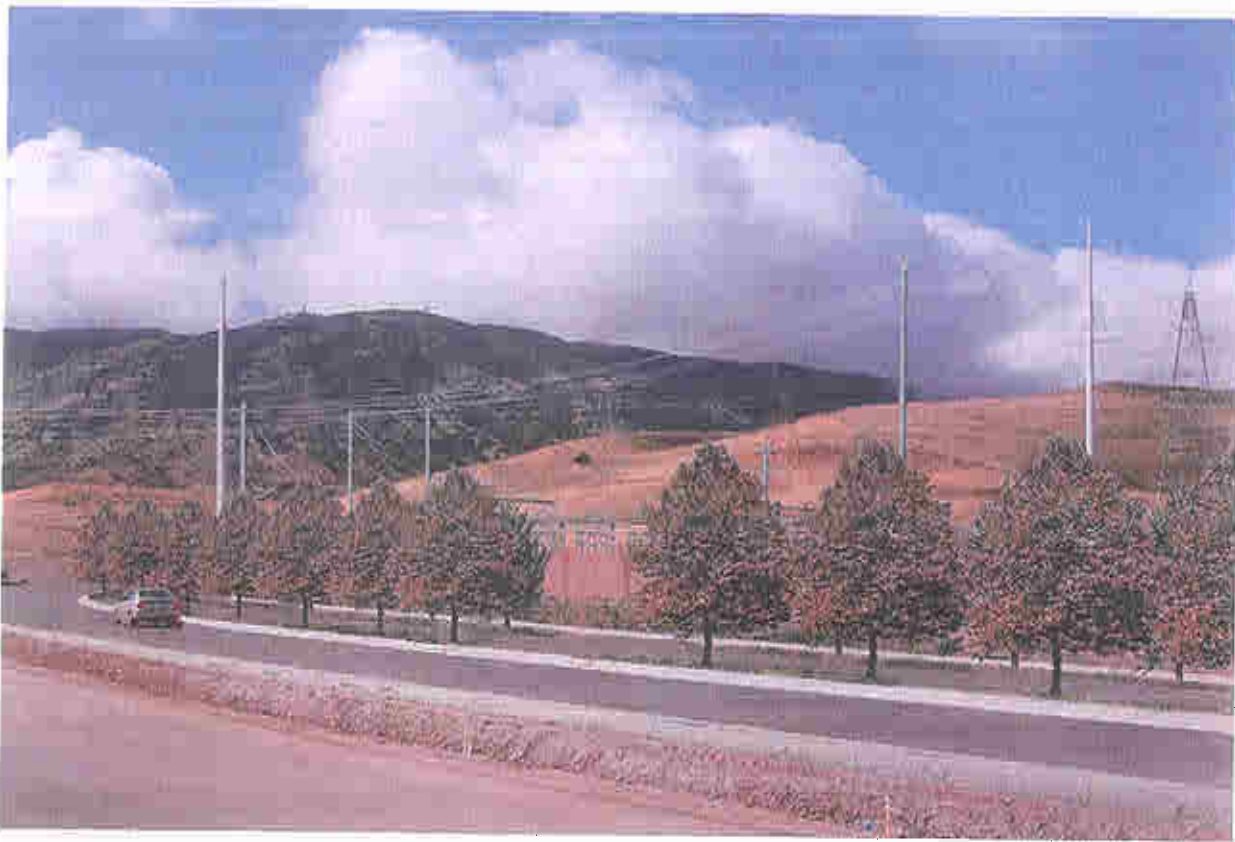
The internal facilities, storage area, and parking associated with the substation would be contained by a perimeter wall that is 8 feet tall and by landscaping. **Figure B.3-8** presents a simulation of the substation from Ranch Center Drive. Internal facilities (storage building, transformers, bus structures, capacitor banks, switches, etc.) of the substation, with the exception of conductors associated with the subtransmission line loop-in, would be no taller than 17 feet in height.



**Figure B.3-6 Viewpoint #2 Looking North from Proposed Single Family Residential Area Showing General Location of Substation Looking South from Ranch Center Drive.**



**Figure B.3-7 Viewpoint #1 Looking South from Ranch Center Drive Towards Substation Area and Subtransmission Line Loop-in.**



**Figure B.3-8 Substation Simulation.**

The degree of visual contrast of the substation with the planned residences to the north and with Ranch Center Drive to the east would be determined by how the two landscape designs are unified. The greater the degree to which the substation perimeter design is unified with the surrounding landscape (in this case the community designs for Ritter Ranch) the less visual contrast would be created. To the extent possible, the perimeter wall and landscaping would be similar to walls and landscaping used within the Ritter Ranch Development, and thus have a high degree of visual unity. Therefore, operation of the substation would not significantly degrade the visual character or quality of the area.

*d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

**LESS THAN SIGNIFICANT IMPACT.** As defined by the City of Palmdale, glare means the effect produced by brightness sufficient to cause annoyance, discomfort, or loss in visual performance and ability. Under normal operating conditions, the substation would not be lit at night. Lighting would be used only when required for maintenance outages or emergency repairs occurring at night. Substation lighting typically consists of high-pressure sodium lights located in the switchracks, around the transformer banks, and in areas of the yard where operating and maintenance activities may take place. Maintenance lights would be controlled by a manual switch and would normally be in the off position.

Lights would be directed downward, and shielded to reduce glare outside of the facility. Therefore, the operation of the substation would have a less than significant visual impact.

**B.3.1.3 Mitigation Measures**

No significant impacts have been identified, so no mitigation is required.

**B.3.2 Agriculture Resources**

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**B.3.2.1 Environmental Setting**

The California Department of Conservation (DOC) established the Farmland Mapping and Monitoring Program (FMMP) in 1982 to assess the location, quantity, and quality of agricultural lands and conversion of these lands to other uses. Every even numbered year, FMMP issues a Farmland Conversion Report. FMMP data are used in elements of some county and city general plans, in regional studies on agricultural land conversion, and in environmental documents as a way of assessing project-specific impacts on Prime Farmland.

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) (formerly Soils Conservation Service), classifies notable agricultural lands as follows:

- **Prime Farmland:** Land that has the best combination of physical and chemical properties for the production of crops

- **Farmland of Statewide Importance:** Similar to Prime Farmland, but with minor shortcomings (e.g., steeper slopes, inability to hold water)
- **Unique Farmland:** Land of lesser quality soils, but recently used for the production of specific high economic value crops.

The Ritter Ranch area was historically used for limited cattle grazing along with dry-land grain and alfalfa farming. Much of the area is arid grassland comprised of non-native grass species (City of Palmdale 1992). The area receives less than 10 inches of rain per year and soils are not conducive to growing crops. None of the area within the Proposed Project is considered Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. The area was previously zoned for agricultural use by the County of Los Angeles, but was then annexed by the City of Palmdale in 1992 and rezoned as residential, commercial, and park lands, as part of the Ritter Ranch Specific Plan (City of Palmdale 1993; City of Palmdale 2005).

### **B.3.2.2 Environmental Analysis**

- 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?*

*NO IMPACT.* The project area is not located on land designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland; therefore, no impact to those land classifications would occur as a result of implementing the proposed project.

- b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?*

*NO IMPACT.* The proposed project site is not located on parcels of land under any Williamson Act contracts or agricultural use areas. Therefore, conflicts with existing zoning or any Williamson Act contracts or agricultural land would not occur.

- 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?*

*NO IMPACT.* Neither construction nor operation of the proposed substation, subtransmission line loop-in, or telecommunication lines would involve changes to the environment that could result in the conversion of farmland to non-agricultural uses. All lands surrounding the substation, subtransmission line loop-in,



and telecommunications circuit will be developed into housing (City of Palmdale 1992, 1993). Therefore, no impacts would occur to farmlands or agricultural uses.

**B.3.2.3 Mitigation Measures**

No significant impacts have been identified, so no mitigation is required.

**B.3.3 Air Quality**

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of an applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**B.3.3.1 Environmental Setting**

Air quality is determined by measuring ambient concentrations of criteria pollutants. Air pollutants are those pollutants for which acceptable levels of exposure can be determined and for which standards have been set. The degree of air quality degradation is then compared to the current National and California Ambient Air Quality Standards (NAAQS and CAAQS). Unique meteorological conditions in California and differences of opinion by medical panels established by the California Air Resources Board (CARB) and the U.S. Environmental Protection Agency (U.S. EPA) cause considerable diversity between State and Federal standards currently in effect in California. In general, the CAAQS are more stringent than the

corresponding NAAQS. The standards currently in effect in California are shown in **Table B.3-1**.

The U.S. EPA, California Air Resource Board (CARB), and the local air district classify an area as attainment, unclassified, or nonattainment. The classification depends on whether the monitored ambient air quality data show compliance, insufficient data available, or noncompliance with the ambient air quality standards, respectively.

The Antelope Valley Air Quality Management District (AVAQMD) has regulatory jurisdiction over the entire project area. The AVAQMD lies within the Mojave Desert Air Basin, which also includes the desert portions of Kern, San Bernardino, and Riverside Counties. The district is bordered to the north by Kern County, to the south by the San Gabriel Mountains, to the east by San Bernardino County, and to the west by the Sierra Nevada Mountains. With approximately 320,000 residents, the AVAQMD ranks 10<sup>th</sup> in population among California's 35 air districts (AVAQMD 2007).

**Table B.3-1 National and California Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards	National Standards
Ozone	1-hour	0.09 ppm	—
	8-hour	0.070 ppm	0.08 ppm
Respirable particulate matter (PM10)	24-hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>
	Annual Mean	20 µg/m <sup>3</sup>	—
Fine particulate matter (PM2.5)	24-hour	—	35 µg/m <sup>3</sup>
	Annual Mean	12 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>
Carbon Monoxide (CO)	1-hour	20 ppm	35 ppm
	8-hour	9 ppm	9 ppm
Nitrogen Dioxide (NO2)	1-hour	0.18 ppm	—
	Annual Mean	0.030 ppm	0.053 ppm
Sulfur Dioxide (SO2)	1-hour	0.25 ppm	—
	24-hour	0.04 ppm	0.14 ppm
	Annual Mean	—	0.03 ppm

Notes: ppm=parts per million; µg/m<sup>3</sup>= micrograms per cubic meter; “—“ =no standard  
Source: CARB, 2007.

Various monitoring stations are placed throughout the AVAQMD to monitor levels of criteria pollutants. The nearest air monitoring station is in Lancaster, about 10 miles north of the Substation Site. The AVAQMD is in non-attainment at the Federal level for the one-hour ozone standard; is in attainment for carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead; and is unclassified for eight-hour ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>.

At the state level, the AVAQMD is in non-attainment for ozone (O<sub>3</sub>) and particulate matter fewer than 10 microns in diameter (PM<sub>10</sub>); is in attainment for carbon monoxide, nitrogen dioxide, sulfur dioxide, and

lead; and is unclassified for particulate sulfate, visibility reducing particles, hydrogen sulfide, and vinyl chloride.

### **B.3.3.2 Environmental Analysis**

*a) Would the project conflict with or obstruct implementation of the applicable air quality plan?*

*NO IMPACT.* The AVAQMD is the primary agency responsible for managing local air quality and administering other State or federal programs ensuring implementation of the air quality management plan. A project could be inconsistent with the applicable air quality management plan or air quality attainment plan (AQAP) if the project causes population and/or employment growth in excess of the growth estimates included in the AQAP or growth in vehicle-miles traveled exceeding the growth assumptions in the AQAP. The Proposed Project would not, however, create any new full-time or part-time positions of employment. Approximately 25 workers would be needed for substation construction, but none of these positions would be permanent. Regional air quality plans anticipate and allow for population growth in the region, which involves construction of a certain amount of new infrastructure. Therefore, the project would not conflict with or obstruct implementation of the applicable air quality plan. No impacts would occur and no mitigation is required.

*b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?*

*LESS THAN SIGNIFICANT IMPACT.* During construction, emissions would be generated at the proposed substation site, at subtransmission line work areas, at work sites for the telecommunication facilities, and along roadways used to access these locations. The primary construction emissions would be due to exhaust of vehicles and equipment [e.g., ozone precursors (volatile organic compounds or VOC and NO<sub>x</sub>), CO, and PM<sub>10</sub> and PM<sub>2.5</sub>] and fugitive dust (PM<sub>10</sub> and PM<sub>2.5</sub>) from travel on unpaved surfaces and from site earthwork. Heavy-duty diesel and gasoline-powered construction equipment at the work sites would include loaders, graders, backhoes, cranes, and numerous trucks for lifts, delivery, concrete, water, and crew. Beyond the work sites, exhaust emissions would also be caused by workers commuting to and from the project and other vehicles hauling equipment, materials, and supplies to the sites, including dump trucks removing debris.

SCE calculated emissions of NO<sub>x</sub>, PM<sub>10</sub>, CO, and VOC from on-site (or off-road) construction equipment exhaust and on-highway crew trucks. The emissions occurring from worker commute trips and heavy-duty diesel trucks delivering major project components. Emissions of SO<sub>x</sub> are not quantified or expected to be substantial because use of ultra-low sulfur diesel fuel has been required by California law since 2006. Results of these calculated emissions indicate that project construction would not exceed the daily construction standards (Table B.3-2) set by the AVAQMD.

**Table B.3-2 Substation, Subtransmission Loop-In, and Telecommunications Construction Emissions (lbs/day)**

<i>Substation Construction Phase (Civil and MEER Construction)</i>	<b>Emissions*</b>				
	<i>CO</i>	<i>VOC</i>	<i>NO<sub>2</sub></i>	<i>SO<sub>2</sub></i>	<i>PM<sub>10</sub></i>
Grading, Civil and Perimeter Wall Construction	12.82	2.73	18.96	0.92	24.92
MEER Relay House Installation	3.25	0.53	3.24	0.10	1.79
<b>TOTAL</b>	<b>16.07</b>	<b>3.26</b>	<b>22.20</b>	<b>1.02</b>	<b>26.71</b>
AVAQMD Threshold	548	137	137	137	82
<b>Exceeds Thresholds</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

<i>Substation Construction Phase (Electrical and Paving)</i>	<i>CO</i>	<i>VOC</i>	<i>NO<sub>2</sub></i>	<i>SO<sub>2</sub></i>	<i>PM<sub>10</sub></i>
Transformer Testing	9.53	1.92	12.71	0.55	2.98
Electrical and Shop Services and Instrument Division Construction	7.70	1.48	9.04	0.36	2.96
Transformer Installation Crew	8.53	2.21	18.53	0.73	2.74
Paving Crew	22.81	4.99	40.46	1.82	2.91
Testing	1.19	0.15	0.77	0.00	0.02
<b>TOTAL</b>	<b>49.76</b>	<b>10.75</b>	<b>81.52</b>	<b>3.46</b>	<b>11.61</b>
AVAQMD Threshold	548	137	137	137	82
<b>Exceeds Thresholds</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

<i>Subtransmission Loop-In and Telecommunications Construction Phase</i>	<i>CO</i>	<i>VOC</i>	<i>NO<sub>2</sub></i>	<i>SO<sub>2</sub></i>	<i>PM<sub>10</sub></i>
Steel Pole Fitting	17.55	5.18	60.01	1.87	6.42
New Poles Installation	15.44	4.17	30.28	1.56	2.71
Conductor Installation	12.23	3.29	29.47	1.14	2.41
Telecommunications	7.63	1.75	14.45	0.53	10.35
<b>TOTAL</b>	<b>52.85</b>	<b>14.40</b>	<b>134.22</b>	<b>5.10</b>	<b>21.89</b>
AVAQMD Threshold	548	137	137	137	82
<b>Exceeds Thresholds</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

\*Including combustion and fugitive dust emissions. Grading and vehicles traveling on roadways cause most PM<sub>10</sub> emissions. Combustion results in small amounts of PM<sub>10</sub>

**SOURCE: CARB 2006, SCAQMD 2006**

Estimated emissions were calculated for the Proposed Project using a generalized methodology based on a worst-case scenario for specific phases of the project based on the expected equipment, construction hours, grading areas, and roadway miles traveled. In contrast to the detailed methodology, the generalized

methodology tends to overestimate emissions for most periods of construction in favor of estimating emissions on specifically intense construction days.

This analysis conservatively identified daily emissions for the Proposed Project. Emissions calculations were performed separately for each project element; however, there will be some degree of overlap, with activities from different construction elements occurring on the same day. This overlap is accounted for in the calculations. Three construction phases are expected to overlap.

- Civil construction and MEER installation
- Electrical construction (all components) and paving
- Subtransmission Line Loop-In and Telecommunications installation

Calculations presented in the following subsections represent worst-case emissions estimates. Actual project emissions would be less than stated. Therefore, even during short periods of overlap, estimated emissions would likely not exceed actual emissions for the overlapping phases. No long-term, adverse impacts are expected from project construction.

*e) Would the project create objectionable odors affecting a substantial number of people?*

*NO IMPACT.* The Proposed Project includes short-term construction activity that would involve combustion of diesel fuel and emissions of dust. Odors of construction equipment diesel exhaust would be reduced by the use of either low-sulfur or ultra-low-sulfur fuel. No substances used or activities involved with the project would have the capability to produce offensive odors.

