
B.1. Project Description

B.1.1 Project Title

Viejo System 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

Michael Rosauer, Project Manager
Energy Division
California Public Utilities Commission
(415) 703-2579

B.1.5 Project Location

The Viejo System Project study area includes the proposed substation site and a 3.1-mile segment of the existing 220 kV and 66 kV transmission line corridor located between the proposed Viejo Substation site and the existing Chiquita Substation (also referred to as project area). The transmission line corridor is located within the Cities of Lake Forest and Mission Viejo, and the site of the proposed substation is located in the Foothill Ranch Planned Community within the City of Lake Forest. The proposed telecommunications line route would extend from the proposed substation site to the SCE Irvine Operations Center (IOC) in the City of Irvine. All portions of the proposed project are located within Orange County, California.

B.1.6 Surrounding Land Uses and Setting

B.1.6.1 Proposed Viejo Substation Site

Within Lake Forest, the site of the proposed substation is currently vacant and zoned Light Industrial. The area west of the site is also designated Light Industrial and includes industrial structures such as warehouses, light manufacturing, and business complexes along with surface streets and parking lots. The area east of the site is designated Open Space with existing access roads for the transmission corridor cutting through scrubby hills that are sometimes thickly vegetated with brush and shrubs. Just southeast of the site, the right-of-way crosses SR 241 – Foothill Transportation Corridor and into the City of Mission Viejo.

B.1.6.2 Proposed Transmission Line Right-of-Way

From SR 241 to Los Alisos Boulevard, the right of way passes through Recreation-designated areas along Aliso Creek, although it passes less than 200 feet from, and occasionally less than 50 feet from, residential uses consisting predominately of multi-story single-family residences. From Los Alisos Boulevard to Santa Margarita Parkway, the right of way is entirely within Pinecrest Park. Pinecrest Park lies within a north-south running valley with wooded west slopes and sparsely vegetated eastern slopes. The park is bordered Los Alisos Boulevard and residences to the north, residences to the east and west, and Santa Margarita Parkway and residences to the south. From Santa Margarita Parkway to the bend in the right of way just east of the Olympiad Road/ Melinda Road intersection, the right of way crosses recreational and adjacent to more single-family residential uses. These recreational uses include Eastbrook, Birchwood, and Castlewood Parks, as well as the Youth Athletic Parks. From the Olympiad Road/ Melinda Road intersection to the Chiquita substation at the southeast corner of the Olympiad Road/Alicia Parkway intersection, the right of way crosses recreational lands and passes generally less than 100 feet from homes and other residential uses. The right of way follows the west side of a generally north-south ridge, comprising the eastern border of Florence Joyner Olympiad Park. A well-cleared access road runs below the right of way along this segment, often less than 25' from the backyards of homes. The Chiquita substation itself is designated as a community facility and is surrounded by recreational and residential uses. Across Olympiad Road from the substation at the southwest corner of the Olympiad Road/Alicia Parkway intersection is Olympiad Plaza, an area designated for community commercial.

Overall, the entire route of the right-of-way passes through and near single-family residential and recreational resources, which are both sensitive receptors.

B.1.7 General Plan Designation

The site of the proposed Viejo Substation is designated Light Industrial in the City of Lake Forest General Plan (City of Lake Forest, 2003a). The City of Mission Viejo General Plan designates the Chiquita Substation site as Community Facility, and the remainder of the proposed project as Business Park/Industrial, Community Facility, Light Industrial, Recreation/Open Space, and Residential (see Table B.1-1) (City of Mission Viejo, 1990).

B.1.8 Zoning

The site of the proposed Viejo Substation is currently zoned Industrial within the Foothill Ranch Planned Community of the City of Lake Forest (City of Lake Forest, 2003a). The Chiquita Substation is zoned Community Facility within the City of Mission Viejo. The transmission corridor of the proposed project occurs within an existing 220/66 kV corridor, and crosses areas zoned for Business Park/Industrial, Community Facility, Light Industrial, Recreation, Residential, and Roadway uses (City of Mission Viejo, 2003a).

B.1.9 Description of Project

Southern California Edison Company (SCE) proposes to construct a new substation (Viejo Substation) with 220/66 Kilovolt (kV) and 66/12 kV transformation, four 12 kV distribution lines, and one 66 kV subtransmission line (together, the proposed Viejo System Project) to improve reliability and meet projected electrical load requirements in the south Orange County area. SCE estimates that the proposed project is required by 2005 to meet projected electrical loads without overloading the system. Completion of the Viejo System Project would require minor modifications to two existing 220 kV transmission lines, installation of one optical ground wire between Viejo and Chiquita Substations, installation of an

underground fiber optic cable between Viejo Substation and SCE's Irvine Operation center, as well as modifications at the nearby Chiquita Substation within the existing footprint. The proposed Viejo System Project would tie into the greater Santiago System through the 66 kV subtransmission system and through the 12 kV distribution system, thereby providing the capability to transfer load between systems under both normal and abnormal conditions.

The Viejo System Project study area consists of the proposed substation site and a 3.1-mile segment of the existing 220 kV and 66 kV transmission corridor located between the proposed substation site and the existing Chiquita Substation. The proposed project would occur within this existing alignment, with the exception of the 4.1-mile fiber optic cable. The proposed substation site is located in the City of Lake Forest and within the Foothill Ranch Master Planned Community. The site is owned by SCE and is vacant. The adjacent transmission corridor is located in the Cities of Lake Forest and Mission Viejo. Figure 1, Regional Vicinity Map, shows the location of proposed substation site and the existing transmission corridor. The 12.5-acre substation site is located about one-quarter mile north of El Toro Road, one mile east of Santa Margarita Parkway, and just northeast of the State Route (SR) 241 Foothill Transportation Corridor.

The entirety of the Viejo System Project lies within Orange County, California. The site of the proposed Viejo Substation and a portion (approximately one-third of a mile) of the transmission line right-of-way are within the City of Lake Forest, while the right of way south of the city boundary and the Chiquita substation are within the City of Mission Viejo.

The project consists of adding a new 66 kV circuit within an existing transmission corridor that currently contains a 220 kV transmission line on lattice steel towers (LST) and two 66 kV circuits on double-circuited tubular steel poles (TSP). Nineteen existing double-circuited poles would be replaced with thirteen H-frame structures that would carry the two existing 66 kV circuits and a new 66 kV circuit, and would also have capacity for an additional fourth circuit in the future (see Table B.1-1). The project also includes the construction of a new substation. Figure 2, Proposed Substation Site and 66kV Subtransmission Line Route, provides the specific location of the proposed substation site and transmission corridor. Specific project components are listed below (see also Table B.1-2):

- Construction of a new 220/66/12 kV unmanned, automated, low-profile substation (Viejo Substation) on a 12.5-acre site in the City of Lake Forest, California.
- Modification of 3.1 miles of the existing 66 kV subtransmission lines located within an existing SCE right-of-way containing 220 kV transmission and 66 kV subtransmission lines, to allow for an additional overhead 66 kV circuit. The existing 66 kV lines are located on TSPs in the right-of-way between the proposed Viejo Substation in the City of Lake Forest and the existing Chiquita Substation in the City of Mission Viejo. Nineteen existing TSPs would be replaced with 13 metal H-frame structures within the existing right-of-way.
- Minor modification of the Chino-San Onofre 220 kV transmission line and the San Onofre-Serrano 220 kV transmission line consisting of the replacement of three 220 kV LSTs and the installation of 10 TSPs to loop the Chino-San Onofre 220 kV circuit into the Viejo Substation and create a by-pass for the San Onofre-Serrano 220 kV circuit.
- Construction of four 12 kV underground circuits originating from the Viejo Substation.
- Modification of equipment at the existing Chiquita Substation to accommodate the additional line, including one 66kV circuit breaker, three 66kV disconnect switches, and one 15-foot steel takeoff structure.
- Installation of one Optical Ground Wire (OPGW) within the existing 220 kV transmission and 66 kV subtransmission line corridor.
- Installation of approximately 4.4 miles of underground fiber optic cable between Viejo Substation and the Irvine Operation Center.

Figure 1, Regional Vicinity Map (see links on Table of Contents)

Figure 2 Proposed Substation Site and 66kV Subtransmission Line Route (see links on Table of Contents)

B.1.9.1 Purpose and Need

SCE's objective with the Viejo System Project is to improve reliability and meet projected electrical load requirements in the rapidly urbanizing south Orange County area. South Orange County's electrical needs are currently served from SCE's main electrical grid via the 220/66 kV Santiago Substation and the connecting distribution facilities, referred to as the Santiago System, which serves approximately 250,000-metered customers.

Under Federal Energy Regulatory Commission (FERC), North American Energy Reliability Council (NERC), Western Energy Coordinating Council (WECC), and California Public Utilities Commission (CPUC) rules, guidelines or regulations, electrical transmission systems must have sufficient capacity to maintain safe, reliable, and adequate service to customers. The safety and reliability of the system must be maintained under normal conditions, when all facilities are in service, and also under abnormal conditions resulting 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.

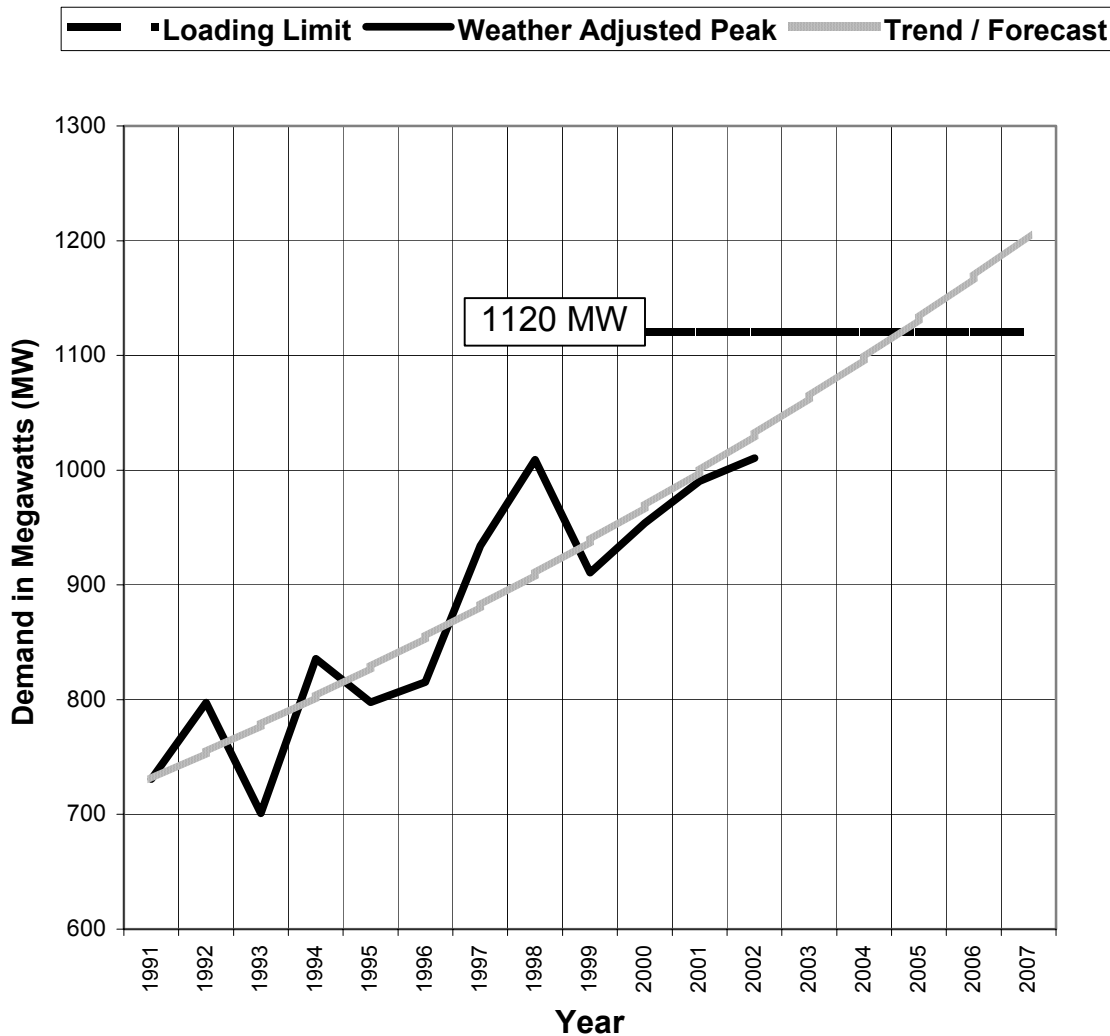
SCE has a multi-step planning process that ensures that the development of appropriate system facilities is undertaken in time to meet increased electrical load demand. The planning process begins with the development of a peak demand forecast for each substation. Peak demand forecasts are developed using demographic and business condition information. Engineering studies are conducted to determine whether the forecast of peak demand can be accommodated on the existing transmission, subtransmission, and distribution systems. System facilities, such as substations and lines, have certain loading limits. When projections indicate that these loading limits would be exceeded within an appropriate planning horizon, a project is proposed to keep the electrical system within specified loading limits.

The Santiago System is bounded by SCE's service territory to the north, the Pacific Ocean to the west, San Diego Gas & Electric Company's (SDG&E) service territory to the south, and the Cleveland National Forest to the east. Several substations (Limestone, Chiquita, and O'Neill) located within the south and southeast region of the Santiago System have become heavily loaded due to rapid growth in recent years. As demonstrated in Figure 3, SCE anticipates peak demand on the Santiago System will exceed capacity in 2005.

By imposing physical barriers to electrical transmission, natural and service area boundaries limit SCE's ability to shift load from these substations to other SCE facilities. Currently, the amount of electrical load that can be served in south Orange County is limited to the maximum amount of electrical power the Santiago System can transmit before exceeding operating limits.

SCE states that the projected electrical demand for south Orange County would exceed the operating limits of the transformers currently serving the Santiago System. The capacity of the existing Santiago System is presently limited to 1,120 MVA under normal operating conditions (SCE, 2003a). System power flow studies that model projected electrical loads for the year 2005 project the peak demand to increase by 122 MVA (3.9 percent annual growth rate) to approximately 1,132 MVA by 2005 for the Santiago System. SCE anticipates the following system conditions would exist unless system upgrades are installed:

- Facilities at Limestone Substation would exceed maximum ratings under normal and abnormal operating conditions. The 66/12 kV transformers at Limestone have a loading limit of 175 MW. Projected loading, absent the Viejo System Project, is 181 MW in 2005.
- Three 66 kV subtransmission lines (Santiago-Limestone, Santiago-Limestone-Moulton, and Santiago-Moulton) in the Santiago System would exceed their maximum ratings for normal and abnormal operating conditions. The Santiago-Limestone normal rating is 125 MW. Loading absent the Viejo System Project is projected to be 162 MW in 2005. The Santiago-Limestone-Moulton normal rating is 125 MW. Loading absent the Viejo System Project is projected to be 166 MW in 2005. The Santiago-Moulton normal rating is 105 MW. Loading absent the Viejo System Project is projected to be 132 MW in 2005.

Figure 3 **Santiago System Capacity and Peak Demand**

Source: SCE, 2003a

- Loading on the Barre-Ellis 220 kV transmission line would exceed the conductor rating under certain abnormal conditions. The Barre-Ellis 220 kV transmission line would be loaded up to 2,997 Amps (or 121% normal conductor rating of 2,480 Amps) in 2005 under no generation condition at the Huntington Beach Generating Station and a contingency outage of the Del Amo-Ellis 220 kV line (N-1 contingency). The overloading of 121% of normal conductor rating exceeds the allowed emergency rating of 115% normal rating under N-1 contingency. With the Viejo Substation in service, the Barre-Ellis 220 kV line would be loaded up to 2,490 Amps under an N-1 contingency (or 105% of normal rating).
- Voltage at three 220/66 kV substations (Barre, Ellis, and Santiago) would drop below minimum acceptable levels for certain normal and abnormal conditions. Viejo Substation would improve the system voltage at Barre, Ellis and Santiago 220 kV buses in 2005 under contingency outages of the SONGS-Santiago #1 and #2 220 kV lines and low generation in South Orange County area (i.e., only one unit at SONGS and one unit at Huntington Beach Generating Station online) as illustrated below:

	Without Viejo Substation	With Viejo Substation
Barre 220 kV bus	207.7 kV	215.5 kV
Ellis 220 kV bus	211.1 kV	217.2 kV
Santiago 220 kV bus	209.9 kV	215.9 kV

- The minimum operating voltage in the 220 kV system should be maintained between 214 kV and 219 kV in the Barre/Ellis/Santiago area.

To address these issues, SCE proposes to construct the Viejo System Project.

B.1.9.2 Proposed Viejo Substation

The 12.5-acre Viejo Substation site is located on land owned by SCE and is adjacent to the existing 220 kV corridor in the City of Lake Forest. This site is bordered by vacant land (Viejo Conservation Bank) on the east, on the south by vacant land owned by Orange County, on the north by light industrial development, and on the west by the SR 241 Foothill Transportation Corridor. The site of the proposed Viejo substation is currently zoned Light Industrial within the Foothill Ranch Planned Community of the City of Lake Forest. The existing zoning is compatible with the proposed substation use. Use of this site for the substation would require the construction of approximately 3.1 miles of 66 kV subtransmission line within the existing 220 kV corridor.

The proposed substation would be an unmanned, automated, low-profile substation. Low-profile substations generally are less elaborate and have less visual mass than traditional, high-profile substations. The substation site would contain atwo 220 kV source lines, two 280 MegaVolt Ampere (MVA) 220/66 kV transformers, five 66 kV subtransmission lines, two 28 MVA 66/12 kV transformers, two 28.8 Megavolt-Ampere Reactive (MVAR) 66 kV capacitor banks, two 4.8 MVAR 12 kV capacitor banks, and four 12 kV distribution circuits. Two mechanical and electrical equipment rooms would be constructed to house control and relay panels, batteries and battery chargers, telecommunication and associated equipment. Figure 4, Proposed Viejo Substation Site Plan, displays the substation layout and Figure 5 displays profiles of the towers and poles proposed adjacent to the Viejo Substation.

Lighting

The proposed Viejo Substation would **utilize low voltage security lighting that would not be visible to the public. The lighting would provide illumination for SCE security cameras located within the substation. The substation would also** have ~~both security and maintenance lighting. The security lights would be low intensity lights integrated into the landscape and architectural aspects of the station, operating from dusk until dawn. Maintenance lighting, which~~ 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 have to take place during night time hours. Maintenance lights would be controlled by a manual switch and would be operated only during times of maintenance activities.

Site Access

Approximately four new driveways would be constructed within the substation parcel to provide access to the Viejo Substation (see Figure 4). Only one driveway, approximately 175' long, would leave the property and connect to the intersection of Definition and Icon Streets. All driveways would be paved between the substation and Definition Street with asphalt concrete over a compacted layer of aggregate base material placed on the sub-grade. The total area that would be paved is approximately 29,000 square feet. Construction of these roads is included in the construction estimates for the substation as a whole (see Table B.1-2).

Drainage

The hill on the neighboring property to the east of the proposed site is crossed by a system of concrete drainage swales and down drains designed to bring surface runoff to catch basins and into a below ground pipe system to the nearest street. However, overgrown vegetation restricts performance of the existing drainage system. Further, site reconnaissance demonstrates that drainage system deficiencies cause soil and debris to be carried onto the proposed substation pad and down the access road.

During site preparation, all hillside drainage structures would be cleaned and repaired. A concrete curb and three-foot drainage swale (approximately 928') would be placed along the full length of and to the outside of the east substation fence, adjacent to the neighboring hillside, in order to direct hillside runoff north, away from the substation pad into existing storm water drains. The walled substation area would have a crushed rock surface that would allow surface storm water to sheet flow from the southerly end of the substation site to three existing concrete catch basins located at the northerly end of the graded pad, where it would be pumped and conveyed to the public storm water system through existing reinforced concrete pipes.

Landscaping

Landscaping around the proposed substation would be designed to filter views from residential areas located to the north and east of the proposed substation site. The landscape plan would include an eight-foot-high block wall surrounding three sides of the proposed substation with security barbed wire mounted on the substation side of the wall. The side of the substation site facing the 220 kV corridor would have an eight-foot-high, chain link fence topped with barbed wire. A project landscape plan is currently under development by the Applicant.

Viejo Substation Construction

Prior to substation construction, the entire 12.5-acre substation site would be stripped of vegetation and soil to a depth of eight inches. The stripped material would be stored on site until it could be filtered and replaced as backfill. The bottom of the stripped pad would be scarified to a minimum depth of six inches and brought to minimum moisture content per American Society of Testing Materials (ASTM) standards.

Screens would be used to remove all weeds, roots, and grasses from the stripped soil. It is estimated that 70 percent of the stripped soil can be rendered useable as fill material. Of the approximately 13,000 cubic yards of soil to be removed from the pad, 9,000 cubic yards would be available to back fill the surface. The site would be restored to match the original grade except the slope would be reduced from 2 percent to 1.9 percent. This modification would reduce the amount of fill material required from 15,000 to 7,500 cubic yards. Assuming a 15 percent shrinkage allowance, caused by settling and drying of the material, fill requirements could be met using on-site material. The balance of fill material would be hauled off-site. Thus, the total volume of material that could be removed from the site would range between 4,000 and 5,500 cubic yards. Following final site grading, a four-inch thick layer of untreated crushed rock would be placed within the walled substation area, except in designated driveways.

The substation site would be re-graded to final contour. Construction of the perimeter fences, foundations, and below ground facilities (e.g., ground-grid, conduit, etc.) would then be completed, followed by installation of the aboveground structures and the electrical equipment. All material for the proposed substation, including the transformers, would be delivered by truck. Material would be staged along the west perimeter fence during construction. In addition, SCE would receive and stage both transmission and subtransmission materials and equipment at a primary staging area to be located in the City of Lake Forest. For this purpose, SCE would lease five acres of previously disturbed property located at the El Toro Materials, Inc., sand mining facility located near the intersection of El Toro and Rocky Roads. A

Figure 4, Proposed Viejo Substation Site Plan (see links on Table of Contents)

Figure 5, Towers and Poles proposed for Viejo Substation (see links on Table of Contents)

secondary staging yard would be located at the southwest corner of the Viejo Substation property, adjacent to the proposed 220 kV substation rack. Materials and equipment could also be moved forward along the working right-of-way as required during specific stages of construction.

The majority of the truck traffic would use major streets and would be scheduled for off-peak traffic hours. However, some truck traffic would utilize dirt access roads and small access streets. Concrete trucks might need to make deliveries during peak hours during footing work. The transformers would be delivered by heavy transport vehicles and off-loaded on site by large cranes with support trucks. Transformer delivery would use a traffic control service. All construction debris would be placed in appropriate onsite containers and periodically disposed in accordance with applicable regulations.

SCE proposes to initiate construction of the Viejo Substation in spring of 2004 by grading the substation site. Grading is anticipated to occur over approximately a two-month period. Civil construction is expected to occur between summer and fall of 2004. The proposed substation components would be installed by summer 2005. The scheduled operating date for the proposed Viejo Substation would be fall 2005. Approximately two months would be required to energize and test substation components once construction has been completed.

B.1.9.3 Proposed Transmission Lines

Following construction of the Viejo Substation, two 66 kV subtransmission lines in the existing 220 kV corridor would be rerouted and connected to the 66 kV switchrack within the Viejo Substation on eight new double-circuit tubular steel poles (TSPs), which elevate the electrical wires. The heights of these TSPs are shown in Table B.1-1. The diameters of the TSPs would range from 4 to 6.5 feet and the footing depths would be unlikely to exceed 25 feet. Figure 6 displays profiles of the existing TSPs and proposed H-frames.

Table B.1-1: Existing and Proposed Structures, Chiquita to Viejo Substations*

Existing Tower Number	Existing Height	Proposed Tower Number	Proposed Height	Change in Height	Land Use Designation**
City of Mission Viejo					
M0-P3	85 feet	HF01	90 feet	5 feet	Recreation
M0-P4	95 feet	HF02	95 feet	0 feet	Recreation
M0-P5	85 feet			Tower removed	Recreation
M0-P6	125 feet	HF03	140 feet	15 feet	Recreation
M0-P7	125 feet	HF04	135 feet	10 feet	Recreation
M0-P8	75 feet	HF05	90 feet	15 feet	Recreation / Residential
M0-P9	85 feet			Tower removed	Recreation
M1-P1	80 feet	HF06	115 feet	35 feet	Recreation
M1-P2	85 feet	HF07	135 feet	50 feet	Recreation
M1-P3	85 feet			Tower removed	Recreation
M1-P4	75 feet			Tower removed	Recreation
M1-P5	70 feet	HF08	135 feet	65 feet	Recreation
M1-P6	65 feet	HF09	140 feet	75 feet	Recreation
M2-P1	80 feet	HF09	140 feet	60 feet	Recreation
M2-P2	75 feet			Tower removed	Residential
M2-P3	65 120 feet	HF10	75 feet	10 feet	Open Space
City of Lake Forest					
M2-P4	75 125 feet			Tower removed	Open Space
M2-P5	100 feet	HF11	125 feet	25 feet	Open Space
M2-P6	90 feet	HF12	85 feet	-5 feet	Open Space
		HF13	65 feet	65 feet	Open Space

*See Figure 7 for locations of existing and proposed 66kV towers.

**This refers to the designation of the land within the right-of-way. The right-of-way abuts lands designated Business Park/Industrial, Community Facility, Light Industrial, Recreation / Open Space, and Residential (see Section B.3.9, Land Use).

Figure 6 Existing 66 kV Tubular Steel Poles (TSP) and Proposed H-Frames (see links on Table of Contents)

In order to construct the proposed 66 kV circuit within the transmission corridor, it would be necessary to rebuild the existing double circuit 66 kV subtransmission lines (i.e., the Chiquita-Limestone-O'Neil and Chiquita-Limestone-Moulton lines). Nineteen existing double-circuited TSPs would be removed and replaced with 13 four-circuit tubular steel H-Frame structures, ranging in height from 65 to 140 feet. TSPs at seven existing locations in the transmission corridor would be removed and not replaced. The width of the new H-frame structures would be approximately 42 feet wide, tip to tip at the crossarms, for the suspension poles and approximately 36 feet wide for the dead end poles. The legs of the H-frame structures would be approximately 22 feet apart, from pole centerline to pole centerline, for all H-frame structures. Eleven (11) H-frame structures would be constructed next to the existing 220 kV LSTs along the corridor between the substations. Only the H-frame structures required to route the 66 kV line into each of the Viejo and Chiquita Substations would not be located next to an existing 220 kV LST. Figure 7, Proposed Transmission/Subtransmission Line Configuration and H-Frame Locations, displays the proposed transmission line components.

Site Access

To reach the tower sites, SCE proposes to grade existing roadways (one continuous access road with numerous stub roads) within the 220 kV corridor as well as the El Toro Road (S18) entrance to the corridor. These roadway improvements would accommodate multi-ton construction equipment (see Table B.1-2 for equipment list). All roadway improvements would be made in accordance with SCE specifications contained in the Construction Standards for Right-of-way Access, Maintenance, and Removal, and any applicable CalTrans requirements. During the Encroachment Permit application process (see Section B.1.11, Other Public Agencies Whose Approval is Required), CalTrans would review and approve SCE roadway improvement plans.

Grading and Excavation

Excavations would be required for LST and TSP bases, crane pads, material lay-down and assembly areas, and stub roads. The nature and extent of excavations would depend on the specific construction techniques employed. SCE would place concrete, erect steel, and install conductors following standard construction practice, as outlined in Institute of Electrical and Electronics Engineers (IEEE) Standard 524-1992 *IEEE Guide to the Installation of Overhead Transmission Line Conductors*, IEEE Standard 951-1996 *IEEE Guide to the Assembly and Erection of Metal Transmission Structures*, CPUC General Order 95, and SCE Standard Specification E-4900 *Pole and Tower Footings 55 kV through 500 kV*. If contractors were used for completing any or all of the project tasks, SCE would prepare construction specifications incorporating the above construction standards in addition to addressing the specific scope and items of work to be completed. The contractor would be responsible for determining the specific construction methods to be used to complete the assigned tasks in accordance with the appropriate specifications and construction standards. In general, two separate crane pads would be required for each LST site. Although much of the work within the 220 kV corridor is anticipated to be staged from an existing access road, site grading would be required to provide access and work areas for multi-axle heavy equipment utilized for footing construction, tower and pole erection, tower demolition, and conductor stringing operations. Machinery such as bulldozers and backhoes would be used as needed to clear lay down areas. Construction staging would occur within the existing corridor to the extent feasible. If disturbed areas are not available, native vegetation and soil would be removed and/or disturbed in order to allow enough working area for the safe structure erection and conductor stringing.

One crane pad would also be required for each of two clusters of three TSPs needed for construction of the 220 kV transmission line bypass reconfiguration of the San Onofre-Serrano 220 kV circuit. Crane pads would be placed adjacent to one another; one north of the southern cluster of three single phase

Figure 7, Proposed Transmission/Subtransmission Line Configuration and H-Frame Locations

tubular steel poles and one south of the northern cluster of three single phase tubular steel poles. They would be located immediately west of the existing 220 kV transmission right-of-way near existing lattice steel towers M22-T4 and M23-T1. The clusters are the approximately 85-foot tubular steel poles needed for the SONGS-Serrano 220 kV reroute in between and west of existing LST M22-T4 and M23-T1. These are single phase TSPs. Additionally, one crane pad would be required for each of the four remaining TSPs needed for construction of the 220 kV transmission line bypass reconfiguration of the San Onofre-Serrano 220 kV circuit, for a total of twelve cranes sites. Crane pads would be placed adjacent to each of the four tubular steel poles to be used for the Chino-San Onofre 220 kV line reroute into the new substation. The new three-phase tubular steel poles would be located immediately west of the existing 220 kV transmission right-of-way, near existing lattice steel towers M22-T4 and M23-T1. Specifically, two of the tubular steel poles would be near the existing 220 kV right-of-way on top of the bluff, and two would be located further west, near the proposed 220 kV rack at the proposed Viejo Substation. The construction of these TSP would require separate cranes and crane pads. The center of each crane pad would be located no further than 50 feet from the center of the LST or TSP base, either ahead on line, back on line, or laterally. The area around each LST would be cleared to allow access for foundation construction. The approximate area impacted for each LST would be a minimum of 50 feet by 50 feet. Where possible, excavations for crane pads and assembly areas would be confined to previously disturbed areas within the existing corridor. SCE would work from disturbed areas to the extent feasible. If disturbed areas are not available, native vegetation and soil would be removed and/or disturbed in order to allow enough working area for the safe structure erection and conductor stringing. Not all existing access routes have maintained areas sufficient for the new construction. Once built, the transmission line rights-of-way are maintained principally for maintenance and inspection activities only.