**B.3.3.3 Mitigation Measures**

No significant impacts have been identified, so no mitigation is required.

**B.3.4 Biological Resources**

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<b>Would the project:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**B.3.4.1 Environmental Setting**

This section describes the biological resources that occur in the Proposed Project area. It includes a description of common communities of plants and wildlife, information addressing special status species and their locations in relation to the Proposed Project, followed by an assessment of potential impacts to these resources. Information used in preparing this section was primarily derived from the Proponent’s Environmental Assessment for the Ritter Ranch Substation Project (SCE 2007).

Ritter Ranch is located at the southwestern extension of the Mojave Desert in the Antelope Valley. The Antelope Valley is typified by hot summers and cool winters, with substantial temperature fluctuations from day to night. It receives little rain and supports dominant species and habitats associated with the Mojave dessert, such as Coast horned lizard and Joshua tree.

Elevations in the Project Area from 2,830 feet near Amargosa Creek to around 3,330 near Site Alternative A. The entire area will eventually be graded and developed into suburban housing tracts under the Ritter Ranch Specific Plan. The western edge of the planning area is over two miles west of the proposed Substation Site (City of Palmdale 1992). At present time, only Phase I, Planning Area 5, of the Ritter Ranch Development has been graded. The other phases remain in natural condition. Vegetation in the area is of low or moderate quality for wildlife habitat, as it has been subjected to previous disturbance. The Project Area has a history of previous agricultural activity. It has been used for ranching and alfalfa and other crop production (City of Palmdale 1991).

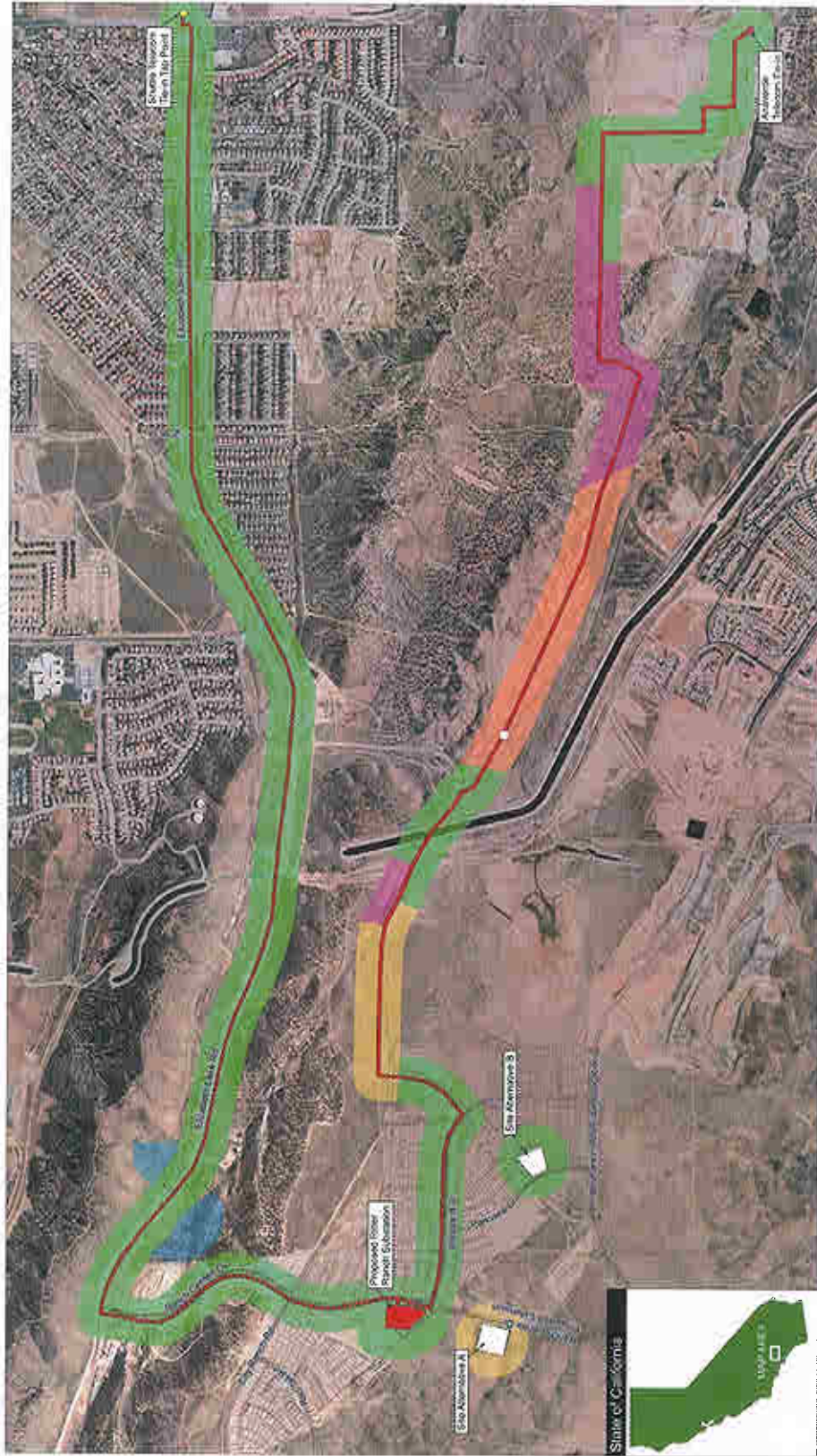
### **Vegetation Communities and Wildlife Habitat**

In August 2006, biologists visited the proposed and alternative substation sites, subtransmission line loop-in area, and telecommunication line routes for the Proposed Project to evaluate the habitat occurring at the proposed project site and to record the vegetation communities and habitat types. The entire route was surveyed on foot with the intention of documenting species occurrences and delineating habitat borders and general habitat quality. Dominant habitat types, as used and described by the California Wildlife Habitat Relationship (WHR) system, were recorded and primary species were identified. Vegetation communities, as described by Sawyer and Keeler-Wolf (1995), found within each habitat type were also recorded. A total of five vegetation communities were recognized and mapped within the project area. These include:

- Grassland/Pasture
- Desert Scrub
- Juniper/Joshua Tree Woodland
- Desert Riparian
- Disturbed Urban/Ruderal

The five vegetation communities identified within the project area are described further below, and are depicted in **Figure B.3-9**.

**Annual Grassland/Pasture.** Annual grassland/pasture habitat occurs on flat plains and on the lower north-facing foothills of the Project Area. The southern telecommunication line corridor is located in this habitat. Grassland habitat is also found to the south of the proposed Substation Site within the subtransmission line loop-in area.



SOURCE: Google Earth Pro 2007, SunCal 2006, Southern California Edison 2006, and MHA Environmental Consulting 2007

**LEGEND**  
 N  
 W E

- Grassland/Pasture
- Urban/Ruderal
- Proposed Telecom Route (Above Ground)
- Shuttle Substation Tie-in Top Point
- Desert Scrub
- Desert Riparian (disturbed)
- Proposed Telecom Route (Underground)
- Anavade Substation Tie-in Point
- Juniper/Joehus Tree Woodlands (low density)
- Proposed SunCal Development

**Figure B.3-9**  
Habitat Types in the Project Area



The area has a history of cattle ranching and is still in use today as active pastureland. Cattle were present during the August 1, 2006 site visit. The grasslands are found on alluvium soils and support mostly annual plant species. These species include several grass species such as ripgut brome, cheat-grass, and wild oats. Several forbs are also common in the grasslands in the Project Area. Rattlesnake spurge and doveweed are examples that were recorded during the surveys. The habitat is a combination of the California annual grassland and cheatgrass vegetation communities as described by Sawyer and Keeler-Wolf (1995).

Many wildlife species are known to use annual grasslands for foraging, but often require special habitat features such as cliffs, caves, ponds, or scattered scrubs for cover, breeding, or resting. The grasslands in the project area do not exhibit these features. Several avian species were observed in the grassland habitat including the horned lark, loggerhead shrike, western meadowlark, and American crow. Desert cottontail was the only mammal observed, but grassland habitat generally includes California ground squirrel, western harvest mouse, California vole, and coyote. Coyote and rabbit scat were identified on site.

**Desert Scrub.** Desert scrub can be found on several sections of the telecommunication line route between the proposed Ritter Ranch Substation and the Anaverde Substation. Desert scrub found in the corridor was of low to moderate quality, likely as a result of frequent disturbance and cattle grazing. The dominant scrub species in this habitat are California buckwheat, Great Basin sagebrush, rubber rabbitbrush, and saltbush. The average scrub height is approximately 1 meter with low to moderate scrub density. Grasses and forbs analogous with the abutting grassland habitat serve as ground cover in this habitat. The habitat is best represented by the California sagebrush-buckwheat series, and the rubber rabbitbush series.

Desert scrub habitats typically support a variety of wildlife species. Presence of standing water in winter and growth of herbaceous plants in spring can provide foraging areas and food for wildlife. Primary resident species are reptiles and rodents; however, other taxa are also represented. Several reptile, bird, and mammal species were observed during the site visit or are expected to occur based on habitat and records from previous surveys, including the side-blotched lizard, California quail, western kingbird, American crow, scrub jay, and greater roadrunner. Other typical species found in desert scrub often include a variety of lizards and snakes, pocket mice, kangaroo rats, kit fox, coyote, and bobcat.

**Juniper/Joshua Tree Woodland.** Juniper/Joshua tree woodland habitat is found at the eastern section of the telecommunication line near the Anaverde Substation. The habitat occurs on slopes of loose soil and schist. Single-leaf junipers are fairly sparse and scattered trees are present throughout most of the habitat. The junipers present are from 1 to 2.5 meters in height and few Joshua trees exceed 3 meters. California buckwheat, Great Basin sagebrush, and saltbush are also scattered throughout this habitat.

The vegetation communities present are California juniper series, and desert scrub. The habitat supports a fairly high species diversity, and several avian species were observed in this habitat including mourning

doves, northern flicker, California Quail, western kingbird, American crow, scrub jay, and greater roadrunner. Short joint beavertail are known to occur in Joshua tree woodlands and may be present in portions of the telecommunication line route passing through juniper/Joshua tree woodland, though none were observed. Short-joint beavertail are more likely to be spotted during the spring (April-June) when they are flowering.

**Desert Riparian.** Desert Riparian habitat is found along Amargosa Creek. The telecommunications line between the Ritter Ranch Substation and the Shuttle Tie-In tap point traverses Amargosa Creek for 0.4 miles. The habitat supports willows, Fremont cottonwood, and tamarisk. Several other species are present including ragweed, California thistle, and prairie bulrush. Tamarisk series best describes this vegetation community.

Amargosa Creek is an intermittent stream and no water was present during the August 1, 2006 site visit. The streambed was covered in places with fiberglass insulation, construction-related debris, and trash scattered throughout the streambed. The area appeared to be highly trafficked by both deer and horses. There is a horse ranch at the intersection of Ranch Center Drive and Elizabeth Lake Road, and horse trails originating from the ranch meander through the creek drainage. California Vole and desert cottontail were seen in the stream bottom. A surprisingly low number of avian species were observed in the riparian habitat. Typically, riparian habitat supports both larger numbers and greater avian species diversity than other desert habitats.

The riparian corridor is approximately 100 feet from the edge of the current disturbed area that has resulted from road widening. The telecommunication line would be installed in existing duct banks within the roadway.

**Disturbed Urban/Ruderal.** The area that is currently being developed within the Ritter Ranch Development, along Elizabeth Lake Road and within the City of Palmdale, is disturbed urban/ruderal habitat. The entire Substation Site, and a good portion of the telecommunications lines would be within disturbed urban/ruderal habitat. The Ritter Ranch Development area is graded and has very little vegetation or wildlife presence.

Much of the area next to Elizabeth Lake Road was graded and disturbed as part of the road widening. This portion of habitat consists of graded lands, forbs, and grasses. Elizabeth Lake Road travels into suburban Palmdale and can best be described as suburban residential with various exotic and native plant species used for landscaping. Bird species likely use the trees for nesting and roosting. Species occurrences were not recorded east of the Amargosa Creek crossing. Special status species are not expected to occur in this habitat.

## **Special Status Species**

**Special Status Plants.** Special status plants are defined as species listed under the Federal/California Endangered Species Acts (FESA/CESA), and the Native Plant Protection Act (NPPA) §1901, candidates for such listing, or species that would meet the criteria for listing but have not yet been formally listed, such as plants included in Lists 1A, 1B, and 2 of the California Native Plant Society's (CNPS) Inventory (Skinner and Pavlik, 1994). Plant species on CNPS Lists 3 and 4 generally do not qualify for protection under CESA and NPPA.

A search of the California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDDB) was conducted to identify locations of known occurrences of special status plant and wildlife species in the vicinity of the Proposed Project. The CNDDDB search identified two occurrences of short-joint beavertail cactus near the eastern portion of the telecommunication corridor. The California Native Plant Society lists the short-joint beavertail as rare, threatened, or endangered in California or elsewhere. The species is not listed by federal or state agencies. The occurrences of short-joint beavertail were recorded in 1989.

**Special Status Wildlife.** Special status wildlife species include those listed as threatened or endangered under the Federal or State Endangered Species Acts, species proposed for listing, species of special concern, and other species identified either by the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), or California Natural Diversity Database (CNDDDB) as unique or rare, and which have the potential to occur within the project area and surrounding region.

Four special status animal species occurrences were identified by the CNDDDB within one mile of the proposed project area. They are all State of California species of special concern and include:

- Silvery legless lizard
- Burrowing owl
- Coast (San Diego) horned lizard
- Two-striped garter snake

An assessment of probable special status species occurrence was formulated based on a survey conducted during August 2006, results of previous surveys, and results from a CNDDDB search of the area. The probability of occurrence was constructed based on literature as compared to the habitat conditions encountered during the site visit. **Table B.3-3** lists special species with potential for occurrence within the Project Area.

**Table B.3-3 Special Status Plant and Animal Species with the Potential to Occur within the Project Area**

Common Name	Scientific Name	Status	Habitat	Potential for Occurrence
<i>Plants</i>				
Slender-horned Spineflower	<i>(Dodecahema leptoceras)</i>	FE, CSE, 1B	G	Low
Short-joint Beavertail	<i>(Opuntia basilaris var. brachyclada)</i>	1B	W, DS	Moderate to High
<i>Animals</i>				
Coast Horned Lizard	<i>(Phrynosoma coronatum blainvillii and P. c. frontale)</i>	CSC	G, W, DS	Moderate
Silvery Legless Lizard	<i>(Anniella pulchra pulchra)</i>	CSC	W, DS, R	Low
Two-striped garter snake	<i>(Thamnophis hammondi)</i>	CSC	R	Low
Northern Harrier	<i>(Circus cyaneus)</i>	CSC	G, W, DS, D	Low-Moderate
Sharp-shinned Hawk	<i>(Accipiter striatus)</i>	CSC	G, W, DS, R	Low
Cooper's Hawk	<i>(Accipiter cooperi)</i>	CSC	G, W, DS, D	Low
Swainson's Hawk	<i>(Buteo swainsoni)</i>	CST	G, W, DS, D, R	Low
Ferruginous Hawk	<i>(Buteo regalis)</i>	CSC	G, W, DS, D, R	Moderate
Golden Eagle	<i>(Aquila chrysaetos)</i>	CSC, FP, SCP	G, DS	Low-Moderate
Merlin	<i>(Falco columbarius richardsonii)</i>	CSC	G, W, DS, R, D	Moderate
Peregrine Falcon	<i>(Falco peregrinus)</i>	CST, CSP	G, DS, W	Low
Prairie Falcon	<i>(Falco mexicanus)</i>	CSC	G, DS, D	High
Burrowing Owl	<i>(Athene cunicularia)</i>	CSC	DS, W	Low-Moderate
Loggerhead Shrike	<i>(Lanius ludovicianus)</i>	CSC	G, DS, W	High
California Horned Lark	<i>(Eremophila alpestris actia)</i>	CSC	G, DS, D	High
Le Conte's Thrasher	<i>(Toxostoma lecontei)</i>	CSC	G, DS, W, R	High
Southern California Rufous-crowned Sparrow	<i>(Aimophila ruficeps canescens)</i>	CSC	G, DS, W, D	High
Bell's Sage Sparrow	<i>(Amphispiza belli belli)</i>	CSC	G, DS, W, R	High

Note: 1B = CNPS Endangered throughout California and elsewhere  
 CSC = California Species of Special Concern  
 CST = California Threatened  
 CSE = California Endangered  
 SCP = California Protected  
 FT = Federally Protected  
 FE = Federally Endangered  
 FP = Federally Protected  
 D = Disturbed  
 DS = Desert Scrub  
 R = Riparian  
 W = Joshua Tree Woodland  
 G = Grassland

### Jurisdictional Waters

Areas meeting the regulatory definition of “Waters of the U.S.” (jurisdictional waters) or State jurisdictional waters were not identified in the immediate area of the project site. No wetlands or waterways potentially under the jurisdiction of either the USACE or CDFG are present within, or adjacent to, the Proposed Project site or areas of project-related activity.

#### **B.3.4.2 Environmental Analysis**

- a) *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

*LESS THAN SIGNIFICANT IMPACT.* The project has a limited potential to cause impacts to special status species. Special status plant species are not found at the Substation Site (and the area within the site where the 12 kV getaways would be constructed) because the site is graded. The short-joint beavertail cactus has been known to occur within two miles of the project; however, the surrounding development area is graded and would be under construction at the time of substation construction. The only wildlife species with potential to occur on site would be individuals that could migrate over the graded area from undisturbed areas to the south.

Several special status animal species have the potential to occur at the project site. One of these species is the coast horned lizard, a California Species of Special Concern. The nearest known location of coast horned lizard is approximately two miles west of the project site. Coast horned lizards can be found in many habitats, including grasslands. Non-native and ruderal grasslands, such as those in the transmission corridor adjacent to the project site, are not prime habitat for coast horned lizard. There is a small potential that coast horned lizard may be found in the adjacent grasslands and in the work area before or during construction if the species migrate into the substation construction area. If the lizard is present at the project site during construction, individuals could be injured or killed by heavy equipment. SCE Pre-construction surveys would be conducted and a qualified biologist would remove any lizards or other sensitive species found on site prior to construction work to avoid any possible adverse effects to horned lizard.

Additional special status species having the potential to occur in the project area include the burrowing owl, prairie falcon, loggerhead shrike, California horned lark, Le Conte’s thrasher, Southern California rufous-crowned sparrow, and Bell’s sage sparrow, all of which are California Species of Special Concern. These highly mobile avian species have the potential to be in the project vicinity. However, the degraded habitat at the developed project site is not likely to provide quality nesting and foraging habitat for these species. As a result, there is a low likelihood for these species to be at the proposed substation site. Pre-

construction surveys will be conducted to verify that these species are not present, as a result, impacts from implementation of the Proposed Project on special status species would be less than significant.

- b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

*LESS THAN SIGNIFICANT IMPACT.* Construction of the Proposed Project would not affect any, wetlands, or sensitive habitats (habitats that could support state or federally listed species). There are no designated Jurisdictional Waters of the U.S., riparian habitat, or other sensitive natural communities identified in local or regional plans, policies, or regulations within the project area. The closest riparian habitat is approximately 0.5 miles north of the proposed substation site along Amargosa Creek. The only potential for effects to nearby watercourses and riparian habitat would be through polluted runoff from the construction site. Polluted runoff from the site is highly unlikely because standard best management practices would be implemented during construction, distance to the nearest drainage, and relatively level grade of the project site. Therefore, there would be no adverse impacts to sensitive natural communities as a result of implementation of the proposed project.

- c) Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means?*

*LESS THAN SIGNIFICANT IMPACT.* See response to B.3.4.2 (b) above.

- d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?*

*LESS THAN SIGNIFICANT IMPACT.* Construction of the proposed substation would not interfere with the movement of any native resident fish or wildlife species or with any known established migratory wildlife corridors. Common wildlife species such as coyotes, rodents, and bird species may currently use the area adjacent to the substation site, but would generally avoid graded areas. Graded areas would not provide sufficient cover, food, or water for wildlife, and are highly trafficked by construction equipment and personnel. Because of unsuitable habitat conditions at the site, construction activities associated with the substation development at the graded site would have a less than significant effect on migration through the area.

Raptors routinely nest in power poles and could be affected by installation of the telecommunications cables on existing poles if active nests are present. Pre-construction surveys would identify any active nests and construction would be delayed until the nests are inactive. The line installation would therefore have a less than significant effects to wildlife migration or nests.

e) *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

*NO IMPACT.* There are no known local policies or ordinances protecting biological resources, such as tree preservation policies or ordinances with which the project would conflict.

f) *Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or State habitat conservation plan?*

*NO IMPACT.* There are no adopted Habitat Conservation Plans (HCP) or Natural Community Conservation Plans applicable to the project area. The nearest HCP is the West Mojave Plan, which does not include lands in close proximity to the project (BLM 2006). The southwest edge of West Mojave HCP is approximately 10 miles north of the proposed site. The substation construction would have no impact on or prevent implementation of any adopted plans or policies that protect special status species.

### B.3.4.3 Mitigation Measures

No significant impacts have been identified, so no mitigation is required.

### B.3.5 Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Disturb any human remains, including those interred outside of formal cemeteries?                    | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

### B.3.5.1 Environmental Setting

Cultural resources consist of the material remains, environmental data, cultural traditions, and traditional places created by a past culture. These remains can include artifacts, ecofacts, architecture, human remains, and landscapes that are historically or archeologically significant.

Paleontological resources are any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that are of paleontological interest and that provide information about the history of life on earth, with the exception of materials associated with cultural resources.

#### Ethnographic Background

Native Americans who occupied the Project Area at the time of historic contact were the Kitanemuk and Tataviam. The Project Area lies in the general ethnographic boundary between these two groups. The Kitanemuk occupied the southern Tehachapi Mountains and most of the Antelope Valley and spoke a Takic language (Blackburn and Bean 1978). The Tataviam are thought to have occupied the southwestern fringe of the Antelope Valley and the Santa Clara River drainage. It is unclear whether the Tataviam spoke a separate Takic language similar to the Kitanemuk or a Serrano dialect (King and Blackburn 1978). Both groups practiced a hunter and gatherer form of subsistence. Settlement patterns were centered on winter villages and small seasonal camps. The Kitanemuk political and religious systems were well developed, containing a village chief, ceremonial manager, messengers, shamans, and other ritualists (Blackburn and Bean 1978). Unfortunately, little information is known about the Tataviam.

#### Historical Background

In 1771, the mission system was established with the founding of San Gabriel Mission. Twenty other missions followed, ranging from San Francisco to San Diego. A primary reason for developing the mission system was to control the natives and to convert them to Catholicism. Once brought to the missions, converted natives (referred to as neophytes) were not allowed to leave. Treatment of natives at the missions was extremely poor and abusive.

The Mexican Period in Alta California began in 1822 and lasted until the Mexican-American War (1846-1847). Under the Mexican government, missions were secularized and turned into private ranches through



government land grants. Native populations did not fare much better under Mexican control, and continued to be used for labor on private ranches. American citizens began to settle in California around 1848, at the time of the Gold Rush. California became part of the United States after the Mexican-American War, and was admitted into the Union in 1850.

By the 1850s, the western Mojave Desert was heavily settled by trappers, miners, and farmers. Major development in the Mojave Desert included mining, building the Central and Southern Pacific railroads from San Francisco to Los Angeles, and building of the Los Angeles Aqueduct. In 1946, Muroc Army Air Field was created on Rogers Dry Lake, located northeast of the project area. This military base is now known as Edwards Air Force Base, and has influenced the development and history of the area.

Development of the Ritter Ranch property occurred during the 20<sup>th</sup> century. The Ritter family arrived from Germany in the 1880s and established themselves on a 160-acre homestead in Leona Valley. Land acquisitions were made in subsequent years by the family and included the area now in the Ritter Ranch Specific Plan development area. The ranch supported dryland farming and cattle grazing, until the Ritter family sold it in 1957. The property was periodically leased for cattle grazing and a portion of it was leased to the Ritter Ranch Sportsman's Club until 1974 (Bein et al. 1992).

### **Prefield Research**

A cultural resources records search for the project area was conducted at the South Central Coastal Information Center at California State University, Fullerton (Jordon and Craft 2006). Results of this records search indicated that entire Project Area had been previously surveyed (Paden 1989) and that eleven cultural resource studies (Phase I and Phase II) have been conducted within about a quarter-mile of the Project Area. No cultural resources have been reported on the Project Area; however, eleven have been reported within a quarter-mile of the Project Area .

There are no known cultural resources within the Project Area or within a quarter-mile radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, California Points of Interest, California Inventory of Historic Resources, or the California State Historic Landmarks according to records searches conducted by Jordan and Craft (2006).

In addition, a request was submitted on June 30, 2006 to the California Native American Heritage Commission to consult their Sacred Lands Files in order to identify other culturally significant properties. In a letter dated July 21, 2006, the Commission reported that no sacred lands were known within the Project Area.

## Paleontological Resources

A paleontological records and literature search was conducted by the San Bernardino County Museum. Results of the search revealed that the Proposed Project Area is located upon surface exposures of Pleistocene nonmarine alluvium overlying pre-Cretaceous metamorphic rocks of Pelona Schist. Pleistocene alluvium may have potential to contain fossil resources depending on its lithology. The Pelona Schist has no potential to contain significant paleontological resources. The records search revealed that no previously recorded paleontologic resources are present within the Project Area or within a one-mile radius.

### **B.3.5.2 Environmental Analysis**

- a) *Would the project cause a substantial adverse change in the significance of an historical resource as defined in §15064.5 [§15064.5 generally defines historical resource under CEQA]?*

*NO IMPACT.* No surface evidence of cultural resources was found either within the substation site or along the subtransmission line route during pedestrian surveys conducted by Mooney, Jones and Stokes on May 4, 2006. No evidence of historical resources was found and there have been no reports of resources made to the South Central Coastal Information Center at California State University, Fullerton (Jordon and Craft 2006). Results of this records search indicated that entire Project Area had been previously surveyed (Paden 1989) and that eleven cultural resource studies (Phase I and Phase II) have been conducted within about a quarter-mile of the Project Area. No cultural resources have been reported in the Project Area. Thus, no significant historic resources would be directly affected by the proposed project.

- b) *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

*LESS THAN SIGNIFICANT IMPACT.* There are no archaeological resources recorded within the project area. No evidence of prehistoric or historic archaeological resources was observed during a survey of the project area. Research suggests a low regional archaeological sensitivity based on the lack of recorded prehistoric and historic archaeological sites within two miles of the project area.

Previously unknown subsurface intact prehistoric deposits could be inadvertently unearthed during ground disturbing activities associated with project construction. To minimize the effects of this potential impact, SCE has committed to implement mitigation measures as part of the proposed project design and SCE's standard construction and operational protocols. If previously unidentified archaeological resources are unearthed during construction activities, construction would be halted in that area and directed away from the discovery until a qualified archaeologist assesses the significance of the resource. The archaeologist would recommend appropriate measures to record, preserve or recover the resources. This would reduce this impact to a less than significant level because any previously unrecorded or

unknown archaeological resource discovered during the course of construction would be subsequently avoided or provided proper treatment.

*c) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

*LESS THAN SIGNIFICANT IMPACT.* A paleontological records and literature search was conducted by the San Bernardino County Museum. Results of the search revealed that the Proposed Project Area is located upon surface exposures of Pleistocene nonmarine alluvium overlying pre-Cretaceous metamorphic rocks of Pelona Schist. Pleistocene alluvium may have potential to contain fossil resources depending on its lithology. The Pelona Schist has no potential to contain significant paleontological resources. The records search revealed that no previously recorded paleontological resources are present within the Project Area nor within a mile radius. The project has a small potential to impact previously undiscovered paleontological resources. SCE would implement standard construction and operation measures so that impacts to paleontological resources would be less than significant. Measures include halting construction if a discovery is made until the area is evaluated and recorded, preserved, mitigated, etc., by a qualified specialist (paleontologist), as appropriate.

*d) Would the project disturb any human remains, including those interred outside of formal cemeteries?*

*LESS THAN SIGNIFICANT IMPACT.* There appears to be a low potential for inadvertent discoveries of buried archaeological deposits during construction within the project area. However, it is not possible to completely negate the potential to encounter previously undiscovered, buried archaeological resources in this area of California. SCE's standard construction and operation protocols would be implemented if archaeological resources or human remains are encountered during construction. These measures include stopping work if a resource is encountered until the resource is evaluated by a qualified specialist. The archaeologist would recommend appropriate measures to record, preserve, or recover the resources before work would resume. In the event of finding human remains, all work is stopped and the coroner and Native American Heritage Commission are notified. With the implementation of these standard measures, impacts to cultural resources would be less than significant.

### **B.3.5.3 Mitigation Measures**

No significant impacts have been identified, so no mitigation is required. However, there is always the possibility that potentially significant unidentified prehistoric, historic, or paleontologic materials could be encountered on or below the surface during project construction activities. In the unlikely event that such situations were to occur, the following measures would be implemented.

**CUL-1:** When Native American archaeological, ethnographic, or spiritual resources are involved, all identification and treatment shall be conducted by qualified archaeologists who meet the federal standards as stated in the Code of Federal Regulations (CFR) (36 CFR 61), and appurtenant (i.e., pursuant to the National Historic Preservation Act [NHPA], Senate bill [S.B.] 18) Native American representatives. In the event that no such Native American is available, persons who represent tribal governments and/or organizations in the locale in which resources could be affected shall be consulted.

**CUL-2:** Pursuant to Section 5097.98 of the California Public Resources Code and Section 7050.5 of the California Health and Safety Code, if human remains or bone of unknown origin is found during construction, all work shall stop in the vicinity of the find and the Los Angeles County Coroner shall be contacted immediately. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission who shall notify the person it believes to be the most likely descendant. The most likely descendant shall work with the contractor to develop a program for re-interment of the human remains and any associated artifacts. No additional work shall take place within the immediate vicinity of the find until the identified appropriate actions have been implemented. If the Coroner determines that the remains are not related to a crime scene, then a qualified archaeologist who meets the federal standards as stated in the Code of Federal Regulations (CFR) (36 CFR 61) shall be retained to assess the find and make further recommendations.

**PAL-1:** If paleontological remains are discovered in the course of construction activities, construction would be halted or directed away from the discovery, and the potential resource evaluated by a qualified paleontologist. The paleontologist would recommend appropriate measures to record, preserve, or recover the resources. The certified paleontologist would prepare a final mitigation report to be filed with the client, the lead agency, and the repository.

**B.3.6 Geology and Soils**

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
<p>a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <p>i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**B.3.6.1 Environmental Setting**

**Topography and Physiography**

The Proposed Project Area is located along the southern edge of the Antelope Valley. The Antelope Valley is roughly triangular in shape and encompasses approximately 2,400 square miles in the western portion of the Mojave Desert geomorphic province. The Antelope Valley is bounded by the San Andreas Fault and San Gabriel Mountains to the southwest, and the Garlock fault and the Tehachapi Mountains to the northwest. The eastern boundary of the Valley is defined by a series of buttes and hills that roughly parallel the Los Angeles/San Bernardino County line.

Elevations in the Antelope Valley range from approximately 2,300 to 3,500 feet above mean sea level (amsl). In contrast, the Tehachapi Mountains rise to over 7,980 feet amsl, while the San Gabriel Mountains reach almost 9,400 feet amsl. The Antelope Valley floor is relatively flat, with a slight bowl-

like contour that is punctuated by occasional rock outcroppings and buttes. Three playa (dry) lakes, including the Rosamond, Rogers and Buckhorn Dry Lakes, are located in the valley (CSDLAC 2005).

### **Geologic Units**

Two primary geologic units underlie the Proposed Project Area, fluvial sediments and Pelona Schist. Near-surface deposits are comprised of fluvial sediments, along with some artificial fill. Pelona Schist is found in the mountains immediately south of the proposed Substation Site. It underlies the adjacent transmission line corridor. Pelona Schist is a metasedimentary formation consisting of grayschist, graphite, and biotite (Jacobson 1983).

A geotechnical investigation was conducted at the site in January 2007 (SCE 2007). Five borings were drilled within the proposed Substation Site, to depths ranging from 11.5 to 31.5 feet below ground surface (bgs). Thickness of fluvial sediments and artificial fill ranges from 15 to 20 feet, averaging approximately 15 feet across the site. Artificial fill ranged in thickness from 5 to 7 feet. These fluvial sediments and fill material are comprised of fine to medium-grained sand, with clay and some gravel (SCE 2007).

Pelona Schist underlies surface deposits. It was encountered in three of the five geotechnical borings, at depths from 15 to 25 feet bgs. Where encountered, the Pelona Schist was fractured and weathered (SCE 2007).

### **Faulting**

Several active and potentially active faults and fault zones are present in the project region, including the San Andreas, Garlock, San Gabriel, Sierra Madre, and Muroc Faults (City of Palmdale 1992). Seismic events on any of these active or potentially active faults could cause strong ground shaking, surface fault rupture, or liquefaction in susceptible areas.

The San Andreas Fault Zone is a dominant feature in the project region. It forms the boundary of the Pacific and North American tectonic plates, traversing from the Gulf of California to Cape Mendocino. It forms the boundary of the San Gabriel Mountains that lie just southwest of the proposed Substation Site. As a strike-slip-type fault, the San Andreas Fault Zone exhibits primarily horizontal movement, though some vertical movement may also occur. Amargosa Creek follows the active fault trace defined by the 1857 Fort Tejon earthquake.

### **Seismicity**

The Project Area, the Antelope Valley, and the greater Los Angeles area contain both active and potentially active faults. The 1997 Uniform Building Code identifies the entire Palmdale area as within

Seismic Risk Zone 4. Zone 4 areas are expected to experience maximum damage in the event of an earthquake.

In the past 100 years, several earthquakes of magnitude 5.0 or larger have been reported on the active San Andreas, Garlock, and San Fernando Fault Zones. The San Andreas Fault is the source of several major earthquakes throughout the state within the last 150 years.