Transmission Line Construction

SCE intends to use conventional construction methods to make the 220 kV transmission line modifications. First, any necessary access roads, assembly areas, and lay-down areas for equipment and material would be prepared. Next, footings would be installed, towers would be erected, and conductor would be strung. For the 220 kV transmission line modifications, 16-foot wide stub roads would be used for each of the 12 crane pads as necessary. The following stub-road locations and assembly areas would be required for the 220 kV structures:

- M23-T2: No new stub road required and assembly area would be located adjacent to the new and existing LST location,
- M23-T1: A short stub road would be required for the assembly area and the two crane pads, one located in-line and the other adjacent to the general area around the existing and proposed 220 kV LST location,
- M22-T4: A 200-foot stub would be required to access the two crane pads and assembly area,
- Chino-San Onofre 220 kV line into the substation: Two forty foot long stub roads would be required for accessing two of the four TSP assembly and crane pad areas for the Chino-San Onofre 220 line,
- Serrano-San Onofre 220 kV TSP: Each group of three TSP would require a stub road approximately 50 feet in length to access the assembly and crane pad area.
- The major laydown area for the 220 kV transmission reroute would be located at a nearby sand and gravel quarry on the west side of Portola at Rocky Road.

Access roads would be maintained to allow multi-axle heavy equipment to move between construction sites. These roads currently exist and are used by SCE to maintain existing structures.

For the LST and TSP erection process, semi-type haul trucks would deliver project materials to the crane pad and assembly areas. Cranes and boom trucks positioned along existing and necessary new stub roads or within excavated crane areas would aid in moving and assembling materials. For the 220 kV transmission line modifications, SCE estimates that four cranes would be required, including two with

capacities of 40 tons, and two with 190-ton capacities. SCE also estimates that four boom trucks with 145-foot vertical extension boom reach and buckets would be required. Ground crews would erect TSPs on all ten completed footings. Ground crews would partially erect LSTs to a safe height below the energized conductor along the 220 kV corridor at each of the three LST erection sites. Ground crews would also complete assembly of the top sections of the LSTs within the crane pad and assembly areas in preparation for final installation.

Following completion of the TSP installations, conductor-stringing operations would begin for the TSP-to-TSP spans of the San Onofre-Serrano 220 kV circuit bypass reconfiguration and the TSP-to-TSP and TSP-to-substation rack portions of the San Onofre-Chino 220 kV circuit. Tensioner trucks, puller trucks, and wire reel stand rigs would be positioned along new and existing stub and 220 kV corridor roads directly adjacent to the new TSPs, under the intended conductor path, or ahead and back on line as required to install the new conductor. In coordination with scheduled 220 kV transmission line electrical outages, a crane would hoist the assembled upper LST sections on top of the erected lower LST sections for final assembly.

Construction of the proposed project would require minor modifications to the existing 220 kV transmission lines located in the 220 kV corridor. These modifications, designed to loop the 220 kV line through the new substation, include:

- Three new LSTs approximately between towers HF11 and HF13
- Ten new TSPs (see Figure 6 for tower and pole profiles).

SCE proposes to initiate construction in spring 2004, with projects to be complete by fall 2005. Specifically, upon completion of engineering and design, SCE would order the necessary construction materials. Upon arrival of construction materials, which is anticipated to be in summer 2004, construction would commence, ending in fall of 2005.

B.1.9.4 Telecommunication Improvements

During construction of the Viejo System Project, SCE proposes to install two fiber optic cables to provide a ground return path for lightening protection and to provide SCE with a means of communication for voice, data, and relay protection. One Optical Ground Wire (OPGW) would be installed between the proposed Viejo Substation and the existing Chiquita Substation on the proposed 66 kV subtransmission H-Frame structures. Approximately 4.4 miles of fiber optic cable would be installed between the proposed Viejo Substation and the Irvine Operation Center (IOC) in existing underground vaults and conduits from SCE's IOC to Portola Parkway and new underground vaults and conduits from Portola Parkway to the proposed Viejo Substation site (approximately three-quarters of a mile) (see Figure 8, Proposed Telecommunications Line Route). All new telecommunication structures and conduit would be installed either in a franchise position within the public street or within SCE property. The existing Serrano-SONGS skywrap cable would become the new Serrano-Viejo cable and the new SONGS-Viejo cable.

Work in the northern portion (defined as the area located at the southwest corner of Definition and Glenn Ranch Road where tower M23-T4 is located) would include two sections of conduit installation for the Serrano-Viejo cable, including:

- Trenching and installation of one 3-inch conduit, approximately 167 feet long, from existing tower M23-T4 to existing Vault # 5454735, located at the southwest corner of Definition and Glenn Ranch Road, and
- Trenching and installation of one 5-inch conduit, approximately 185 feet long, from existing Vault #5468268 at the northwest corner of Definition and Icon to the driveway of the proposed Viejo Substation.

Figure 8, Proposed Telecommunications Line Route (See links on Table of Contents)

Work in the southern portion (defined as the area from LST M22-T4 to the southern property line of the proposed Viejo Substation) needed for installation of the SONGS-Viejo cable would include:

- Trenching and installation of one 5-inch conduit for approximately 700 feet from LST M22-T4 along an existing access road to the proposed Viejo Substation, and
- Installation of one 4-foot by 6-foot by 7-foot underground structure.

The new underground conduits would occur within the existing light industrial complex. The existing underground conduits cross suburban areas with similar land uses as the rest of the proposed project. The addition of this fiber optic cable would allow the Viejo Substation to be monitored and controlled by an existing power management system located at SCE's Ellis Substation in the City of Huntington Beach.

B.1.9.5 Project Construction Personnel

Construction would be performed by SCE construction crews and/or by contractors. Anticipated construction personnel and equipment are summarized in Table B.1-2, Proposed Substation Construction Personnel and Equipment Summary.

Table B.1-2: Proposed Substation Construction Personnel and Equipment Summary

Construction Element	Number of Personnel	Equipment Requirements
Grading Crew	4	1 – 980 Loader (Diesel) 1 – Grader (Diesel) 1 – Compactor (Unleaded)
Survey Crew	2	2 – Survey trucks
Civil	15	1 – Office Trailer (Electric/Propane) 4 – Crew Trucks (Gas/Diesel) 2 – Dump Truck (Diesel) 1 – 5-Ton Truck (Diesel) 1 – Ditch Digger
Electrical	15	1 – Office Trailer (same trailer as Civil) 1 – 5-Ton Truck (Diesel) 2 – Crew Cab Trucks (Gas/Diesel) 4 – Carryall Vehicles (Gas/Diesel) 2 – 150 ton Cranes (Diesel)
Transformer Installation Crew	5	2 – Carryall Vehicles (Gas/Diesel) 2 – Crew Trucks (Gas/Diesel) 1 – Crane (Diesel)
Test Crew	2	1 – Test Truck

Source: SCE, 2003a.

B.1.9.6 Applicant-Proposed Measures

SCE prepared a Proponent's Environmental Assessment (PEA) for the proposed project and several alternative projects. The PEA and subsequent data responses include measures intended to ensure that development of the project would occur with minimal environmental impacts and would be consistent with applicable rules and regulations. SCE committed to implement these measures during the design, construction, and operation of the proposed project in order to avoid or minimize potential environmental impacts.

Because the proposed project is subject to these Applicant-Proposed Measures (APM), these measures are considered part of the proposed project description, and have been considered part of the project in the evaluation of environmental impacts (see Section B.3, Environmental Analysis and Mitigation). Project approval is contingent upon SCE adherence to all aspects of the proposed project as described in this document, including project description, APM, and mitigation measures,

Table B.1-3 details APM by environmental issue area. In some cases, the mitigation measures presented in Section B.3 (Environmental Analysis and Mitigation) either expand upon or add detail to the APM presented in Table B.1-3 in order to ensure that potential impacts are reduced to less-than-significant levels.

Table B.1-3: Applicant-Proposed Measures (APM)*

Aesthetics	
APM A-1: Landscaping	<p>Landscaping around the proposed Viejo substation would be designed to filter views from residential areas located to the north and east of the proposed substation site. The following measures shall be implemented:</p> <ul style="list-style-type: none"> • A landscape plan would be prepared by a certified licensed landscape architect and would be consistent with the Orange County Environmental Management Agency Standards, adopted planned community regulations, scenic corridor, and Foothill Ranch Master Planned Community Specific Plan requirements. • Landscape plan would include an eight-foot-high, architect-designed block wall surrounding three sides of the proposed substation with secured barbed wire mounted on the substation side of the wall. The side of the substation site facing the 220 kV corridor would have an eight-foot-high, chain link fence topped with barbed wire. • Landscaping would be consistent with the Industrial Site Development of Foothill Ranch Planned Community Development Plan and Supplemental Text.
Biological Resources	
APM B-1: Take of Identified Species	<p>SCE development activities and uses that are addressed by the Central and Coastal NCCP are considered fully mitigated under the Central and Coastal NCCP Act and the state and federal Endangered Species Acts for impacts to covered habitats and habitat occupied by identified species. Take of Identified Species is authorized on all lands owned or controlled by participating landowners outside of the Reserve System, but within the Central and Coastal Sub-region, as outlined in the Implementation Agreement and NCCP described below:</p> <ul style="list-style-type: none"> • "No amendment to the Central and Coastal NCCP would be necessary for purposes of construction of infrastructure facilities (including utilities) as long as the amended infrastructure plans do not result in Incidental Take beyond that described and permitted by the Central and Coastal NCCP" (NCCP, page II-341), • "The number of acres of coastal sage scrub and covered habitats on lands outside of the reserve system may fluctuate over time." The Central and Coastal NCCP also states that "due to dispersal patterns and periodic fluctuations in Identified Species population locations and numbers, the term 'Incidental Take authorized' includes all coastal sage scrub habitat potentially impacted by participating landowners, regardless of the number of Identified Species occupying the area to be converted at the time habitat conversion actually occurs." In the Central and Coastal NCCP, it states that "if additional gnatcatchers do disperse onto such non-reserve lands owned by participating landowners at the time the Central and Coastal NCCP Implementation Agreement is signed, development on these lands shall be considered fully mitigated for purposes of coastal California gnatcatcher and coastal sage scrub impacts and no additional mitigation shall be required." (NCCP, page II-392).
APM B-2: Conditionally Covered Species	<p>Any impacts to plants that are Identified Species are fully authorized under the Central and Coastal NCCP, while impacts to plants that are Conditionally Covered Species, such as foothill mariposa lily, have mitigation provisions associated with the amount of allowable take. The take of fewer than 20 individuals (foothill mariposa lily) is authorized under the Central and Coastal NCCP. If it is found that the Viejo System Project would impact between 20 to 100 individuals, mitigation shall be implemented consistent with the mitigation measures described in the NCCP (II-254). Mitigation options include:</p> <ul style="list-style-type: none"> • Addressing design modification or other on-site measures that are consistent with the projects purposes, minimizing impacts to foothill mariposa lily habitat, and providing appropriate protection for any adjoining conserved mariposa lily habitat; • Providing an evaluation of salvage, restoration, enhancement and management of other conserved mariposa lily, or other mitigation techniques to determine the most appropriate mitigation technique to offset impacts, and implement mitigation consistent with the foregoing evaluation; and • Provide for monitoring and adaptive management of foothill mariposa lily consistent with Chapter 5 of the NCCP. <p>Any additional mitigation not fully addressed by the NCCP required for foothill mariposa lily shall be developed in coordination with FWS and the California Department of Fish and Game (CDFG).</p>

Table B.1-3: Applicant-Proposed Measures (APM)*

<p>APM B-3: Coastal Sage Scrub, California gnatcatcher, Cactus wren, Orange-throated whiptail, and Covered species identified in Table B.3-5 (SCE, 2003a)</p>	<p>Southern California Edison shall comply with provisions of the Central and Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan (NCCP) requirements for mitigating impacts to these species. Take of species and habitat identified and covered in the NCCP is fully authorized by the NCCP on all lands outside the reserve system but within the Central and Coastal Subregion. Minimization measures for construction-related impacts are outlined below and are required for construction of the proposed project and any alternatives within the NCCP:</p> <ul style="list-style-type: none"> • To the maximum extent practicable, no grading of coastal sage scrub habitat that is occupied by nesting coastal California gnatcatchers would occur during the breeding season (February 15 through July 15). It is expressly understood that this provision and the remaining provisions of these "construction-related minimization measures," are subject to public health and safety considerations. These considerations include unexpected slope stabilization, erosion control measures and emergency facility repairs. In the event of such public health and safety circumstances, landowners or public agencies/utilities shall provide USFWS/CDFG with the maximum practicable notice (or such notice as is specified in the Central and Coastal NCCP) to allow for capture of coastal California gnatcatchers, coastal cactus wrens and any other coastal sage scrub Identified Species that are not otherwise flushed and shall carry out the following measures only to the extent as practicable in the context of the public health and safety considerations. • Prior to the commencement of grading operations or other activities involving significant soil disturbance, all areas of coastal sage scrub habitat to be avoided under the provisions of the Central and Coastal NCCP, are to be identified with temporary fencing or other markers clearly visible to construction personnel. Additionally, prior to the commencement of grading operations or other activities involving disturbance of coastal sage scrub, a survey would be conducted to locate coastal California gnatcatchers, coastal cactus wrens, and southern California Rufous-crowned sparrows within 100 feet of the outer extent of projected soil disturbance activities and the locations clearly marked and identified on the construction/grading plans. • A monitoring biologist acceptable to USFWS/CDFG would be on site during any clearing of coastal sage scrub. SCE shall advise USFWS/CDFG at least seven (7) calendar days (and preferably fourteen (14) calendar days) prior to the clearing of any habitat occupied by Identified Species to allow USFWS/CDFG to work with the monitoring biologist in connection with bird flushing/capture activities. The monitoring biologist shall flush Identified Species (avian or other mobile Identified Species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities. If birds cannot be flushed, they shall be captured in mist nests, if feasible, and relocated to areas of the site to be protected or to the Central and Coastal NCCP Reserve System. It shall be the responsibility of the monitoring biologist to assure that Identified bird species shall not be directly impacted by brush-clearing and earth-moving equipment in a manner that also allows for construction activities on a timely basis. • Following the completion of initial grading/earth movement activities, all areas of coastal sage scrub habitat to be avoided by construction equipment and personnel shall be marked with temporary fencing or other appropriate markers clearly visible to construction personnel. No construction access, parking or storage of equipment or materials shall be permitted within such marked areas. • In areas bordering the Central and Coastal NCCP Reserve System or Special Linkage/Special Management areas containing significant coastal sage scrub identified in the Central and Coastal NCCP for protection, vehicle transportation routes between cut-and-fill locations shall be restricted to a minimum number during construction consistent with project construction requirements. Waste dirt or rubble shall not be deposited on adjacent coastal sage scrub identified in the Central and Coastal NCCP for protection. Preconstruction meetings involving the monitoring biologist, construction supervisors and equipment operators shall be conducted and documented to ensure maximum practicable adherence to these measures. • Coastal sage scrub identified in the Central and Coastal NCCP for protection and located within the likely dust drift radius of construction areas shall be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.
<p>APM B-4: Riparian Habitat/Watersheds</p>	<p>To ensure avoidance of wetland habitat (includes vernal pools, artificial seasonal pools, freshwater marsh, and other natural wetlands, riparian vegetation, and perennial and ephemeral streams) the following measures shall be implemented:</p> <ul style="list-style-type: none"> • Schedule mass grading to occur outside of the rainy season. If mass grading occurs during the rainy season, appropriate best management practices (Refer to SWPPP) should be implemented to maintain existing water flows within the watershed and to prevent sediment being deposited into Aliso Creek, other drainages and watersheds that could be indirectly impacted during construction. • Schedule fueling of construction equipment to only occur at a designated area at a distance greater than 30 meters from drainages and associated plant communities to preclude adverse water quality impacts.
<p>APM B-5: Staging and lay down areas</p>	<p>Locate staging and/or lay down areas in disturbed habitat or developed areas to the extent possible. Staging areas shall be delineated on project maps and reviewed by the project biologist. If staging areas are placed outside of the study area, additional field assessments may be required.</p>

Table B.1-3: Applicant-Proposed Measures (APM)*

APM B-6: Raptor protection	<p>Pre-construction surveys for raptors would be conducted. If nesting raptors are located, work within 500 feet of the nest site would occur outside of the applicable nesting/fledgling period. If this were not possible, SCE would consult with CDFG and USFWS on the relocation of the nest and/or fledglings.</p> <p>SCE has designed the H-frame structures to be raptor safe in accordance with Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996 (Avian Power Line Interaction Committee, 1996).</p>
APM B-7: Revegetation of disturbed coastal sage scrub	All areas of coastal sage scrub to be temporarily impacted shall be reseeded with an appropriate coastal sage scrub seed mix. It is recommended that the seed be collected on site or within the same county since the species shall be environmentally adapted to the site conditions and to ensure genetic similarity with species presently on site.
Cultural Resources	
APM C-1: Archeological and Historical Resources	To ensure the avoidance of archeological resources in the project site, SCE shall conduct archeological monitoring for all LST and TSP related ground-disturbing activities north of El Toro Road.
APM C-2: Paleontological Resources	<p>In order to reduce the adverse impact of project construction on paleontological resources, the following measures shall be implemented:</p> <ul style="list-style-type: none"> • An Orange County Certified Paleontologist shall be retained by SCE to supervise monitoring of construction excavation and to produce a mitigation plan for the proposed project. • Paleontological monitoring shall include inspection of the exposed rock units and microscopic examination of matrix to determine if fossils are present. The monitor shall have authority to temporarily divert grading away from exposed fossils in order to recover the fossils specimens. • If microfossils are present, the monitor shall collect matrix for processing. In order to expedite removal of fossiliferous matrix, the monitor may request heavy machinery assistance to move large quantities of matrix out of the path of construction to designated stockpile areas. Testing of stockpiles shall consist of screen washing small samples (approximately 200 pounds) to determine if significant fossils are present. Productive tests shall result in screen washing of additional matrix from the stockpiles to a maximum of 6000 pound per locality to ensure recovery of a scientifically significant sample. • Quaternary Alluvium, Colluvium and Quarternary Landslide Deposits have a low paleontological sensitivity level, and shall be spot-checked on a periodic basis to insure that older underlying sediments are not being penetrated. All soil removal shall be monitored. • An Orange County Certified Paleontologist shall prepare monthly progress reports to be filed with the client. • Recovered fossils shall be prepared to the point of curation, identified by qualified experts, listed in a database to allow analysis, and deposited in a designated repository such as the Interpretive Center at Ralph Clark Regional Park, and Orange County facility, which shall have the right of first refusal to the collection, or the Natural History Museum of Los Angeles County. • At each fossil locality, field data forms shall record the locality, stratigraphic columns shall be measured and appropriate scientific samples shall be submitted for analysis. • The Orange County Certified Paleontologist shall prepare a final mitigation report to be filed with the client, the lead agency, and the repository.
Geology	
APM G-1: Geology	<p>SCE's standard practices for geo-technical and geologic evaluation of substation and transmission tower/pole sites include the following:</p> <p><i>Geological Studies</i></p> <ul style="list-style-type: none"> • Geologic mapping of the site • Subsurface investigations for soil and rock conditions • Drilling and logging of boring logs • Determination of groundwater conditions • Geophysical surveys for resistivity and corrosivity <p><i>Geo-technical Engineering Studies</i></p> <ul style="list-style-type: none"> • Reviews of pertinent geologic information, boring log information and proposed development plans • Development of a laboratory testing program • Lab testing of samples to determine physical properties of subsurface materials • Testing for hazard waste shall also be performed in accordance with the Hazardous Waste Characterization Guidebook prepared by SCE and any other pertinent city, county, state regulatory agencies requirements, such as California State Regional Water Quality Control Board or Cal EPA • Determination of the necessary design parameters • Preparation of a geo-technical Engineering Report • Foundation excavations, soil handling on or off the site (stock piling, offsite disposal, on site spreading) are all conducted in accordance with site specific geo-technical report recommendations, environmental soil characterization report findings, and Cal OSHA and other applicable City, State regulatory agencies requirements.

Table B.1-3: Applicant-Proposed Measures (APM)*

Hazards and Hazardous Materials	
APM HZ-1: Hazards and Hazardous Materials	SCE shall implement measures from the SWPPP and the Work Area Protection and Traffic Control Manual to minimize project impacts related to Hazards and Hazardous Materials (Appendix 7).
APM HZ-2: Fire Protection	SCE shall minimize operational fire risk by maintaining a brush clearance in accordance with applicable State and Federal laws.
Hydrology and Water Quality	
APM HW-1: Hydrology and Water Quality	SCE shall implement measures from the SWPPP and the Work Area Protection and Traffic Control Manual to minimize project impacts related to Hydrology and Water Quality (Appendix 7).
Noise	
APM N-1: Vehicle noise	SCE shall limit the time smaller trucks and equipment are allowed to idle to no longer than five minutes, unless the piece of equipment is required to support a specific construction activity. All construction personnel shall be briefed on allowable idling times prior to start of construction.
APM N-2: Vehicle noise	The number of construction equipment and vehicles at any single work site shall be kept to the absolute minimum required to perform construction activities.
APM N-3: Vehicle noise	SCE shall maintain proper mufflers on all internal combustion and vehicle engines used in construction.
APM N-4: Traffic noise	Where feasible, construction traffic shall be routed to avoid noise-sensitive areas.
APM N-5: Public Outreach	SCE shall provide a toll-free number for concerned residents to call.
APM N-6: Public Outreach	SCE shall ensure that a public liaison person is available to address the concerns of the public.
APM N-7: Public Notification	Prior to construction, SCE shall notify all businesses and residences within 300 feet of the project, of the status of the project, the proposed construction schedule, and tips on reducing noise intrusion. Notification shall be made by mail with a Fact Sheet.
Public Services and Utilities	
APM P-1: Emergency Vehicle Access	As appropriate, SCE shall implement measures from the Work Area Protection and Traffic Control Manual to maintain adequate emergency vehicle access when crossing existing roadways (Appendix 7).
Recreation	
APM R-1: Revegetation of Recreational Areas	Any park areas temporarily impacted by project construction would be revegetated and returned to their original state. <ul style="list-style-type: none"> • Landscaped areas: SCE shall coordinate with owners of landscaped areas, parks and hillsides, to restore disturbed areas to a condition equal to or better than original. • Natural areas: SCE shall coordinate with the Nature Reserve of Orange County and United States Fish and Wildlife Services (USFWS).
APM R-2: Recreation	SCE shall erect guard structures along the right-of-way as needed.
Transportation and Circulation	
APM T-1: Traffic	Work Area Protection and Traffic Control Manual (Appendix 7)

* APM (Applicant Proposed Measures) are numbered based on the section and sequence in which they appear in the PEA or subsequent data responses.

Source: SCE, 2003a.

B.1.10 EMF Summary

Electric and Magnetic Fields

Recognizing that there is a great deal of public interest and concern regarding potential health effects from exposure to electric and magnetic fields (EMF) from power lines, this document provides information regarding EMF associated with electric utility facilities and the potential effects of the proposed project related to public health and safety. Potential health effects from exposure to electric fields from power lines (effect produced by the existence of an electric charge, such as an electron, ion, or proton, in the volume of space or medium that surrounds it) are typically not of concern since electric fields are effectively shielded by materials such as trees, walls, etc., therefore, the majority of the following information related to EMF focuses primarily on exposure to magnetic fields (invisible fields created by moving charges) from power lines. However, the Initial Study does not consider magnetic fields in the context of CEQA and determination of environmental impact. This is because (a) there is no agreement among scientists that EMF

does create a potential health risk, and (b) there are no defined or adopted CEQA standards for defining health risk from EMF. As a result, EMF information is presented for the benefit of the public and decision makers. Additional information on electric and magnetic fields generated by power lines is presented in Appendix 3.

After several decades of study regarding potential public health risks from exposure to power line EMF, research results remains inconclusive. Several national and international panels have conducted reviews of data from multiple studies and state that there is not sufficient evidence to conclude that EMF causes cancer. Most recently the International Agency for Research on Cancer (IARC) and the California Department of Health Services (DHS) both classified EMF as a *possible* carcinogen.

Presently, there are no applicable regulations related to EMF levels from power lines. However, the California Public Utilities Commission has implemented a decision (D.93-11-013) requiring utilities to incorporate “low-cost” or “no-cost” measures for managing EMF from power lines up to approximately 4% of total project cost. Using the 4% benchmark, SCE has incorporated low-cost and no-cost measures to reduce magnetic field levels along the transmission corridor.

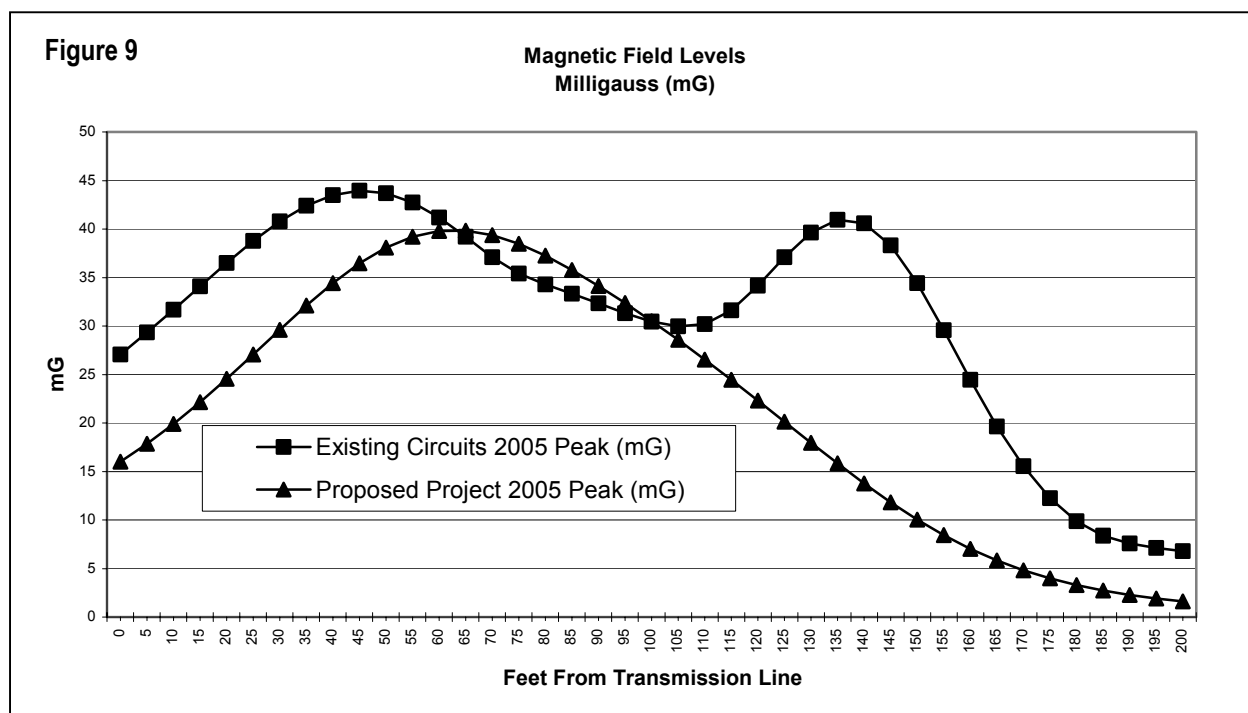
EMF and the Viejo System Project

SCE prepared a Field Management Plan that provides EMF information regarding the proposed Viejo System Project. The Field Management Plan includes a brief introduction to EMF characteristics, scientific research related to possible health effects, and public policy activities. In addition, the Field Management Plan identifies SCE’s guidelines and general methods for managing EMF for new electrical facilities.

SCE’s Field Management Plan for the proposed project provides modeling of the magnetic field levels for both the existing power lines and the proposed lines and substation associated with the project. Low-cost and no-cost magnetic field reduction measures are also identified and evaluated by SCE for use on the Viejo System Project. The field reduction measures incorporated into the design of the proposed project by SCE are:

- Taller 66 kV structures (see Figure 6),
- Reduced circuit-to-circuit ~~phasing~~spacing,
- New 66 kV structures placed further from the edge of the right-of-way than the existing tubular steel poles, and
- Optimal phasing of the circuits.

According to SCE’s Field Management Plan, implementation of the proposed Viejo System Project would result in an overall reduction of the magnetic field at the edge of the right-of-way compared to existing conditions. The CPUC retained an independent engineering company, R.W. Beck, Inc., to review SCE’s Field Management for the proposed Viejo System Project. R.W. Beck reviewed the field modeling and analysis included in the FMP and concurred with SCE’s general conclusion that there would be an overall reduction in magnetic fields in the area of the proposed Viejo System Project (see Figure 9). Because there would be an overall reduction in magnetic field levels with the implementation of the proposed project, there would be no increase in exposure to any potential health hazard that may be associated with EMF.



B.1.11 Other Public Agencies Whose Approval is Required

SCE has filed an application with the California Public Utilities Commission (CPUC) for a Permit to Construct (Application Number 03-03-043) for the proposed Viejo System Project pursuant to Public Utilities Code Section 1001 and General Order 131-D. The CPUC has exclusive authority to approve or deny SCE's application; however, various permits from other agencies may also need to be obtained by SCE for the proposed project. The following required approvals and permits from public agencies have been identified for the proposed project. Additional permits that have not yet been identified may also be required.