Significant earthquakes and moderate tremors are common in Southern California (such as the 1971 San Fernando (Richter 6.7), 1992 Landers (Richter 7.0), and the 1994 Northridge (Richter 6.7) earthquakes). These earthquakes caused extensive damage throughout Southern California (Maulchin 1996). The largest earthquake in the area was the Fort Tejon Earthquake of 1857. It was estimated to be magnitude 8.0, and is one of the three largest earthquakes on recent record in California.

### **Soil Types**

Several soil types are present in the Project Area. Areas within the Ritter Ranch Specific Plan area are graded. Grading redistributed native soils throughout the area. Soils in the Project Area are derived from deposits of fine sediments, and alluvial materials, mainly from granite rock, schist, sandstone, and shale sources originating along the eastern slopes of the San Gabriel Mountains (NRCS 1970; NRCS 2006). The soils present near the Project Area belong primarily to six distinct soil series: Hanford, Godde, Ramona, Gaviotta, Wyman, and Chino.

The soil types occurring on site are all generally well drained, consisting of loamy sands, coarse sandy loam, and rocky sandy loam. Soils on site are relatively level and moderately alkaline. The soils in the Project Area have relatively low fertility due to the dry climate, the presence of alkaline salts, and the lack of substantial organic material.

### **B.3.6.2 Environmental Analysis**

*a) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

*(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*

*NO IMPACT.* The Proposed Project is in proximity to several active seismic fault zones. The San Andreas Fault Zone runs through the Ritter Ranch Development. The Alquist-Priolo Fault Hazard Zone associated with the 1857 earthquake is about 0.5 miles northeast of the Substation Site. The substation

would be constructed outside of the Alquist-Priolo fault hazard zone designated for San Andreas Fault zone (**Figure B.3-10**). Since the substation is unstaffed and SCE personnel would only visit for periodic maintenance or emergency repairs, it is unlikely that they would be present during a major earthquake along the San Andreas Fault.

*(ii) Strong seismic ground shaking?*

*LESS THAN SIGNIFICANT IMPACT.* The Project Area would likely be subject to strong ground shaking in the event of a major earthquake in the project region. During the operational lifetime of the Project it is likely that moderate to strong ground shaking could occur in the Project Area. Design studies would identify the relative hazard levels in the area and SCE design engineers would follow building code recommendations to support appropriate seismic designs. Substation equipment, subtransmission line poles, and telecommunications installations would be engineered and constructed to withstand strong ground shaking and moderate deformation so that impacts related to seismic ground shaking would be less than significant.

*(iii) Seismic-related ground failure, including liquefaction?*

*NO IMPACT.* The California Geologic Society (CGS) has produced Seismic Hazards Maps for the Ritter Ranch Area (**Figure B.3-11**). Portions of the Ritter Ranch Development are located over unconsolidated valley alluvial soils. When water saturated, these conditions are particularly associated with liquefaction phenomenon. The California Geologic Survey indicates that the Proposed Project is in an area with potential for liquefaction or where historical liquefaction occurred. However, a geotechnical investigation conducted at the site indicates the site is not susceptible to liquefaction because old deposits are relatively dense and depth to bedrock is shallow (SCE 2007). Thus, the project has negligible potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death from strong seismic-related ground failure, including liquefaction.

*(iv) Landslides*

*NO IMPACT.* The substation site is located on a graded site with a 1-2 percent slope. Given the site topography, there is negligible potential for landslides or other slope stability concerns from Proposed Project construction. Furthermore, Proposed Project construction would not involve extensive excavation, grade, or elevation changes and thus no impact is expected from landslides.





**Front Hazard Legend**

Address considered to have been active during Holocene fires and being potential for reflash incidents.

○ **Accurately Located Fault**

○ **Approximately Located Fault**

○ **Inferred Fault Location**

○ **Correlated Fault**

○ **Fault Hazard Zone:**  
 Delineated on maps as geographic area that is subject to seismic hazard from the fault. Seismic Hazard Zones are defined by the Statewide Seismic Hazard Act.

○ **Proposed Telecom Route (Above Ground)**

○ **Shuttle Substation Tie-in Tap Point**

○ **Anavardis Substation Tie-in Point**

○ **Proposed Ritter Ranch Substation**

**SOURCE:** California Geological Survey 2002, Eagle Aerials 2006, SunCal 2006, Southern California Edison 2006, and MHA Environmental Consulting 2007



**LEGEND**

0 0.125 0.25 0.5 0.75 1 Miles

GIS personnel may not be geologists or engineers. They do not warrant the accuracy of the data or the results of the analysis. The information is provided for informational purposes only. It is not intended to be used for any purpose other than that for which it was prepared. Further, MHA or SCE staff do not warrant the accuracy of any data or the results of any analysis. Further, MHA or SCE staff do not warrant the accuracy of any data or the results of any analysis.

**Figure B.3-10**  
Alquist-Prilo Fault Hazard Zones Near the Project Area



**Figure B.3-11**  
**Seismic Hazards in the Project Area**

**SOURCE:** California Department of Conservation 2003, SunCal 2006, Southern California Edison 2006, and MHA Environmental Consulting 2007

**LEGEND**

- Proposed Telecom Route (Above Ground)
- Proposed Telecom Route (Underground)
- Proposed SunCal Development
- Proposed Ritter Ranch Substation
- Substation Tie-in Point

*b) Would the project result in substantial soil erosion or the loss of topsoil?*

*LESS THAN SIGNIFICANT IMPACT.* During construction, erosion control measures would be implemented to avoid or minimize soil erosion and off-site deposition. Because Proposed Project disturbance would be greater than one acre, specific erosion control measures would be identified as part of the National Pollution Discharge Elimination System (NPDES) permit and Storm Water Pollution Prevention Plan (SWPPP) required for the Proposed Project. Considering these factors, there should be little or no impact due to erosion or loss of topsoil. Potential impacts would be less than significant.

*c) Would the project be located on geologic units or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?*

*NO IMPACT.* The Proposed Project would be in an area of soils belonging to the Hanford and Godde Series as mapped by the NRCS. The soil series consists of well-drained relatively flat lying soils and are not subject to off-site landslide, liquefaction, subsidence, lateral spreading, or collapse. Construction for the proposed project would include only minor grading which would not result in slope or other geologic instability. No impact is expected.

*d) 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?*

*NO IMPACT.* The majority of soils in the project area contain only minor amounts of clay and are not expected to be expansive. Engineering-level geotechnical studies would be completed to ensure that on-site soil characteristics are verified and addressed by the project design. As such, the project has no potential to expose people or structures to potential substantial adverse effects from being located on expansive soils.

*e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

*NO IMPACT.* The soils in the project area are capable of supporting septic systems, and do so for the nearby properties. There would not be any impact.

### **B.3.6.3 Mitigation Measures**

No significant impacts have been identified, so no mitigation is required.

### B.3.7 Hazards and Hazardous Materials

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### B.3.7.1 Environmental Setting

Hazardous materials are chemical and non-chemical substances, which if released or misused can pose a threat to the environment or human health. Hazardous materials in various forms can cause death, serious injury, long-lasting health effects, and damage to buildings, homes, and other property. Hazardous materials are used in industry, agriculture, medicine, research, and consumer goods. Many products containing hazardous chemicals are routinely used and stored in homes. Hazardous materials come in the form of explosives, flammable and combustible substances, poisons, radioactive materials, pesticides, and petroleum products. These substances are most often released as a result of motor vehicle or equipment accidents, or because of chemical accidents during industrial use. If not properly contained, these substances have the potential to leach into soils, surface water, and groundwater during spills.

A Preliminary Site Evaluation was prepared for the Ritter Ranch Specific Plan EIR on May 25, 1990 (City of Palmdale 1992). The report described the potential for hazardous material on the project property based upon discernable and/or documented present and historic uses of the property. The report also characterized the expected nature of hazardous materials that may be present as a result of such use. The study covered the entire 10,625-acre ranch.

SCE performed a Phase I Environmental Site Assessment and final geotechnical investigation of the proposed site. The Phase I site assessment provides a review of past and current uses of the subject parcel and adjacent properties along with an interview of workers familiar with use and history of the site. The following federal and State databases were reviewed:

- **Federal ASTM Standard and Supplemental Databases.** National Priority List (NPL), Federal RCRA corrective actions list (CORRACTS), Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), CERCLIS No Further Remedial Action Planned (NFRAP), Resource Conservation and Recovery Information System (RCRIS) TSD and Generators, Emergency Response Notification System (ERNS), and others.
- **State and Local Databases.** California DTSC State Sites, State Spills List (SLIC), Solid Waste landfills, Leaking Underground Storage Tanks (LUST), Aboveground Petroleum Storage Tank Facilities (AST), State Underground Storage Tank listings, Tulare County CUPA, and others.

The environmental databases reviewed as part of the Phase I study indicate that no known or potentially contaminated sites occur in the vicinity of the Proposed Project (SCE 2007).

### B.3.7.2 Environmental Analysis

- a) *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

*LESS THAN SIGNIFICANT IMPACT.* Operation and maintenance of the proposed substation would involve periodic transport, use, and disposal of minor amounts of hazardous materials, primarily mineral oil and petroleum products (lubricating and insulating oils). Proper handling of these materials would avoid any significant hazards to the public or the environment, which would minimize the impact of use of these materials. SCE would prepare a Spill Prevention, Countermeasure, and Control (SPCC) Plan for the substation prior to any oil containing equipment being brought to the site, and the substation design would include spill control features such as curbs and berms to implement the SPCC.

Hazardous or flammable materials used during construction would consist primarily of vehicle fuels (gasoline and diesel), oil, and lubricants. No acutely hazardous materials would be used or stored onsite (SCE, 2007). Minor spills or releases of hazardous materials could occur due to improper handling and/or storage practices during construction activities. These potential impacts would be avoided by SCE implementing a site-specific Construction Storm Water Pollution Prevention Plan (SWPPP) and training construction personnel in the handling and storage of hazardous materials in compliance with OSHA standards (as described in PEA Section 4.7.4). With these measures in place, transport, use, and disposal of hazardous materials would not pose a significant hazard, and the impact would be less than significant.

- b) *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

*LESS THAN SIGNIFICANT IMPACT.* Implementation of SCE's proposed measures for spill prevention and hazardous substance control as discussed in Section B.3.7.2(a) would reduce the potential impact from upset or accidental spills of hazardous materials to a less than significant level.

- c) *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

*NO IMPACT.* No schools are currently located within one-quarter mile of the proposed Ritter Ranch Substation. Because no school is within one-quarter mile of the site there would be no impact.

- d) *Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

*NO IMPACT.* A Preliminary Site Evaluation was prepared for the Ritter Ranch Specific Plan EIR on May 25, 1990 (City of Palmdale 1992). The report described the potential for hazardous material on the project property based upon discernable and/or documented present and historic uses of the property. The report also characterized the expected nature of hazardous materials that may be present as a result of such use. The study covered the entire 10,625-acre ranch. SCE performed a Phase I Environmental Site Assessment and final geotechnical investigation of the proposed site. Findings from the studies indicated the area was free of potential soil hazards such as underground storage tanks, spilled fuel, or other hazardous waste (SCE 2007).

Further, a geologist was on site during grading of the Ritter Ranch Development and did not observe any contaminated soils, buried structures, stained soil, or soil containing odor during the grading operation. The potential presence of contaminated soils on site is considered to be extremely remote (SCE 2007, AGI 2006).

*e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?*

*NO IMPACT.* No airports lie within two miles of the proposed substation site. The nearest commercial airstrip is approximately 6 miles northeast of the proposed substation; therefore, there is no potential impact to public safety associated with aircraft operations.

*f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?*

*NO IMPACT.* There are no private airstrips in the vicinity of the proposed substation site or subtransmission line alignment. Implementation of the proposed project would not result in a safety hazard for people who would live or work in the area. Therefore, no impact would occur.

*g) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

*NO IMPACT.* Construction would not involve obstruction of existing or future roadways, and work would not impair or interfere with adopted emergency response plans or emergency evacuation plans. Operation and maintenance of the proposed substation would also have no impact to adopted emergency response plans or emergency evacuation plans. Additional information on project impacts to emergency vehicle access is provided in Section B.3.15, Transportation/Traffic.

- h) Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*

*LESS THAN SIGNIFICANT IMPACT.* Project construction could present a fire risk. The existing adjacent grasslands are prone to wildfires and can be ignited if proper fire prevention measures are not implemented. Fire risk during project construction could result from refueling, operating vehicles, and cigarette smoking. SCE implements standard fire prevention and response procedures to reduce the risk, and in the event a fire occurs, provide for immediate suppression and notification. The potential to cause wildfires is less than significant.

### **B.3.7.3 Mitigation Measures**

No significant impacts have been identified, so no mitigation is required. However, SCE would implement the measures identified below to further reduce already less than significant impacts.

**HAZ-1:** During construction and upon commencement of operations, SCE will have chemical or hazardous substance inventory for all such items that may be at the site. SCE will institute a Hazard Communication Program (HCP) for their employees and will require subcontractor programs in accordance with OSHA 29 CFR 1910.1200. These programs are designed to educate and protect the employees and subcontractors with respect to any chemicals or hazardous substances that may be present in the work place. It will be required that as every chemical or hazardous material is brought on location, a Material Safety Data Sheet (MSDS) will accompany that material and will become part of the file kept at the field office as required by 29 CFR 1910.1200. All employees will receive the proper training in storage, handling, and disposal of hazardous substances.

**HAZ-2:** If an accidental release occurs during refueling, transformer transport, or construction the release will be cleaned up immediately and reported in accordance with applicable federal, state, and local requirements.

**HAZ-3:** Incorporate features in the substation design to contain the mineral oil if a cooling oil leak occurs. Install remote alarming monitoring equipment to alert the SCE Energy Dispatch Operators in case of high temperatures or low oil levels. Construct the substation with sumps, curbs, or berms to contain spilled oil, and begin cleanup activities immediately after a release has occurred. In addition, implement Best Management Practices (BMPs) through a Spill Prevention Control and Countermeasure (SPCC) Plan to minimize the possibility of any spills or releases from the transformers.



### B.3.8 Hydrology and Water Quality

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### B.3.8.1 Environmental Setting

#### Surface Water

The proposed substation lies at the foothills of the San Gabriel Mountains. Runoff from the San Gabriel Mountains flows down several creeks and washes toward Rosamond, Rogers, and Buckhorn Dry Lakes (CSDLAC 2005).

The Antelope Valley is a relatively dry basin with no perennial water drainages. The water that enters the valley mostly percolates into the ground or flows toward the three playa lakes located near the center of the valley. Surface water from the San Gabriel Mountains flows along a general northeasterly trend. Water reaching the playa lakes normally evaporates, rather than percolating into the ground, because of the relatively impervious nature of the playa soil (CSDLAC 2005).

Creeks and washes carrying water from the mountains typically flow only during periods of heavy rainfall, or as a result of melting snowpack in the spring months. Most creeks and drainages in the Electrical Needs Area tend to remain dry during low to moderate rain events. Overland sheet flow into drainages can occur during particularly heavy rainstorms.

The nearest major creek to the proposed Substation Site is Amargosa Creek, which is about 0.5 miles north of the proposed Substation Site (**Figure B.3-12**). The creek is an ephemeral creek. Amargosa Creek flows in a long linear depression created by the San Andres Fault and parallels Elizabeth Lake Road. The creek collects runoff from the adjacent Sierra Pelona Mountain Range, and flows easterly before turning north near State Route 14. Amargosa Creek terminates at Rosamond Dry Lake in the Antelope Valley.

The Substation Site is located in Anaverde Valley, immediately southwest of the Antelope Valley. Anaverde Valley is a long linear valley created along the San Andreas Fault; Anaverde Creek drains this valley. It is located about 0.5 miles south of the site (**refer to Figure B.3-12**).



SOURCE: Thomas Brother Maps 2006, Eagle Aerials 2006, SunCal 2006, Southern California Edison 2006, and MHA Environmental Consulting 2007

**LEGEND**

- Proposed Telecom Route (Above Ground)
- Proposed Telecom Route (Underground)
- Proposed Ritter Ranch Substation
- Shuttle Substation Tie-in Tap Point
- Arawake Substation Tie-in Point
- Creek or Seasonal Drainage
- Aqueduct Infrastructure

0 0.125 0.25 0.5 0.75 1 Miles

**Figure B.3-12**  
Streams and Waterways in the Project Area

Prior to the grading of the Ritter Ranch Development site, a small, unnamed drainage was located approximately 500 feet north of the proposed Substation Site. As part of the Ritter Ranch Specific Plan, minor drainages within the Amargosa Creek Basin will be modified to collect storm water. The nearest drainage to the Substation Site was piped under the graded lots. Ritter Ranch storm drain systems would likely flow to settling basins where the water would percolate into the groundwater basin or would flow to Anaverde Creek.