- Regional Water Quality Control Board (Santa Ana and San Diego), Section 402 National Pollutant Discharge Elimination System (NPDES) Construction Activity General Permit.** The SWRCB requires a General Construction Activity Storm Water Permit for storm water discharges associated with any construction activity including clearing, grading, excavation reconstruction, and dredge and fill activities that results in the disturbance of at least one acre of total land area. The proposed project includes construction activities that would result in the disturbance of at least one acre of total land.
- Department of Transportation (Caltrans), Encroachment Permit.** The Department of Transportation requires that all proposed activity unless conducted under the auspices of Caltrans or Caltrans contract forces within contract limits involving the placement of encroachment within, under, or over the State highway right-of-way must be covered by an encroachment permit. This requirement applies to persons, corporations, cities, counties, utilities, and other governmental agencies. **When an encroachment permit from Caltrans is required, the applicant will need to submit a copy of the Storm Water Pollution Prevention Plan to the Environmental Planning Branch for review. A Transportation Management Plan may need to be included in the encroachment permit application to detail measures to reduce or eliminate impacts to roadway levels of service and circulation during peak periods.**
- City of Mission Viejo, Encroachment Permit.** The City of Mission Viejo requires an encroachment permit for construction in any public street, alley, sidewalk, parking lot or other public right-of-way. The proposed project would require an encroachment permit for the construction of the 66 kV transmission line.

- **City of Lake Forest, Site Development Permit.** Issuance of a Site Development Permit from the City of Lake Forest may be required for construction of the proposed Viejo Substation. However, because only the CPUC has the discretionary authority to approve or deny the proposed project, this permit may not be required.
- **City of Lake Forest, Transportation Permit.** Issuance of a Transportation Permit from the City of Lake Forest may be required for construction hauling activities. When moving more than 5,000 cubic yards of material over public roads, the Lake Forest Municipal Code (Chapter 8.30, Grading and Excavation) requires confining grading operations to certain hours of the day. The requirements depend on city approval.

B.2 Environmental Determination

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 type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | |

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.



Rob Feraru, Manager
Analysis Branch, Energy Division
California Public Utilities Commission

May 28, 2004

Date

B.3 Environmental Analysis and Mitigation

B.3.1 Aesthetics

AESTHETICS	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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 within a State scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G

B.3.1.1 Setting

Visual Analysis Methodology

Key Terminology

The following paragraphs discuss the key factors for consideration in characterizing the existing landscape, view circumstances, and determination of overall visual change and impact significance.

Visual Quality is a measure of the overall impression or appeal of an area as determined by the particular landscape characteristics such as landforms, rockforms, water features, and vegetation patterns, as well as associated public values. The attributes of variety, vividness, coherence, uniqueness, harmony, and pattern contribute to visual quality classifications of indistinctive (low), common (moderate), and distinctive (high). Visual quality is studied as a point of reference to assess whether a given project would appear compatible with the established features of the setting or would contrast noticeably and unfavorably with them.

Viewer Concern addresses the level of interest or concern of viewers regarding an area's visual resources and is closely associated with viewers' expectations for the area. Viewer concern reflects the importance placed on a given landscape based on the human perceptions of the intrinsic beauty of the existing landforms, rockforms, water features, vegetation patterns, and even cultural features.

Viewer Exposure describes the degree to which viewers are exposed to views of the landscape. View exposure considers landscape visibility (the ability to see the landscape), distance zones (proximity of viewers to the subject landscape), number of viewers, and the duration of view. Landscape visibility can be a function of several interconnected considerations including proximity to viewpoint, degree of discernible detail, seasonal variations (snow, fog, and haze can obscure landscapes), time of day, and presence or absence of screening features such as landforms, vegetation, and/or built structures. Even though a landscape may have highly scenic qualities, it may be remote, receiving relatively few visitors and, thus, have a low degree of viewer exposure. Likewise, a subject landscape or project may be situated in relatively close proximity to a major road or highway utilized by a substantial number of motorists and yet still result in relatively low viewer exposure if the rate of travel speed on the roadway is high and viewing times are brief, or if the landscape is partially screened by vegetation or other features.

Frequently, it is the subject area's proximity to viewers or distance zone that is of particular importance in determining viewer exposure.

Overall Visual Sensitivity is a concluding assessment as to the degree of probability that a given landscape would demonstrate a noticeable visual impact with project implementation. Visual sensitivity is derived from a comparison of existing visual quality, viewer concern, and viewer exposure.

Visual Contrast evaluates a potential project or activity's consistency with the visual elements of form, line, color, and texture already established in the landscape. Other elements that are considered in evaluating visual contrast include the degree of natural screening by vegetation and landforms, placement of structures relative to existing vegetation and landforms, distance from the point of observation, and relative size or scale. Visual contrast is categorized from low to high.

Overall Visual Change summarizes the extent of incremental landscape or viewshed change caused by a project, typically as experienced from key viewpoints. The assessment of overall visual change is based on an analysis of visual contrast, project dominance, and the impairment (or blockage) of views from key viewpoints and is categorized from low to high.

Impact Determination

Assessment of the likely visual impacts that would occur as a result of implementation of the proposed project was accomplished by establishing representative viewpoints from which to conduct a detailed analysis of the project. At each of the Key Viewpoints (KVPs), field analysis included assessment of visual contrast, project dominance, and view impairment. Subsequently, a conclusion was made regarding the overall visual change, which taken together with the existing landscape's overall visual sensitivity, determined the significance of the visual impact.

Visual simulations were also prepared to aid in the assessment of project impacts by illustrating the anticipated long-term appearance of the project in the existing landscape. If a determination was made that the resulting impact would be significant, the impact situation was evaluated against the application of feasible mitigation in an effort to reduce the visual impact to a less-than-significant level, if possible. As outlined in Appendix G of the CEQA Guidelines, the degree of impact significance is a function of landscape visual sensitivity and project-induced visual change. While the interrelationships between sensitivity and change must be considered individually for each project, lower visual sensitivity with lower visual change ratings will generally correlate with lower visual degrees of impact significance when viewed on site. Likewise, higher visual sensitivity ratings paired with higher visual change ratings will tend to result in higher degrees of visual impact.

Implicit in this rating methodology is the acknowledgement that, for a visual impact to be considered significant, two conditions generally exist:

- The existing landscape is of reasonably high quality and is highly valued by the public; and
- The perceived incompatibility of one or more proposed project elements or characteristics tends toward the high extreme, leading to a substantial reduction in visual quality.

The Viejo System Project

The proposed project is located in a suburban landscape dominated by residential, park, utility, and transportation features. While the proposed Viejo Substation site is located on a flat, graded, vacant parcel in the vicinity of existing office and technology parks and undeveloped lands characterized by scrub vegetation, the majority of the proposed transmission line would be located in an existing transmission line corridor that passes through residential neighborhoods and adjacent to several parks and recreation facilities. Views of the proposed Viejo Substation site, though somewhat limited, are available from the nearby Edison Trail, more distant residential developments to the south and southeast (California Court

and along Painted Trails respectively), and nearby roads (State Route [SR] 241 Transportation Corridor and El Toro Road).

The primary visual features of the proposed project are the Viejo Substation and the proposed H-frame structures associated with the 66 kV transmission lines. Both of these components affect views from various vantage points. However, the replacement of the existing tubular steel poles (TSPs) with the proposed H-frame structures is visible to a larger number of potential viewers due to length of transmission corridor and, therefore, represents the greatest visual change associated with the proposed project.

The proposed H-frames would generally be larger in size than the existing TSPs, but would be fewer in number. As shown in Figure 7, seven existing TSPs would be removed by the proposed project and not replaced. Except for ~~one~~**two** new H-frame structures (**one** adjacent to the proposed Viejo Substation **and one adjacent to the existing Chiquita Substation**), the proposed H-frames would be located adjacent to the existing lattice steel towers (LSTs). The existing TSPs at the intervening locations between the LSTs would be removed. Therefore, the discussion of visual impacts must balance the permanent removal of seven TSPs against the larger size of the proposed H-frames.

While some of the proposed H-frame structures are similar in height to the TSPs they would replace, most would be taller than the existing TSPs (only one H-frame would be shorter). On average, the new H-frame structures would be 25 feet taller than the existing TSPs. Only four of the proposed H-frame structures would be more than 25 feet taller than the TSPs they would replace; these would be located along the middle portion of the transmission corridor between Melinda Road and Los Alisos Boulevard. This same area is where the greatest number of TSPs would be removed and not replaced (TSPs M0-P9, M1-P3, M1-P4, and M2-P2). Except in one instance (HF-09), the proposed H-frames would be shorter than the adjacent LSTs.

Another consideration in the impact analysis is the incremental nature of the visual change from TSPs to H-frames. The proposed H-frame structures would replace existing structures rather than introduce an additional set of structures into the transmission corridor. Therefore, the change that must be considered is the incremental visual change from the existing TSPs to the larger H-frames. The existing 220 kV LSTs in the transmission corridor would not change.

Five Key Viewpoints (KVPs) were established from which to evaluate existing visual conditions in greater detail. KVPs are generally selected to be representative of the most critical locations from which the project would be seen. Typical KVP locations for the present project include:

- Residential areas;
- Significant recreation areas; and
- Roads.

These KVPs were chosen because they represent locations where there would be either a high number of viewers or where views are considered particularly sensitive. Figure 10, Location of Key Viewpoints, shows the location of each of the five KVPs selected for detailed analysis. At each KVP, the existing landscape was photographed and a visual simulation of the proposed project was prepared (Figures 10 through 20, existing landscape and simulations, appear at the end of Section B.3.1). The following paragraphs present a discussion of the aesthetics setting for each KVP.

Key Viewpoint 1 – Florence Joyner Olympiad Park

Key Viewpoint 1 (KVP 1) was established near the entrance to Florence Joyner Olympiad Park (see Figure 11). Viewing to the northeast toward the proposed route, this location was selected to generally characterize the existing landscape along those portions of the route that pass over or adjacent to the several developed parks and recreation facilities along the proposed route. Views from the park

encompass a predominantly suburban setting with newer residential developments overlooking well-maintained park and recreation facilities. The park setting has manicured landscaping while some surrounding vegetation and landscaping has an appearance more typical of native vegetation. The most prominent built features in the landscape are the existing electric transmission lines that pass along the edge of the park. The proposed project would be visible from both the park and the adjacent residential developments.

The existing visual quality is moderate, reflecting the influence of the substantial utility infrastructure. Viewer concern is rated high for the park users. Although repeat park visitors anticipate the presence of the existing transmission lines, any increase in industrial character visible from the park would be seen as an adverse visual change. Viewer exposure is high because the proposed project would be highly visible in the foreground of views from KVP 1. While the number of potential viewers is moderate, the duration of view is extended given the static [stationary] nature of the viewing experience. Overall visual sensitivity of the visual setting and viewing characteristics is moderate-to-high given the moderate visual quality and high viewer concern and exposure.

Key Viewpoint 2 – Melinda Road Crossing

Key Viewpoint 2 (KVP 2) was established on eastbound Melinda Road, just east of Olympiad Road (see Figure 13). Viewing to the northeast toward the proposed tower locations HF-06 and HF-07, this location was selected to generally characterize the existing landscape along those portions of the route that pass over local roads. Views from Melinda Road encompass a predominantly suburban setting with newer residential developments and well-maintained roadside landscaping. The existing electric transmission facilities are prominent built features in the landscape along with the curvilinear form of Melinda Road. The proposed structures at tower locations HF-06 and HF-07 would be located within the primary cone of vision of eastbound travelers on Melinda Road. Westbound views would be partially screened by the adjacent landscaping along Melinda Road.

The existing visual quality is moderate, again reflecting the substantial influence of the utility infrastructure and Melinda Road. Viewer concern is rated moderate-to-high for travelers on Melinda Road. Although viewers anticipate the presence of the existing transmission lines, any increase in industrial character visible from Melinda Road would be seen as an adverse visual change. The proposed towers would be highly visible in the foreground of views from KVP 2 as the route converges on and then spans Melinda Road. The number of potential viewers is moderate. The duration of view is also moderate with the transient nature of the view (for motorists) somewhat offsetting the direct in-line view of Towers HF-06 and HF-07. The resulting viewer exposure is moderate-to-high. Overall visual sensitivity of the visual setting and viewing characteristics is moderate-to-high given the moderate visual quality and moderate-to-high viewer concern and exposure.

Key Viewpoint 3 – Ponderosa

Key Viewpoint 3 (KVP 3) was established on Ponderosa, just west of the existing transmission line corridor (see Figure 15). Viewing to the northeast toward the proposed route, this location was selected to generally characterize the existing residential landscape along this portion of the proposed route. Residential views encompass a suburban setting with well-maintained homes, streets, and landscaping. The existing electric transmission facilities and residential structures are the most prominent built features in the residential landscape along this portion of the proposed route.

From Key Viewpoint 3, the existing visual quality is moderate, reflecting the influence of the utility infrastructure. Viewer concern is rated high for the adjacent residents. Although residents anticipate the presence of the existing transmission lines, any increase in industrial character visible from residential properties or the neighborhood would be seen as an adverse visual change. Viewer exposure is moderate-to-high because the proposed project would be highly visible in the foreground of views from KVP 3, the

number of potential viewers would be low-to-moderate, and the duration of view would be extended given the static nature of the residential viewing experience. Overall visual sensitivity of the visual setting and viewing characteristics is moderate-to-high given the moderate visual quality, high viewer concern, and moderate-to-high viewer exposure.

Key Viewpoint 4 – Painted Trails

Key Viewpoint 4 (KVP 4) was established in the residential subdivision along Painted Trails, southeast of the proposed Viejo Substation site (see Figure 17). Viewing to the northwest, this location was selected to generally characterize available views of the proposed route north of SR 241. The view from KVP 4 encompasses a predominantly urban fringe landscape that is dominated by transportation and utility infrastructure. While these built features are prominent in views from KVP 4, the undeveloped lands to the north are also significant elements of the landscape.

From Key Viewpoint 4, the existing visual quality is low-to-moderate, reflecting the dominance of the transportation and utility infrastructure with its industrial character. Viewer concern is rated high for the residential views represented by KVP 4. Although residents anticipate the substantial presence of the existing transportation and utility infrastructure, any increase in industrial character visible from the residences would be seen as an adverse visual change. Viewer exposure is moderate for KVP 4. The proposed project would be highly visible in the foreground of views from KVP 4 and the duration of viewing would be extended given the static nature of the residential viewing experience. However, the number of potential viewers would be low with available views being limited to those residences generally along the western and northwestern edge of the residential development. Overall visual sensitivity of the visual setting and viewing characteristics is moderate given the low-to-moderate visual quality, high viewer concern, and moderate viewer exposure.

Key Viewpoint 5 – Sweet Meadow

Key Viewpoint 5 (KVP 5) was established at a residence on Sweet Meadow just southeast of proposed Tower HF-03 (see Figure 19). Viewing to the northwest toward the proposed route, this location was selected to generally characterize the existing landscape along those portions of the route that pass near residential areas with elevated viewing perspectives, particularly along the southern portion of the route encompassing views of Lake Mission Viejo. Views from these residential areas encompass a predominantly suburban setting with newer residential developments overlooking Lake Mission Viejo. The relationship of residentially terraced hillsides overlooking the lake creates a scenic Mediterranean landscape character. The most prominent built features in the landscape are the existing electric transmission lines that pass near the residences. The proposed project would be visible from a variety of viewing perspectives because residences terrace up the surrounding hills.

The existing visual quality is moderate, reflecting the influence of the substantial utility infrastructure. Viewer concern is rated high for the residents. Although residents anticipate the presence of the existing transmission lines, any increase in visible industrial character, structural dominance, or blockage of lake and hillside views would be an adverse visual change. Viewer exposure is high because the proposed project would be highly visible in the foreground of views from the relatively large number of residences represented by KVP 5. The number of potential viewers is moderate-to-high and the duration of view is extended given the static nature of the viewing experience. Overall visual sensitivity of the visual setting and viewing characteristics is moderate-to-high given the moderate visual quality and high viewer concern and exposure.

Key Viewpoint 6 – Canyon Crest

Key Viewpoint 6 (KVP 6) is located in the southwestern portion of the Canyon Crest neighborhood on Springfield (see Figure 21). This location generally characterizes the view from residential neighborhoods immediately east of the transmission corridor and north of Alicia Parkway. Views from this location

encompass a suburban residential setting consisting two-story houses, yards, streets, and sidewalks. The most prominent built features visible from this location are the houses and front yards along the street and the existing electric transmission lines in the background.

The existing visual quality is moderate, reflecting the influence of the utility infrastructure in the background. Viewer concern is rated high for the adjacent residents. Viewer exposure is moderate-to-high because the proposed project would be highly visible from this location, the number of potential viewers would be low-to-moderate, and the duration of view would be extended given the static nature of the residential viewing experience. Overall visual sensitivity of the visual setting and viewing characteristics is moderate-to-high given the moderate visual quality, high viewer concern, and moderate-to-high viewer exposure.

Key Viewpoints 7 & 8 – Canyon Crest

Key Viewpoints 7 and 8 (KVP 7 and KVP 8) are located in the western portion of the Canyon Crest neighborhood on Wayside, which parallels the east side of the transmission corridor (see Figures 23 and 25). This location generally characterizes the view from residential neighborhoods immediately east of the transmission corridor near Melinda Road. The view from KVP 7 is from a residential driveway on the east side of Wayside looking straight across to the houses on the opposite of the street. The view from KVP 8 looks up the street to the north and shows the houses aligned along the west side of the street. Views from both locations encompass a suburban residential setting consisting two-story houses, yards, street, and sidewalks. The most prominent built features visible from this location are the houses and front yards along the street and the existing electric transmission lines in the background behind the homes on the west side of Wayside.

The existing visual quality is moderate, reflecting the influence of the utility infrastructure in the background. Viewer concern is rated high for the adjacent residents. Viewer exposure is moderate-to-high because the proposed project would be highly visible from these locations, the number of potential viewers would be low-to-moderate, and the duration of view would be extended given the static nature of the residential viewing experience. Overall visual sensitivity of the visual setting and viewing characteristics is moderate-to-high given the moderate visual quality, high viewer concern, and moderate-to-high viewer exposure.

Key Viewpoint 9 – Palmia

Key Viewpoint 9 (KVP 9) is located in the Palmia neighborhood between Santa Margarita Parkway and Los Alisos Boulevard (see Figure 27). This location generally characterizes the view from the interior of residential neighborhoods east of the transmission corridor. Views from this location encompass a suburban residential setting consisting single-story houses, yards, streets, and sidewalks. The most prominent built features visible from this location are the houses and yards along the street, the existing electric transmission lines in the background, and intervening vegetation between the residential area and the transmission corridor.

The existing visual quality is moderate, reflecting the influence of the utility infrastructure in the background. Viewer concern is rated high for the adjacent residents. Viewer exposure is moderate-to-high because the proposed project would be highly visible from this location, the number of potential viewers would be low-to-moderate, and the duration of view would be extended given the static nature of the residential viewing experience. Overall visual sensitivity of the visual setting and viewing characteristics is moderate-to-high given the moderate visual quality, high viewer concern, and moderate-to-high viewer exposure.

Key Viewpoint 10 – El Toro Road

Key Viewpoint 10 (KVP 10) is located on the south side of El Toro Road just west of Marguerite Parkway (see Figure 29). Viewing to the north, this location characterizes views toward the proposed Viejo Substation site from areas south of Aliso Creek and SR 241. The view from KVP 10 consists of El Toro Road in the foreground, portions of the Saddleback Church complex in the middle ground, and the hills north of Aliso Creek in the background. Man-made features dominate the foreground and middle ground views, whereas the background contains glimpses of natural hillside areas. While built features are prominent in views from KVP 10, the sparsely developed lands to the north are also significant elements of the landscape.

The existing visual quality at KVP 10 is moderate, reflecting the combination of roadway infrastructure, landscaping, buildings, and more distant hillside views. Viewer concern is rated moderate for the views from El Toro Road and adjacent properties. Viewer exposure is low to moderate for KVP 10. The proposed project would be visible in the background of views from this location, but the duration of viewing varies from being very brief for passing motorists to being static for nearby developed properties. The number of static viewers would be moderate considering that there are residential properties along the south side of El Toro Road with views to the hills to the north. There are a large number of potential viewers in vehicles traveling along El Toro Road and other major roadways in the immediate vicinity, but these views are brief and intermittent. The overall visual sensitivity of the visual setting and viewing characteristics is low-to-moderate given the moderate visual quality, moderate viewer concern, and low-to-moderate viewer exposure.

Other Viewing Areas

Edison Trail. The Edison Trail parallels the eastern border of the project site immediately east of the proposed Viejo Substation site. This portion of the trail is above the elevational grade of the substation site and passes through undeveloped lands dominated by low-growing vegetation. Views from the trail are generally open and unobstructed. Prominent built features visible from the trail include the existing transmission lines. The geometric forms of business and industrial park buildings are also visible further to the west and north. The proposed substation site is visible in the foreground as undeveloped level terrain lacking any structural features.

State Route 241 Transportation Corridor. SR 241 passes adjacent and to the south of the proposed Viejo Substation site in a northwest to southeast orientation. Although SR-241 is below the elevational grade of the substation site, the site is visible on an undeveloped and slightly elevated plateau just north of the highway. The site would be within the primary cone of vision of southbound/eastbound travelers.

Applicable Regulations, Plans, and Standards

Public agencies and planning policy establish visual resource management objectives in order to protect and enhance public scenic resources. Goals, objectives, policies, and implementation strategies and guidance are typically contained in resource management plans, comprehensive plans and elements, and local specific plans. There are two jurisdictional planning documents containing three policies and/or standards pertinent to aesthetics for the proposed project. The planning documents include the City of Mission Viejo General Plan, which is applicable to that portion of the proposed project south of the SR 241 Transportation Corridor and the Foothill Ranch Planned Community Development Plan (within the City of Lake Forest), which is applicable to that portion of the proposed project north of the SR 241 Transportation Corridor. These planning directives and the proposed project's consistency with them are addressed in Table B.3-1.

Table B.3-1: Regulations, Plans, and Standards Consistency - Aesthetics

City of Mission Viejo General Plan		
Goal or Policy	Consistency	Basis for Consistency
Policy 3.3: Ensure that infill development is compatible with community open space areas and existing community character.	Yes	The proposed project would be located within an existing electric transmission corridor occupied by two electric transmission lines. The visual character of the proposed structures, while different in design, would exhibit fundamentally similar industrial characteristics compared to the existing transmission structures. Therefore, the proposed project is considered consistent with the visual character established by the existing transmission line facilities and it is considered consistent with this policy.
Policy 3.7: Views from streets and highways that adjoin recreational and open space areas of significant scenic value (such as a golf course or lake) should be preserved. Any landscaping structure, or screen shall be designed to preserve and enhance the scenic character of the area.	Yes	The proposed project would be fundamentally similar in visual character to the existing transmission lines in the utility corridor, although, in certain cases, they would be more prominent than the existing structures. The new structures would be visible from some recreational areas and adjoining streets the visual change would be generally adverse. At the seven locations where existing structures would be removed and not replaced, views would be enhanced. Overall, the proposed project would not substantially change the existing scenic character of the affected areas, and would be consistent with this policy.
Foothill Ranch Planned Community Development Plan		
Industrial Site Development and Performance Standards: No. 7 – Lighting: All lighting, interior and exterior, shall be designed and located to minimize power consumption and to confine direct rays to the premises.	Yes (with implementation of Mitigation Measure A-2)	The proposed Viejo Substation would have both security and operational lighting. The security lights would be low intensity lights controlled by photo sensors, which would generally be in operation from dusk until dawn. Operational lighting would consist of high-pressure sodium lights in the switchracks, around the transformer banks, and in areas of the yard where activity may have to take place during the night time hours. Lights would normally be off and controlled by a manual switch. With implementation of Mitigation Measure A-2, the proposed project would be consistent with this standard.

B.3.1.2 Environmental Impacts and Mitigation Measures

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

NO IMPACT. Scenic vistas are usually considered those that offer high-quality views of the natural environment. There are no designated scenic vistas in the immediate vicinity of the proposed project or in sufficiently close proximity such that views from those vistas would be adversely affected by the proposed project. Therefore, the proposed project would not cause an adverse aesthetic impact under this criterion.

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. There are no designated State scenic highways in the vicinity of the proposed project or in sufficiently close proximity such that views from those designated highways would be adversely affected by the proposed project. Therefore, the proposed project would not cause an adverse aesthetic impact under this criterion.

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

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. The proposed project would replace a double-circuited 66 kV transmission line on 19 TSPs with 13 H-frame structures carrying three 66 kV circuits. The new structures would be fewer in number, but generally larger and more visually prominent than the existing TSPs. Each H-frame structure would consist of two tubular steel legs and three cross members carrying the 66 kV circuits, compared to the existing TSPs that each consist of a single tubular steel pole with three arms on each side (see Figure 6). The transmission corridor, containing both the 220

kV and 66 kV structures, is readily visible from residential neighborhoods, recreation areas, and roadways in the general vicinity.

Except for ~~one~~ two new H-frame structures (one adjacent to the proposed Viejo Substation and one adjacent to the existing Chiquita Substation), the proposed H-frames would only be located adjacent to the existing LSTs. The existing TSPs at intervening locations, where LSTs do not exist, would be permanently removed. Most of the proposed H-frame structures would be taller than the existing TSPs they would replace, and all but one of the new H-frames would be shorter than the adjacent existing LSTs. Only four of the proposed H-frame structures would be more than 25 feet taller than the TSPs they would replace, and these would be located in the area between Melinda Road and Los Alisos Boulevard. This is the same area where the greatest number of TSPs would be permanently removed (M0-P9, M1-P3, M1-P4, and M2-P2).

The extent to which these levels of visual change would result in substantial degradation of the existing visual character or quality of the site and its surroundings was evaluated from several viewing areas represented by KVPs. Each of the selected KVPs would experience some degradation of the existing visual character, but this would not constitute a significant impact using the methodology outlined in CEQA Guidelines Appendix G and discussed above (Section B.3.1.1). The following paragraphs provide the aesthetics analysis for each of these viewpoints.

Key Viewpoint 1 – Florence Joyner Olympiad Park. Figure 12 presents a visual simulation of the proposed project from KVP 1 near the entrance to Florence Joyner Olympiad Park, just south of the proposed Tower HF-03 location. The view is to the northeast toward proposed tower locations HF-03, HF-04, and HF-05 (north to south) (see Figure 7 for precise tower locations). The simulation depicts the replacement of the existing, single-pole 66 kV structures with the proposed double-pole H-frame structures. As shown in the simulation, compared to the existing single-pole 66 kV structure, the taller and more structurally complex H-frame design with horizontal cross-members results in increased visual contrast and structural prominence. The strong, parallel, vertical and horizontal lines of the H-frame design would moderately contrast with the complex, diagonal lines of the existing 220 kV lattice structures. The increased height and structural components of the H-frame design, including the additional conductors, would slightly increase view blockage of the background sky from this viewpoint, but no other significant views would be blocked at this KVP. The increased structural height would also result in somewhat increased structural skylining (extending above the horizon line). The increased height, structural mass, and skylining in combination, would result in greater structural prominence compared to current conditions. Near this location, an existing TSP (M0-P5) would be removed and not replaced, resulting in an enhancement of some views and some improvement in the visual character of the immediate viewing area. The permanent removal of the TSP, which is not shown in the simulation, would help offset the view blockage and skylining effects at this KVP. The visual character of the proposed structures, while different in design, would exhibit fundamentally similar industrial characteristics compared to the existing transmission structures. The overall visual change at KVP 1 would be moderate, and the resulting aesthetic impact would be adverse, but less than significant. For a discussion of the visual change from residences adjacent to this location, please see the discussion of Key Viewpoint 5.

Key Viewpoint 2 – Melinda Road Crossing. Figure 14 presents a visual simulation of the proposed project from KVP 2 on eastbound Melinda Road, just west of the transmission line span over Melinda Road. The view is to the northeast toward proposed tower locations HF-06 (closest) and HF-07. The simulation depicts the replacement of the existing, single-pole 66 kV structures with the double-pole H-frame structures. As shown in the simulation, compared to the existing 66 kV single-pole structure, the increased height and more structurally complex H-frame design with horizontal cross-members causes increased visual contrast and structural prominence. The parallel vertical and horizontal lines of the H-frame design would cause a low-to-moderate degree of visual contrast with the forms and lines of the other visible landscape features (built and natural). The increased height and additional vertical and

horizontal components (structures and conductors) would also increase the extent of view blockage of the background sky (a higher quality landscape feature). Although, the project would briefly be within the primary cone of vision of eastbound travelers, the resulting view blockage would be moderate because the focus of most viewers' attention would be along the road corridor and less so with visible features above the tree-line. Also, the low-to-moderate view duration would limit the amount of time that the view blockage would be central to the view. The increased structural height and mass and skylining would cause a co-dominant degree of structural prominence. While the overall visual change would be moderate, it would be at the low end of the range for moderate change. The visual character of the proposed structures, while different in design, would exhibit fundamentally similar industrial characteristics compared to the existing transmission structures. In the context of the existing landscape's moderate-to-high visual sensitivity, the resulting aesthetic impact would be less than significant.