### **Flooding Potential**

The Federal Emergency Management Agency (FEMA) is responsible for mapping the areas that are predicted to flood during 100-year and 500-year storm events. Flood hazard zones are identified by FEMA on Flood Insurance Rate Maps. The maps indicate the estimated level of inundation under various conditions and intensities. There is no FEMA designated 100-year flood hazard zone within the Project Area. A FEMA 500-year flood hazard zone is designated for Anaverde Creek located southeast of the Substation Site. This 500-year flood hazard zone does not include the Substation Site. FEMA has not delineated a 500-year flood hazard zone for Amargosa Creek. No dam inundation zones are indicated in the project area (FEMA 1995).

### **Aqueducts**

The California Department of Water Resources presides over the State Water Project that transports water from the Sacramento Delta to Southern California via the California Aqueduct. The East Branch of the California Aqueduct traverses along the southern edge of the Antelope Valley. It passes northeast of Ritter Ranch, approximately one mile from the Substation Site. In the event of levee failure, flows from the aqueduct would follow Amargosa Creek downstream and northeast (City of Palmdale 1993).

### **Groundwater Hydrology, Use, and Quality**

The Proposed Project lies within the Anaverde Valley, which drains into the Antelope Valley groundwater basin. The Antelope Valley groundwater basin is delineated by the San Andreas Fault and the San Gabriel Mountains to the south, the Tehachapi Mountains to the northwest, the buttes and ridges that form a surface divide to the east, and the Fremont Valley Groundwater Basin to the north. There are three vertically divided aquifers in the Anaverde Valley basin. The middle aquifer is the most productive (CSDLAC 2005). Groundwater in the region is recharged mostly through natural sources, such as water from the mountains percolating through the alluvial deposits at the valley floor (USGS 1993). Groundwater in the project area generally flows in a northeasterly direction toward the playa lakes in Antelope Valley.

A geotechnical investigation was conducted at the Proposed Substation Site (SCE 2007). Groundwater at this site encountered in one of five borings, at a depth of approximately 30 feet below ground surface.

### **B.3.8.2 Environmental Analysis**

*a) Would the project violate any water quality standards or waste discharge requirements?*

*LESS THAN SIGNIFICANT IMPACT.* Stormwater erosion control measures would be implemented for all areas cleared for construction of the Proposed Project. In addition, a Notice of Intent to comply with the Stormwater General Permit requirements for Construction activities would be submitted to the Lahontan Regional Water Quality Control Board (RWQCB) and a SWPPP prepared and implemented to ensure consistency standards and discharge requirements. All activities would be subject to storm water control requirements defined in the NPDES permit and SWPPP. Standard engineering design measures and best management practices (BMPs) would be implemented so that impacts to local waterways and water quality would be less than significant.

*b) Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?*

*NO IMPACT.* Construction and operation of the proposed project would not involve the use of groundwater. Therefore, no impact to groundwater supplies would occur.

*c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on or off site?*

*NO IMPACT.* There are no streams or rivers that cross, or come into contact with the substation site, thus no stream or river would be altered in a manner that results in substantial erosion or siltation, on or off site, nor would storm water be directed into such resources. Therefore, no impact to streams or rivers from erosion or siltation would occur.

*d) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site?*

*NO IMPACT.* The Proposed Project would not alter the existing drainage pattern. See the discussion under Section B.3.8.2 (c) above. No impacts are anticipated

- e) *Would the project create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems to provide substantial additional sources of polluted runoff?*

*LESS THAN SIGNIFICANT IMPACT.* Substation operation would comply with all Lahontan RWQCB water quality standards and/or drainage discharge requirements. Forecasted runoff volumes would not be substantial; and therefore, would not exceed capacity of the planned storm water drainage systems. Water from the City of Palmdale water system would be used for landscape irrigation. This water usage would be minimal and therefore, is not considered a significant impact.

- f) *Would the project otherwise substantially degrade water quality?*

*LESS THAN SIGNIFICANT IMPACT.* The Proposed Project would include preparation of a Storm Water Pollution Prevention Plan (SWPPP) that would address best management practices and prevent substantial degradation of water quality. Operation-related impacts would be controlled as described under Sections B.3.8.2 (a) and (e) above.

- g) *Would the project place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?*

*NO IMPACT.* The Proposed Project would not place housing within a 100-year floodplain.

- h) *Would the project place within a 100-year floodplain structures that would impede or redirect flood flows?*

*NO IMPACT.* No project components would be placed within the 100-year floodplain, as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation maps.

- i) *Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?*

*NO IMPACT.* Project implementation would have no effect on levees or dams, and it would not expose people or structures to a significant risk of loss, injury, or death involving flooding. The proposed project would increase the footprint of the existing site by only approximately 0.5 acre and would not significantly increase surface runoff. Therefore, no impact would occur.

- j) *Would the project cause inundation by seiche, tsunami, or mudflow?*

*NO IMPACT.* The project area is not subject to inundation by seiche, tsunami, or mudflow.

### B.3.8.3 Mitigation Measures

No significant impacts have been identified, so no mitigation is required.

### B.3.9 Land Use and Planning

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### B.3.9.1 Environmental Setting

##### Regional Land Use

The proposed substation would be located within the City of Palmdale, which is approximately 65 miles north of the City of Los Angeles. The City of Lancaster is directly north of Palmdale. Edwards Air Force Base is located north of Lancaster and occupies more than 300,000 acres. The project region is sparsely populated outside of the urban and suburban areas of Palmdale and Lancaster. Some ranching and farming occur in the Antelope Valley, but the land is not particularly suited for agriculture because of poor soil quality and low annual precipitation.

In the Palmdale area, the Ritter Ranch and Anaverde developments are significant additions to the landscape. These developments will add over 12,000 housing units, and a considerable number of commercial buildings and people to the Antelope Valley (City of Palmdale 1992a, 1992b).

The Ritter Ranch area is located in the southwest corner of the Antelope Valley basin, approximately four miles west of State Route 14. Ritter Ranch is south of Ritter Ridge and Elizabeth Lake Road, west of 30<sup>th</sup>

Street West, north of Sierra Highway, and east of Bouquet Canyon Road and the Angeles National Forest (City of Palmdale 1992a). The Angeles National Forest is adjacent to Ritter Ranch on the development's western boundary. Other suburban areas within the City of Palmdale are located northeast of Ritter Ranch. **Figure B.3-13** provides an overview of the Project Area land uses.

Anaverde is a large residential development (similar to the Ritter Ranch residential development) currently being constructed east of and abutting Ritter Ranch. The master planned community will have approximately 5,200 housing units and occupy 1,985 acres. Fifty percent of the area will be designated residential, while the rest will be a combination of open space, golf courses, parks, commercial, and roadways (City of Palmdale 1992b).

Existing developed areas of residential and commercial land use, including schools and parks, are located across Elizabeth Lake Road about one mile from the proposed substation (City of Palmdale 1993a). A few residences are located on Elizabeth Lake Road. The homes closest to the proposed substation are about 0.5 miles away.

### **Project Area Land Use**

The proposed Ritter Ranch 66/12 kV Substation is located within Phase 1 of the Ritter Ranch Specific Plan development, in the City of Palmdale. All areas adjacent to the proposed Substation Site are graded, undeveloped land that is being prepared for residential, commercial, and recreational development as part of the Ritter Ranch Development (City of Palmdale 1992a).

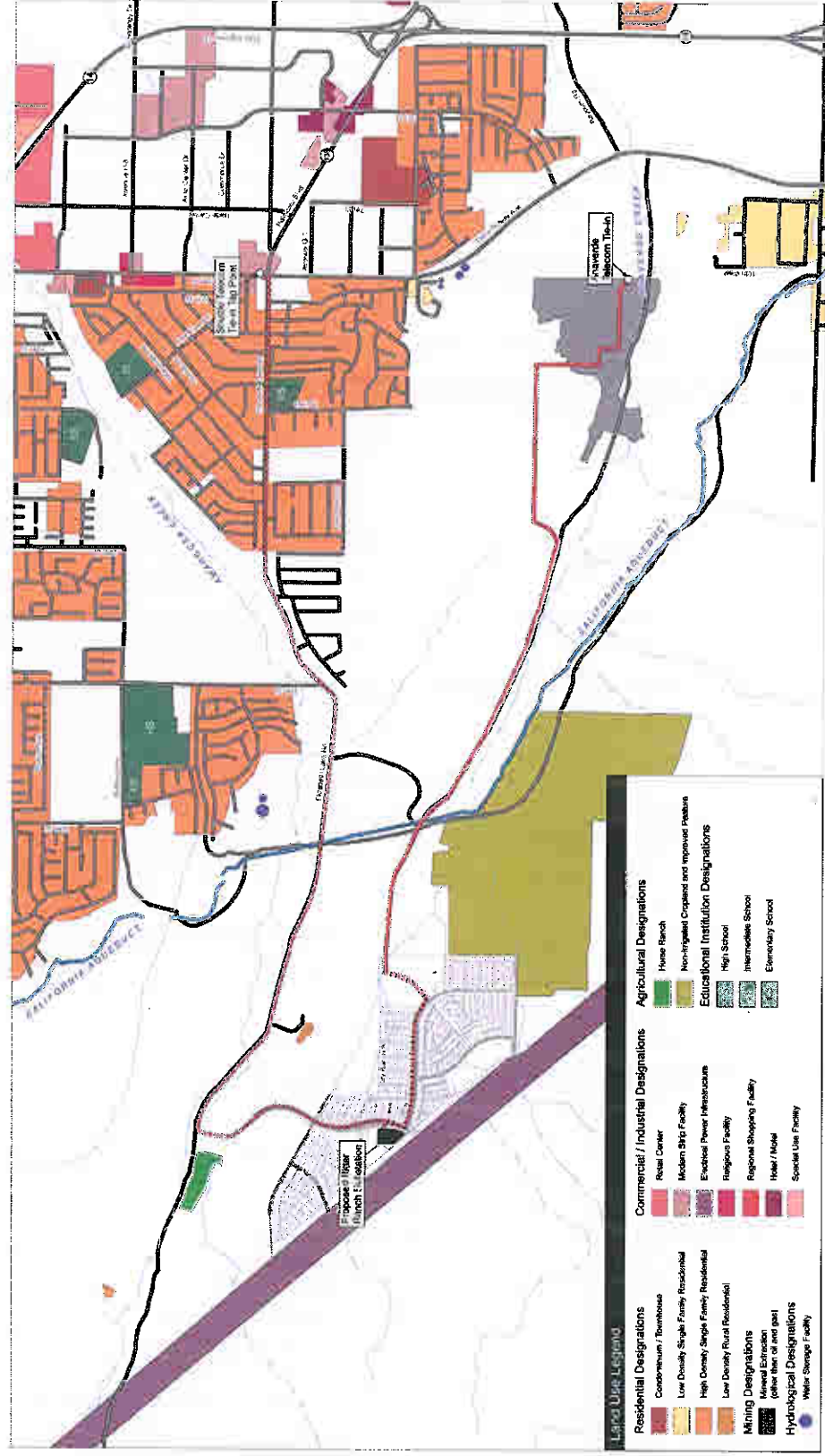
The area adjacent to the proposed substation would include 46 units of single-family attached (SFA) homes approximately 270 feet north and west of the substation. The substation would be bounded by open space to the north (across an unnamed street), the transmission line corridor to the south, and single-family homes to the east across Ranch Center Drive.

The Ritter Ranch Specific Plan Development Area includes 10,625 acres with approximately 7,200 dwelling units planned for development. The proposed substation would be within Planning Area 5, Phase I of the Ritter Ranch Specific Plan. Planning Area 5 includes 656 acres with 2,587 dwelling units planned. Development will occur in phases. Phase I construction includes roughly 800 housing units, two proposed commercial centers, three parks, and one elementary school.

The northern boundary of the Ritter Ranch Specific Plan is delineated by the Amargosa Creek drainage and Elizabeth Lake Road. Elizabeth Lake Road is currently being widened and realigned from 20<sup>th</sup> Street West to approximately 1,000 feet west of Godde Hill Road. The widening includes:

- Flood control landscaping on Amargosa Creek
- Additional lanes (from two to six)
- Installation of six traffic signals
- Sidewalks





SOURCE: SunCal 2006, SCAG 2006, Southern California Edison 2006, and MPA Environmental Consulting 2007

**LEGEND**

- Proposed SunCal Development
- Proposed Telecom Route (Above Ground)
- Proposed Telecom Route (Underground)
- Proposed Ritter Ranch Substation
- Aqueduct Infrastructure
- Roadway / Highway
- Substation Tie-in Point
- Creek or Seasonal Drainage

**Figure B.3-13**  
Project Area Land Uses

0 0.25 0.5 0.75 1 Miles

The area next to the creek within the Ritter Ranch Specific Plan will be preserved as a conservation easement and will have a bikeway and pedestrian path. The proposed substation location is on the west side of Ranch Center Drive, at the intersection of Ranch Center Drive and Westland Road. It is approximately 1,000 feet south of the intersection of Ranch Center Drive and City Ranch Road (City of Palmdale 1992a, 1993b).

### **B.3.9.2 Environmental Analysis**

*a) Would the project physically divide an established community?*

*NO IMPACT.* Construction of the proposed substation would occur on a three-acre lot within the Ritter Ranch Development. There are currently no residents in the area, and no established parks, farms, or recreational facilities in the immediate area. There would be some housing construction occurring concurrently with substation construction; however, houses may not be occupied at the time of substation construction.

Construction of the proposed substation and 12 kV Getaways (within the 3 acre Substation Site) would not cause the physical division of an established community, as there is no community present in the area. The project would be concurrent and within the existing construction of the Ritter Ranch Specific Plan. Likewise, the project would not physically interrupt any existing or planned roadways or pathways and, therefore, would not divide the planned community. No impacts would occur.

*b) Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?*

*NO IMPACT.* The CPUC has exclusive permitting authority regarding SCE's application to build the Ritter Ranch Substation, and no local use permit is required. Although the project is exempt from local planning and zoning regulations, the project would still be consistent with land use policies for the City of Palmdale. Therefore, the project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project.

*c) Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?*

*NO IMPACT.* Construction of the proposed substation would not affect an existing habitat conservation plan (HCP) or natural community conservation plan. The West Mojave Conservation Plan is the nearest

HCP and land included in the HCP does not include areas within 20 miles of the proposed substation. Consequently, no impacts would occur.

### B.3.9.3 Mitigation Measures

No significant impacts have been identified, so no mitigation is required.

### B.3.10 Mineral Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### B.3.10.1 Environmental Setting

Regional mineral resources consist of oil and deposits of rock, sand, and gravel. Most of Southern California's on-shore oil deposits are located in Los Angeles County. In addition, California is the largest producer of sand and gravel in the nation. The greater Los Angeles area is the nation's leading producer for its geographic size (Los Angeles County 1993).

The Palmdale area contains two mineral resource zones (MRZs) that have been classified as MRZ-2 areas, as defined by the CGS (SMARA 1975). These two areas are associated with Little Rock Wash and Big Rock Wash (approximately 12 miles away from the Project Area) along with their respective streambeds, alluvial fans, and floodplains. Another sand and gravel resource area is located to the west of the project area in the Soledad production area in Santa Clarita (approximately 10 miles from the Project Area).

While potential sand and gravel resources may be present in the project region, there are no significant resources identified by the state and there are no current production areas in the Project Area according to the Palmdale General Plan (1993) and the California Department of Conservation's (CDOC) *Mineral Land Classification of the Greater Los Angeles Area* special report issued in 1987 (CDOC 1987).

During geotechnical investigations conducted for Suncal Compaies, numerous pits, trenches and borings were made throughout the Ritter Ranch Development. Observations by geologists present during these subsurface explorations did not indicate the presence of any mineral resources of economic value (Swiatek and Brudos 2007).

In mid 1940s and early 1950s, mineral rights and access rights had been granted to third parties by former owners. These mineral resources access rights at the proposed substation site will be terminated following acquisition by SCE.

### **B.3.10.2 Environmental Analysis**

- 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?*

*NO IMPACT.* The Proposed Project would not be located on land delineated as a locally important mineral resource recovery site in the General Plan for Los Angeles County or the City of Palmdale. The Proposed Project would also not be located on or near known oil and gas resources. Therefore, the project would have no impact on mineral resources.

- b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?*

*NO IMPACT.* Previously, mineral extraction rights were granted to a third party by the surface owner. But no known mineral resources of value to the region are identified at the site. Therefore, there is no impact associated with loss of availability of a known mineral resource or a locally important mineral resource recovery site.

### **B.3.10.3 Mitigation Measures**

The Proposed Project would have no impact on mineral resources. Therefore, no mitigation measures are proposed or required.

### B.3.11 Noise

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### B.3.11.1 Environmental Setting

To describe environmental noise and to assess project impacts on areas that are sensitive to community noise, a measurement scale that simulates human perception is used. The A-weighted scale of frequency sensitivity accounts for the sensitivity of the human ear, which is less sensitive to low frequencies, and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA) is cited in most noise criteria. Decibels are logarithmic units that can be used to conveniently compare wide ranges of sound intensities.