Key Viewpoint 3 – Ponderosa. Figure 16 presents a visual simulation of the proposed project from KVP 3 in a residential subdivision along Ponderosa, just west of the proposed route. The view is to the northeast toward proposed tower location HF-09, which is located just south of Los Aliso Boulevard. The simulation depicts the replacement of the existing, single-pole 66 kV structure with the double-pole H-frame structure. As shown in the simulation, compared to the existing 66 kV single-pole structure, the increased height and more structurally complex H-frame design with horizontal cross-members causes increased visual contrast and structural prominence. The parallel vertical and horizontal lines of the H-frame design would cause a low-to-moderate degree of visual contrast with the forms and lines of the other visible landscape features (built and natural). The increased height and additional vertical and horizontal components (structures and conductors) would also increase the extent of view blockage of the background sky and hills (higher quality landscape features). Although, the project would briefly be within the primary cone of vision of eastbound travelers on Ponderosa, overall view blockage would be low-to-moderate because the orientation of most residential views along Ponderosa would be away from the structures (i.e., views from residences are parallel to transmission line and therefore not a prominent part of viewshed). The increased structural height and mass and skylining would cause a co-dominant degree of structural prominence in relation to the existing 220 kV tower and other landscape features. The low-to-moderate visual contrast and view blockage combined with the co-dominant structural prominence would result in an overall low-to-moderate degree of visual change. The visual character of the proposed structures, while different in design, would exhibit fundamentally similar industrial characteristics compared to the existing transmission structures. In the context of the existing landscape's moderate-to-high visual sensitivity, the resulting aesthetic impact would be less than significant.

Key Viewpoint 4 – Painted Trails. Figure 18 presents a visual simulation of the proposed project from KVP 4 in a residential subdivision along Painted Trails, east of the proposed route. The view is to the northwest toward proposed tower locations HF-11 (closest and just north of SR 241) and HF-12. The simulation depicts the replacement of the existing, single-pole 66 kV structures with the double-pole H-frame structures. As shown in the simulation, compared to the existing 66 kV single-pole structures, the increased height and more structurally complex H-frame design with horizontal cross-members causes increased visual contrast and structural prominence. The parallel vertical and horizontal lines of the H-frame design would result in a low-to-moderate degree of visual contrast with the forms and lines of the other visible landscape features (built and natural). The increased height and additional vertical and horizontal components (structures and conductors) would also cause a low-to-moderate degree of view blockage of the background sky and hills (higher quality landscape features). The proposed H-frame structures would appear subordinate-to-co-dominant compared to the existing 220 kV transmission line and other built and natural landscape features (SR 241, business and industrial parks, and undeveloped landforms). The low-to-moderate visual contrast and view blockage, combined with the subordinate-to-co-dominant structural prominence, would result in an overall low-to-moderate degree of visual change. The visual character of the proposed structures, while different in design, would exhibit fundamentally similar

industrial characteristics compared to the existing transmission structures. In the context of the existing landscape's moderate visual sensitivity, the resulting aesthetic impact would be less than significant.

Key Viewpoint 5 – Sweet Meadow. Figure 20 presents a visual simulation of the proposed project from KVP 5 at a residence on Sweet Meadow in the Canyon Crest residential development. KVP 5 is situated just southeast of the proposed Tower HF-03 location. The view is to the northwest toward proposed tower locations HF-03, HF-04, and HF-05 (north to south). The simulation depicts the replacement of the existing, single-pole 66 kV structures with the double-pole H-frame structures. As shown in the simulation, compared to the existing single-pole 66 kV structure, the increased height and more structurally complex H-frame design with horizontal cross-members causes increased visual contrast, structural prominence, and view blockage. The strong, parallel, vertical and horizontal lines of the H-frame design would moderately contrast with the complex, diagonal lines of the existing 220 kV lattice structures. The additional vertical components of the H-frame structures would moderately increase the extent of view blockage of Lake Mission Viejo and the residentially terraced hillsides to the west of the transmission corridor. The increased height of the H-frames and the additional horizontal components (cross members and conductors) would contribute to increased blockage of the sky and would also result in increased structural skylining (extending above the horizon line). The increased height of new H-frame structures would raise the conductors, allowing more of the view of the lake and terraced hillsides to the west to be seen under, rather than through, the conductors. However, because the heights of the 220 kV conductors would not change, the amount of lake and hillside views affected by the conductors would not change substantially. Near this location, an existing tubular steel pole (M0-P5) would be removed and not replaced, resulting in an enhancement of some views and some improvement in the visual character of the immediate viewing area. The permanent removal of the TSP, which is not shown in the simulation, would help offset the view blockage and skylining effects for several residences near this KVP. The visual character of the proposed structures, while different in design, would exhibit fundamentally similar industrial characteristics compared to the existing transmission structures. The incremental visual change would be moderate, and the resulting aesthetic impact would be adverse, but less than significant.

Key Viewpoint 6 – Canyon Crest. Figure 22 presents a visual simulation of the proposed project from KVP 6, representing the southwestern portion of the Canyon Crest neighborhood. This KVP lies just east-northeast of proposed tower HF-02, and shows the simulated view looking west-southwest, toward tower HF-02 and parallel to Alicia Parkway. The simulation depicts the replacement of the existing, single-pole 66 kV TSP structure with a double-pole H-frame structure. The proposed H-frame structure would increase both the height and visual mass of the 66 kV tower, increasing visual intrusion into the background sky. However, compared to the existing 66 kV TSP, the incremental change in visual conditions would be minimal. The proposed project would result in low visual contrast with the existing landscape, which is dominated by the existing 220 and 66 kV towers. The visual character of the proposed structure, while different in height, would exhibit fundamentally similar industrial characteristics compared to the existing transmission structures. In the context of the existing landscape's moderate-to-high visual sensitivity and the proposed project's negligible impact, the resulting aesthetic impact would be less than significant.

Key Viewpoints 7 & 8 – Canyon Crest. Figures 24 and 26 present visual simulations of the proposed project as viewed from the Canyon Crest neighborhood. The view from KVP 7 is from a residential driveway on the east side of Wayside looking straight across to the houses on the opposite of the street. The view from KVP 8 looks up the street to the north and shows the houses aligned along the west side of the street. KVP 7 shows existing tower M21-T1 and proposed tower HF-05, which replaces the existing tower M0-P8. The replacement would increase the height of the 66 kV tower by 15 feet. The proposed tower is also wider and more structurally massive than the existing pole. However, the dominant visual element, besides the houses, remains the existing 220 kV lattice steel tower. KVP 8 includes lattice steel towers M21-T2 and M21-T3 and HF-06 and HF-07, replacing tubular steel poles M1-P1 and M1-P2. Just south of proposed HF-06, tower M0-P9 would be removed, improving views from neighboring homes,

the Youth Athletic Park, southern Flamenco Park, and north- and south-bound travelers on Melinda Road. The new H-Frame towers are considerably taller than the existing poles, 35 and 45 feet, but still shorter than the existing 220 kV towers to their west. Like KVP 7, the existing 220 kV towers remain the dominant visual element. Given the moderate-to-high visual sensitivity at these sites, the impact of the proposed project would be adverse, but less than significant.

Key Viewpoint 9 – Palmia. Figure 28 shows a visual simulation of the proposed project from KVP 9, representing views from the interior of neighborhoods to the east of the right-of-way, looking west. KVP 9 looks at the right-of-way to the southwest as it passes through Pinecrest Park. The simulation shows the existing lattice steel tower M22-T1 and proposed H-frame HF-08, which would replace tubular steel poles M1-P5 (visible in Figure 27), M1-P6 (just north of simulated view), M1-P4 and -P3 (just south of simulated view). While the proposed H-frame is larger than the existing pole (taller by 65 feet), the permanent removal of three poles would outweigh this increase. The taller pole would be most visible to the adjacent residences and users of Pinecrest Park, while the pole removal would benefit a greater number of residences, Flamenco Park, and numerous neighboring roadways. Due to the benefits associated with permanent pole removal, the proposed project's impacts at KVP 9 would be less than significant.

Key Viewpoint 10 – El Toro Road. Figure 30 presents the proposed Viejo Substation and associated infrastructure as seen from the south side of El Toro Road, just west of Marguerite Parkway. The proposed project would involve construction of a low-profile substation on a currently vacant site. As depicted in Figure 30, the new substation would be visible from various nearby vantage points, but would not substantially change the view from surrounding areas. The dominant visual element relating to the proposed project remains the existing transmission lines and support poles. The portion of wall visible off site (represented in beige in Figure 30) would be visible, but would follow the contour of the existing hill and would therefore highlight rather than contrast the existing topography. Figure 31 shows the proposed block wall that would partially surround the substation. The incremental visual change associated with the proposed Viejo Substation component of the proposed project would be adverse, but less than significant.

Edison Trail. The proposed project would introduce complex industrial-type structures into the foreground of views from the Edison Trail, located immediately east of the proposed Viejo Substation site. The substation would substantially change the character of the existing landscape visible to the west from the trail through the creation of significant degrees of visual contrast, view blockage, and structural dominance. The resulting aesthetic impact would be significant but could be mitigated through the strategic placement of screening vegetation along the west side of portions of the trail. This potentially significant impact would be reduced to a less-than-significant level with implementation of Mitigation Measure A-1.

A-1 SCE shall design and implement a landscape-screening plan that is effective in screening the proposed Viejo Substation from views from the Edison Trail. The Screening Plan shall include the strategic planting of trees and appropriate shrubs of sufficient height and density to screen views of the substation, to the extent possible within five years of completion of substation construction. The Screening Plan shall be developed in consultation with the CPUC's Aesthetics Specialist to ensure the Plan would effectively meet the objectives of this measure. The Plan shall be submitted to the CPUC for review and approval during project design. The CPUC must approve the Screening Plan prior to implementation and the start of any construction. SCE must fully implement the plan within 30 days of the completion of the substation.

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 WITH MITIGATION INCORPORATED. The proposed Viejo Substation would have ~~both security and operational lighting. The security lights would be low intensity lights controlled by photo sensors, which would generally be in operation from dusk until dawn. Operational lighting, which~~ consist of high-pressure sodium lights in the switchracks, around the transformer banks, and in areas of the yard where activity may have to take place during the night time hours. Lights would normally be off and controlled by a manual switch. However, given (a) the present absence of night lighting at the proposed substation site, (b) the elevated location of the site relative to some viewing locations (SR 241 and El Toro Road), (c) elevated residential viewing vantage points relative to the substation site (California Court and Painted Trails), and (d) the lack of information about the lighting design or control measures, it is not possible to determine whether or not the project would result in substantial light or glare that would be visible from the above viewing areas. It would be difficult to shield sightlines from below light sources (such as SR 241 and El Toro Road) while at the same time effectively shielding elevated sightlines from viewing areas that are at higher elevations than the light source (California Court and Painted Trails). Therefore, while complete information regarding lighting design or control measures is not available, it is possible that the proposed project could cause significant light and glare effects. With the implementation of Mitigation Measure A-2, potential light and glare impacts would be mitigated to a less-than-significant level.

A-2 SCE shall design and install all permanent lighting at the Viejo Substation such that:

- Light bulbs and reflectors are not visible from public viewing areas including residential developments and nearby roads,
- Lighting does not cause reflected glare, and
- Illumination of the project, the vicinity, and the nighttime sky is minimized.

To meet these requirements, SCE shall submit a Lighting Mitigation Plan to the CPUC that includes but is not necessarily limited to the following:

- Lighting shall be designed so exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light source is shielded to prevent light trespass outside the project boundary;
- All lighting shall be of minimum necessary brightness consistent with worker safety;
- High illumination areas not occupied on a continuous basis shall have switches or motion detectors to light the area only when occupied;

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Figure 10 Location of Key viewpoints (See links on Table of Contents)

Figures 11 through 31; Visual Simulations of proposed project

B 3.2 Agricultural Resources

AGRICULTURAL RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. **Would the project:**

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	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 that, 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"/>

Significance criteria established by CEQA Guidelines, Appendix G

B.3.2.1 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 environmental documents as a way of assessing project impacts on Prime Farmland and in regional studies on agricultural land conversion, and in assessing impacts of proposed projects.

The U.S. Department of Agriculture, 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.

Collectively, these valuable agricultural lands are referred to as Farmland. The proposed project does not cross or run adjacent to any lands that have been designated as Farmland. In addition, no properties along the existing utility corridor have been zoned for agricultural use, and the proposed project does not cross or run adjacent to any properties under a Williamson Act contract (DOC, 2003a, 2003b).

B.3.2.2 Environmental Impacts and Mitigation Measures

- 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. According to the California Department of Conservation’s Division of Land Resource Protection, the site of the proposed Viejo substation is mapped as Urban Land, and the site of the existing Chiquita substation is classified as Other (DOC, 2003a). No lands within the existing right of way or otherwise in the vicinity of the proposed project are classified Farmland as designated by the Farmland Mapping and Monitoring Program. Therefore, no impacts to Farmland are expected.

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

NO IMPACT. The site of the proposed project does not contain or border lands zoned for agricultural use. The nearest land under a Williamson Act contract lies approximately 3.4 miles southeast of the project site, in the City of Rancho Santa Margarita, near the intersection of SR 241 and Antonio Parkway (DOC, 2003b). Given the urbanized nature of the intervening area, the proposed project is not expected to affect or conflict with this Williamson Act parcel. No impacts to lands zoned for agricultural use or under a Williamson Act contract are expected.

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. As described above, the proposed project would not be located on existing farmland, land zoned for farming, or land near agricultural operations. The proposed project is located within an urbanized area. Therefore, the proposed project would not have the potential to affect Farmland or result in its conversion to non-agricultural use. Additionally, as noted in Section B.3.12, Population and Housing, the project is not growth inducing and would, therefore, not be expected induce or exacerbate offsite agricultural conversion. Therefore, no impacts to the conversion of Farmland are expected from the proposed project.

B.3.3 Air Quality

AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. **Would the project:**

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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"/>

Significance criteria established by CEQA Guidelines, Appendix G

B.3.3.1 Setting

Criteria Pollutants. Air quality is determined by measuring ambient concentrations of criteria pollutants, which are air 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.3-2.

Table B.3-2: National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards
Ozone	1-hour	0.09 ppm	0.12 ppm
	8-hour	---	0.08 ppm
Respirable Particulate Matter (PM ₁₀)	24-hour	50 µg/m ³	150 µg/m ³
	Annual Mean	20 µg/m ³	50 µg/m ³
Fine Particulate Matter (PM _{2.5})	24-hour	---	65 µg/m ³
	Annual Mean	12 µg/m ³	15 µg/m ³
Carbon Monoxide (CO)	1-hour	20 ppm	35 ppm
	8-hour	9.0 ppm	9.0 ppm
Nitrogen Dioxide (NO ₂)	1-hour	0.25 ppm	---
	Annual Mean	---	0.053 ppm
Sulfur Dioxide (SO ₂)	1-hour	0.25 ppm	---
	24-hour	0.04 ppm	0.14 ppm
	Annual Mean	---	0.03 ppm

Notes: ppm=parts per million; µg/m³= micrograms per cubic meter; "—" =no standard
Source: CARB, 2003.

Attainment Status and Air Quality Plans. The U.S. EPA, California Air Resource Board (CARB), and the local air district classify an area as attainment, unclassified, or nonattainment, depending on whether

or not the monitored ambient air quality data show compliance, insufficient data available, or non-compliance with the ambient air quality standards, respectively. The project site is located within Orange County under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). Table B.3-3 summarizes federal and state attainment status of criteria pollutants for Orange County.

Table B.3-3: Attainment Status for South Coast Air Quality Management District – Orange County

Pollutant	Federal Designation	State Designation
Ozone (1-hour)	Extreme Nonattainment	Extreme Nonattainment
PM ₁₀	Serious Nonattainment	Nonattainment
CO	Serious Nonattainment	Attainment
NO ₂	Unclassified/Attainment	Unclassified/Attainment
SO ₂	Attainment	Attainment

Source: CARB, 2002/U.S. EPA, 2002.

Rules and Regulations

South Coast Air Quality Management District. The responsibility for developing regional air quality plans within the project area lies with the SCAQMD. SCAQMD exercises permit authority through its Rules and Regulations by requiring that new stationary sources secure a permit to construct and a permit to operate through the New Source Review (NSR) program (Regulation XIII). NSR sets forth pre-construction review requirements for new and modified stationary sources to insure that the operation of such sources would not interfere with progress in attainment of State and national ambient air quality standards. Mobile and portable sources and temporary activities that cause emissions air contaminants are managed through a range of local, State and national programs mentioned below.

- U.S. EPA/CARB Off-Road Mobile Sources Emission Reduction Program. The California Clean Air Act mandates CARB to achieve the maximum degree of emission reductions from all off-road mobile sources in order to attain the state ambient air quality standards. Off-road mobile sources include construction equipment. Tier 1 standards for large compression-ignition engines used in off-road mobile sources went into affect in California in 1996.
- CARB Portable Equipment Registration Program. This program allows owners or operators of portable engines and associated equipment to register their units under a statewide portable program to operate their equipment throughout California without having to obtain individual permits from local air districts.
- SCAQMD Rule 401 –Visible Emissions. Prohibits visible air emissions as dark or darker in shade than No. 1 on the Ringelmann chart (20 percent opacity) for more than three minutes in any 1-hour period.
- SCAQMD Rule 402 – Nuisance. Prohibits emissions that cause injury, nuisance, or annoyance, or that endanger the comfort, repose, health or safety of the public, or that cause injury or damage to business or property.
- SCAQMD Rule 403 – Fugitive Dust. Limits the amount of particulate matter caused by man-made fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions.
- SCAQMD CEQA Air Quality Handbook. Guidelines for CEQA analyses including recommendations for significance criteria and mitigation measures to assist compliance with regional air quality plans.

City of Lake Forest. The City of Lake Forest Municipal Code contains specific requirements for dust control when grading and excavation require movement of more than 5,000 cubic yards on public roadways (Section 8.30.070). The code requires using water or dust suppressants to control dust during loading or transportation of excavated material, and requires maintenance of the roads so that they are free of dust, earth, or debris attributed to the grading operation.

City of Mission Viejo. Similar requirements for controlling dust from grading activities apply in Mission Viejo (Section 8.10.555 of the Municipal Code) for project sites that involve moving more than 5,000 cubic yards of material.

General standards for controlling dust from worksites in Mission Viejo also apply (Section 9.20.015). Mission Viejo requires construction and grading to be conducted so as to minimize dust or dirt emission beyond any boundary line of the parcel. The requirements include minimizing grading activities, watering graded areas as often as necessary to prevent blowing dust and dirt, completing construction and revegetating the site as soon as possible after grading, and protecting and minimizing disturbance to native vegetation, which shall be protected and shall be disturbed as little as possible. If necessary, the City also requires walls or fences to be constructed to contain dust and dirt within the parcel.

Orange County. There is a general requirement in the Orange County Code (Section 3-8-48) that prohibits operating vehicles in a manner that would disturb residences or people by creating dust.

B.3.3.2 Environmental Impacts and Mitigation Measures

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

NO IMPACT. The project would be inconsistent with air quality plans if it would result in population and/or employment growth that exceeds the growth estimates included in the applicable air quality plan (SCAQMD, 1993). All above rules and regulations apply, but the SCAQMD is the primary agency responsible for managing local air quality and administering other State or federal programs.

The project would not create any new full-time or part-time positions of employment. About 30 workers would be needed for haul truck operations related to excavation of the substation site and approximately another 30 would likely be needed for the duration of construction. The AQMP anticipates and allows for population growth, which involves a certain amount of new infrastructure.

Employment growth projections developed by the Southern California Association of Governments (SCAG) are used in the development of the South Coast Air Quality Management District's (SCAQMD) Air Quality Management Plan (AQMP). The most recent AQMP includes anticipated growth to the years 2010 and 2020 in the emission inventory (SCAQMD, 1996). In the AQMP, employment within the air basin was anticipated to grow from 6.7 million to 8.0 million between 2000 and 2010 (SCAG, 2001). No notable employment growth would be generated by the project (see Section B.3.12, Population and Housing). Therefore, the project would not conflict with or obstruct implementation of the SCAQMD's AQMP. 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?

DURING CONSTRUCTION, LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Construction of the proposed project would involve activity for 18 months throughout the 3.1-mile corridor and for 14 months at the substation site. Minor activity would also be necessary to install telecommunications improvements in underground vaults, mainly near the substation site. During construction, emissions that would be generated within the project right-of-way and substation boundaries would principally consist of exhaust emissions from heavy-duty diesel and gasoline-powered construction equipment (e.g., ozone precursors, CO, and PM₁₀) and fugitive particulate matter (dust) from travel on unpaved surfaces. Beyond the boundaries of the right-of-way and substation, exhaust emissions would also be caused by workers commuting to and from the project site, from trucks hauling conductor, pole segments, and other equipment and supplies to the construction sites, dump trucks hauling away dirt or vegetation debris, and trucks delivering fresh concrete to pole sites along the corridor.

To determine whether a significant impact would occur, the SCAQMD recommends quantifying construction emissions and comparing them to prescribed thresholds. The thresholds indicate whether emissions during project construction would have the potential to violate air quality standards or contribute substantially to existing violations. The significance thresholds for project construction are shown in Table B.3-4.

Table B.3-4: Maximum Daily Construction Emissions (lb/day)

	NOx	PM10	CO	ROG	SOx
Off-Road Equipment (Grading and Excavation)	36.6	2.9	33.0	5.8	4.8
Off-Road Equipment (Tower Foundation and Erection)	32.2	3.2	33.7	6.4	4.2
On-Road Crew and Worker Trips	5.4	0.3	49.8	5.3	<0.1
On-Road Haul and Dump Trucks	26.8	0.9	3.5	2.9	0.2
Fugitive Dust (Unpaved Surfaces)	---	124.0	---	---	---
Total Construction Emissions	101.1	131.2	119.9	20.3	9.3
SCAQMD Significance Threshold	100	150	550	75	150
Exceed Threshold?	Yes*	No	No	No	No

Note: * Mitigation Measures AQ-1 and AQ-2 (related to project phasing and haul trip lengths) are not included in this estimate.
Source: SCE, 2003, with independent assessment by Aspen Environmental Group (see Appendix 4, Air Quality Calculations).

SCE calculated emissions of NO_x, PM₁₀, CO, ROG, and SO_x from on-site (or off-road) construction equipment exhaust and on-highway haul trucks using published emission factors from SCAQMD's *CEQA Air Quality Handbook* (SCAQMD, 1993) and the CARB (EMFAC2002 model). Fugitive dust emissions were also calculated using published emission factors from SCAQMD's *Air Quality Handbook*. These emissions can be added to the anticipated emissions from worker commute trips to determine whether daily emissions could exceed the thresholds of significance. Table B.3-4 presents the maximum daily emissions for the temporary construction activity, and the results show that emissions of NO_x from construction equipment would cause a potentially significant impact, warranting additional mitigation.

There are many strategies that can be used to reduce emissions during project construction. Dust control strategies are normally necessary to avoid nuisance conditions in areas with nearby sensitive receptors, and other strategies usually appropriate for managing equipment operation to conserve fuel, avoid nuisance conditions, and reduce emissions. SCE committed to implementing a range of Best Management Practices (BMPs) for dust control (SCE, 2003a). These BMPs would be a required portion of the Stormwater Pollution Prevention Plan (SWPPP), which SCE would have to prepare as part of the application for a General Construction Activity Storm Water Permit (see Section B.1.11). BMPs include:

- Pave, vegetate, or chemically stabilize access points where unpaved traffic surfaces adjoin paved roads
- Provide covers for haul trucks transporting materials that contribute to dust
- Provide for wet suppression or chemical stabilization of exposed soils
- Provide for rapid clean-up of sediments deposited on paved roads
- Furnish stabilized construction road entrances and vehicle wash down areas
- Stabilize unpaved haul roads, parking, and staging areas
- Reduce speed and trips on unpaved roads
- Implement dust control measures for material stockpiles
- Prevent drainage of sediment laden storm water onto paved surfaces,
- Stabilize abandoned construction sites using vegetation or chemical stabilization methods
- Limit the amount of areas disturbed by clearing and earth moving operations by scheduling these activities in phases (see Appendix 5, SCE Standard Best Management Practices).

Table B.3-4 identifies a potentially significant impact related to NO_x emissions from heavy equipment exhaust. The majority of NO_x emissions during the worst-case scenario come from haul and dump trucks (on-highway vehicles used to export excavated material or deliver construction materials) and large pieces

of off-road equipment used for transmission line installation (namely a driller and crane). Because SCE has not proposed any specific measures to reduce exhaust emissions from construction equipment, additional mitigation is necessary to reduce NO_x emissions.

Phasing the construction to avoid intense haul and dump truck activity while transmission line work occurs can sufficiently reduce NO_x emissions. According to SCE, some grading and excavation activity could occur simultaneously with tower foundation and erection work on the worst-case day. Taking feasible steps to avoid overlapping emissions would eliminate up to 27 lb/day of NO_x emissions (Mitigation Measure AQ-1). SCE also anticipates that most haul trucks would need to travel approximately 150 miles per day during the worst-case day of bringing or removing materials. If this distance can be reduced, haul truck emissions would be reduced proportionally. As such, mitigation (Mitigation Measure AQ-2) is recommended for reducing the lengths of the haul trips, where possible. It is realistic to reduce NO_x emissions by about 5 percent, by implementing other recommendations for proper operation of clean-burning equipment (Mitigation Measures AQ-3 through AQ-6).

The following mitigation measures are required to reduce NO_x emissions during construction to a less-than-significant level:

- AQ-1** To reduce simultaneous project-related NO_x emissions from on-highway haul trucks and off-road heavy construction equipment, given the constraints of the construction schedule, SCE shall phase project construction, to the extent feasible, so that off-site disposal of excavated material from Viejo Substation grading and excavation does not occur simultaneously with transmission line construction or modification activity (including, but not limited to, access grading, excavation for tower bases, crane pads, tower delivery, or tower erection). During transmission line construction or modification, SCE shall phase the project construction schedule, to the extent feasible, so that grading and excavation for site access, tower bases, or crane pads do not occur simultaneously with tower delivery or erection.
- AQ-2** SCE shall obtain competitively bid construction materials, including heavy equipment, from the nearest feasible location, where cost and quality are comparable, and export excavated materials to the nearest feasible destination.
- AQ-3** SCE shall use diesel engines that meet, at a minimum, 1996 CARB or U.S. EPA-certified standards¹ for off-road equipment that has a rating of more than 100 horsepower. Installing high-pressure diesel injectors and installing retard injection timing on any off-road equipment that was manufactured prior to 1996 may accomplish this.
- AQ-4** SCE shall substitute small electric-powered equipment, such as pumps, compressors, welders, or lifts, for diesel- and gasoline-powered construction equipment where feasible.
- AQ-5** SCE shall maintain construction equipment per manufacturing specifications.
- AQ-6** SCE shall prohibit all vehicles from idling in excess of ten minutes if not being utilized for construction activities.

Note: APM N-1 limits the idling time of *small* trucks and equipment to 5 minutes unless engaged in a specific construction activity; Mitigation Measure AQ-6, imposed by the CPUC, expands idling time limits to *all* vehicles not engaged in a specific construction activity.

DURING OPERATION, LESS-THAN-SIGNIFICANT IMPACT. Once construction is complete, operational emissions would result from vehicle use that would be necessary for periodic maintenance, repair, and inspection of the project components. No stationary sources would be associated with the project, and the minor mobile source emissions would be the only direct source of emissions related to project operation.

¹ The U.S. EPA and California Air Resources Board (CARB) initiated sweeping standards for model year 1996, marking the first year the two agencies collaborated on standards. There are newer standards that are cleaner in some respects, but 1996 marks the most substantial differences between the old and new standards.

General system monitoring, control, and inspections would induce light and medium-heavy duty truck traffic, approximately two to three vehicle trips per month (SCE, 2003a). The air quality impact caused by emissions from project vehicular traffic for maintenance activities would be less than significant.

c. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

DURING CONSTRUCTION, LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. The *CEQA Guidelines* require that a project be evaluated with respect to its contribution to the cumulative baseline. The cumulative baseline includes all emissions from existing sources in the region plus foreseeable changes to emissions associated with growth in the region. The setting above describes how the region is nonattainment for certain pollutants, and that there are plans in place to ensure the growth doesn't disrupt progress towards attainment. This contribution with respect to air emissions would include both construction and operational emissions.

Cumulative projects would include any new development or general growth within the project area. The greatest source of emissions in the region is from mobile sources, which travel through the local area. Therefore, the cumulative air quality analysis would extend beyond any local projects and when wind patterns are considered, would cover an even larger area. Accordingly, the cumulative analysis for air quality impacts must be area-wide by nature.

As noted earlier, Orange County and the South Coast Air Basin do not attain the ambient air quality standards for CO, ozone, and PM₁₀. Construction and operation of cumulative projects in the region (see Appendix 6) may further degrade the regional air quality, and progress to air quality attainment may be temporarily delayed during construction activities that occur separately or simultaneously.

Implementation of recommended mitigation measures for construction equipment exhaust (**AQ-1 through AQ-6**, above), dust control measures associated with SCAQMD Rule 403, and the proposed BMPs, coupled with compliance with other programs (see above, under Rules and Regulations: South Coast Air Quality Management District) to reduce emissions from off-road mobile sources and portable equipment, would minimize project emissions and would be consistent with the assumptions of the Air Quality Management Plan (AQMP). ~~The AQMP mandates reducing impacts to a level that is not cumulatively considerable. Only large unmitigated projects are considered cumulatively considerable.~~ The AQMP allows activity in the region (such as population growth and related infrastructure) to continue in a way that does not disrupt progress towards attainment, so long as the activity is compliant with the AQMP.

Because the project's construction activity would be short-term, and it would be mitigated in a manner consistent with the AQMP to cause emissions less than the SCAQMD significance thresholds, the construction emissions would not be cumulatively considerable.

DURING OPERATION, LESS-THAN-SIGNIFICANT IMPACT. As noted in B.3.3.2 (b), once construction is complete, operational emissions would result only from vehicle use related to periodic maintenance, repair, and inspection of the project components. General system monitoring, control, and inspections would induce light and medium-heavy duty truck traffic, approximately two to three vehicle trips per month (SCE, 2003a). This light traffic would not result in a cumulatively considerable net increase of any criteria pollutant.

d. Would the project expose sensitive receptors to substantial pollutant concentrations?

LESS-THAN-SIGNIFICANT IMPACT. Certain residents, such as the very young, the elderly, and those suffering from certain illnesses or disabilities, are particularly sensitive to air pollution and are considered sensitive receptors. Examples of land uses where significant numbers of sensitive receptors are often found are schools, day care centers, parks, recreational areas, medical facilities, and rest homes and

convalescent care facilities. Land use conflicts can arise when sensitive receptors are located next to major sources of air pollutant emissions.