Community noise levels can be highly variable from day to day as well as between day and night. For simplicity, sound levels are usually best represented by an equivalent level over a given time period (Leq) or by an average level occurring over a 24-hour day-night period (Ldn). The Leq, or equivalent sound

level, is a single value (in dBA) for any desired duration, which includes all of the time-varying sound energy in the measurement period, usually one hour. The L50, is the median noise level that is exceeded fifty per cent of the time during any measuring interval. The Ldn, or day-night average sound level, is equal to the 24-hour A-weighted equivalent sound level with a 10-decibel penalty applied to nighttime sounds occurring between 10:00 p.m. and 7:00 a.m. Community Noise Equivalent Level (CNEL) is another metric that is the average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and after addition of 10 decibels to sound levels in the night from 10:00 p.m. to 7:00 a.m.

Community noise levels are usually closely related to the intensity of human activity. Noise levels are generally considered low when below 45 dBA, moderate in the 45 to 60 dBA range, and high above 60 dBA. In wilderness areas, the Ldn noise levels can be below 35 dBA. In small towns or wooded and lightly used residential areas, the Ldn is more likely to be around 50 or 60 dBA. Levels around 75 dBA are more common in busy urban areas, and levels up to 85 dBA occur near major freeways and airports.

Although people often accept the higher levels associated with very noisy urban residential and residential/commercial zones, they nevertheless are considered to be adverse to public health. Surrounding land uses dictate what noise levels would be considered acceptable or unacceptable. Lower levels are expected in rural or suburban areas than what would be expected for commercial or industrial zones. Nighttime ambient levels in urban environments are about seven decibels lower than the corresponding daytime levels. In rural areas away from roads and other human activity, the day-to-night difference can be considerably less. Areas with full-time human occupation and residency are often considered incompatible with substantial nighttime noise because of the likelihood of disrupting sleep. Noise levels above 45 dBA at night can result in the onset of sleep interference. At 70 dBA, sleep interference effects become considerable (U.S. EPA 1974).

### **Existing Noise Conditions**

Physical observations and noise measurements were conducted at the proposed Substation Site during the late night/early morning and daytime hours of May 11, 2006 as part of a noise study for the Proposed Project (Veneklasen 2006). The purpose of the noise study was to describe existing noise conditions and to estimate operational noise levels (discussed in the Impacts section below).

Traffic on Elizabeth Lake Road is the most identifiable noise source, other than general background noise sources. Background noise sources include distant noise from the developed area of Palmdale east of the site, insect and animal noise in the general area, and wind induced noise in the vegetation found in the transmission corridor. Earth-moving equipment activity and light construction activity from site preparation in the Ritter Ranch area are also noise sources in the development area. This construction

noise was not recorded as part of the typical background ambient noise conditions, as it would not exist once development is completed.

Ambient noise level measurements and physical site observations indicate that existing site conditions exhibit noise levels that are typical for a rural residential community. Future development activities and local traffic would increase the ambient noise conditions.

### **Sensitive Receptors**

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. Hospitals, schools, guest lodging, and libraries are the most sensitive to noise intrusion, and therefore, have more stringent noise exposure targets than manufacturing or agricultural uses that are not subject to impacts such as sleep disturbance.

There are currently no sensitive receptors in the project area. The closest residences to the proposed Ritter Ranch Substation Site are approximately 0.5 miles away near Elizabeth Lake Road.

Multi-family homes will be located 270 feet from the substation after construction of the Ritter Ranch Subdivision is complete. No other sensitive receptors would be located in the project area at the time of build-out.

### **B.3.11.2 Environmental Analysis**

- a) *Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

The City of Palmdale does not specifically limit the level of construction noise (although the general noise levels should be less than 65 dBA), but it does limit the hours within which construction activities may take place. Construction is prohibited between 8:00 pm and 6:30 am Monday through Saturday and all day Sunday if noise would disturb any persons occupying sleeping quarters in a dwelling, apartment, hotel, mobile home, or other place of residence. Construction of the proposed substation would not occur during the restricted hours without a variance if adjacent homes are occupied. Therefore, construction of the proposed project would not expose persons to, or generate noise levels in excess of, standards established by the County. Noise impacts of construction of the proposed project would be less-than-significant.

- b) *Would the project result in exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?*

*NO IMPACT.* There are no state or city regulatory standards pertaining to ground-borne vibration and ground-borne noise. The architectural damage risk level typically suggested by most agencies is 0.2 inch per second for continuous vibration, which is one-tenth the maximum safe level for single events, such as blasting. Below this level, there is virtually no risk of building damage (Caltrans 2002). Construction of the proposed project would not involve the use of major equipment that would result in high levels of ground vibration, such as impact pile drivers. Equipment typically required for substation construction, including concrete trucks, tractors, jackhammers, and portable power generators, do not typically exceed 0.2 inch per second (Caltrans 2002). Likewise, operational equipment and activities associated with the substation site would not involve the use of any equipment anticipated to generate ground-borne vibration of sufficient duration to result in an impact to nearby structures or sensitive receptors. Therefore, no impacts are anticipated.

*c) Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*

*NO IMPACT.* The permanent noise sources that would occur with the project are limited to transformer operation at the substation and noise from crews conducting routine inspection and maintenance of the substation. Substations usually generate steady noise from the process of power conversion and the operation of transformers and auxiliary equipment needed to cool the transformer. Transformer noise contains puretone or “hum” components. This tonal quality is typically the most offensive characteristic of transformer noise. Auxiliary equipment includes cooling fans and oil pumps that operate depending on the internal temperature of the transformer oil. With all auxiliary cooling fans operating, the worst-case noise level from the transformers at full load is predicted to be no more than 66 dBA at three feet away from the equipment. The substation would be contained within an 8-foot tall concrete block wall with a 10-foot setback from the property line. Maximum noise levels at the property boundary are expected to be 28 dBA (Veneklasen Associates 2006), due to attenuation provided by the block wall. With these background levels, operational noise from the substation would not be noticeable.

*d) Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*

*LESS THAN SIGNIFICANT IMPACT.* Construction of the project would involve short-term use of numerous trucks, bulldozers, graders, compactors, pavers, booms, cranes, drills, compressors, generators, and other equipment primarily at or around the proposed substation site.

All construction activities, including those for the proposed substation site and installation of the underground subtransmission lines, telecommunication facilities, and any staging areas, would create both intermittent and continuous noises. Intermittent noise would result from periodic, short-term equipment operation, such as cranes for positioning equipment or drilling rig use during foundation work for the riser pole. Continuous noise would result from steady equipment operation over longer periods, such as mixer



or generator use. The maximum intermittent construction noise levels would range from 80 to 90 dBA at 50 feet from an active construction area.

Some homes within the Ritter Ranch Development may be under construction and potentially even occupied at the time of substation construction. However, the nearest homes to the Ritter Ranch Substation (and loop-in) are not expected to be constructed until about 2010. Homes planned to the south of the substation would be several hundred feet away. Substation construction would cause an increase in temporary and periodic ambient noise in the project area; however, the increase would not be significant given the distance to residences and the concurrent construction activities. Construction of the substation would therefore have a less than significant noise impact.

Loop-in of the substation to the existing subtransmission lines would need to occur during nighttime hours when loads on the lines are reduced. SCE would consult with the City of Palmdale before performing any nighttime work that may disturb sensitive receptors. SCE would also apply for and obtain a variance from the City of Palmdale prior to conducting any nighttime work, if required.

The telecommunications cable would be installed on existing overhead poles or in the existing duct banks along Elizabeth Lake Road. Construction activity would occur only during permitted hours and would not require any ground excavation and would only require installing line in existing underground conduit or along existing poles. Equipment would include crew trucks and a reel truck. The noise level of this equipment is 73 dB at 50 feet and noise generation would be less than significant to sensitive receptors.

*e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

*NO IMPACT.* The Proposed Project would not be located within two miles of a public airport or within an airport land use plan. No feature of the project would expose people in the project area to excessive noise from aircraft.

*f) For a project within the vicinity of a private air strip, would the project expose people residing or working in the project area to excessive noise levels?*

*NO IMPACT.* The Proposed Project is not located within the vicinity of a private airstrip.

### B.3.11.3 Mitigation Measures

To ensure that construction-related noise meets the criteria set forth by the City of Palmdale General Plan, the following best construction practices and measures will be implemented to minimize construction-related noise.

**NOISE-1:** Construction equipment powered by an internal combustion engine shall be equipped with suitable exhaust and intake silencers, in accordance with manufacturers' specifications, and shall be maintained in good working order.

**NOISE-2:** Stationary construction equipment (i.e., portable power generators, compressors) shall be located at the furthest distance possible from nearby residential units.

### B.3.12 Population and Housing

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### B.3.12.1 Environmental Setting

##### Population

The proposed substation and associated facilities would be located within the City of Palmdale, in the Antelope Valley area of north-central Los Angeles County. The proposed substation would be built within the Ritter Ranch Development, which is located along the western limit of the City of Palmdale. This area was annexed into the City of Palmdale in 1992 as part of the Ritter Ranch Specific Plan Project (Brislen 2006).

The population of Los Angeles County was 9,519,338 in 2000. The County of Los Angeles grew 7.4 percent from the 1990 census to the 2000 census (US Census Bureau 2006). Estimates from the California Department of Finance and the Southern California Association of Governments (SCAG) place 2005 populations of Los Angeles County at 10,226,506. The five-year countywide increase is a 7.4 percent change from the 2000 numbers and a 1.2 percent increase from 2004 population numbers. Population and regional growth for the area is expected to continue at a brisk rate. Los Angeles County is projected to grow to 12.2 million by 2030 and the number of households is projected to increase by 980,000 from 2000 to 2030 (SCAG 2006a).

The Antelope Valley is one of the fastest growing areas within Los Angeles County. Antelope Valley communities have experienced rapid growth over the last several years, like most areas in Los Angeles County. Antelope Valley consists of 1,200 square miles and radiates eastward from the town of Gorman to the San Bernardino County line, forming a triangular area. Growth rates for the Antelope Valley exceed national and countywide averages. Much of the recent growth can be attributed to the availability of affordable housing provided by new large subdivisions (SCAG 2006a).

The City of Palmdale is experiencing significant growth, and is the fastest growing city in Los Angeles County. Growth for the City of Palmdale for the period of 1990 to 2000 was estimated at 69.5 percent. The Department of Finance estimated the 2006 population of Palmdale to be 141,025, a 4.1 percent increase from 2005. Table 4.12-1 provides a summary of population and percent change for Los Angeles County and the City of Palmdale from 1990 to 2006 (CDOF 2006).

### Housing

According to the Los Angeles County General Plan, population growth in the County has been driving housing production (Los Angeles County 2001). A combination of factors has led to escalating home prices and a relative shortage of low and moderate income housing opportunities throughout the County. Suburban areas, like Palmdale, provide the bulk of new affordable homes in Los Angeles County. The north County area, where the proposed substation is located, is predicted to experience a 49 percent growth in households by 2020 (Los Angeles County 2001).

As of the year 2000, Los Angeles County had approximately 3,300,181 housing units, 47.9 percent of which were owner-occupied. The median value of owner-occupied homes was approximately \$528,000 in 2006 (LA Daily News 2007). The City of Palmdale had approximately 38,520 occupied housing units in 2005, 27,301 of which were owner-operated. The median home price was approximately \$339,000 (CNN 2006). SCAG predicts that housing units in Palmdale could reach 48,682 units by 2010, an approximate 10,000-unit increase.

Housing in Palmdale has predominantly consisted of single-family residences, with some gradual increases in the amount of multi-family units. During the 1990s, only 877 of the 15,029 new housing units constructed were multi-family housing units. In 2000, 76 percent of housing units in Palmdale were single-family detached homes, compared to 49 percent countywide. Ownership rates mirror the number of single-family homes almost exactly, with 71 percent of Palmdale's homes being owner-occupied, compared to the countywide average of 48 percent (SCAG 2006b).

Anaverde and Ritter Ranch Developments will provide thousands of new homes in the coming years. The Anaverde Development is projected to build approximately 5,200 homes over the next decade, and the Ritter Ranch Development will add an additional 7,200 housing units when it is complete. A 500-unit development, known as the Joshua Development, is also planned on the hill north of Elizabeth Lake Road.

### **B.3.12.2 Environmental Analysis**

- a) Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

*NO IMPACT.* Construction of the substation site, subtransmission lines, and telecommunication installation is considered short-term and temporary. Workers would come from either Los Angeles County or surrounding communities and it is unlikely that they would require temporary housing.

During the construction phase of the Proposed Project the total number of construction workers is expected to be 73, although all 73 workers would not be on the project at the same time. Therefore, the Proposed Project would not require a large temporary workforce that may displace existing housing or people, or necessitate relocation or construction of replacement housing elsewhere. Construction of the Proposed Project would have no impacts on population and housing.

Operation of the proposed substation would be automated, requiring no additional employees. No direct population growth would be induced because, for example, the Proposed Project would not involve the construction of housing. Because no new homes or jobs would occur, implementation of the project would generate no direct increase in the permanent population of the area.

- b) Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?*

*NO IMPACT.* Expansion of the existing substation site would occur on a currently undeveloped parcel of land. The proposed project would not displace any housing, so the construction of replacement housing would not be necessary. Therefore, no impact would occur.

c) *Would the project displace substantial numbers of people necessitating the construction of replacement housing elsewhere?*

*NO IMPACT.* As stated in Section B.3.12.2 (b) above, there is no existing housing within the proposed substation site or subtransmission corridor. Therefore, the project would not result in the displacement of people, nor would it necessitate the construction of replacement housing elsewhere. No impacts would occur.

### B.3.12.3 Mitigation Measures

The Proposed Project would have no impact on population or housing. Therefore, no mitigation measures are proposed or required.

### B.3.13 Public Services

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) 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:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### **B.3.13.1 Environmental Setting**

#### **Fire Protection and Medical Services**

The Los Angeles County Fire Department (LACFD) provides fire protection for the unincorporated areas of Los Angeles County and has a contract with the City of Palmdale to provide fire protection services within the city limits. The fire station closest to the project is County Station 37, located at 38318 East 9th Street in Palmdale, approximately 3 miles from the proposed site. The LACFD plans to build new fire stations in both the Ritter Ranch and Anaverde developments that will be closer to the substation. The development agreement with the City of Palmdale requires Suncal to construct a permanent fire station and construction must be completed at the issuance of the 1,800th building permit within the Ritter Ranch development. The agreement for Anaverde requires the developer to dedicate a site for and construct a permanent fire station. Construction of the station should begin prior to issuance of the 1,000th condition of approval (building permit) south of the aqueduct, and be completed within one year of issuance of the permit. A site has been identified along the future extension of Avenue S, but roads and utilities have not yet reached the site (Aguirre 2007). The LACFD goal is to respond to calls from within the Ritter Ranch Specific Plan area within 5 minutes (LACFD 2006). LACFD also provides emergency medical services in the area (LACFD 2006).

The nearest emergency room facility is at the Lancaster Valley Community Hospital located at 43830 West 10<sup>th</sup> Street. The hospital is roughly 8 miles from the Proposed Substation Site. A new full service hospital with a 35-bed emergency room is currently under construction at Tierra Subida Avenue and West Avenue Q-8 in Palmdale, approximately 3 miles from the proposed site (Lancaster Community Hospital 2006).

#### **Police Protection**

The Los Angeles County Sheriff's Department provides police protection services within the Proposed Project area. The Palmdale station is currently located on Avenue Q at the intersection of Sierra Highway. The Palmdale Department is operating with approximately 170 sworn personnel and about 35 civilian personnel (Ruble 2006).

#### **Schools**

Several schools are located in the City of Palmdale. The Ritter Ranch Specific Plan and the Anaverde Specific Plan areas will also include new schools once completed. The Ritter Ranch Specific Plan shows an elementary school location approximately 1,000 feet north of the proposed substation.

## **Parks**

The City of Palmdale includes several community and neighborhood parks. A neighborhood park is planned for the area directly north of the proposed substation, and a park is also planned for construction roughly 1,000 feet southeast of the proposed substation.

### **B.3.12.2 Environmental Analysis**

- a) *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:*

#### *Fire protection?*

*LESS THAN SIGNIFICANT IMPACT.* The City of Palmdale Fire Department provides fire protection to the project area. Multiple fire stations serve the project area. Construction activities are not anticipated to increase the demand for fire protection services in a way that would result in the need for new or altered facilities. Fire risk would be not greater than at any other construction site. Following construction, operation of the substation could result in instances requiring fire protection services. However, the California Fire Code and Uniform Building Code require the Proposed Project to include fire protection features, including unobstructed access. Fire risk would be comparable to that from other existing electrical infrastructure in the area, and this would not create the need for new or physically altered fire protection facilities. The substation would not affect the ability of fire personnel to respond to fires, nor affect response time or other service performance. The Proposed Project would have less than significant impacts with regard to fire protection facilities.

#### *Police Protection?*

*LESS THAN SIGNIFICANT IMPACT.* The City of Palmdale Police Department provides police protection to the project site and the surrounding area. Construction activities are not anticipated to increase the demand for police protection services in the area. The Proposed Project would include a wall and barbed wire fencing for security, which would help reduce the demand for police protection. As with fire services, the construction and operation of the substation would not result in a need for additional police facilities nor would it affect response times or other service performance. The result would be a less than significant impact with regard to police protection.

#### *Schools?*

*NO IMPACT.* Construction of the Proposed Project would require about 25 workers during peak activity. These construction personnel would likely commute to the site from within Los Angeles County or nearby counties and would not create a permanent change in local population. Upon completion, the proposed substation would be automated and require no additional SCE employees for operation. Since the Proposed Project would not increase the local population, no increase in demand for school facilities would occur, and no new school facilities would be required.

***Parks?***

*NO IMPACT.* As described in Section B.3.13.2 (c) above regarding schools, the Proposed Project would not increase the region's population. Consequently, the project would not increase any long-term demands on existing parks in the project area, and no new or expanded park facilities would be required because of the Proposed Project. See Section B.3.14, Recreation, for a complete discussion of the Proposed Project's potential impacts to parks and other recreational facilities.

***Other Public Facilities?***

*NO IMPACT.* The Proposed Project would not increase population and would not affect other governmental services or public facilities so as to require new or expanded facilities be developed. Therefore, no impact on other public facilities is expected.

**B.3.13.3 Mitigation Measures**

The Proposed Project would have a less than significant impact on public services. Therefore, no mitigation measures are proposed or required.

**B.3.14 Recreation**

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

### **B.3.14.1 Environmental Setting**

The project area was once ranch and grassland with no significant recreational areas or features. An existing, privately-owned equestrian facility is located about 0.5 miles northwest of the Proposed Substation Site and is not part of the Ritter Ranch Specific Plan development. It will continue to operate after completion of project construction.

Some former jeep trails traversed the Ritter Ranch area prior to site grading and development, which served as access to the Angeles National Forest. These jeep trails were originally private service roads for Ritter Ranch when it was a functional ranch, and have never been open for public use. The Angeles National Forest abuts the Ritter Ranch Specific Plan area at its western edge and provides various recreational opportunities (City of Palmdale 1992a).

The proposed Substation Site is located south of a proposed neighborhood park. Two other parks are planned for the Planning Area 5, Phase I development, and will be located about 1,500 feet southeast of the proposed Substation Site.

The closest existing park to the Substation Site, outside the Ritter Ranch Specific Plan area, is Marie Kerr Park. It is one of many parks in the City of Palmdale. This park is situated at the intersection of Rancho Vista Boulevard and 30<sup>th</sup> Street SW, at the western edge of the City of Palmdale. The park is more than one mile away from the proposed Substation Site.

A bikeway will be constructed along Amargosa Creek about 0.5 miles north of the Substation Site. The area will remain as a greenbelt area at the northern portion of Ritter Ranch. No other recreational facilities are in proximity to the site or are planned for development nearby (City of Palmdale 1992a; City of Palmdale 2005; SunCal 2005).

### **B.3.14.2 Environmental Analysis**

- a) *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

*NO IMPACT.* Substation construction (including construction of the 12 kV getaway within the Substation Site) would have minimal effects on regional parks or recreation facilities. The nearest existing park (operational at the time of substation construction) is approximately one mile from the project site. There

is a potential that personnel working on the project could utilize parks within the City of Palmdale after the end of a construction day. Construction crews would typically consist of no more than approximately 15 people at any time. Given the relative distance of the nearest park to the construction site and the number of crewmembers that would be present during any one day, construction personnel would have no impact on regional parks and recreational facilities. No recreational facilities would be included as part of substation construction.

Construction of the subtransmission line loop-in would last approximately one month and would require a small crew, which would have a minimal impact on the use of recreational facilities in the area. The proposed subtransmission line loop-in would not be located near any existing recreational facility. Construction of the subtransmission line loop-in would have no impact on parks and recreational facilities in the area.

Installation of telecommunications line would not traverse or have an adverse effect on any parks or recreational facilities. The overhead portion of the telecommunications line would be strung on the center posts of existing poles between the Ritter Ranch Development eastern boundary and Anaverde Substation. Telecommunications line installation on existing poles would not result in new ground disturbance, and the overall installation would take only one to two weeks. Construction of telecommunications lines would have no impact on recreation.

*b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?*

*NO IMPACT.* The Proposed Project does not include recreational facilities, nor does it require the construction of new facilities or the expansion of existing facilities recreational facilities. As such, no adverse physical effects on the environment would be generated by recreational facilities resulting from the Proposed Project.

### **B.3.14.3 Mitigation Measures**

The Proposed Project would impact on recreational facilities or opportunities. Therefore, no mitigation measures are proposed or required.

**B.3.15 Transportation and Traffic**

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**B.3.15.1 Environmental Setting**

**Regional Routes**

The City of Palmdale is located at the southwestern edge of the Mojave Desert in the Antelope Valley. Palmdale is approximately 69 miles north of the City of Los Angeles via State Route 14 (SR-14). SR-14 runs north into Kern County and south to the San Fernando Valley, providing the Palmdale community

with regional and inter-regional connectivity via an interchange with the Golden State Freeway (Interstate 5 or I-5).

Several regional routes connect the City of Palmdale to the surrounding region. Descriptions of the regional routes that can be used to access the Project Area (including the substation, subtransmission line loop-in, and the telecommunication route) are provided below. The roads (and locations referenced) are shown in **Figure B.3-14**.

**Antelope Valley Freeway (SR-14).** The Antelope Valley Freeway is a north/south freeway providing regional access between the Antelope Valley and the rest of Los Angeles County. SR-14 has four travel lanes south of Avenue P-8 and six travel lanes north of Avenue P-8. Traffic volumes on the Antelope Valley Freeway range between 76,000 and 83,000 average daily trips (ADT) (Caltrans 2006).

**Palmdale Boulevard (SR-138).** Palmdale Boulevard runs east/west and connects Pearblossom Highway (SR-138) east bound with SR-14 (Antelope Valley Freeway). West of Tierra Subida, the road becomes Elizabeth Lake Road. Traffic volumes for this section of road are estimated at 22,000 ADT.

**Elizabeth Lake Road.** Elizabeth Lake Road is the westerly extension of Palmdale Boulevard and runs immediately north of the entrance to the Ritter Ranch Development. Elizabeth Lake Road intersects with Avenue D, which connects to I-5 near the Ventura County border. Elizabeth Lake Road is currently being widened from a two-lane road with no shoulder to a four-lane road with turn lanes and a shoulder to accommodate forecasted traffic demands from Ritter Ranch and surrounding development. SunCal is managing construction of the roadway. It is anticipated that widening of Elizabeth Lake Road will be complete by the time substation construction begins (SunCal 2007; City of Palmdale 1993).

**Bouquet Canyon Road.** Bouquet Canyon Road is a scenic road as defined by the City of Palmdale General Plan. Bouquet Canyon provides recreational access to Bouquet Reservoir and recreation in Bouquet Canyon. Travelers on the way to the reservoir from the City of Palmdale would use Elizabeth Lake Road to access Bouquet Canyon Road. This is a two-lane road with no shoulder.

**Godde Hill Road.** Godde Hill Road connects to Palmdale Boulevard and is a scenic road, as defined by the Palmdale General Plan (City of Palmdale 1993). Godde Hill Road provides recreational access to the hills above Palmdale and has an overlook. Travelers using Godde Hill Road would access the road from the south via Elizabeth Lake Road.



SOURCE: SunCal 2006, Eagle Aerials 2006, Google Earth, Pro 2007, Southern California Edison 2006, and MHA Environmental Consulting 2007

- LEGEND**
- Proposed Telecom Route (Above Ground)
  - Proposed Telecom Route (Underground)
  - Proposed Ritter Ranch Substation
  - Proposed SunCal Development
  - Pierced Line or Roadway Outline
  - Substation Tie-in Point
  - Regional Roadway
  - State Highway

**Figure B.3-14**  
Regional Roads Within and  
Adjacent to the Project Area



B.3-72

### **Planned Local Routes**

Roads planned for construction near the Proposed Project in the Ritter Ranch Development are described below. Some roads have been paved for temporary construction traffic and all roads are expected to be paved by the time of substation construction.

**Ranch Center Drive.** Ranch Center Drive intersects Elizabeth Lake Road and continues south through the project area. It passes along the eastern side of the proposed Substation Site, before intersecting Avenue S/Ritter Ranch Road. Ranch Center Drive has been temporarily paved to facilitate construction traffic and reduce dust. The road will likely be repaved with a permanent pavement by the time substation construction commences.

**Avenue S/Ritter Ranch Road.** Avenue S/Ritter Ranch Road is currently a graded, unpaved road. It is proposed as a major east-west arterial connecting Antelope Valley Freeway (SR-14) with Elizabeth Lake Road at the Godde Hill intersection. Avenue S is currently used for construction traffic at the Anaverde development. The future westward extension of Avenue S/Ritter Ranch Road would intersect the proposed future southern extension of Ranch Center Drive south of the existing transmission line corridor.

**Westland Drive.** Westland Drive will be a residential street intersecting Ranch Center Drive just south of the Proposed Substation. The road will then continue east before turning south and intersecting Avenue S/Ritter Ranch Road. Westland Drive is currently under construction as part of the Ritter Ranch development.

**City Ranch Road.** City Ranch Road runs east/west and intersects Ranch Center Drive approximately 1,000 feet north of the Proposed Substation Site. The western terminus of Ranch Center Drive occurs at its intersection with Avenue S/Ritter Ranch Road. The Road continues west until it turns into Avenue R at SR-14.

### **Truck Routes**

Truck routes were established by the City of Palmdale to accommodate vehicles exceeding 10,000 pounds gross weight. City regulations (Ordinance No. 953) prohibit trucks exceeding 10,000 pounds from using undesignated city streets, except when delivering or otherwise servicing facilities on such streets. Designated truck routes are shown in **Figure B.3-15** and include SR-14, SR-138, and Avenue S. There are no designated truck routes that extend to the Proposed Project Area. The City of Palmdale has not updated its designated truck routes for several years and is beginning the process of updating the transportation element of its General Plan to address the lack of designated truck routes to the Ritter



Figure B.3-15  
 Designated Truck Routes  
 Within the City of Palmdale

SOURCE: SunCal 2006, Eagle Aerials 2006, Google Earth Pro 2007, Southern California Edison 2006, and MHA Environmental Consulting 2007

**LEGEND**

- Proposed Ritter Ranch Substation
- Designated Truck Route
- Anticipated Truck Route for Project
- State Highway
- Proposed SunCal Development Parcel Line or Roadway Outline
- Substation Tie-in Point

0 0.25 0.5 0.75 1 Miles

Ranch and much of the western half of the City. Avenue S and Elizabeth Lake Road are both considered probable candidates for designation (Padilla 2007).

### **B.3.15.2 Environmental Analysis**

- a) *Would the project cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?*

*LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.* Construction traffic would include truck trips to bring all materials and construction personnel to the Substation Site. Traffic resulting from construction of the proposed substation and 12 kV getaways would last for approximately eight months, and would affect primarily Elizabeth Lake Road. All material for the substation, including transformers, would be delivered by truck. Elizabeth Lake Road would serve as the primary access road for all construction-related vehicles and equipment. Traffic loads on Elizabeth Lake Road from Tierra Subida to Highland Road are below capacity. Elizabeth Lake Road beyond Highland Drive is being widened with projected LOS at build-out estimated at C or better (City of Palmdale 1993). Most materials deliveries would be made during off-peak hours. Cement truck deliveries may need to be made during peak hours when footing work is being performed. The majority of the construction equipment would be left onsite during the construction period and would not add daily traffic to Elizabeth Lake Road.

Temporary traffic slowdowns may occur while large slow moving equipment is moved over public roadways to the site access road. SCE anticipates that the majority of such traffic would avoid peak hours. Transformers would be delivered by heavy transport vehicles and off-loaded at the Substation Site by large cranes with support trucks. During transformer delivery, a traffic control crew would be contracted to navigate traffic, ensure safety, and secure overload and oversize permits from all appropriate agencies, including Caltrans. SCE would also coordinate with the Ritter Ranch developer prior to construction to discuss overlap of delivery for oversize equipment and high volumes of traffic. The use of a traffic service and traffic control measures would ensure that the effects to traffic would not create unsafe traffic conditions. Delivery of construction materials to the Proposed Substation would have a less than significant impact on existing traffic loads and capacity with implementation of the mitigation measures listed below.

- b) *Would the project cause, either individually or cumulatively, a level-of-service standard established by the county congestion management agency for designated roads or highways to be exceeded?*

*NO IMPACT.* Construction of the Proposed Project would cause a minor short-term increase in the local traffic throughout the project study area (see discussion above). As stated in Section B.3.15.2 (a), project-related traffic would result in relatively small increase when added to the existing daily traffic on



freeways and arterial roadways. The Proposed Project would not increase traffic to a level that is substantial in relation to the existing traffic load and capacity of the street system for roads in the project area. Therefore, it is not anticipated that the temporary construction traffic generated by the Proposed Project would alter the project area roadway's existing level of service designations, and level of service standards would not be exceeded. Operation of the Proposed Project would only require routine inspection and periodic maintenance visits, which would not cause level of service standards to be exceeded. As such, there would be no impacts on level of service.

*c) Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?*

*NO IMPACT.* No operating airports or heliports are within two miles of the Proposed Project. Helicopters would not be used during project construction. Therefore, the Proposed Project would not include any features that would disrupt or affect air traffic. As such, there would be no impacts to air traffic patterns.

*d) Would the project substantially increase hazards because of a design feature or incompatible uses?*

*LESS THAN SIGNIFICANT IMPACT.* Elizabeth Lake Road is utilized by bicyclists for access to many of the cycling areas in the western Antelope Valley. Pedestrians do not frequently use the road. The road does not have a bike lane or sidewalks. The road will have a shoulder once the widening is completed. Large construction vehicles may create safety hazards to cyclists using the road. SCE would avoid creating a significant hazard to cyclists using Elizabeth Lake Road by employing a traffic control service if necessary, using alternate routes (Avenue S), and limiting the number of trips. The hazard to cyclists using Elizabeth Lake Road is not significant.

*e) Would the project result in inadequate emergency access?*

*NO IMPACT.* Construction of the Proposed Project would not result in closures of any local roads, except for occasional transport of heavy or oversized equipment to the site under the terms of transportation permits and lane closures for construction of underground facilities. Brief closures would not adversely affect emergency access because SCE would need to coordinate these activities with the City of Palmdale and implement established traffic control measures. This would ensure that provisions are made for adequate emergency access, and that impacts on emergency access would be less than significant.

*f) Would the project result in inadequate parking capacity?*

*NO IMPACT.* Construction of the Proposed Project would not generate a significant demand for parking in the area. The areas adjacent to the Proposed Site are cleared for development and provide sufficient

parking areas for all vehicles that would be used during substation construction. Parking and staging for project construction would occur within the substation parcel. There would be no effect on local parking.

*g) Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?*

*NO IMPACT.* Construction traffic would occur on roadways that support bus routes and bicycle facilities along with other traffic. However, because the Proposed Project would not physically alter or change any alternative transportation facilities, the Proposed Project would not conflict with adopted policies, plans, or programs that support alternative transportation in the project area.

**B.3.15.3 Mitigation Measures**

SCE's analysis determined that impacts to Transportation and Traffic would be less than significant with the implementation of mitigation measure Traffic-1. However, SCE would implement additional measures identified below to further reduce already less than significant impacts.

**TRAFFIC-1:** If lane closures are required, SCE would comply with best management practices (BMPs) established by the Work Area Protection and Traffic Control Manual (California Joint Utility Control Committee 1996). These measures might include the use of cones, flagmen, detours, or performance of construction at night if work requires equipment or personnel operation within the road right-of-way.

**TRAFFIC-2:** SCE would limit the number of trips required by encouraging carpooling.

**TRAFFIC-3:** Trucks would use designated truck routes whenever possible.

**TRAFFIC-4:** SCE would encourage the use of alternative routes to the Substation Site, when feasible, and parking in areas that would not have adverse impacts to existing parking availability.

**B.3.16 Utilities and Service Systems**

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### B.3.16.1 Environmental Setting

#### Water

The majority of potable water for the project area is provided by water imported from the San Joaquin Delta via the California Aqueduct. Little Rock Reservoir also provides additional water supplies to the City of Palmdale. The Lahontan Regional Water Quality Control has oversight in the project region. In the City of Palmdale, water service is primarily provided by the Palmdale Water District. Los Angeles County Waterworks and California Water Company also provide water to the Palmdale area. They manage water in the region and provide water for municipal services.

The Antelope Valley's potable water was historically provided through groundwater pumping. Groundwater elevations in the Antelope Valley have declined since the 1920s due to groundwater extraction for agricultural and residential use. The groundwater basin is unmanaged (CSDLAC 2005).

### Wastewater

The Sanitation Districts of Los Angeles County handle wastewater treatment in the Palmdale area. The Palmdale Water Reclamation Plant provides primary and secondary treatment (aerated oxidation ponds) for 15 million gallons of wastewater per day. An expansion of the plant is planned to increase wastewater treatment to 22.4 million gallons by October of 2009 (CSDLAC 2005).

### Utilities

SCE provides electrical service to the project region. Southern California Gas Company provides gas service. The sanitary sewer system is operated and maintained by Los Angeles County Sewer Maintenance.