Sensitive receptors occur throughout the project area (see Section 1.6 [Surrounding Land Uses and Setting], Section B.3.9 [Land Use and Planning], and Section B.3.14 [Recreation]). Short-term emissions associated with project construction would not generate substantial pollutant concentrations because the construction activity would be widely distributed and variable over the 3.1-mile project route and approximately 24-month duration. Activity during routine operation of the proposed project would be minimal, limited to only a few light and medium-heavy duty truck trips per month for maintenance and would not include any substantial sources of pollutants. Therefore, the proposed project would not expose sensitive receptors to substantial pollutant concentrations either during construction or during operation.

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 mandatory 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.3.4 Biological Resources

BIOLOGICAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G

B.3.4.1 Setting

This section describes the biological resources that occur in the Viejo System Project area. It includes a description of common communities of plants and wildlife, special status species, followed by an assessment of potential impacts to these resources and mitigation measures designed to offset potential impacts. Information used in preparing this section was derived from the biological resources section of the Proponent’s Environmental Assessment (PEA) for the proposed project (SCE, 2003a), which included the following data sources:

- The Joint Environmental Impact Report and Environmental Impact Statement (EIR/EIS) regarding take authorization for implementation of the county of Orange Central and Coastal Subregion Natural Community Conservation Plan and Habitat Conservation Plan (NCCP) (Meade, 1996)
- Central and Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan, parts I and II (Meade, 1996)
- Implementation Agreement Regarding the NCCP (Meade, 1996)
- The list of Threatened and Endangered species for the Orange County region from the U.S. Fish and Wildlife Service (USFWS) Carlsbad Field Office
- Records of sensitive species locations from the California Natural Diversity Database (CDFG, 2002)
- Summary of Biological Resources, Southern California Edison Viejo Conservation Bank (PCR, 2000)
- A Biological Resources Analysis-Southern California Edison Property (P&D Technologies, 1993)
- Biological Resources technical report Los Angeles-San Diego Fiber-link project (AMEC, 2000)

- Reconnaissance-level field surveys of the project areas conducted by AMEC in 2001, 2002 and 2003
- Protocol level surveys for California gnatcatcher conducted between June and August 2002 and subsequent field surveys completed in September 2003.

Wildlife and Vegetation

The proposed project is located in the foothills of the Santa Ana Mountains whose highest peaks are located approximately ten to fifteen miles north and east of the project area. Biological resources located in this area are typical of species common to the peninsular ranges of southern California and are adapted to a Mediterranean climate with cool wet winters and hot dry summers. Sage scrub communities occur on a portion the project area adjacent to the proposed substation and were once the dominant community in the project area. Urban development has encroached into the surrounding foothills removing much of the previous habitat. Today, the general project area supports a variety of communities such as disturbed annual grassland, sage scrub, landscaped parks, riparian habitat, and residential gardens.

Run off from the Santa Ana Mountains also supports both ephemeral and perennial drainages in the project area that contain riparian habitat, including Aliso Creek and an unnamed tributary located between Santa Margarita Parkway and Los Alisos Boulevard. Construction activities associated with the proposed project would occur within both of these drainages. However, no physical disturbance to riparian habitats is expected. Because of the proximity of the project to the Santa Ana Mountains and the Cleveland National Forest, a number of sensitive wildlife species have the potential to occur in the project area.

The proposed Viejo Substation and transmission line right-of-way between El Toro Road and the substation are located in the Central and Coastal Subregion of the NCCP, of which SCE is a participating member. This area consists of approximately 325 square miles and includes the central portion of the County of Orange and extends to Riverside County. The primary goal of the NCCP is to protect and manage habitat supporting a broad range of plant and animal populations that are now found within the Central and Coastal Subregion (Meade 1996). Specifically, this plan addresses impacts to sage scrub communities and several sensitive plant and animal species that are known to occur within the proposed Viejo System area. These include the California gnatcatcher (*Poliopitila californica californica*), coastal cactus wren (*Camphylorhynchus brunneicapillus*), and orange-throated whiptail (*Cnemidophorus hyperythrus beldingi*). The portion of the proposed project area south of the Coastal and Central NCCP occurs within the proposed Southern NCCP, which is not currently approved as an NCCP area.

Dominant plant communities in the project area include:

Sage scrub. Sage scrub communities consist of fragrant drought tolerant vegetation dominated by California sagebrush (*Artemisia californica*), buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), and brittlebush (*Encelia californica*). Other common species include deer weed (*Lotus scoparius*), monkey flower (*Mimulus aurantiacus*), white sage (*Salvia apiana*), mariposa lilies (*Calochortus* sp.), and non-native grasses. Sage scrub habitat occurs immediately east of the proposed Viejo substation and extends for several thousand feet south to El Toro Road. Sections of this habitat would be disturbed by project construction and are located primarily within the Central and Coastal NCCP area.

Southern cactus scrub. This community typically occurs on east and south facing slopes on low foothills and has an extremely limited distribution. It is usually dominated by prickly pear (*Opuntia littoralis*) and cholla (*Opuntia* spp.), with mixed associations of California sagebrush, California buckwheat, black sage (*Salvia*), and blue elderberry (*Sambucus mexicana*). A section of southern cactus scrub is located east and south of the proposed Viejo Substation and would be subject to disturbance from project construction. This habitat is limited to the Coastal and Central portion of the NCCP.

Annual grassland. This community is composed primarily of introduced species that arrived with the Spanish colonization and have since replaced most of the California native grasses and forbs. Dominant

species include red brome (*Bromus rubens*), ripgut brome (*Bromus diandrus*), Italian thistle (*Carnunus pygnocephalus*), annual barley (*Hordeum vulgare*), telegraph weed (*Heterotheca grandiflora*), sweet clover (*Melilotus albus*) and artichoke thistle (*Cynara cardunculus*). Annual grasslands occur in the project area and are located primarily on the side slopes and hilltops located south of El Toro Road and on the lower hillsides where they meet disturbed riparian habitat and scrub communities.

Ornamental/landscaped. This habitat consists of introduced trees, shrubs, flowers, and turf grass associated with urban parks, landscaped hillsides, and housing developments. Acacia (*acacia* sp.), gum (*Eucalyptus* sp.), Peruvian pepper (*Schinus molle*), and pine (*Pinus* sp.) dominate these areas. Parkland and landscaped hillsides occur over the majority of the proposed project area south of El Toro Road.

Southern willow scrub. The southern willow scrub community is typically found along intermittent creeks and streams in loose, sandy, or fine gravelly alluvium deposited near stream channels during flood flows. It is composed of dense, broad leafed, winter-deciduous riparian thickets dominated by arroyo willow (*Salix lasiolepis*) or coyote willow (*Salix exigua*) with some mulefat scrub (*Baccharis salicifolia*). Goodding's willow (*Salix gooddingii*) and red willow (*Salix laevigata*) are other common species identified in this community. The understory is often composed of western poison oak (*Toxicodendron diversilobum*), western ragweed (*Ambrosia psilostachya*), and California blackberry (*Rubus ursinus*). Elements of this habitat occur along Oso Creek located between Santa Margarita Parkway and Los Alisos Boulevard but would not be affected by project construction.

Southern sycamore riparian woodland. Southern sycamore riparian woodland is found on large intermittent streams with very rocky streambeds subject to seasonally high intensity flooding. It is typified by tall, open, broad leafed, winter-deciduous streamside woodland dominated by California sycamore (*Platanus racemosa*). These stands seldom form closed canopy forests and may appear as trees scattered in a thicket of other deciduous tree species. This community occurs in Aliso Creek and would be spanned during project construction. Construction activities may occur in the upland section of disturbed riparian habitat located within Aliso Creek.

Sections of the Viejo System Project provide habitat for a variety of wildlife species. The habitat types described above contribute to the diversity and abundance of wildlife in the area as they provide for permanent residency and breeding, and function as movement corridors for a number of wildlife species from the Santa Ana Mountains and Cleveland National Forest which are located east of the project area.

Some of the bird species common to the project area include American crow (*Corvus brachyrhynchos*), Anna's hummingbird (*Calypte anna*), mourning dove (*Zenaida macroura*), turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), western scrub jay (*Aphelocoma coerulescens*), and California towhee (*Pipilo crissalis*). Common mammal species that may inhabit the Viejo area include raccoon (*Procyon lotor*), California ground squirrel (*Spermophilus beecheyii*), brush rabbit (*Sylvilagus bachmani*), striped skunk (*Mephitis mephitis*), coyote (*Canus latrans*), and mule deer (*Odocoileus hemionus*). Additionally, a number of reptile and amphibian species are known to occur in the project area. The most common include king snake (*Lampropeltis getulus*), western fence lizard (*Sceloporus occidentalis*), and western rattlesnake (*Crotalus viridis*).

A variety of other wildlife species are known or expected to frequent riparian habitats along the project right of way. A few of the more common species include Pacific treefrog (*Hyla* sp.), western toad (*Bufo boreas*), and bullfrog (*Rana* sp.). In addition, the project area may also be used as foraging habitat by wide ranging carnivores including bobcat (*Felis rufus*) and mountain lion (*Puma concolor*). A juvenile western toad and mountain lion scat were identified in the disturbed riparian area located between Santa Margarita Parkway and Los Alisos Boulevard.

Vegetation within the Project Footprint

Viejo Substation. The proposed Viejo Substation site is located on a 12.5-acre parcel subject to annual mowing and maintenance. Disturbed habitat occurs on the site dominated by white clover, star thistle (*Centaurea* sp.), and telegraph weed (*Heterotheca grandiflora*). Mulefat (*Baccharis salicifolia*), coyote bush (*Baccharis pilularis*), common tarweed (*Hemizonia aspiculate*), and buckwheat occur in small populations scattered intermittently across the site. To the ~~west~~^{east}, a graded hillside contains a mixture of landscaping dominated by acacia and elements of sage scrub. Landscaping continues to the crest of the hill and merges into the utility corridor where the proposed transmission lines and new towers would be placed.

Substation to El Toro Road. Habitat located between the proposed substation site and El Toro Road transitions from the hilltop dominated by sage scrub and southern cactus scrub, to non-native grasslands and southern sycamore riparian woodland at Aliso Creek. Sage scrub, characterized by buckwheat, California sagebrush and various sages, occurs along the crest of the hill east and south of the substation and co-occurs with populations of prickly pear dominated southern cactus scrub. This habitat continues down slope and transitions into a narrow section of non-native grassland that abuts Aliso Creek. Sycamores, oak and cottonwood compose the major arboreal element with an understory of willows, poison oak, nettle (*Urtica* sp.), and blackberry. Sections of disturbed habitat occur south of the creek and occur at the toe of hillside that appears to be recently re-vegetated with native sage scrub species.

El Toro Road to Santa Margarita Parkway. The proposed project route continues along the existing transmission right of way south of El Toro Road. A steep hillside dominated by sage scrub occurs adjacent to the roadway in this location and transitions into disturbed annual grassland dominated by star thistle, cardoon, and mustard (*Brassica* sp.). A paved access road occurs at the top of the hill and continues along the length of the right of way to Los Alisos Boulevard. A mixture of disturbed habitat and ornamental landscaping are prominent features in this location. The proposed project route continues through Pinecrest Park, which is located between Los Aliso Boulevard and Santa Margarita Parkway. This park contains a mixture of manicured lawns, ornamental plantings, and disturbed native riparian vegetation. Oso Creek meanders through the area and is dominated by willows, mulefat and cottonwood. Peruvian pepper, tree tobacco (*Nicotiana glauca*), and oak occur on both sides of the narrow channel. Herbaceous species include sweet fennel (*Foeniculum vulgare*) and blackberry. Little or no vegetation is present in the channel, which appears to be subject to regular maintenance and scour from of winter storms.

Santa Margarita Parkway to the Chiquita Substation. South of Santa Margarita Parkway, the proposed project route consists primarily of ornamental landscaping with small isolated pockets of annual grassland and disturbed habitat with isolated elements of sage scrub species. Dominant vegetation in this area includes Peruvian pepper, pine, and sycamore with an understory of, acacia, and oleander (*Olea* sp.). Australian bottle brush (*Callistemon* sp.), lantana, and pampas grass (*Cortaderia* sp.) were other common ornamental species identified in the project area. Vegetation at the Chiquita Substation includes dense thickets of native and non-native trees, pampas grass, poison hemlock (*Conium maculatum*), and ragweed. Willow and ash (*Alnus* sp.) form a dense grove in a mesic area near the southeastern border of the facility while locust (*Robinia* sp.), pine, and bottlebrush occur in scattered populations across the site. The road shoulders contained disturbed sage scrub species dominated by coyote bush (*Baccharis pilularis*), buckwheat, brittle bush and sage. Sunflowers (*Helianthus* sp.) and golden bush (*Isocoma menziessi* sp.) occur intermittently along the road slope.

Special Status Species

Special status species include flora, fauna, and vegetation communities that are listed as threatened or endangered, candidate species, or species of special concern under the California or federal Endangered Species Act, species that are listed as fully protected by the California Department of Fish and Game

(CDFG), and plants considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered in California and beyond.

Several sensitive wildlife species have the potential to occur in the project area including California gnatcatcher, California horned lark (*Eremophila alpestris actia*), coastal cactus wren, and orange-throated whiptail. Southern California Rufous crown sparrow (*Aimophila ruficeps canescens*) were historically known to inhabit the project area but are not found in the project area at this time. Least Bell's vireo (*Vireo belli pusillus*) has some potential to utilize the riparian areas located in Aliso Creek, although focused surveys conducted for this species by a permitted ornithologist did not find suitable habitat in the project area and no least Bell's vireo were observed in or near the project area (SCE, 2003a).

Raptors are also known to utilize the project area for foraging, and roost sites occupy trees and towers located within the proposed project footprint. The Migratory Bird Treaty Act regulates activities that may affect raptors or nesting birds. Table B.3-5 contains sensitive species that occur or could potentially occur within or near the project area.

Table B.3-5: Special Status Species that Occur or Potentially Occur Within or Near the Project Area

Common Name	Species Name	Status	Potential Occurrence in the Project Area
Plants			
Aphanisma	<i>Aphanisma blitoides</i>	1B	Some potential to occur in sage scrub habitat. Not observed during botanical surveys.
Chaparral nolina	<i>Nolina cismontana</i>	1B	Conspicuous species. Not observed during botanical surveys.
Many stemmed dudleya	<i>Dudleya multicaulis</i>	1B	Low potential to occur in project area. Prefers rocky habitat. Not observed during botanical surveys.
Nuttals's scrub oak	<i>Quercus dumosa</i>	1B	Conspicuous species. Not observed during botanical surveys.
Plummers mariposa lily	<i>Calochortus plummerae</i>	1B	Potential to occur in project area. Not observed during recent botanical surveys.
San Fernando Valley spineflower	<i>Chorizanthe parryi</i> var. <i>fernandina</i>	State and Federal Candidate/1B	Low potential for occurrence. This species is known in only three locations [not near the project area]. Not observed during botanical surveys.
Southern spikeweed	<i>Centromadia parryi australis</i>	1B	Low potential for occurrence. Suitable habitat does not occur in the project area and no plants were observed in recent botanical surveys.
Threadleaved brodiaea	<i>Brodiaea filifolia</i>	FT/SE/1B	Present in foothills to the northeast of the proposed project area.
Weeds foothill mariposa lily	<i>Calochortusweedii</i> var. <i>intermedius</i>	1B	Small population identified within NCCP portion of project area. Losses to this species are fully mitigated by the NCCP.
Animals			
California horned lark	<i>Eremophila alpestris actia</i>	CSC	Present. This species was identified near the proposed Viejo substation site.
Coast patch nosed snake	<i>Salvadora hexalepis virgulata</i>	CSC	High potential to occur in the project area. Not observed during wildlife surveys of the project area.
Coast range newt	<i>Taricha torosa torosa</i>	CSC	Some potential to occur in the project area. Not observed during wildlife surveys of the project area.
Coastal cactus wren	<i>Campylorhynchus brunneicapillus</i>	CSC	Present. This species is known to occur within NCCP portion of the project area. Impacts to this species are fully mitigated by the NCCP.
Coastal California gnatcatcher	<i>Poliopitila californica californica</i>	FT	Present. This species is known to occur within NCCP portion of the project area. Impacts to this species are fully mitigated by the NCCP.
Coopers hawk	<i>Accipiter cooperii</i>	CSC	Low potential to occur in the project area. May occur near riparian woodlands near Aliso Creek. Not observed during wildlife surveys.
Coronado island skink	<i>Eumeces skitonianus interparietalis</i>	CSC	Potential to occur in the project area. Not observed during wildlife surveys.
Ferruginous hawk	<i>Buteo lineatus</i>	CSC	Potential to occur in the project area. Not observed during wildlife surveys.

Table B.3-5: Special Status Species that Occur or Potentially Occur Within or Near the Project Area

Common Name	Species Name	Status	Potential Occurrence in the Project Area
Golden eagle	<i>Aquila chrysaetos</i>	CSC	Potential to occur in the project area. Not observed during wildlife surveys.
Northern harrier	<i>Circus cyaneus</i>	CSC	Potential to occur in the project area. Not observed during wildlife surveys.
Northern red-diamond rattlesnake	<i>Crotalus ruber ruber</i>	CSC	Potential to occur in the project area. Not observed during wildlife surveys.
Orange-throated whiptail	<i>Cnemidophorus hyperythrus beldingi</i>	CSC	Potential to occur in the project area. Not observed during wildlife surveys.
Quino checkerspot butterfly	<i>Euphydryas editha quino</i>	FE	Potential to occur in the project area. Not observed during wildlife surveys.
San Diego horned lizard	<i>Phrynosoma coronatum blainvillei</i>	CSSC	Potential to occur in the project area. Not observed during wildlife surveys. Friable soils preferred by the toad are present in the project area.
Sharp-shinned hawk	<i>Accipiter striatus</i>	CSC	Potential to occur in the project area. Not observed during wildlife surveys.
Silvery legless lizard	<i>Anniella pulchra pulchra</i>	CSC	Potential to occur in the project area. Not observed during wildlife surveys.
Southern California Rufous-crowned sparrow	<i>Aimophila ruficeps canescens</i>	CSC	Historic occurrence documented in the project area. Not observed during wildlife surveys.
Southwestern pond turtle	<i>Clemmys marmorata pallida</i>	CSC	Not likely to occur in the project area. Suitable ponds and thermoregulation sites absent.
Western spadefoot toad	<i>Saphiopus hammondi</i>	CSSC	Potentially suitable habitat exists in proposed project area. Not observed during wildlife surveys.
White tailed kite	<i>Elanus leucurus</i>	CSC	Potential to occur in the project area. Riparian woodlands may provide nesting habitat. Not observed during wildlife surveys.

Note(s): N/A: Not Applicable, FE: federally listed as endangered, SE: state listed as endangered, ST: state listed as threatened, FT: federally listed as threatened, CSSC: California species of special concern, CNPS List 1B: rare, threatened or endangered in California and elsewhere, CNPS List 2: rare or endangered in California, but more common elsewhere

B.3.4.2 Environmental Impacts and Mitigation Measures

Table B.1-3 presents measures proposed by SCE that would apply to all anticipated construction-related activities to reduce potential impacts. This analysis identifies additional impacts and mitigation measures, and presents new measures based on modifications to the applicant-proposed mitigation measures (APM) presented by SCE.

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 WITH MITIGATION INCORPORATED. Three sensitive wildlife species were identified in the proposed project area, including coastal California gnatcatcher (federally threatened), coastal cactus wren (California species of special concern), and California horned lark (California species of special concern). These species were observed in or near the proposed Viejo Substation site and adjacent utility corridor that is within the boundary of the approved Central and Coastal NCCP. These species were not identified in project areas outside of the Central and Coastal NCCP during protocol surveys conducted in 2002.

Foothill mariposa lily (*Calochortus weedii* var. *intermedius*), a CNPS list 1B species, was observed east of the Viejo Substation site during botanical surveys conducted in the spring of 2003. This small population is located in the Central and Coastal NCCP area and is within the proposed construction footprint. Thread-leaved brodiaea (*Brodiaea filifolia*), a federally threatened and State endangered species, is known to occur northeast of the project area but would not be disturbed by project construction. No

other sensitive plant species were observed in the proposed project area or outside the approved Central and Coastal NCCP.

No other sensitive plants or wildlife were observed in the proposed project area.

SCE is a participating member of the Central and Coastal NCCP and take to sensitive species identified in the plan is fully mitigated in association with the proposed project. California horned lark, a species not covered by the Central and Coastal NCCP, was observed in the vicinity of the proposed substation site but would not likely be impacted by project construction. Suitable nesting habitat does not occur on the project site and construction would occur prior to the breeding season for this species. The breeding occurs between March and July, with peak activity in May; however, nesting would likely occur offsite at more suitable habitat locations. Implementation of the measures outlined in the NCCP, specifically APM B-1, APM B-2, and APM B-3, fully mitigate impacts to the California gnatcatcher, California cactus wren, California horned lark, and foothill mariposa lily. Impacts to other nesting birds and raptors would be fully mitigated by implementation of APM B-6. SCE shall also incorporate the following mitigation measures to ensure impacts are reduced to less-than-significant levels.

BIO-1 SCE shall conduct Worker Environmental Awareness Program (WEAP) training for construction crews. All construction crews and contractors shall participate in WEAP training prior to starting work on the project. The WEAP training shall include a review of the special-status species and other sensitive resources that could exist in the project area (including their life history and habitat requirements), the locations of sensitive biological resources, and their legal status and protection under the U.S. Endangered Species Act of 1973 (6 USC 1536). The education program shall include materials describing sensitive resources, resource avoidance, permit conditions, and possible fines for violations of State or federal environmental laws. The program shall cover the mitigation measures, environmental permits, proposed project plans, reclamation plans, and any other required plans.

SCE shall be responsible for ensuring that all project personnel and subcontractors adhere to the guidelines and restrictions set forth in the WEAP training. Training shall be conducted as needed to update crews as they commence work on the project or as crews advance into sensitive areas. Project personnel shall receive a hardhat sticker or be issued a card verifying compliance with the WEAP. In addition, a record of all personnel trained during the project shall be maintained and made available for compliance verification.

BIO-2 In the event that SCE encounters unanticipated sensitive biological resources outside of the Central and Coastal NCCP (California gnatcatchers, cactus wrens, or other sensitive bird species) or species not covered by the Central or Coastal NCCP, SCE shall halt construction within 250 feet of the biological resources and notify the CPUC within 24 hours. Work shall commence after a qualified biologist, in consultation with the appropriate resource agency and CPUC, has determined that impacts to the species would be reduced to less-than-significant levels. See Figure C-1, Unanticipated Biological Resource Flowchart, within the Mitigation Monitoring Plan (Section C).

BIO-3 SCE shall limit construction activities, staging areas, and access roads to the project footprint, defined in the SWPPP, at all times. Prior to construction, SCE shall clearly delineate all work areas, approved access roads, and laydown areas. Use of areas outside the project area would be subject to approval by the CPUC. See Figure C-2, Temporary Extra Work Space Request Sheet, within the Mitigation Monitoring Plan (Section C).

BIO-4 SCE shall conduct pre-construction surveys in the Central and Coastal NCCP to quantify the number of foothill mariposa lilies present and flag known populations prior to commencing construction.

BIO-5 SCE shall conduct project-wide raptor surveys and remove trees, if necessary, outside the nesting season (Feb 1 to August 31), if possible. If a tree containing a raptor nest must be removed during the nesting season, SCE shall coordinate with the CDFG and USFWS and obtain written verification prior to moving the nest.

BIO-6 SCE shall conduct project-wide raptor surveys and remove trees, if necessary, outside the nesting season (Feb 1 to August 31), if possible. If a tree containing a raptor nest must be removed during the nesting season, SCE shall coordinate with the CDFG and USFWS and obtain written verification prior to moving the nest.

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 WITH MITIGATION INCORPORATED. Construction of the proposed project would result in the permanent removal of 0.03 acre of sage scrub and 0.337 acre of southern cactus scrub. Temporary impacts would result in the disturbance of 0.33 acre of sage scrub and 0.49 acre of southern cactus scrub associated with construction of crane pads and access roads along the length of the right-of-way. The remainder of the project would result in limited disturbance to annual grassland, disturbed habitat, and landscaped areas. Impacts to sage scrub and southern cactus scrub habitat would occur within the approved Central and Coastal NCCP. Impacts to sage scrub and southern cactus scrub habitats are fully mitigated under provisions of the Central and Coastal NCCP. No impacts to sage scrub or southern cactus scrub would occur outside of the Central and Coastal NCCP.

Construction of the proposed project would require spanning two riparian areas including Aliso Creek, located near the southern boundary of the Central and Coastal NCCP near El Toro Road, and Oso Creek, a small ephemeral drainage located near Santa Margarita Parkway. Construction activities may result in minor impacts to disturbed riparian habitat and, if necessary, SCE would obtain a Streambed Alteration Agreement from the CDFG. Impacts to riparian habitat would be limited to dragging hand lines through existing vegetation and placing a new H-frame pole in a section of disturbed non-native vegetation. No clearing of native riparian vegetation is expected to occur from the proposed project. Implementation of mitigation measures **BIO-1, BIO-2, BIO-3, BIO-4, BIO-7, BIO-8**, and appropriate APM, including APM B-3, APM B-4, APM B-5, APM B-7, would reduce impacts to riparian habitat to less-than-significant levels.

BIO-7 Construction equipment and vehicles shall not be operated within riparian habitat without obtaining a Streambed Alteration Agreement or written approval from the CDFG that a Streambed Alteration Agreement is not required. Riparian buffer zones shall be clearly marked for avoidance prior to construction. No removal of native riparian vegetation shall occur unless authorized by the Streambed Alteration Agreement.

BIO-8 SCE shall conduct restoration and re-seeding of areas temporarily disturbed by project construction and implemented the restoration plan during the optimal time for seedling establishment.

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 WITH MITIGATION INCORPORATED. Construction of the proposed project would not result in significant impacts to wetlands, vernal pools, marsh, or riverine habitats. By scheduling mass grading outside the rainy season and utilizing best management practices outlined in the Storm Water Pollution Prevention Plan (SWPPP), impacts to the Aliso Creek and San Juan Creek

watersheds would be minimized. Implementation of mitigation measures **BIO-3**, **BIO-7**, and **BIO-9**, and APM B-4 would ensure impacts to federally protected wetlands would be reduced to less-than-significant levels.

BIO-9 SCE shall provide a Storm Water Pollution Prevention Plan (SWPPP) for construction activities associated with the Viejo System Project to the CPUC prior to ground disturbance.

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 WITH MITIGATION INCORPORATED. Construction of the proposed project has the potential to substantially interfere with resident or migratory wildlife species and impede the use of wildlife nursery sites. Specifically, Coastal California gnatcatcher and southern cactus wren have been identified nesting in the proposed project area within the boundary of the Central and Coastal NCCP. However, impacts to these species are fully mitigated under the provisions of the Central and Coastal NCCP, and these species have not been identified outside the NCCP. As they have not been identified outside the NCCP area, the proposed project could not affect populations in these areas. By implementation of mitigation measures **BIO-1**, **BIO-2**, **BIO-3**, and APM B-3 (and, therefore, compliance with the NCCP), impacts to these species would be reduced to less-than-significant levels.

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

NO IMPACT. SCE does not plan to remove any native tree protected by any local policies or ordinances. If any variation is required that could potentially affect locally protected trees, SCE would be required by law to seek approval from the local regulatory agency before proceeding. Therefore, no additional mitigation is recommended.

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?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. The proposed Viejo Substation and project area north of El Toro Road are located in the Central and Coastal NCCP. Construction of the proposed project in this area would not conflict with the provisions of the approved plan, because these activities are specified and allowed for in the plan. As a consequence of SCE's participation in the NCCP, all construction activities within the plan area are fully mitigated and therefore do not conflict with the plan. The remainder of the proposed project is located along an existing utility corridor outside the approved Central and Coastal NCCP and would not conflict with any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State Habitat Conservation Plan. As project activities related to development of the Viejo System Project are fully authorized and mitigated under the NCCP, mitigation measures **BIO-1**, **BIO-2**, **BIO-6**, **BIO-7**, **BIO-9**, APM B-4, APM B-5, and APM B-6, while applicable to construction project wide, are not specifically required to avoid conflict with the NCCP. Specifically, implementation of **BIO-3**, **BIO-4**, **BIO-5**, **BIO-8**, APM B-1, APM B-2, APM B-3, and APM B-7 would ensure that the project does not conflict with any adopted plan while construction activity is conducted within the Central and Coastal NCCP.

B.3.5 Cultural Resources

CULTURAL RESOURCES				
Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in §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 pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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"/>

Significance criteria established by CEQA Guidelines, Appendix G

B.3.5.1 Setting

Prehistoric Background

The Milling Stone Period (about 6500 to 1000 B.C.) represents a long period of time characterized by smaller, more mobile groups compared to later time periods. These groups probably had a seasonal round of settlement that included both inland and coastal residential bases (Mason, Koerper, and Langenwalter 1997). Characteristic inland Milling Stone Period sites are characterized by numerous manos and metates (used in seed processing), while shell middens are common along the coast.

The period from 1000 B.C. to A.D. 650 is known archaeologically as the Intermediate Period. During this period, mortars and pestles appeared, indicating the beginning of acorn exploitation (Koerper and Drover, 1983). Use of the acorn, a storable high-calorie food source, probably allowed greater sedentism, especially in inland areas. Hunting was probably conducted using a spear thrower and darts (Koerper and Drover, 1983). Settlement patterns during this period are not well known. In the Newport Bay area, residential bases are located near water sources within three kilometers of the bay.

The project area was part of territory occupied by the Juaneño Native American group when the Spanish arrived in A.D. 1769. Juaneño settlement and subsistence systems may extend back in time to the beginning of the Late Prehistoric Period (about A.D. 650). The Juaneño lived in villages of up to 250 people and were located near permanent water sources and a variety of food resources (Earle and O'Neil, 1994). The village was the center of a territory from which resources were gathered. Work parties left the village to hunt, fish, and gather plant foods (Earle and O'Neil, 1994). While away from the village, they established seasonal residential bases, temporary camps, and resource processing locations (Mason and Peterson, 1994). Archaeologically, such locations are indicated by manos and metates for seed processing, bedrock mortars for acorn processing, and lithic scatters indicating manufacturing or maintenance of stone tools (usually made of chert) used in hunting or butchering. Overnight stays in field camps are indicated by fire-affected rock used in hearths.

The Juaneño were semi-sedentary hunters and gatherers. Acorns gathered from oak groves in canyons, drainages, and foothills were one of the most important food resources for inland groups. Acorns were ground with a mortar and pestle. Seeds from grasses, sages, goosefoot, and California buckwheat were collected and ground with manos and metates. Protein was supplied by hunting deer, rabbits, and other animals using a bow and arrow, as well as various traps and snares. Coastal dwellers collected shellfish and engaged in fishing for bay/estuary, nearshore, and kelp bed species (Mason and Peterson, 1994). Dried shellfish and fish were probably exchanged for inland products such as acorns.

Historic Period

The Spanish colonization of southern California began with the Portolá Expedition in 1769. Soon after, Franciscan missionaries led by Friar Serra began establishing missions along the coast from San Diego to north of San Francisco. Mission San Juan Capistrano was established in 1776. Juaneño Indians were brought to the mission from their villages and converted to Christianity. After Mexico became independent from Spain in 1821, the Mexican government closed the missions beginning in 1834 and granted mission lands to retired Mexican soldiers and others for use as cattle ranches. Most of the current project area lies within Rancho Trabuco, granted to the Arguello brothers in 1841 and then to Juan (John) Forster in 1846 (Aviña, 1976:88). Forster was an immigrant from Liverpool, England via Guaymas, Mexico, where his uncle based his trading ship. After working as a ship captain for his uncle, John Forster moved to San Pedro in Alta California, became a Mexican citizen in 1836, and changed his name to Juan. He worked as a shipping agent in San Pedro and married the sister of Pío Pico, who would later become the last Mexican governor of California (OCCGS, 1969:41). Forster moved to San Juan Capistrano in 1844. In addition to Rancho Trabuco, Forster also became owner of the adjacent Rancho Mission Viejo through a purchase arranged by Pico (OCCGS, 1969:41) and purchased the San Juan Capistrano Mission buildings at an auction in 1845 where Pico was the auctioneer (Hallan-Gibson, 1988:174). Forster lived in the mission buildings until 1864 when he acquired and moved to Rancho Santa Margarita y Flores (now Camp Pendleton). He acquired this rancho by paying off the mortgage of Pío Pico and his brother Andrés, the original grantees of the rancho (OCCGS, 1969:45; Aviña, 1976:87). Forster operated his holdings as a large cattle ranch. Ranching continued during the American Period that began when the Treaty of Guadalupe Hidalgo was signed between Mexico and the United States in 1848. As a result of the treaty, California became part of the United States. Two years later, as a result of the Gold Rush population increase, California became a state. Although the San Juan Capistrano Mission was returned to the Catholic Church in 1865, the federal government confirmed the rest of Forster's holdings to him. Forster's land was acquired by the partnership of O'Neill and Flood in 1882. They later divided their holdings, with the Orange County land going to the O'Neill family and the San Diego County land to the Floods. The O'Neills added row crops and orchards to the ranch's agricultural enterprises. The Rancho Trabuco land remained agricultural until the 1960s when the O'Neill family developed much of it as Mission Viejo (Rancho Mission Viejo, 2003).

The land in the project area north of Aliso Creek was part of the Rancho Cañada de los Alisos, originally granted in 1842 with additions in 1846 to José Serrano, the son of one of the soldiers on the Portolá Expedition (Aviña, 1976:90). The Serranos lived in an adobe house near the present Interstate 5 and later near Lake Forest Drive and Serrano Road (OCCGS, 1969:60,62). They lost the rancho through foreclosure in the 1860s. Much of it was later purchased by Dwight Whiting to form the Whiting Ranch (OCCGS, 1969:63). The railroad was built through the area in the late 1880s and Aliso City formed as a rail stop. It was renamed El Toro in 1890 (MyOC.com, 2003). El Toro became a small commercial hub, but the surrounding area remained agricultural until the 1970s when residential development began. The City of Lake Forest was incorporated in 1991 and included El Toro and most of the original Rancho Cañada de los Alisos.

B.3.5.2 Environmental Impacts and Mitigation Measures

- 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. Because Mission Viejo and Lake Forest were not developed until the 1960s and 1970s, most structures are less than 50 years old. A search of the Historic Property Data File (HPDF) maintained by the state Office of Historic Preservation lists one historic property in Mission Viejo and no properties in Lake Forest. The property in Mission Viejo is the *Aguaje del Cuate*, a California Point of Historical Interest located more than a mile away from the project area. The second José Serrano Adobe, although

located in Lake Forest, is listed in the HPDF under El Toro. It is listed on the National Register of Historic Places and is State Historic Landmark 199. However, it is also more than a mile away from the project area. Because no historical resources are identified in the project area, there would be no impact on historical resources.

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

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Archaeological records searched include the South Central Coastal Information Center (SCCIC) at California State University, Fullerton and the sacred lands file from the Native American Heritage Commission (NAHC). SCE archaeologists also performed a field survey for the substation site and the transmission line routes.

The NAHC reported that no Native American cultural resources are recorded in their files for the project area. The records search at the SCCIC showed that eight prehistoric archaeological sites have been recorded within one half mile of the project area. These sites are identified as CA-ORA-438, -447, -725, -825, -826, -827, -828, and -905, all located north of El Toro Road. These sites were evaluated as part of an SCE transmission line construction project in 1980 (McCoy and Phillips 1980). As a result of the evaluation, it was recommended that they, along with others in the vicinity, be included in the proposed Upper Aliso Creek National Register district (McCoy and Phillips 1980:347). No new (not previously recorded) archaeological sites were identified as a result of the field survey.

Of the eight sites identified by the records search, only one could potentially be impacted by the proposed project, based on its location relative to the proposed project. CA-ORA-905 is mapped north of Aliso Creek within the 220 kV corridor and appears to be within 100 feet of the existing transmission line. The site consists of a small lithic scatter with two side scrapers (retouched flake scrapers), one flake, and three pieces of debitage (McCoy and Phillips 1980:177). The investigators in 1980 and the SCE archaeologists for the proposed project inspected road cuts, erosional features, and drainages in an effort to determine whether subsurface cultural material was present. No artifacts or culturally altered soil were observed in these subsurface exposures. Therefore, no subsurface testing using shovel test probes or excavation units was performed. The site was relocated during the field survey for the proposed project and remains as originally recorded. Although it does not appear that subsurface cultural material is present, the previous assessment of CA-ORA-905 as a contributor to a potential National register district indicates that the site should be treated as eligible for the California Register of Historical Resources.

CA-ORA-905 may be impacted by construction of the proposed H-frame structures (SCE, 2003a). SCE has indicated that cultural resource monitoring (APM C-1) would be conducted during all earth-moving activities associated with construction of the project north of El Toro Road to minimize impacts to cultural resources that may occur in that area. However, if CA-ORA-905 is assumed eligible for listing in the National Register, and significant cultural resources (determined by a qualified archaeologist) are located during construction of the project, mitigation in the form of avoidance or data recovery prior to construction would be necessary to avoid significant impacts. By implementation of APM C-1 and Mitigation Measures CR-1 and CR-2 below, impacts to cultural resources would be reduced to less-than-significant levels.

Mitigation Measures

CR-1 SCE shall plan construction to avoid CA-ORA-905 and shall install protective fencing around CA-ORA-905 prior to construction. If avoidance is not feasible, SCE shall submit a data recovery plan to the CPUC for review and approval prior to data recovery. The data recovery plan shall include collection and analysis of all surface artifacts. Locations from where the artifacts were collected shall be documented on a site map using the point provenience method. The plan shall provide for subsurface testing, followed by recovery of a valid sample

of subsurface cultural material, if testing indicates its presence. The plan shall also include preparation of a report that provides the results of data recovery.

CR-2 SCE shall immediately halt all construction activities within 100 feet of any potential unanticipated cultural or historical resources encountered during construction. A qualified archaeological or cultural resources specialist shall examine the findings, assess their significance, and identify any additional exploratory measures deemed necessary for the further evaluation of and/or mitigation to reduce adverse impacts to any potential historical or archaeological resources. SCE shall notify the CPUC monitor **and the local jurisdiction (City or County)** immediately in the event of a potential unanticipated cultural resource. SCE shall incorporate the following provisions into the grading and construction contracts to address the potential to encounter currently unknown cultural resources:

- If the find is determined to be historical or contain significant archaeological resources, and if avoidance of the resource is not possible, the archaeological or cultural resources specialist shall prepare a plan for the methodical excavation of those portions of the site that would be adversely affected. The plan shall be designed to result in the extraction of archaeological data to address important regional research considerations and shall be submitted to the CPUC for approval prior to implementation. The work shall be performed by the archaeological or cultural resources specialist, and shall result in a detailed technical report at the conclusion of data recovery and shall be submitted to the CPUC and the California Historical Resources Regional Information Center. Construction shall not resume within 100 feet of the site without written authorization by the CPUC. Refer to the Unanticipated Cultural Resource Flow Chart (Figure C-3) the Mitigation Monitoring Plan (Section C).
- During the Worker Environmental Training Program (WEAP), SCE shall ensure that project personnel are informed that law prohibits collection of significant historical or archaeological resources. WEAP training would identify prehistoric or Native American resources including chert or obsidian flakes, projectile points, mortars and pestles, as well as dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic resources can include nails, bottles, or other items often found in refuse deposits.
- If human remains are discovered, SCE shall immediately cease all construction activities within 100 feet of the find. SCE shall cordon off the area and there shall be no further excavation or disturbance of the discovery site or any nearby area reasonably suspected to overlie adjacent human remains until SCE has complied with the provisions of State CEQA Guidelines Section 15064.5(e). SCE shall immediately notify the County Coroner and the CPUC monitor. If the remains are found to be Native American, the County Coroner shall notify the Native American Heritage Commission (Commission or NAHC) within 24 hours. The most likely descendant of the deceased Native American shall be notified by the Commission and given the chance to make recommendations for the remains. If the Commission is unable to identify the most likely descendant (MLD), or if no recommendations are made within 24 hours, remains may be re-interred with appropriate dignity elsewhere on the property in a location not subject to further subsurface disturbance after written approval by the CPUC. If recommendations from the MLD are made and not accepted, the Native American Heritage Commission would mediate the problem. Refer to Unanticipated Discovery of Human Remains Flow Chart (Figure C-4) in the Mitigation Monitoring Plan (Section C).

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

LESS-THAN-SIGNIFICANT IMPACT. The records of the Natural History Museum of Los Angeles County were checked as part of the assessment and a field survey was performed. This research suggests that numerous geologic units with high paleontological sensitivity underlie the project area. These include the Topanga Formation, Monterey Formation, Puente Formation, Oso Sand Member of the Capistrano Formation, and the Quaternary Non-Marine Terrace Sediments. Recovered specimens include marine and

terrestrial fossils. Excavation and grading for transmission line towers and for access roads have the potential to impact significant fossil remains. SCE would conduct paleontological monitoring (APM C-2) during all earth-moving activities in fossiliferous soils. Implementation of APM C-1 and C-2, which are part of the proposed project, would ensure less-than-significant impacts.

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

LESS-THAN-SIGNIFICANT IMPACT. The proposed project would not impact any known cemeteries, and no evidence of burials exists in the project location. Implementation of APM C-1 and C-2 requiring monitoring and adherence to State law and notification of the County Coroner if burials are encountered would minimize potential impacts to a less-than-significant level.

B.3.6 Geology and Soils

GEOLOGY AND SOILS

Would the project:

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

Significance criteria established by CEQA Guidelines, Appendix G

B.3.6.1 Setting

Environmental Baseline and Resources

Baseline geologic information was collected from published and unpublished geologic, soil, seismic, and geotechnical literature covering the proposed project area and the surrounding area. These data included the most recent geological maps available, USDA Soil Surveys, unpublished liquefaction studies, and relevant published articles. Field reconnaissance of the proposed substation site and transmission line alignment supplemented this literature review. The literature review and field reconnaissance focused on the identification of specific geologic hazards.

Regional Overview

The proposed project is located approximately 20 miles southeast of Santa Ana in the City of Mission Viejo. The proposed project is located on the western flank of the northern Santa Ana Mountains. The proposed 66 kV subtransmission line route crosses ridges and valleys along the gentle foothills west of the main mountains, and follows the existing electric transmission power line right-of-way.

Environmental Setting of the Project

Physiography and Topography

The proposed project is located at the north end of the Peninsular Ranges geomorphic province, between the Santa Ana Mountains and the Tustin Plain, about eight miles northeast from the coast. The topography in the project area is moderately hilly terrain punctuated with wide, sandy washes. The ridges and valleys

have been heavily urbanized. Elevations in the study area range from 1025 feet near the northern end of the proposed route to 735 feet near the southern end. The proposed subtransmission line trends north from the ridge on which the Chiquita substation is situated for about a mile and a half through a series of parks and open space within the existing SCE right-of-way. The route crosses El Toro Road and SR 241 from south to north at the Aliso Creek wash before climbing the ridge to the proposed Viejo Substation.

Geology

The proposed project site is located in the northern end of the Peninsular Ranges physiographic region (Norris and Webb, 1990) on the Santa Ana block—a fault-bounded block lying between the Elsinore Fault Zone and the coast (USGS, 1999). The Santa Ana Mountains lie 7+ miles to the east (CDMG, 1994). In the area of the site, several different Tertiary sedimentary units underlie Quaternary alluvium. One strand of the north-south trending Cristianitos Fault closely follows the proposed alignment over its entire length. This fault is mapped as pre-Quaternary and is assumed to be inactive (CDMG, 1974 and 1994). The Cristianitos Fault was active in the late Tertiary when it lifted units on the east side of the fault by perhaps thousands of feet (Schlemon, 1987). The mapped bedrock units east of the fault are mainly Miocene-age and older while west of the fault the units are Pliocene to Miocene in age. Only the Miocene Monterey Formation overlaps both sides of the fault (CDMG, 1974; USGS, 1999).

The following geologic units are present along the proposed subtransmission line alignment:

Artificial Fill. Fill has been placed throughout much of the urbanized areas to create level building pads by cut-and-fill grading. Fill underlies part of the proposed Viejo Substation.

Alluvium. Alluvium consists of poorly consolidated and poorly to well-sorted interbedded deposits of white to yellow to olive-gray silt, sand, and gravel with frequent lenses of cobbly and bouldery sand. Alluvium fills Aliso and Oso creek drainages and the smaller contributory drainages (Pleistocene to Holocene in age).

River Terrace Deposits. River Terrace deposits consist of light reddish-brown, moderately indurated to friable, poorly to well-sorted conglomerate. Rounded to subrounded clasts range in size from boulders one foot in diameter to pebbles, but average cobble-size. The matrix is reddish-brown, clayey to silty sand. River Terrace deposits are found on the ridge tops along the proposed route north of El Toro Road (Pleistocene to Holocene in age).

Capistrano Formation. This unit is a white to bluish-white, silty, fine- to medium-grained, thick-bedded to massive, poorly sorted, arkosic marine sandstone and siltstone. Contains calcareous concretions up to two feet in diameter; also contains concretionary zones, gypsum filled fractures, as well as friable sand lenses. One- to two-inch thick bentonite beds occur in the beds exposed along Aliso Creek. The Capistrano Formation is highly erodible and forms extensive shallow slides and mudflows in wet years. Marine vertebrate fossils are well known from the Capistrano, including shark teeth and whale vertebrae (Late Miocene to early Pliocene in age).

Puente Formation. This formation has two members: the Soquel member and the La Vida member, both late Miocene in age. The Puente only occurs on the ridge between Aliso and Oso creeks. The Soquel member is mapped along the proposed route for about 1000 feet starting at about 0.5 miles south of the proposed Viejo substation. The Soquel member is described as white to pale yellow-orange beds of medium to coarse-grained, poorly sorted, arkosic sandstone. The beds are usually thick and massive, but locally there are some lenses of thinly bedded diatomaceous shale and siltstone similar to rocks typical of the La Vida Member of this formation. The La Vida member occurs just south of the where the Soquel member is mapped. The La Vida member is described as white to yellow-gray and well indurated shale and siltstone with common calcareous concretions. Some of the thin fine-grained beds are diatomaceous and tuffaceous. The La Vida beds also contain marine fossils, primarily fish teeth and scales. Slopes underlain by the La Vida member are prone to landslides, while Soquel slopes tend to be more stable.

Monterey Formation. This marine-deposited shale and siltstone is white to yellow-gray with common fossils. Thin beds of blue-gray fine-grained volcanic ash are common. Superficially, this formation appears very similar to the La Vida member of the Puente Formation and is the same age. This unit is mapped at the Chiquita substation and for the first two miles north along the proposed route south of the Oso Creek crossing. The western edge of the Monterey Formation outcrop closely follows the Cristianitos fault zone. Ancient movement on this fault has fractured and deformed the rocks of the Monterey Formation. Slopes developed on fractured Monterey have very poor stability and numerous landslides.

Topanga Formation. The Topanga Formation only occurs in one small area just north of the Chiquita Substation. The Topanga Formation is a marine-deposited white to gray-yellow, poorly sorted medium- to coarse-grained arkosic sandstone and conglomeratic sandstone. The unit contains abundant fossiliferous beds and lenses and is partially cemented with calcite in some locations. Calcite-cemented locations may be very difficult to excavate. Also, because of the relatively strong nature of the Topanga Formation rocks, they form ledges. Rocks from the ledges have been known to break loose and create rockfall hazards on the lower slopes.

Faults and Seismicity

The seismicity of the Mission Viejo area is dominated by the continued active movement of numerous faults along the active margin between the North American and the Pacific tectonic plates. Nearby faults are listed in Table B.3.6-1, and discussed further in the section on Ground Shaking. Inactive faults in the vicinity of the study area include the Cristianitos fault zone that lies subparallel to the proposed subtransmission line route. The Cristianitos fault is a north-south trending high angle normal fault with two major traces that offset the mapped units of Tertiary age along the proposed alignment. The west side of the fault is displaced with an estimated normal separation of 1,500 feet where it crosses Oso Creek (CDMG, 1974). An approximately 500-foot wide zone of deformation (distortion) follows the fault. Where the Monterey Formation is crossed by the fault, the deformation can be significant with extensive fractures and small folds and drapes expressed in the thin-beds. Holocene stream deposits do not exhibit fault displacement, thus the age of the last fault movement is interpreted as Pleistocene to Pliocene (Schlemon, 1987).

Fault Rupture. The likelihood of fault rupture is very low because there is no recent seismic activity associated with the Cristianitos Fault and no evidence of movement in the Holocene (Schlemon, 1987). No other mapped faults are known in the study area.

Strong Ground Shaking. The Mission Viejo region lies between numerous active faults and would probably be subject to moderate ground shaking at some point during the life of the project given the large number of active faults in the region (CDMG, 1999). The US Geological Survey and California Geological Survey distinguished several classes of active faults: Class A faults have relatively rapid slip rates and well constrained paleoseismic data; Class B faults lack paleoseismic data, thereby increasing the uncertainty of calculated recurrence intervals (CDMG, 1996). Table B.3-6 lists active faults that could generate ground shaking in the study area.

The study area has been shaken in the past by several large, historical earthquakes. The most noteworthy historic event was the Long Beach earthquake in 1933 with an estimated magnitude of 6.3.

Soils

The study area is located in the Coastal Foothills region where soils are described as somewhat excessively drained and well drained clays on strongly sloping to very steep slopes (USDA, 1978). In this region, thin soils are developed over shallow bedrock in many places; some areas have very thin or poorly developed soil that is essentially slightly weathered bedrock at the surface. Table B.3-7 lists the soil properties relevant for the proposed project. Nearly all clayey units have high shrink-swell potential;

Table B.3-6: Active Faults in the Region of the Study Area Capable of Generating Modified Mercalli Intensities Greater than or Equal to VII.

Fault	Status*	Max. Magnitude	Closest distance to Project Area	
			Miles	(km)
Elsinore – Glen Ivy	Class A	6.8	11.5	(18.5)
Newport-Inglewood (offshore)	Class B	6.9	13.0	(20.9)
Chino-Central Ave. (Elsinore)	Class B	6.7	13.4	(21.5)
Whittier	Class A	6.8	15.6	(25.1)
Elsinore – Temecula	Class A	6.8	16.3	(26.3)
Newport-Inglewood (L.A. Basin)	Class A	6.9	17.1	(27.6)
Elysian Park Thrust	Class B	6.7	23.2	(37.3)
Compton Thrust	Class B	6.8	23.7	(38.2)
Palos Verdes	Class B	7.1	27.5	(44.2)
Coronado Bank	Class B	7.4	30.3	(48.8)
Sierra Madre Fault Zone including:				
Cucamonga thrust	Class B	7.0	Approx 40 (64)	
Raymond thrust		6.5		
Hollywood thrust		6.4		
San Andreas – 1857 Rupture	Class A	7.8	47.4	(76.3)

Sources: Blake, 2000/CDMG, 1974/CDMG, 1994/CDMG, 1996.

*Class A faults can generate a M6.5 to M9+ earthquakes with a relatively short recurrence interval. Class B faults can generate M6.2 to M7.6 earthquakes with a longer recurrence interval (mostly greater than 500 yrs) and has less expected offset than a Class A fault (CDMG, 1996).

most sandy units are highly erodible; and all units are very thin over shallow bedrock (except within Aliso and Oso Creek beds where the alluvial sand deposits are thick). The location of the proposed Viejo Substation is atop a cut-fill pad (xerothent soil). As described above in the project description (Section B.1.9), this pad would undergo additional soil engineering prior to construction of the substation, thereby greatly reducing or eliminating the impact from expansive soil. A geotechnical investigation and grading plan review was developed for the proposed substation site by Pacific Soils and Engineering, Inc. on April 11, 1994 (PSE, 1994).

Table B.3-7: Soil Characteristics Along Project Area

Soil Name	Slope	Excavation Difficulty	Susceptibility to Erosion*	Shrink-Swell
Bosanko clay	9-50%	Severe, too clayey, shallow bedrock	Moderate	Yes
Balcom clay loam	15-50%	Severe, too clayey, shallow bedrock	High	No
Bosanko-Balcom complex	15-30%	Severe, slope, either too clayey or shallow bedrock	High	Clayey areas Yes
Calleguas clay loam	50-75%	Severe, slope, shallow bedrock	High	No
Sorrento loam	2-9%	Moderate, too clayey, low strength	High	Yes
Corralitos loamy sand	Low	Cutbanks cave, low strength	Low	No
Alo clay	30-50%	Severe, slope, too clayey, shallow bedrock	Moderate	Yes
Myford sandy loam	9-30%	Severe, slope	High	Yes
Cieneba sandy loam	15-50%	Sever, slope, shallow bedrock	Moderate-High	No

Source: USDA, 1978.

*For Susceptibility to Erosion, the erosion factor (K) from Table 10 (USDA, 1978) was used. $K < 0.18$ = Low, $K < 0.30$ and > 0.19 = Moderate, $K > 0.31$ = High

Applicable Regulations, Plans, and Standards

- Uniform Building Code and “Recommended Practices for Seismic Design of Substation” from the Institute of Electrical and Electronics Engineers (IEEE) 693.
- National Pollution Discharge Elimination System (NPDES) permit required because ground disturbance exceeds five acres.
- Stormwater Pollution Prevention Plan (SWPPP) required.

As required by law, SCE would be required to adhere to the above regulations during construction and operation of the proposed project.

B.3.6.2 Environmental Impacts and Mitigation Measures

- 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.*

LESS-THAN-SIGNIFICANT IMPACT. The project does not lie within an Alquist-Priolo Earthquake Fault Zone. Though the project alignment closely follows the Cristianitos Fault, this fault has been inactive since the Holocene and likely extinct. The last apparent movement on the fault in the vicinity of the project was in the timeframe of the Pliocene to Pleistocene epochs.

ii) *Strong seismic ground shaking?*

LESS-THAN-SIGNIFICANT IMPACT. The Mission Viejo region lies in a region of active faults (see Table B.3.6-1) capable of large earthquakes that would probably result in moderate ground shaking at some point during the life of the project, given the large number of active faults in the region (CDMG, 1999). Seismic shaking is the major destructive force during a high intensity earthquake. How a specific location responds to this shaking depends on many factors such as distance from the epicenter of the earthquake, the response of underlying soils, and the characteristics of the structures being shaken. Structures located on thick, poorly consolidated materials commonly experience higher levels of shaking and subsequent damage than structures built on firm bedrock. The degree of seismic shaking (as ground acceleration) is measured by strong ground-motion detectors and is described as a percent of gravity (g). The anticipated ground acceleration in the study area that has a 10% probability of being exceeded in 50 years is 30% to 40% g (or 0.03 to 0.04g) (CDMG, 1999). The proposed Viejo Substation is located on a bedrock ridge of young sediments and would likely experience moderate to strong shaking. Tower footings placed in areas of alluvium or colluvium would likely experience severe ground shaking. Currently, there are no towers located in alluvium along the major drainages in the project area. SCE would be required by law to follow the California Building Code for construction in Seismic Zone 4 and incorporate the recommendations from the Institute of Electrical and Electronics Engineers (IEEE) regarding seismic design of substations, **to the extent applicable**. This would ensure this impact is less than significant (IEEE Standard 693-1997).

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

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Severe ground shaking can trigger landslides, cause fissures and cracks to open in the ground, unbalance rocks on cliffs and ridges causing them to fall, and can cause loose, saturated materials to liquefy. All these effects could occur at some point along the alignment of the proposed project if tower footings and the substation are not designed to withstand these stresses. Liquefaction susceptibility reflects the relative resistance of soils to loss of strength when subjected to ground shaking. Liquefaction occurs in loose, unconsolidated deposits that are saturated to depths less than 40 feet. Examples of such deposits in the project area include: (1) unconsolidated colluvium and slopewash that commonly occur in fairly thick (greater than 10 feet) blanket-like units along the lower slopes of ridges, and (2) young alluvium – often filling the lower elevations of the wide washes of Oso and Aliso creeks in the study area. When depth to groundwater is less than 40 feet and saturates these deposits, strong ground shaking could result in liquefaction. Based on the observations during the site visit, none of the tower locations or substation site are in low areas prone to a high water table. The towers are located on the lower slopes of ridges that are generally well drained, or on the ridge tops where the underlying materials are denser and not susceptible to liquefaction, as

determined by site reconnaissance and consultation of the *Seismic Hazard Evaluation of the El Toro Quadrangle* (CDMG, 2000). However, ridge top locations (Towers HF-10 through HF-13), could be susceptible to seismically generated spreading or shatter – features that have been documented along California ridge tops in recent earthquakes. However, the towers and tower footings proposed for the project would be designed to withstand expected wind forces, which far exceed stresses encountered during typical seismic events. In all aspects of transmission line construction, SCE or their contractor would follow the methods described in IEEE Std. 524-1992 “IEEE Guide to the Installation of Overhead Transmission Line Conductors,” IEEE Std. 951-1996 “IEEE Guide to the Assembly and Erection of Metal Transmission Structures,” CPUC General Order 95 and SCE Standard Specification E-4900 “Pole and Tower Footings 55 kV through 500 kV.” Therefore, potential impacts related to seismic ground failure of the transmission towers would be less than significant. Implementation of Mitigation Measure GEO-1 would ensure that the substation is also designed to avoid significant impacts from seismic-related ground failure:

GEO-1 SCE shall perform geotechnical studies to make design and construction recommendations for slope stability, liquefaction potential, subsidence, collapse, or seismic ground failure. Prior to construction SCE shall provide the CPUC with written verification that the applicable geotechnical studies have been conducted and that suitable structural features have been incorporated into the substation design to minimize damage from seismic-related ground failure.

Much of the alignment lies within the Cristianitos Fault Zone and in an area of high regional seismicity. Construction on slopes and hills along the fault zone would likely encounter severely fractured and weakened rock. APM G-1 commits SCE to conducting site-specific geotechnical investigations for general and seismic slope stability to provide input for the design of tower footings and to plan the construction methods. Implementation of APM G-1 shall be augmented with Mitigation Measure GEO-1, which includes evaluations of the potential for liquefaction, subsidence and collapse for the Viejo Substation.

iv) Landslides?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Landslides can occur as shallow slides of unconsolidated material as well as deep-seated slides in bedrock. Events that trigger landslides include seismic ground shaking, over-weighting the slope with either naturally-deposited colluvium or artificial fill, decreasing soil cohesiveness by adding water to the materials on the slope, or undercutting a slope through erosive action or man-made disturbance. According to the Seismic Hazard Zone map for the El Toro Quadrangle, landslides or potential landslide hazards occur at the first tower east of Chiquita Substation, and possibly all the towers from the third one north of the Chiquita Substation to the Viejo Substation (CDMG, 2001). This zone of high landslide susceptibility corresponds to the fractured and deformed zone along the Cristianitos Fault (CDMG, 1974). With the implementation of Mitigation Measure **GEO-1**, the impacts from seismically induced landslides would be reduced to a less-than-significant level.

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

LESS-THAN-SIGNIFICANT IMPACT. Several of the geologic units in the study area (described in the introduction) are poorly consolidated, friable, and considered highly erodible. Most of the route goes through developed land where the ground around the tower footings is landscaped and maintained. However, this is not the case for the route north of El Toro Road (existing towers M2-P3 through M2-P6) and near the proposed Viejo Substation. Implementation of Best Management Practices (BMPs) detailed in the Storm Water Pollution Prevention Plan (SWPPP) would minimize erosion and loss of topsoil. By implementation of the SWPPP, impacts from erodible soil would be reduced to a less-than-significant level (see Appendix 5 for SCE Standard BMPs).