### Solid Waste

The Antelope Valley Landfill, located in Palmdale, offers waste disposal and recycling services. The facility is run by Waste Management of the Antelope Valley. The Antelope Valley Landfill is about two miles from the proposed site at the end of City Ranch Road, west of Tierra Subida Avenue, between Avenue S and Avenue R. Solid waste collection for the area is also provided by Waste Management of the Antelope Valley (Waste Management 2006).

## **B.3.16.2 Environmental Analysis**

### ***a) Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?***

*NO IMPACT.* The project area is within the jurisdiction of the Lahontan Regional Water Quality Board (RWQCB). Currently, the site is undeveloped and generates no wastewater. Minimal wastewater would be generated by workers during project construction, and it would not adversely affect the treatment plant that would receive the wastewater. The construction related increase in wastewater would be temporary and represent a very small fraction of the permitted flow for the wastewater treatment capability within the City of Palmdale. Upon completion of construction, the Proposed Project would generate a small amount of wastewater. The volume and quality of project wastewater would not exceed the treatment requirements of the RWQCB, and this impact would be less than significant.

### ***b) Would the project require, or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?***

*NO IMPACT.* The Proposed Project would generate minimal water demand or wastewater. Operation of the substation and associated facilities would require some water consumption, wastewater disposal, and small amounts of trash removal. The substation would only require wastewater disposal for the toilet and sink within the mechanical and electrical equipment room (MEER) and thus, would not exceed wastewater treatment capacity in the area. The operation of the substation would require irrigation of the surrounding landscaping and would require a tie-in to a municipal water source for connection of the toilet in the MEER. Substation operation would not require construction or expansion of wastewater or solid waste disposal facilities, or new or expanded water entitlements. Thus, no impacts would occur to existing wastewater and water treatment facilities.

- c) Would the project require, or result in the construction of, new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

*NO IMPACT.* As indicated B.3.16.2 (b) above, no demands would be placed on utility and service systems as a result of implementing the proposed project. Therefore, no new or expanded storm water drainage facilities would be required as a result of project implementation. Therefore, no impact would occur.

- d) Would the project have sufficient water supplies available to serve the Proposed Project from existing entitlements and resources, or would new or expanded entitlements be needed?*

*LESS THAN SIGNIFICANT IMPACT.* The Proposed Project area is not currently served by any water main or permanent water line. It is expected that eventually a connection to the municipal water system would be established for landscaping, assuming it is extended as part of a future adjacent development. Roads used for access to the substation have been paved for construction purposes and to reduce dust, therefore, watering trucks would not be needed to suppress dust on the access roads to the Substation Site. A maximum of two water trucks per day would be needed during initial construction at the Substation Site. Water would be purchased from the municipal water supplier and a tank would be kept on site for construction needs. The amount of water for dust suppression during construction is considered to be minimal in comparison to available municipal water supplies, and water use for construction would be temporary. Upon completion of construction, the Proposed Project would cause minimal daily water demand, resulting only from landscaping irrigation needs and for the operation of the toilet and sink at the proposed substation. Therefore, the Proposed Project would not be expected to exceed the existing water supplies available to serve the Proposed Project, and this impact would be less than significant.

- e) Would the project result in a determination by the wastewater treatment provider that serves or may serve the Proposed Project that it has adequate capacity to serve the Proposed Project's projected demand in addition to the provider's existing commitments?*

*NO IMPACT.* The Proposed Project would generate minimal wastewater during construction. As discussed in Section B.3.16.2 (a) above, existing wastewater facilities would adequately accommodate the minor demand caused by project construction while serving existing commitments. Therefore, there would be no impact.

*f) Would the project be served by a landfill with sufficient permitted capacity to accommodate the Proposed Project's solid waste disposal needs?*

*LESS THAN SIGNIFICANT IMPACT.* The proposed project will not require refuse pick-up but will require that some waste and refuse be disposed of at a local landfill. However, this waste will be primarily construction waste and general domestic refuse from on-site workers and would not be generated in significant quantity. The generation and disposal of project related waste is not expected to negatively affect the capacity of local landfills. All waste materials will be disposed of according to applicable federal, state, and local regulations. The potential for wastes generated by the project to exceed available landfill disposal capacity is considered to be below the level of significance.

*g) Would the project comply with federal, state, and local statutes and regulations related to solid waste?*

*NO IMPACT.* The California Integrated Waste Management Act of 1989, which emphasizes resource conservation through reduction, recycling, and reuse of solid waste guide solid waste management requires that localities conduct a Solid Waste Generation Study (SWGS) and develop a Source Reduction Recycling Element (SRRE). The Proposed Project would operate in accordance with these applicable Solid Waste Management Policy Plans by including recycling activities. As identified in Section B.3.16 (f) above, landfills serving the site would have sufficient capacity to accommodate project construction solid waste disposal needs, and project solid waste disposal would not require the need for new or expanded landfill facilities. Therefore, the Proposed Project would comply with federal, State, and local statutes and regulations related to solid waste disposal limits and landfill capacities. No impact would occur.

### **B.3.16.3 Mitigation Measures**

The Proposed Project would have a less than significant impact on utilities and service systems. Therefore, no mitigation measures are proposed or required.

### B.3.17 Mandatory Findings of Significance

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Does the project have the potential to 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### B.3.17.1 Environmental Analysis

- a) *Does the project have the potential to 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?*

*LESS THAN SIGNIFICANT IMPACT.* As described in Section B.3.4, Biological Resources, the project has a limited potential to cause impacts to special status species. However, SCE pre-construction surveys would be conducted and a qualified biologist would remove any sensitive species found on site prior to construction work to avoid any possible adverse effects. Therefore, impacts from implementation of the Proposed Project on special status species would be less than significant. Similarly, Section B.3.5, Cultural Resources, shows that the project would have a less than significant impact to important

examples of the major periods of California history or prehistory. The Proposed Project would not have a significant adverse effect on natural resources, either by itself or cumulatively with other projects.

- b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, effects of other current projects, and the effects of probable future projects.)*

*LESS THAN SIGNIFICANT IMPACT.* CEQA defines a cumulative impact as an effect that is created as a result of the combination of the Proposed Project together with other projects (past, present, or future) causing related impacts. Cumulative impacts of a project need to be evaluated when the project’s incremental effect is cumulatively considerable and, therefore, potentially significant. As discussed in preceding Sections B.3.1 through B.3.16, many of the potential impacts of the Proposed Project would occur during construction, with few lasting operational effects. Because the construction related impacts of the Proposed Project would be temporary and localized, they would only have the potential to combine with similar impacts of other projects if they occur at the same time and in close proximity. Construction impacts caused by the Proposed Project (primarily related to air quality, biological resources, noise, and traffic) could combine with similar effects of other projects being built in this rapidly developing area. To ensure that the incremental construction-phase effects of the Proposed Project would not be considerable in light of the effects of other current projects and probable future projects, appropriate mitigation measures (see Sections B.3.1 through B.3.16) are identified. The mitigation measures would reduce the construction-related effects of the Proposed Project to less than significant levels.

Other current projects and probable future projects are likely to bring residential land uses much closer to the project site than they are in the current conditions. After the project has been constructed, the primary permanent effects of the Proposed Project would be the incremental aesthetic and visual change and slightly increased noise. The analysis of these issues in Section B.3.1, Aesthetics, and Section B.3.11, Noise, addresses the effects of future homes around the proposed substation from a cumulative perspective. The incremental aesthetic and visual effects of the Proposed Project are considered in combination with past and ongoing visual changes in the area and the anticipated changes brought about by future projects.

Over time, visual conditions in the project vicinity have changed substantially as a result of land development. The incremental change in visual conditions associated with the Proposed Project contributes to this cumulative change in visual conditions, but represents only a relatively minor incremental change in cumulative conditions. Therefore, the project’s visual effects appreciable, but not considerable enough to represent a significant cumulative impact. Similarly, the noise levels caused by the Proposed Project at the location of probable future residences would not result in any significant long-term impacts. With regard to the remaining areas of analysis, individually and cumulatively, the Proposed Project would not result in any significant long-term impacts that would substantially combine with



impacts of other current and probable future impacts. Consequently, the Proposed Project would not create impacts that are cumulatively considerable.

*c) Does the project have environmental effects, which would cause substantial adverse effects on human beings, either directly or indirectly?*

*NO IMPACT.* The preceding sections of this Initial Study discuss various types of impacts that could have adverse effects on human beings, including:

- Changing the visual character of the agricultural land and increasing light and glare in the vicinity of the existing and future residential land use (see Section B.3.1, Aesthetics),
- Dust and air pollutants emitted during project construction activities (see Section B.3.3, Air Quality),
- Potential release of hazardous materials (see Section B.3.7, Hazards and Hazardous Materials), and
- Noise generated by project construction and operation (see Section B.3.11, Noise).

These are primarily temporary impacts associated with project construction activities. Each type of impact with the potential to cause substantial adverse effects on human beings has been evaluated, and this Initial Study concludes that all of these potential impacts are either less than significant or can be mitigated to a less than significant level with the implementation of measures presented herein (see also Section C, Mitigation Monitoring Plan, for a complete listing of the mitigation measures including Applicant Proposed Measures). Therefore, the Proposed Project does not involve any activities, either during construction or operation, which would cause significant adverse effects on human beings that cannot be readily mitigated to a less than significant level.

# Mitigation Monitoring Plan

## Introduction

Southern California Edison Company (SCE) proposes to construct and operate the Ritter Ranch Substation Project ("Proposed Project"). An Initial Study was prepared to assess the Proposed Project's potential environmental effects. The Initial Study was prepared based on information in the Proponent's Environmental Assessment (PEA), project site visits, and supplemental research. The majority of the Proposed Project's impacts would occur during project construction. Within SCE's application, Applicant Proposed Measures (APMs) were proposed to reduce potentially significant adverse impacts related to project construction and operation.

The purpose of this Mitigation Monitoring Plan (MMP) is to ensure effective implementation of each APM, as well as the mitigation measures identified by the Initial Study and imposed by the CPUC as part of project approval.

This MMP includes:

- Applicant Proposed Measures and mitigation measures that SCE must implement as part of the Proposed Project;
- the actions required to implement these measures;
- monitoring requirements; and
- timing of implementation for each measure.

## Mitigation Implementation and Monitoring

A CPUC-designated environmental monitor will carry out all construction field monitoring by to ensure full implementation of all measures. In all instances where non-compliance occurs, the CPUC's designated environmental monitor will issue a warning to the construction foreman and SCE's project manager.

Continued non-compliance shall be reported to the CPUC's designated project manager. Any decisions to halt work due to non-compliance will be made by the CPUC. The CPUC's designated environmental monitor will keep a record of any incidents of non-compliance with mitigation measures, APM, or other conditions of project approval. Copies of these documents shall be supplied to SCE and the CPUC.

SCE will be responsible for demonstrating compliance with other agency permit conditions to the appropriate regulatory agency. It will also be responsible for ensuring that its construction personnel understand their responsibilities for adhering to the performance requirements of the mitigation plan and other contractual requirements related to the implementation of mitigation as part of project construction. The CPUC along with its environmental monitors will also ensure that any variance process or deviation from the procedures identified under the monitoring program is consistent with CEQA requirements; the CPUC will not approve any requested project variance if it would create new significant impacts. As defined in this Section, a variance should be strictly limited to minor project changes that will not trigger other permit requirements, that will not increase the severity of an impact or create a new impact, and that clearly and strictly complies with the intent of the mitigation measure. A proposed project change that has the potential for creating significant environmental effects will be evaluated to determine whether supplemental CEQA review is required. Any proposed deviation from the approved project, adopted mitigation measures, and APMs, and correction of such deviation, shall be reported immediately to the CPUC for approval.

The Applicant, SCE, is responsible for successfully implementing all the adopted mitigation measures in the MMP. The MMP contains criteria that define whether mitigation is successful. Standards for successful mitigation also are implicit in many mitigation measures that include such requirements as obtaining permits or avoiding a specific impact entirely.

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
<b>Cultural Resources</b>			
APM – Cul 1	<p><b>CUL-1:</b> When Native American archaeological, ethnographic, or spiritual resources are involved, all identification and treatment shall be conducted by qualified archaeologists who meet the federal standards as stated in the Code of Federal Regulations (CFR) (36 CFR 61), and appurtenant (i.e., pursuant to the National Historic Preservation Act [NHPA], Senate bill [S.B.] 18) Native American representatives. In the event that no such Native American is available, persons who represent tribal governments and/or organizations in the locale in which resources could be affected shall be consulted.</p>	<p>Construction personnel sign an environmental training attendance sheet. No damage to archaeological resources results from project construction.</p>	<p>Prior to and during construction</p>
APM – Cul 2	<p><b>CUL-2:</b> Pursuant to Section 5097.98 of the California Public Resources Code and Section 7050.5 of the California Health and Safety Code, if human remains or bone of unknown origin is found during construction, all work shall stop in the vicinity of the find and the Los Angeles County Coroner shall be contacted immediately. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission who shall notify the person it believes to be the most likely descendant. The most likely descendant shall work with the contractor to develop a program for re-interment of the human remains and any associated artifacts. No additional work shall take place within the immediate vicinity of the find until the identified appropriate actions have been implemented. If the Coroner determines that the remains are not related to a crime scene, then a qualified archaeologist who meets the federal standards as stated in the Code of Federal Regulations (CFR) (36 CFR 61) shall be retained to assess the find and make further recommendations.</p>	<p>No damage to human remains results from the project. Any discovered cultural resources are treated according to agency approved mitigation and in compliance with state and federal regulations.</p>	<p>During construction</p>
APM – Cul 3	<p><b>PAL-1:</b> If paleontological remains are discovered in the course of construction activities, construction would be halted or directed away from the discovery, and the potential resource evaluated by a qualified paleontologist. The paleontologist would recommend appropriate measures to record, preserve, or recover the resources. The certified paleontologist would prepare a final mitigation report to be filed with the client, the lead agency, and the repository.</p>	<p>No damage to paleontological remains results from the project. Any discovered paleontological resources are treated according to agency approved mitigation and in compliance with state and federal regulations.</p>	<p>During construction</p>

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
<b>Hazards and Hazardous Materials</b>			
APM – Haz 1	<b>HAZ-1:</b> During construction and upon commencement of operations, SCE will have chemical or hazardous substance inventory for all such items that may be at the site. SCE will institute a Hazard Communication Program (HCP) for their employees and will require subcontractor programs in accordance with OSHA 29 CFR 1910.1200. These programs are designed to educate and protect the employees and subcontractors with respect to any chemicals or hazardous substances that may be present in the work place. It will be required that as every chemical or hazardous material is brought on location, a Material Safety Data Sheet (MSDS) will accompany that material and will become part of the file kept at the field office as required by 29 CFR 1910.1200. All employees will receive the proper training in storage, handling, and disposal of hazardous substances.		During construction and operations
APM – Haz 2	<b>HAZ-2:</b> If an accidental release occurs during refueling, transformer transport, or construction the release will be cleaned up immediately and reported in accordance with applicable federal, state, and local requirements.		During construction
APM – Haz 3	<b>HAZ-3:</b> Incorporate features in the substation design to contain the mineral oil if a cooling oil leak occurs. Install remote alarming monitoring equipment to alert the SCE Energy Dispatch Operators in case of high temperatures or low oil levels. Construct the substation with sumps, curbs, or berms to contain spilled oil, and begin cleanup activities immediately after a release has occurred. In addition, implement Best Management Practices (BMPs) through a Spill Prevention Control and Countermeasure (SPCC) Plan to minimize the possibility of any spills or releases from the transformers.		During construction and operations
<b>Noise</b>			
Construction Noise	<b>NOISE-1:</b> Construction equipment powered by an internal combustion engine shall be equipped with suitable exhaust and intake silencers, in accordance with manufacturers' specifications, and shall be maintained in good working order.	Noise-related complaints from nearby residents are minimized	During construction

Ritter Ranch Substation Project  
MITIGATION MONITORING PLAN

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
Construction Noise	Stationary construction equipment (i.e., portable power generators, compressors) shall be located at the furthest distance possible from nearby residential units.	Noise-related complaints from nearby residents are minimized	During construction
<b>Traffic</b>			
Lane closures and traffic congestion	<b>TRAFFIC-1:</b> If lane closures are required, SCE would comply with best management practices (BMPs) established by the Work Area Protection and Traffic Control Manual (California Joint Utility Control Committee 1996). These measures might include the use of cones, flagmen, detours, or performance of construction at night if work requires equipment or personnel operation within the road right-of-way.	Lane closures occur in accordance with guidelines	During construction
APM – Traffic 1	<b>TRAFFIC-2:</b> SCE would limit the number of trips required by encouraging carpooling.	Encourage carpooling	During construction
APM – Traffic 2	<b>TRAFFIC-3:</b> Trucks would use designated truck routes whenever possible.	Use designated truck routes	During construction
APM – Traffic 3	<b>TRAFFIC-4:</b> SCE would encourage the use of alternative routes to the Substation Site, when feasible, and parking in areas that would not have adverse impacts to existing parking availability.	Encourage the use of alternative routes	During construction

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A consultant team headed by Miller Brooks Environmental, Inc., prepared this document under the direction of the California Public Utilities Commission. The preparers and technical reviewers of this document are presented below.

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