- 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?*

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. The existing transmission lines have been in operation for many years. No evidence of project-caused instability was observed during the site visit or discovered during review of relevant historical documents. Typical, conservative construction practices, such as drainage and erosion control around tower footings and along maintenance and access roads, would serve to prevent the creation of instabilities as a result of the project along the proposed alignment. However, slopes developed on fractured Monterey Formation have very poor stability and exhibit numerous landslides. Design and construction of new tower footings placed in Monterey Formation should take the unstable nature of the geologic unit into account (Towers HF-1 through HF-8). Some of the linear alignment crosses the Topanga Formation, another unit susceptible to landslides when exposed on slopes (possibly thin or patchy occurrence at Towers HF-1, -2 or -3). The location of the Viejo Substation places it on a ridge underlain by the Capistrano Formation; this formation is known to contain bentonite beds (expansive clay) and can also contain loose, friable beds that could collapse if an unfavorable orientation of a bed occurs within the substation building pad. Areas where Capistrano formation occurs on slopes are also susceptible to landslides (Station and Towers HF-11, -12 and -13). Site-specific geotechnical studies for the Viejo Substation construction site and for each of the tower locations would be necessary to develop appropriate foundation design, construction practices, and structures that would not generate landslides or collapse. Given the construction techniques to be employed (see Section B.1.9), lateral spreading, subsidence, or liquefaction are not likely to be generated by the project construction in the study area. With implementation of Mitigation Measure **GEO-1**, the potential impacts caused by slope instability would be mitigated to a less-than-significant level.

- 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?*

LESS-THAN-SIGNIFICANT IMPACT. Many of the soil units along the alignment and at the proposed Viejo Substation are described as having shrink-swell characteristics; specifically, Bosanko clay, Bosanko-Balcom complex, Sorrento loam, Alo clay, and Myford sandy loam (see Table B.3-7). Drilled tower footings are not impacted by expansive (shrink-swell) soil because the bearing portion of the footing penetrates and lies below the affected depth. The planned soil engineering would involve stripping all loose materials in the upper layers, overexcavation to 5 feet depth and 10 feet to beyond the building footprint where both cut and fill occur beneath a building, installing drainage, and placing a layer of engineered fill at the site that would be compacted to a minimum relative compaction of 90% at or slightly above optimum moisture content (PSE, 1994). These site preparations would be sufficient to counteract the effects of expansive soil at the substation site and would not require additional mitigation.

- 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. No septic tanks are planned for the Viejo Substation, as it would be unmanned.

B.3.7 Hazards and Hazardous Materials

HAZARDS AND HAZARDOUS MATERIALS				
Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G

This section addresses the environmental setting and impacts related to the construction and operation of the proposed project involving the issues of environmental hazards and hazardous materials. Hazardous materials such as fuel, oil, and lubricants would likely be used during construction of the project. Also, during excavation, it is possible that contaminated soil would be encountered that may pose a health threat to workers. The primary reason to define potentially hazardous sites is to protect worker health and safety and to minimize public exposure to hazardous materials during construction and waste handling. Where encountered, contaminated soil may qualify as hazardous waste, requiring regulated handling and disposal.

B.3.7.1 Setting

The region of the proposed project was recently developed with commercial and residential uses from the sparsely vegetated hills of the dissected terraces of Mission Viejo. Land use prior to development may have included open rangeland or cattle grazing based on aerial photographs dating back to 1946 (EDR, 2003a). The proposed Viejo Substation site is previously undeveloped land that consists of a cut-and-fill building pad graded in the late 1990s. In addition, the site is on the top of a west-southwest-trending ridge. Drainage is away from the substation site, towards the Aliso Creek valley to the south and an unnamed creek now occupied by Glen Ranch Road to the north. The transmission line easement from the Chiquita Substation to the vicinity of the proposed Viejo Substation has been in place since before 1942, the year of the oldest found topographic map (USGS, 1942). The project region saw the first major

residential developments in the late 1970s. Residential development continued through the 1980s, eventually reaching the powerline right of way. By 1997, larger buildings and light industrial complexes had been built, mainly northwest, west, and south of the Viejo Substation (USGS, 1997).

A review of environmental databases was provided by Environmental Data Resources, Inc. (EDR) (EDR, 2003b and 2003c). The database searches covered a one-mile radius centered on the proposed Viejo Substation and another similar search centered on the intersection of Melinda and Olympiad roads. The federal and State databases listed below were reviewed:

- **Federal.** National Priority List (NPL), Proposed NPL, Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), CERCLIS No Further Remedial Action Planned, Corrective Action Report, Resource Conservation and Recovery Information System (RCRIS), Emergency Response Notification System, US Brownfields, Toxic Chemical Release Inventory System, Toxic Substances Control Act, and others.
- **State.** Annual Workplan Sites, Calsites, Toxic Pits Cleanup Act Sites, Solid Waste Information System, Waste Management Unit Database, Bond Expenditure Plan, Voluntary Cleanup Program Properties, Underground Storage Tanks on Indian Land, Facility Inventory Database, Hazardous Substance Storage Container Database, Aboveground Petroleum Storage Tank Facilities, Cleaner Facilities, Waste Discharge System, School Property Evaluation Program, Spills, Leaks, Investigation & Cleanup Cost Recovery Listing, Hazardous Waster Information System, List of Industrial Site Cleanups in Orange County, and others.

No sites were found within one-quarter mile of the proposed Viejo Substation site or along the alignment to the south. Four sites were listed within one-half mile (see Table B.3-8), and an additional seven sites lie within one mile of the substation, two of which appear in Table B.3-8. The others would have no potential impact on the project area.

Table B.3-8: Hazardous Materials Sites Near the Proposed Project

Site	Proximity to Project Alignment	Data Source	Hazard Type	Hydrologic Relationship*
Kmart 28601 Los Alisos	1/4-1/2 mile	RCRIS	Small quantity generator, no violations.	Cross-gradient
		HAZNET	Photoprocessing chemicals, recycled.	
Oakley 1 Icon Rd	1/4-1/2 mile	RCRIS	Large quantity generator, no violations.	Down-gradient
		HAZNET	Organics and organic solids, disposed of at transfer station.	
IPC Communications 20081 Ellipse Rd	1/4-1/2 mile	RCRIS	Large quantity generator, no violations.	Down-gradient
		HAZNET	Various organics and aqueous solutions, disposal not specified.	
Lake Mission Viejo Association 22555 Olympiad Dr	1/4-1/2 mile	RCRIS	Small quantity generator, no violations.	Down-gradient
		LUST	Gasoline tanks, 2 cases closed.	
		HAZNET	Tank bottom waste (to treatment), organic solids (to transfer station), hydrocarbon solvents (to recycler).	
Mobil Service Station 23002 Alicia Parkway	1/2-1 mile	LUST	Waste oil, case closed; gasoline, case status not reported.	Cross-gradient
		HAZNET	Recycled aqueous solution with <10% total organic residue.	
Orange Co. Fire Station 22426 Olympiad Rd	1/2-1 mile	HAZNET	Oil spill and diesel spill	Down-gradient

Source: EDR, 2003.

*Cross-gradient: Site lies at a similar elevation, and any contamination would be unlikely to flow towards project site.

Down-gradient: Site lies at a lower elevation, and any contamination would flow away from the project site.

Construction of new tower footings would involve excavation into soil. If new excavations occurred in areas containing hazardous materials, workers could be at risk as they move contaminated soil.

Contaminant plumes flow down-gradient (downhill). None of the sites evaluated show major releases, and leaking underground storage tank sites are in locations where migrating petroleum products would not affect the proposed project. IPC Communications and Oakley are located approximately three-quarters of a mile to the northwest of the proposed substation site. Both companies are listed in the RCRIS database as large-quantity generators of hazardous waste. No spills or accidents were reported from these sites. All other sites lying within two miles of the proposed Viejo Substation site were all either down-gradient or cross-gradient and would not pose any threat to either the substation construction or to excavation of tower footings for the tower upgrades north of Melinda Road. Since the proposed project is up-gradient or cross-gradient from these sites, any contaminated emanating from these sites would flow away from the project area.

The database review listed two sites approximately one-half mile west of the alignment and south of Melinda Road, along Olympiad Drive: Mobil Service Station at the intersection with Alicia Parkway, and Lake Mission Viejo Association on Olympiad Drive. Both sites were identified as small quantity generators of hazardous waste and as having leaking underground storage tanks, spills from such tanks. The leaking underground storage tank (LUST) sites were both case-closed, and there were no violations issued for the hazardous waste generators. The sites along Olympiad Road lie down-gradient from the alignment, and any petroleum plume would be carried away from the proposed project.

The Orange County Fire Station lies three-quarters of mile west of the alignment on Olympiad Drive. The Fire Station had two accidental releases of oil and diesel fuel. The old Trabuco Bombing Range is located east of the alignment, beyond Upper Oso Reservoir. Much of the old bombing range is now parkland and housing in Rancho Santa Margarita. The topography of the area would carry contaminants to the west and away from the alignment, into the natural drainage now occupied by O'Neill Regional Park.

B.3.7.2 Environmental Impacts and Mitigation Measures

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. Minor amounts of hazardous materials are used at the substation locations, consisting primarily of lubricating and insulating oils. Proper use and storage of these materials avoids any significant impacts associated with the use of these materials. Hazardous or flammable materials used during construction would consist primarily of vehicle fuel and oil for construction equipment. To avoid significant impacts, SCE committed to implementing Best Management Practices, which will also be a required part of the Stormwater Pollution Prevention Plan (SWPPP). These BMPs consist of:

- (1) Training of project personnel in appropriate work practices including spill prevention and response measures,
- (2) Containment of all hazardous materials at work sites and proper disposal of all such materials,
- (3) Preparation and implementation of a hazardous substance management, handling, storage, disposal, and emergency response plan, and
- (4) Properly maintained onsite hazardous material spill kits for small spills (see Appendix 5).

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 Best Management Practices, Material Delivery and Storage, 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?

LESS-THAN-SIGNIFICANT IMPACT. No schools are currently located or are planned within one-quarter mile of the proposed Viejo Substation. Currently, there are no schools within one-quarter mile of the electric transmission line, but the lines do cross over neighborhoods, parks, and near backyards. The proposed system upgrade involves replacing most of the existing towers with larger H-type structures. This would require drilling or excavating for new tower footings. Hazardous materials such as vehicle fuels and oils would be used during construction; however, SCE Best Management Practices and the Stormwater Pollution Prevention Plan (SWPPP) would reduce potential hazardous materials impacts to neighborhoods, parks, and homes to less-than-significant levels.

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 review of environmental databases for the proposed Viejo Substation using the EDR report (the environmental research included databases from: Superfund (CERCLA), Brownfields, California Toxic Pits, State and Local landfills, and leaking underground storage tanks) indicates there are no hazardous material sites that could impact the soil or groundwater beneath the proposed Viejo Substation. The EDR database revealed the presence of sites with underground storage tanks and leaking underground storage tanks in the vicinity of the project, but those sites are cross- or down-gradient and pose no environmental risk to the site. A review of the environmental database for the entire electric transmission line right-of-way indicates that there is no subsurface contamination from an up-gradient site that could have migrated to the project right-of-way where new tower footings would be excavated. The project site is up-gradient or cross-gradient from all identified LUST sites, and any subsurface contamination would flow away from the project site.

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 any part of the proposed project; therefore, there is no 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. No private airstrips intersect with of any part of the proposed project area; therefore there is no impact to public safety associated with aircraft operations.

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

NO IMPACT. Construction at the proposed substation would occur in a relatively remote light industrial area. Construction of the alignment improvements would be phased and would be limited to small areas near tower locations and at temporary work areas for stringing operations. It is anticipated that these small work areas would not impair or interfere with adopted emergency response plans or emergency evacuation plans and would have no impact. Operation and maintenance of project facilities would also have no impact to adopted emergency response plans or emergency evacuation plans. Where the proposed project abuts residential areas, the proposed project would not impede implementation of an adopted emergency response plan or emergency evacuation plan because it would not block roadways for an extended period of time, either during construction or during operation and maintenance activities. In the event of an emergency, equipment could be moved quickly. See Section B.3.15, Transportation/Traffic, for a complete discussion of project impacts to emergency vehicle access.

- 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 WITH MITIGATION INCORPORATED. There is a significant brush fire hazard in the undeveloped Mission Viejo area throughout much of the year ~~as was experienced in October of 2003 when portions of the brush beneath and adjacent to the existing alignment burned.~~ The proposed project crosses through landscaped and irrigated areas for most of its route. Only the northernmost portion of the project, between El Toro Road and Glenn Ranch Road, is at risk of wildland fires. Implementation of APM HZ-1 and Mitigation Measure HAZ-3 would reduce impacts from wildland fires to less-than-significant levels.

HAZ-1 The northern one-half mile of the alignment crosses undeveloped, fire-prone areas. Specific care should be exercised to prevent fires in this area when constructing new towers. During construction, fire prevention protocols shall be used, which include spark arrestors on vehicles and equipment; fire mats or shields during grinding, welding and torch cutting, carrying water and fire extinguishers; and not operating or parking vehicles in areas of dry, fire-prone vegetation. Operation of the project shall include brush clearing at substation facilities and maintenance of access roads consistent with applicable fire codes to provide access for fire-fighting equipment and personnel.

Brush clearing at project substations and tower access roads would reduce the risk to personnel and neighboring residents of loss, injury, or death from wildland fires to a less-than-significant level.

B.3.8 Hydrology and Water Quality

HYDROLOGY AND WATER QUALITY

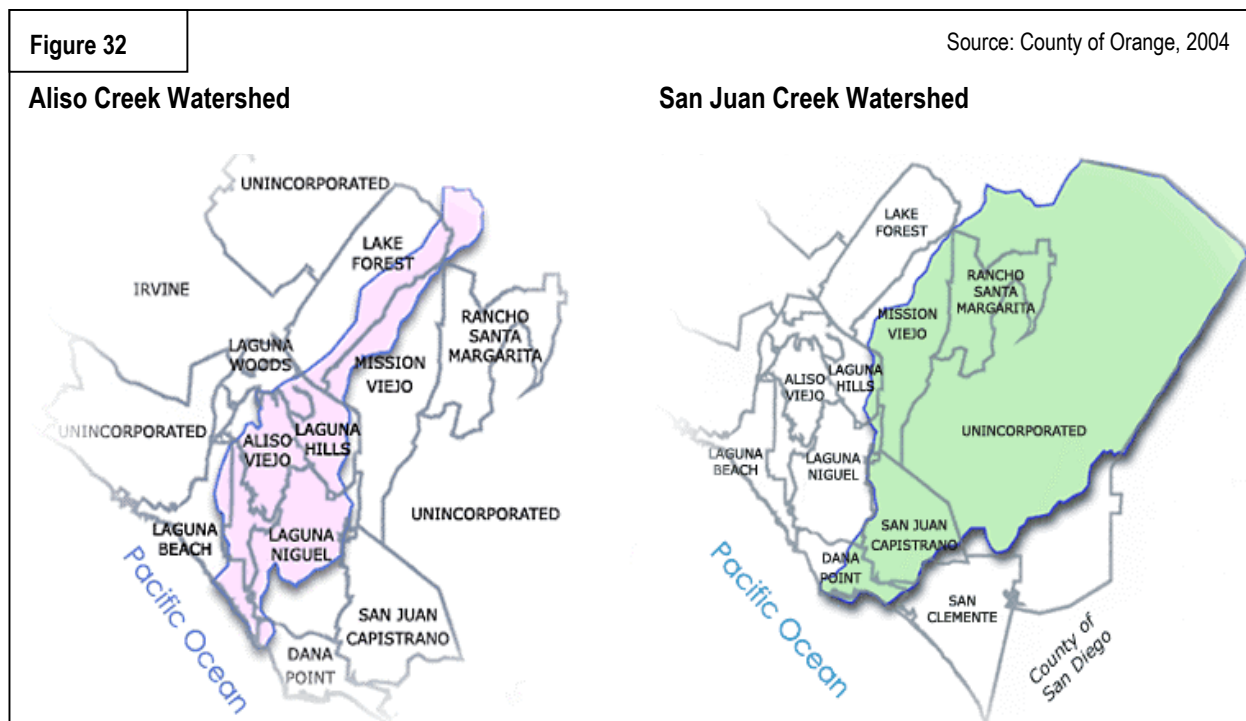
Would the project:

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
a. Violate Regional Water Quality Control Board 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 discharge such that there would be a net deficit in the 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)?	<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, or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation on or off site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 that would result in flooding on or off site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h. Place within 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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. Cause inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G

B.3.8.1 Setting

The proposed project is 3.1 miles long through a highly urban corridor. The northern fourth of the project is in the Aliso Creek watershed and the southern three-fourths are in the San Juan Creek watershed (see Figure 32). Starting at the proposed Viejo Substation on the north, the project straddles Aliso Creek then proceeds in a southeasterly direction across Oso Creek to the Chiquita Substation, through Pinecrest, La Barca, Flamenco, William S. Craycraft, and Florence Joyner Olympiad Parks (see Figure 32). The project either straddles or otherwise does not directly interfere with any of the watercourses or drainageways throughout the 3.1-mile reach.



The Aliso Creek and San Juan Creek watersheds are both characterized by channel instability and poor surface water quality. Degradation of the channels is contributing to infrastructure damage (such as damage to pipelines and other structures affected by the eroding banks), decreasing floodplain soil moisture levels, gradual disappearance of historical floodplain and riparian zone vegetation and related wildlife species, and destruction of pool-and-riffle sequences (the alternating sequence of deep pools and shallow riffles along the relatively straight course of a river).

The San Diego Regional Water Quality Control Board (SDRWQCB) designated the Aliso Creek watershed as a target watershed for priority water quality enhancement efforts. Aliso Creek is listed as a Category I Impaired Priority Watershed (Aliso-San Onofre, #18070301) in the California Unified Watershed Assessment List (USEPA, 2000). The primary causes of impairment of this watershed are non-point source pollution (USACE, 2001). Nonpoint source pollution comes from many disparate sources. As evidenced by its name, it cannot be traced back to a single polluter. Nonpoint source pollution is caused by rainfall or snowmelt moving over and through the ground, washing natural and synthetic pollutants into lakes, rivers, wetlands, coastal waters, and underground aquifers. These pollutants can include:

- Excess fertilizers, herbicides, and insecticides from agricultural lands and residential areas,
- Oil, grease, and toxic chemicals from urban runoff and energy production,
- Sediment from improperly managed construction sites, crop and forest lands, and eroding stream banks,
- Salt from irrigation or road maintenance, and
- Bacteria and nutrients from livestock, pet wastes, and faulty septic systems.

In both watersheds, the cause of poor water quality is not completely understood by the respective RWQCB and may be related to numerous factors. The most objectionable are bacteria in excess of human health standards and the presence of herbicides and pesticides.

B.3.8.2 Environmental Impacts and Mitigation Measures

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

LESS-THAN-SIGNIFICANT IMPACT. The main regulatory agency for water quality issues in the region of the proposed project is the Regional Water Quality Control Board (RWQCB). The proposed project crosses the boundary separating the Santa Ana RWQCB from the San Diego RWQCB. Under the National Pollutant Discharge Elimination System (NPDES), the RWQCBs require a General Construction Activity Storm Water Permit for storm water discharges associated with any construction activity including clearing, grading, excavation reconstruction, and dredge and fill activities that results in the disturbance of at least one acre of total land area. As the proposed project would disturb more than one acre, a Stormwater Pollution Prevention Plan (SWPPP) would be required for compliance.

There is a potential for stormwater contamination from runoff from tower sites, staging areas, and other disturbed sites during construction, but impacts are expected to be minor because the total area of disturbance would be small relative to the watershed area (less than 0.0005 percent of the watershed). Implementation of the SWPPP Best Management Practices (BMPs) for erosion and sedimentation control (see Appendix 5) would ensure the proposed project would have a less-than-significant impact on water quality standards.

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. No removal or addition of groundwater is associated with this project. Groundwater supplies and recharge would not be impacted.

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?

LESS-THAN-SIGNIFICANT IMPACT. The streams within the project area are Aliso Creek and Oso Creek. The project would not alter the alignment of these creeks. Given the project design and proposed tower locations (not in or near creeks or other fragile areas), no substantial alteration to existing drainage patterns on or in the vicinity of the site is expected. Therefore, no substantial erosion or siltation as a result of drainage alteration is expected on or off site.

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?

LESS-THAN-SIGNIFICANT IMPACT. As described in the Project Description (Section B.1.9, above), the proposed project would not include construction in or near streams or rivers. Therefore, neither construction nor operation of the proposed project would alter streams or rivers or have a substantial effect on drainage patterns. Some vegetation removal and soil disturbance would occur during clearing of towers and staging areas, resulting in an increased potential for stormwater runoff. However, the area of construction is small compared to the overall watershed area and would therefore have a negligible impact on the rate or amount of surface runoff. Implementation of erosion and sedimentation control BMPs required in the SWPPP would minimize the potential for flooding on or off site to a less-than-significant level.

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

LESS-THAN-SIGNIFICANT IMPACT. There is a potential for additional stormwater runoff as a result of construction activities such as vegetation clearing and site grading. These activities would occur at all construction locations (i.e., substation, tower locations). However, implementation of the SWPPP BMPs for erosion and sedimentation control (described above; see also Appendix 5 for typical measures) would minimize the potential to exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff to a less-than-significant level.

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

LESS-THAN-SIGNIFICANT IMPACT. There is a potential for stormwater runoff from construction areas to impact water quality. However, implementation of the BMPs required in the SWPPP would minimize the potential to degrade water quality to a less-than-significant level.

- 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. No housing would be constructed as a result of the project. Therefore, no impact for flooding of housing would occur as a result of project construction, operation or maintenance.

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

NO IMPACT. No structures would be constructed for the project that would impede flood flows or significantly redirect flood flows within the 100-year flood hazard area.

- 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. Construction of the project would not involve the creation of new or the modification of existing dams or levees. Pole sites would not be located in proximity to any existing dams or levees. Therefore, construction of project would not pose an impact in terms of exposing people or structures to an increased risk of loss, injury, or death as a result of dam or levee failure.

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

NO IMPACT. There are no structures in the immediate area. The area is not subject to inundation by seiche, tsunami, or mudflows.

B.3.9 Land Use and Planning

LAND USE PLANNING	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
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"/>

Significance criteria established by CEQA Guidelines, Appendix G

B.3.9.1 Setting

The Viejo System Project would be located within the Cities of Lake Forest, Mission Viejo, and Irvine in the County of Orange, as shown on Figure 1, Regional Vicinity Map. The site of the proposed Viejo Substation and a portion of the adjacent 220 kV and 66 kV transmission corridor would be located in the Foothill Ranch area of the City of Lake Forest. The remainder of the existing transmission corridor is located in the City of Mission Viejo.

Within Lake Forest, the site of the proposed substation is currently vacant land owned by SCE. The site is zoned Light Industrial within the Foothill Ranch Planned Community of the City of Lake Forest (City of Lake Forest, 1994, 2001). The area west of the site is also designated Light Industrial and includes industrial structures such as warehouses, light manufacturing, and business complexes along with surface streets and parking lots. The area east of the site is designated Open Space with existing access roads for the transmission corridor cutting through scrubby hills that are sometimes thickly vegetated with brush and shrubs. SCE plans to ~~donate~~deed this land to the County of Orange, and in turn, SCE would have the opportunity to establish a Viejo Conservation Bank and sell credits and/or mitigate for SCE projects elsewhere in designated Reserve Areas in the ~~as part of their membership in the County of Orange~~Central and Coastal Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan (HCP).

The portion of the Viejo System Project located north of El Toro Road is within the Central and Coastal Sub-region of the County of Orange Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan (HCP). Approved in 1996, the Central and Coastal NCCP/HCP is implemented through the dedication of lands and endowment by participating landowners. This dedication of lands and endowment legally mitigates the impacts of development on covered habitats and Identified Species, and specifies an allowable take (per Federal and State Endangered Species Acts). The proposed project would be an allowable action under the terms of SCE’s participation in the Plan. All proposed project facilities south of El Toro Road are located in the proposed Southern NCCP/HCP.

Just southeast of the site, the transmission corridor crosses the Foothill Transportation Corridor (SR 241) and into the City of Mission Viejo. From SR 241 to Los Alisos Boulevard, the transmission corridor passes through Recreation-designated areas along Aliso Creek, and passes less than 200 feet and occasionally less than 50 feet, from residential uses consisting predominately of multi-story single-family residences. From Los Alisos Boulevard to Santa Margarita Parkway, the transmission corridor is entirely within Pinecrest Park. Pinecrest Park lies within a north-south running valley with wooded west slopes and sparsely vegetated eastern slopes. The park is bordered Los Alisos Boulevard and residences to the north, residences to the east and west, and Santa Margarita Parkway and residences to the south. From Santa Margarita Parkway to the bend in the transmission alignment just east of the Olympiad Road and

Melinda Road intersection, the transmission corridor crosses recreational and more single-family residential uses. These recreational uses include Eastbrook, Birchwood, and Castlewood Parks (shown collectively on Figure 33 as Flamenco Park), as well as the Youth Athletic Parks. From the Olympiad Road and Melinda Road intersection to the Chiquita substation at the southeast corner of the Olympiad Road and Alicia Parkway intersection, the transmission corridor crosses recreational lands and passes generally less than 100 feet from homes and other residential uses. The corridor follows the west side of a generally north-south ridge, comprising the eastern border of Florence Joyner Olympiad Park. Along the southern portion of Olympiad Park, the transmission corridor runs adjacent to the backyards of homes before crossing Alicia Parkway. The Chiquita Substation is designated as a community facility and is surrounded by recreational and residential uses. Across Olympiad Road from the substation at the southwest corner of the Olympiad Road and Alicia Parkway intersection is Olympiad Plaza, an area designated for community commercial.

Overall, the transmission corridor passes near single-family residential areas and through various public recreational facilities for most of the route.

B.3.9.2 Environmental Impacts and Mitigation Measures

a. Would the project physically divide an established community?

NO IMPACT. The proposed Viejo Substation is located within an existing light industrial development in the City of Lake Forest. The nearest residential development is located approximately one mile northeast or northwest of the proposed substation site (Portola Hills and Foothill Ranch, respectively). Therefore, the proposed Viejo Substation would not physically divide or otherwise impact an established community.

The new transmission facilities would be located within an existing transmission corridor right of way in both the Cities of Lake Forest and Mission Viejo. The existing transmission corridor route within the City of Lake Forest borders light industrial development and open space without any established residential community in the project vicinity. The existing transmission corridor route within the City of Mission Viejo is in open space/recreational land and is surrounded by residential land uses. This existing transmission corridor already physically divides existing communities. However, many of these residences, particularly on the eastern border of the right of way, were built after construction of the existing transmission facilities. The placement of new transmission line facilities in the existing transmission corridor would not result in an increased physical division of these existing residential communities. Similarly, the new fiber optic cable would be installed with the existing transmission line or underground in existing vaults, and would not physically divide a community. Therefore, no impacts are expected.

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 proposed Viejo Substation, within the City of Lake Forest's Foothill Ranch Planned Community, is the only component of the proposed project that involves a new land use. All other project components would occur within existing utility corridors and would not change current land usage. The proposed Viejo Substation is consistent with the site's existing zoning, Light Industrial. The Industrial Use District Regulations for Foothill Ranch permit public utilities, including buildings, structures, and facilities relating to electrical distribution facilities (FRC, 1988).

The new transmission line and structures would be located within the existing transmission corridor through the Cities of Lake Forest and Mission Viejo. The City of Lake Forest's land use designations for the existing transmission facilities are Light Industrial and Open Space within the Foothill Ranch Planned Community (City of Lake Forest, 1994, 2001). Both designations allow for the current right of way.

The proposed Viejo System Project would be consistent with the City of Mission Viejo and the City of Lake Forest’s existing General Plans and associated zoning, specific plans, the applicable land use plans,

policies, and regulations (see Table B.3-9). The new telecommunication facilities would be located in an existing underground corridor and would therefore not conflict with the current usage or with applicable land use plans or policies. Therefore, no impacts are expected from project conflicts with any applicable land use plan, policy, or regulation.

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

NO IMPACT. The northern portion of the project area is subject to the Central and Coastal Natural Community Conservation Plan and Habitat Conservation Plan (NCCP/HCP), while the southern portion of the project area is within the region proposed for the Southern NCCP/HCP. The proposed substation and transmission facilities north of El Toro Road do not conflict with the Central and Coastal NCCP/HCP, as discussed above and in Section B.3.4, Biological Resources.

SCE’s participation in the Central and Coastal NCCP/HCP and implementation of biological measures APM B-1 to B-7 and BIO-1 to BIO-9 mitigate potential impacts to covered species identified by the NCCP/HCP (see Section B.3.4, Biological Resources). The proposed transmission facilities south of El Toro Road are not expected to conflict with the proposed Southern NCCP/HCP as the plan would allow for the existing transmission corridor and its associated operations and maintenance activities. The proposed project does not substantially alter the use of the corridor. Therefore, no impacts to either NCCP/HCP are expected from the proposed project.

Table B.3-9: Regulations, Plans, and Standards Consistency – Land Use

Plan, Policy, or Regulation	Project Consistent?
City of Lake Forest – Foothill Ranch Planned Community (Zoning)	Yes
City of Lake Forest General Plan	Yes
City of Mission Viejo General Plan	Yes
City of Mission Viejo Zoning Code	Yes

B.3.10 Mineral Resources

MINERAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	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"/>

Significance criteria established by CEQA Guidelines, Appendix G

B.3.10.1 Setting

The proposed substation site is located in the City of Lake Forest and within the Foothill Ranch Master Planned Community. The 3.1-mile segment of existing 220/66 kV corridor is located in both the City of Lake Forest and the City of Mission Viejo. According to the General Plan for the City of Lake Forest and the Foothill Ranch Planned Community Specific Plan, the proposed substation site is not delineated as a locally important mineral resource recovery site. In addition, the 220/66 kV transmission line corridor is not located in an area that contains known mineral resources or that is delineated as a locally important mineral resource by the City of Lake Forest General Plan, Foothill Ranch Planned Community Development Specific Plan, or the City of Mission Viejo General Plan. The closest known resources are found at the El Toro Materials Sand and Gravel Quarry, located west of Portola Parkway just south of the SR 241 Foothill Transportation Corridor.

Regulatory Context

The California State Legislature enacted the Surface Mining and Reclamation Act (SMARA) in 1975 to limit new development in areas containing significant mineral deposits. SMARA calls for the State Geologist to classify the lands within California based on mineral resource availability. Although California has a wide range of mineral commodities, it was recognized that regionally produced construction materials, like sand, gravel, and crushed stone, are used in every urban area of the State and require special classification data. The California Division of Mines and Geology (CDMG) has classified urbanizing lands according to the presence or absence of significant sand, gravel, or stone deposits that are suitable as sources of aggregate. These areas, called Mineral Resource Zones (MRZ), are described below:

- **SZ:** Scientific Resource area containing unique or rare occurrences of rocks, minerals, or fossils that are of outstanding scientific significance.
- **MRZ-1:** Mineral Resource Zone where adequate information indicates that no significant mineral deposits are present or likely to be present.
- **MRZ-2:** Mineral Resource Zone where adequate information indicates that significant mineral deposits are present, or there is a high likelihood for their presence and development should be controlled.
- **MRZ-3:** Mineral Resource Zone where the significance of mineral deposits cannot be determined from the available data.
- **MRZ-4:** Mineral Resource Zone where there is insufficient data to assign any other MRZ designation.

The classification system is intended to ensure that through appropriate lead agency policies and procedures, mineral deposits of statewide or regional significance are considered in agency decisions. The MRZ-2 classification would automatically warrant protective mitigation. Each lead agency develops and adopts mineral resource management policies to incorporate into its planning policies, based on the mineral classification data provided. Most of the comprehensive mineral resource mapping in California

has been completed for urban areas where there is a high probability that converted land uses would be incompatible with mining.

Mineral Resource Zones

In 1994, Pacific Soils Engineers conducted a geotechnical evaluation of the proposed Viejo Substation site, and found no evidence of a mineral resource classified MRZ-2. This same year (1994), the CDMG (currently known as the California Geological Survey), published an updated report identifying significant sand and gravel resources in the Orange County region, indicating mineral resource areas only in portions of the Santa Ana River, Santiago Creek, San Juan Creek, and Arroyo Trabuco. No mineral resource areas were identified in close proximity to the proposed project site. In addition, according to Russel Miller from the California Geological Survey, the proposed project area is not located in a known MRZ-2 (California Geological Survey, 2003).

B.3.10.2 Environmental Impacts and Mitigation Measures

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 California Geological Survey (formerly CDMG) defines mineral resources in urbanizing lands according to five classifications, presented above. Development on or impacts to lands classified as MRZ-2 would constitute a significant impact to mineral resources, while impacts to the other classifications (SZ, MRZ-1, MRZ-3, or MRZ-4) would not. The proposed project is not located in or adjacent to a known mineral resource zone classified as MRZ-2. Therefore, the project would not result in the loss of availability of value to the region and the residents of the State. No impacts would occur.

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. According to the General Plan for the City of Lake Forest and the Foothill Ranch Master Planned Community, the proposed substation site is not delineated as a locally important mineral resource recovery site. In addition, the 220/66 kV transmission line corridor is not located in an area that contains known mineral resources or is delineated as a locally important mineral resource by the City of Lake Forest General Plan, Foothill Ranch Planned Community Development Specific Plan or the City of Mission Viejo General Plan. Therefore, the proposed project would not result in the loss of availability to a locally important mineral resource recovery site. No impacts would occur.

B.3.11 Noise

NOISE				
Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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"/>

Significance criteria established by CEQA Guidelines, Appendix G

B.3.11.1 Setting

Existing Conditions

Community Noise. 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 customarily 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.

Human activities cause community noise levels to be widely variable over time. 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 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 levels are usually closely related to the intensity of nearby human activity. Noise levels are generally considered low when ambient levels are 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.

The 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).

Noise Environment in the Project Area. The range of noise sources in the project area depends on the range of human activity and land use near the proposed substation or traversed by the transmission corridor. Ambient noise levels are lowest in the open space areas and away from the major roads and light industrial uses. Noise levels in the project area are the highest near the Foothill Transportation Corridor (SR 241). SCE conducted noise monitoring at the proposed substation site and the nearest off-site receiver (commercial/light-industrial). The existing minimum ambient noise levels drop to less than 35 dBA between the hours of 3 and 4 a.m., and during the daytime, the noise levels average around 45 dBA (p. 97, SCE, 2003a).

Noise Sensitive Areas. Noise sensitive receptors and noise sensitive areas are distributed throughout the project area. Low- and medium-density single-family residences can be found along the transmission corridor in the City of Mission Viejo. Schools, religious facilities, hospitals, and parks would also be considered sensitive. The right-of-way is located within Pinecrest Park or Flamenco Park and Youth Athletic Parks for much of the project alignment in Mission Viejo. In some cases, the yards of residences occur within about 50 feet of the right-of-way and within about 25 feet from access roads that could be used during construction of the transmission line. The sensitive receptor nearest to the proposed substation site is a church complex south of SR 241, approximately one-half mile from the site. Open space, industrial, and commercial areas are only considered noise sensitive if they are used for recreation.

Applicable Regulations

Regulating environmental noise is generally the responsibility of local governments. The U.S. EPA once published guidelines on recommended maximum noise levels to protect public health and welfare (U.S. EPA, 1974), and the State of California maintains recommendations for local jurisdictions in the General Plan Guidelines published by the Governor's Office of Planning and Research (OPR, 1998). The following summarizes the local requirements.

City of Lake Forest. The City of Lake Forest Municipal Code restricts noise that may affect residential property. Sources that create simple tone noise (such as hum) must not exceed 50 dBA during the daytime (7:00 a.m. to 10:00 p.m.) or 45 dBA during the night at any residential use (Section 11.16.020, §4-6-5). There is an exemption, however, for construction noise such that construction occurring during the daytime hours of 7:00 a.m. to 8:00 p.m., Monday through Saturday, does not have to comply with the limits (§4-6-7). Construction is prohibited at nights and on Sundays or holidays, unless a variance is issued.

City of Mission Viejo. The General Regulations in the City of Mission Viejo Code of Ordinances (Section 9.22.025) includes limitations that apply to any noise source that affects residential property. Similar to the restrictions in Lake Forest, sources of simple tone noise (such as hum) must not exceed 50 dBA during the daytime (7:00 a.m. to 10:00 p.m.) or 45 dBA during the night at any residential use. Also similar to requirements in Lake Forest, there is an exemption for construction noise during the daytime hours of 7:00 a.m. to 8:00 p.m., Monday through Saturday (Section 9.22.035), and construction on Sundays or holidays is prohibited.

Vibration. Local municipalities do not commonly regulate Groundborne vibration, and it would only be a concern during limited occasions (such as rock drilling, or the pass-by of a heavy truck on a rough surface within very close proximity of a residential receptor). Both the Cities of Lake Forest and Mission Viejo limits vibration that can disturb adjacent land uses. Section 9.86.070 of the regulations for light industrial

land uses in Lake Forest prohibits vibration that is discernible without instruments at or beyond a property line of the source. Section 9.20.015 of the Mission Viejo General Regulations states that any nuisance source of vibration must be muffled or controlled in order to prevent the nuisance. These standards do not appear to apply to groundborne vibration related to construction.

B.3.11.2 Environmental Impacts and Mitigation Measures

- 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?*

LESS THAN SIGNIFICANT DURING CONSTRUCTION. Construction of the project would require short-term use of bulldozers, graders, drill rigs, cranes, compressors, generators, haul trucks, and other equipment in close proximity to residential areas (see Figure 7 for exact locations of poles to be removed and/or replaced). During the anticipated 14-month construction schedule, concurrent activity would be necessary because work for the new substation would likely overlap with work for the modified 66 kV circuit and other project components. Construction activity for substation modifications would be focused at the proposed Viejo Substation site, which does not have any adjacent sensitive receptors. Work for the new transmission line would be distributed along the 3.1-mile corridor through the City of Mission Viejo and into Lake Forest. Residential and recreational land uses are adjacent to this corridor. Noise levels for typical pieces of construction equipment (at 50 feet) that would be used are listed in Table B.3-10.

Table B.3-10: Typical Noise Levels for Construction Equipment

Equipment	Typical Noise Levels (dBA, at 50 feet)	Equipment	Typical Noise Levels (dBA, at 50 feet)
Front loaders	85	Forklifts	76-82
Backhoes, excavators	80-85	Pumps	76
Tractors, dozers	83-89	Generators	81
Graders, scrapers	85-89	Compressors	83
Trucks	88	Pneumatic tools	85
Concrete pumps, mixers	82-85	Jack hammers, rock drills	98
Cranes (movable)	83	Pavers	89
Cranes (derrick)	88	Compactors	82
		Drill rigs	70-85

Sources: Adapted from U.S. EPA, 1972 / U.S. DOT, 1995.

Construction activities within the substation site, the project right-of-way, and any staging areas would create both intermittent and continuous noises. Intermittent noise would result from periodic, short-term equipment operation, such as jackhammer use during foundation work. Continuous noise would result from equipment operation over longer periods, such as steady generator use. The maximum intermittent construction noise levels would range from 85 to 92 dBA at 50 feet for foundation development activities and could range up to 98 dBA for rock drilling, if necessary. SCE does not currently propose to use helicopters for line stringing. If a helicopter is ultimately used for stringing conductor across the Foothill Transportation Corridor, its noise would not affect any one location for long, but it could intermittently reach as high as 95 dBA for locations outside the project right-of-way. Continuous noise levels from construction would be lower because most equipment would not be operated steadily. At 50 feet, continuous noise levels could range from 70 to 82 dBA. At 100 feet, the levels could be between 64 to 76 dBA, and at 200 feet, between 58 to 70 dBA. Because sound fades over distance, these levels would diminish over additional distance and could be reduced further by intervening structures. In addition, the City of Lake Forest and the City of Mission Viejo restrict the level and hours of construction noise. In

general, both cities restrict construction activity to daylight hours and provide general dBA limits (see above for specifics of each city's restrictions).

Construction would also cause noise off site, primarily from commuting workers and from trucks needed to bring materials to the construction sites. Haul trucks would make trips to bring poles, conductor line, and other materials to the construction sites and remove excavated soil and waste. The peak noise levels associated with passing trucks and commuting worker vehicles would be approximately 70 to 75 dBA at 50 feet, and would be concentrated along the major arterial streets and smaller streets and access roads leading to individual construction sites.

Depending on the persistence of construction activity and its proximity to the residential and other sensitive receptors in the project area and along haul routes, construction noise could generate complaints. Helicopter, operations, if necessary, would need to be coordinated with local jurisdictions and the Federal Aviation Administration, but they could occur at night near the Foothill Transportation Corridor. Most other construction activities would occur during the daytime, and would not be expected to cause a violation of the local standards regarding timing of construction activity and associated noise. Because daytime construction noise would be allowed by the local ordinances, this impact would be less than significant. The potential for construction noise to generate complaints from nearby sensitive receptors is, however, considered to be a potentially adverse effect of the project. To address these potential impacts, SCE would implement the following APM to minimize noise impacts associated with the proposed project. By utilizing the APM listed below, impacts from construction-related noise would be reduced to levels that are less than significant.

- APM N-1: SCE or its construction contractor shall limit idle time to 5 minutes for small trucks and equipment unless the vehicle is required to support a specific construction activity
- APM N-2: SCE shall limit the number of construction vehicles to the minimum required to perform the construction activity.
- APM N-3: SCE shall maintain proper mufflers on all internal combustion engines used in construction.
- APM N-4: SCE shall route traffic, where feasible, to avoid noise-sensitive areas.
- APM N-5: SCE shall provide a toll free telephone number for use by the general public.
- APM N-6 SCE shall maintain a public liaison officer to address concerns from the public.
- APM N-7: SCE shall notify all businesses and residence within 300 feet of the project via a public Fact Sheet, prior to construction.

LESS-THAN-SIGNIFICANT IMPACT DURING OPERATION. For long-term noise impacts associated with operations of the proposed project, refer to Section B.3.11.2(c), below.

b. Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

LESS-THAN-SIGNIFICANT IMPACT. Vibration levels from construction equipment and activities might be perceptible to receptors in the immediate vicinity of the construction sites. The activity that would be most likely to cause groundborne vibration would be the pass-by of heavy trucks on uneven surfaces and rock drilling. SCE would not perform any blasting to grade the substation site. The level of groundborne vibration that could reach sensitive receptors would depend on the distance to the receptor, what equipment is used, the soil conditions surrounding the construction site. The impact from construction-related groundborne vibration would be short-term and confined to only the immediate area around activity (within about 25 feet). As pole locations are more than 25 feet from the edge of the right-of-way, no residence would be exposed to excessive vibration, and the impact would be less than significant. Implementation of above APM N-1 through N-7 would further reduce the impact.

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

LESS-THAN-SIGNIFICANT IMPACT. The permanent noise sources that would occur with the project are limited to the corona effect of the transmission line, transformer operation at the substation, and routine inspection and maintenance of the line and substation.

Audible power line noise is generated from corona discharge, which is usually experienced as a random crackling or hissing sound. The potential for noise from corona discharge is greatest with high voltage lines during wet weather or near inconsistencies or cuts in the metal surface of the line itself. For example, noise generated by a 220 kV line during wet weather conditions is usually expected to be about 40 dBA at 40 feet from the outer conductor. Corona noise associated with the proposed 66 kV line would be considerably less and barely audible to noise receptors along the route, such as residences near the right-of-way, due to its relatively low voltage and the existing ambient noise levels, which mask the corona noise (SCE, 2003a). Ambient noise in the project area includes residences, businesses, roadways, and the existing transmission lines. With the proposed improvements to the 66 kV line, the polymer insulators may reduce the noise levels when compared to the existing 66 kV line, which uses porcelain insulators (SCE, 2003a). Because no substantial increase in noise levels would occur, operational noise impacts associated with corona noise would be less than significant.

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 pure-tone 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 equipment operating, the worst-case noise levels from the transformer would be less than 45 dBA at locations within the substation site, and less than 35 dBA at the nearest off-site receiver (a commercial/light-industrial property approximately 450 feet from the proposed transformer location) (SCE, 2003a). Given the daytime average noise levels of approximately 45 dBA, the equipment at the proposed substation site would not create a noticeable change in daytime noise levels at any off-site receiver. The equipment noise could only be noticeable during the quietest hours of the night, at locations within about 450 feet of the transformers. Because there are no residential receivers, or otherwise noise-sensitive land uses, in the immediate vicinity of the substation site, the equipment at the substation would not cause a substantial noise increase, and it would not have the potential to cause a violation of local noise standards.

Routine inspection and maintenance of the transmission lines would be accomplished with only periodic visits to the transmission line corridor and proposed substation. Visits to the substations would not normally involve a large crew. Additional noise produced at the substation may occur during activation of circuit breakers. Because each of these noise sources would be infrequent and isolated, no substantial noise increase would occur.

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. Noise impacts associated with construction would mainly affect those receptors nearest the right-of-way, particularly those near pole removal/replacement sites (see Figure 7). Short-term construction noise impacts would be less than significant with implementation of APM N-1 through N-7, described in Section B.3.11.2 (a), above.

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?

LESS-THAN-SIGNIFICANT 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. Noise from short-term construction would not permanently contribute to existing noise levels, which may include occasional unrelated aircraft noise. SCE would not

use helicopters for project-related maintenance or inspection activities because the project corridor is readily accessible from the ground level.

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.3.12 Population and Housing

POPULATION AND HOUSING

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	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"/>

Significance criteria established by CEQA Guidelines, Appendix G

B.3.12.1 Setting

The Viejo System Project study area consists of a proposed substation site and a 3.1-mile segment of an existing transmission corridor located between the proposed substation site and the existing Chiquita Substation. The proposed substation site is located in the City of Lake Forest and is vacant. The transmission corridor traverses portions of the Cities of Lake Forest and Mission Viejo and contains existing electrical transmission lines. U.S. Census Year 2000 data for population, housing, and employment for the Cities of Lake Forest and Mission Viejo, as well as Orange County is presented in Table B.3-11.

Table B.3-11: Year 2000 Existing Conditions

Population, Housing, and Employment: Cities of Lake Forest and Mission Viejo, and Orange County

Location	Population	Housing Units		Employment	
		Total Units	Vacancy Rate	Total Employed ¹	In Construction Trades
City of Lake Forest	58,707	20,486	0.8% Owner 4.1% Rental	32,407	1,867
City of Mission Viejo	93,102	32,985	0.6% Owner 2.3% Rental	48,629	2,200
Orange County	2,846,289	969,484	0.9% Owner 3.0% Rental	1,411,901	81,822

¹Accounts for population greater than 16 years of age and in Labor Force
Source: U.S. Census, 2000.

B.3.12.2 Environmental Impacts and Mitigation Measures

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 activities resulting from project implementation would be considered short-term and temporary. As shown in Table B.3-11, Orange County contains a considerable construction workforce (81,822 persons in Construction Trades). The proposed project would require a total of 43 construction personnel (refer to Table B.1-2). It is assumed that these construction personnel would come from within Orange County or adjacent areas and would not generate a permanent increase to population levels or result in the decrease in available housing. No construction impacts to existing or future population growth levels would occur as a result of the proposed project.

The proposed substation would be an unmanned, automated substation and would not require additional employees for operation. Furthermore, the proposed project does not involve the construction of any new residential housing units. As such, implementation of the project would not generate a direct increase in the permanent population of the area or cumulatively exceed official regional or local population projections. The purpose of the Viejo System Project is to improve reliability and meet projected electrical load requirements in the rapidly urbanizing south Orange County area. While the project is intended to meet existing and future electrical demand generated by residential and business uses, the proposed project itself would not induce population growth either directly or indirectly. Thus, no impacts associated with induced population growth would occur.

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

NO IMPACT. No residential properties currently exist within the proposed substation site or within the existing transmission line corridor. No housing or persons would be displaced by the project. Therefore, implementation of the proposed project would not result in the displacement of any housing, including affordable housing, nor would it necessitate the construction of replacement housing. No impacts would occur.

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

NO IMPACT. As stated in the response to 3.12.2 (b) above, there is no existing housing within the project site, including the proposed substation site or within the existing transmission line 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.3.13 Public Services

PUBLIC SERVICES

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:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G

B.3.13.1 Setting

The new substation would be located within the City of Lake Forest, while much of the 220/66 kV corridor and the existing Chiquita Substation are located within the City of Mission Viejo. Table B.3-12 lists applicable public service providers by jurisdiction.

Table B.3-12: Service Providers by Jurisdiction

Jurisdiction	Public Service System Provider
City of Lake Forest	<p>Fire protection – Orange County Fire Authority; Stations Serving the City of Lake Forest - Station 19 (23022 El Toro Rd), Station 42 (19159 Ridgeline Rd), Station 54 (19811 Pauling Ave)</p> <p>Police protection – Orange County Sheriff's Department</p> <p>Hospitals – None within City limits</p> <p>Schools – Saddleback Valley Unified School District</p>
City of Mission Viejo	<p>Fire protection – Orange County Fire Authority; Stations Serving the City of Mission Viejo - Station 9 (26312 Via Curacion), Station 24 (25862 Marguerite Pkwy), Station 31 (22426 Olympiad Rd)</p> <p>Police protection – Orange County Sheriff's Department</p> <p>Hospitals – Charter Behavioral Health System of Southern California, Mission Hospital Regional Medical Center</p> <p>Schools - Capistrano Unified School District, Saddleback Valley Unified School District</p>

Sources: Orange County Fire Authority, 2003 / Orange County Sheriff's Department, 2003 / Mission Viejo, 2003 / Mission Viejo, 2003d / CUSD, 2003 / EDP, 2003.

B.3.13.2 Environmental Impacts and Mitigation Measures

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:

a) Fire protection?

LESS-THAN-SIGNIFICANT IMPACT. The Orange County Fire Authority provides fire protection to the project area. The nearest fire stations serving the project area are identified in Table B.3-12. A portion of the right of way (less than one quarter-mile) within the City of Mission Viejo is located within a Very High Fire Hazard Severity Zone, as designated by the California Department of Forestry and Fire Protection (CDFFP, 2000). However, as a modification to an existing utility corridor, the proposed project would not alter any existing fire hazard. The existing fire hazard is a result of utility infrastructure

within a Very High Fire Hazard Severity Zone. However, since the proposed project would not substantially change the usage or types of facilities within the right-of-way, the proposed project would not alter the current fire hazard and would not create or increase existing fire hazard risk conditions.

Construction activities are not anticipated to increase the demand for fire protection services in the area. Mitigation Measure HAZ-2 and APM HZ-1 would further reduce the fire hazard during construction (see Section B.3.7.2 [g]), while APM HZ-2 would reduce the operational fire hazard. APM HZ-2 commits SCE to maintaining brush clearance in accordance with applicable State and federal laws. Pursuant to Section 51179 of the Government Code, the owner of property located within a Very High Fire Hazard Severity Zone is subject to the maintenance requirements of Section 51182 of the Government Code. Following construction, the proposed substation would be unmanned and the project would not result in any direct or indirect increase to existing population levels. Compliance with applicable fire prevention APM (SCE fire prevention protocols) and Government Code Sections 51179 and 51182 would be sufficient during construction and operation of the proposed project to reduce fire hazards that could increase the demand for fire protection to a less-than-significant level. As such, the proposed project would not create the need for new or altered public fire protection facilities. By not inducing greater demand for fire protection services, the proposed project would not result in the need for new or physically altered facilities. Section B.3.15 (e) discusses potential construction impacts to emergency fire personnel and vehicle access.

b) Police Protection?

LESS-THAN-SIGNIFICANT IMPACT. The Orange County Sheriff's 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. Upon construction, the proposed project would include security features such as fencing and nighttime security lighting, which would help reduce the demand for police protection. The proposed substation would be unmanned and the project would not result in any direct or indirect increase to existing population levels. As such, the proposed project would not create the need for new or altered police facilities, the construction of which could have an environmental impact. Section B.3.15 (e) discusses potential construction impacts to emergency police personnel and vehicle access.

c) Schools?

NO IMPACT. The proposed project would require a total of 43 construction personnel (refer to Table B.1-2, Proposed Substation Construction Personnel and Equipment Summary). These construction personnel would come from within the Orange County area and would not generate a permanent increase to population levels (see Section B.3.12, Population and Housing). The proposed substation would be an unmanned, automated substation and would not require additional SCE employees for operation. Since the proposed project would not induce additional permanent households to the area, no increase in demand for school facilities would occur and no new school facilities would be required. As such, there would be no long-term impact on existing school capacities or facilities, nor would the proposed project require construction of additional school facilities, the construction of which could have an impact on the environment.

d) Parks?

NO IMPACT. As described in B.3.13.2(c) above, 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 for a complete discussion the proposed project's potential impacts to parks and other recreational facilities.

e) Other Public Facilities?

NO IMPACT. The proposed project would not significantly affect other governmental services or public facilities. As discussed in Section B.3.15, Transportation/Traffic, no new public roadways requiring maintenance are proposed as part of the project. Furthermore, no improvements to existing public roadways would be necessary as a result of the proposed project. Expansion or improvement to government services or infrastructure would not be necessary as a result of the proposed project. Therefore, no impacts to other public facilities would occur.

B.3.14 Recreation

RECREATION	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<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 recreational facilities, which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Would the project result in permanent and/or temporary impacts, such as possible disruption of recreational activities, affecting the recreational value of existing facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G

B.3.14.1 Setting

Although the proposed subtransmission line route would traverse a relatively short distance of approximately 3.1 miles, there are several recreational facilities in the immediate vicinity. The area surrounding the project includes city, county, and regional parks, including the 4,400-acre Whiting Ranch Preserve. The proposed substation and project subtransmission line route would be located adjacent to or would cross a variety of trails, bikeways, and recreational facilities.

For the purposes of environmental analysis, recreational resources are considered sensitive land uses because they are particularly susceptible to disturbances from noise, traffic, dust, or other environmental impacts that could decrease the value of the recreational experience. Activities occurring during the construction or operation of a project in the vicinity of recreation areas have the potential to restrict access or preclude use of the recreation facilities. In general, recreational resources (including parks, open space, playgrounds, and playfields), recreational activities (such as bicycling, hiking, boating, etc.), and recreationists are considered to be sensitive receptors for the purposes of environmental impact assessment.

Table B.3-13 lists the recreational resources within approximately one half-mile of the proposed substation site and subtransmission line route. See Figure 33 for locations of recreational resources with respect to tower removal and replacement locations. More detailed descriptions of the recreational resources are provided below.

The following describes the location of each of these recreational resources relative to the project along with a description of that resource:

- **O'Neill Regional Park.** O'Neill Regional Park is approximately ½-mile east of the Chiquita Substation at the southern end of the proposed project. The park encompasses over 3,100 acres of oak/sycamore woodlands, grassy meadows, riparian, chaparral, and coastal sage scrub habitats. Park facilities include trails for hiking, biking, and horseback riding, picnic areas, baseball fields, camping areas, and playgrounds (County of Orange, 2003a)
- **Orange County Bikeways.** The proposed project runs parallel to the Olympiad Road Bikeway for approximately ½-mile at the southern end of its route, crosses the Alicia Parkway, Melinda Road, Santa Margarita Parkway, Los Aliso Boulevard, and El Toro Bikeways, and parallels an off-road trail/bikeway referred to as Edison Trail for approximately ½-mile at the northern end of its route. With the exception of the Edison Trail, all other bikeways described above are on-road bikeways with striped lanes designating them on the streets (Orange County Transportation Authority, 2003).

Figure 33 Recreational Areas Along the Transmission Corridor (See links on Table of Contents)

Table B.3-13: Recreational Resources by Jurisdiction Along proposed project Route

Jurisdiction / Recreational Resource	Hiking	Biking	General/ Local	Athletics	Other
County of Orange					
O'Neill Regional Park	●	●	●	●	●
Orange County Bikeways		●			
Whiting Ranch Wilderness Park	●	●	●		●
City of Mission Viejo					
Birchwood Park	●		●		●
Castlewood Park			●		
Eastbrook Park	●		●	●	●
Florence Joyner Olympiad Park	●		●	●	●
Melinda Park			●	●	●
Pinecrest Park	●		●	●	●
Youth Athletic Park			●	●	●
Private					
Lake Mission Viejo			●	●	●

Source: City of Mission Viejo, 2003b; County of Orange, 2003a; County of Orange, 2003b.

- Whiting Ranch Wilderness Park.** Whiting Ranch Wilderness Park is approximately ½-mile north of the proposed Viejo Substation. This park is approximately 4,300 acres and includes 15 miles of graded roads and single-track trails suitable for hiking, biking, and horseback riding. The park area includes portions of Red Rock Canyon, Borrego and Aliso Creeks and encompasses scenic rock formations, riparian and oak woodlands, rolling grassland hills, and steep slopes of chaparral and coastal sage scrub (County of Orange, 2003b).
- Birchwood Park.** The existing 220 kV and 66 kV lines cross in a roughly north-south direction overhead and slightly east of the park. Figure 33 indicates the location of the park relative to the proposed project. The park is approximately two acres and includes a walking trail and a small picnic area (City of Mission Viejo, 2003b).
- Castlewood Park.** The existing 220 kV and 66 kV lines cross in a roughly north-south direction overhead of the park. Figure 9 indicates the location of the park relative to the proposed project. The park is 0.95 acres of grassy open space (City of Mission Viejo, 2003b).
- Eastbrook Park.** The existing 220 kV and 66 kV lines cross in a north-south direction overhead of the park. Along this segment of the project, the existing 66 kV TSP structures to the north and south of the park would be removed and replaced with H-frame structures. Figure 33 indicates the location of the park relative to the proposed project. The park is 4.8 acres and includes a walking trail, picnic area, and play structure as well as a soccer/football field (City of Mission Viejo, 2003b).
- Melinda Park.** Melinda Park is approximately ½-mile east of the proposed project at the intersection of Melinda Road and Santa Margarita Parkway. Melinda Park is 8.3 acres and includes softball and soccer/football fields, a basketball court, two playgrounds, and picnic areas (City of Mission Viejo, 2003b).
- Pinecrest Park.** The existing 220 kV/66 kV transmission corridor traverses the eastern boundary of Pinecrest Park in a roughly north-south direction for approximately 0.45 miles between Los Aliso Boulevard and Santa Margarita Parkway. Along this segment of the project, four existing 66 kV TSP structures spaced along the segment would be replaced with two H-frame structures installed adjacent the two existing 220 kV LST structures. Figure 33 indicates the location of the park relative to the proposed project, and Figure 7 depicts the existing TSP structure locations and the positions of the proposed H-frame structures, respectively. Pinecrest Park is 15.3 acres in size and includes a walking trail and softball and football/soccer fields (City of Mission Viejo, 2003b).
- Youth Athletic Park.** The 66 kV overhead segment of the proposed project and the 220 kV segment would run north-south approximately 300 feet east of the eastern border of the park. Figure 33 indicates the location

of the park relative to the proposed project. The park is 41.25 acres and includes a variety of sports facilities, including five baseball fields (three of which are lighted), four batting cages, and three soccer/football fields (two of which are lighted) (City of Mission Viejo, 2003b).

- **Florence Joyner Olympiad Park.** As with Pincrest Park, the existing 220 kV/66 kV transmission corridor passes along the northeast edge of Florence Joyner Olympiad Park in a roughly north-south direction for approximately 0.33 miles. Along this segment of the project, three existing 66 kV TSP structures spaced along the segment would be replaced with two H-frame structures installed adjacent to the two existing 220 kV LST structures. While most of the transmission structures are located along the SCE access road away from most recreational facilities in the park, one of the northernmost TSP structures is located immediately adjacent to a walking/biking trail. Figure 33 indicates the location of the park relative to the proposed project, and Figure 7 depicts the existing TSP structure locations and the positions of the proposed H-frame structures, respectively. Florence Joyner Olympiad Park is 19.91 acres and includes a walking trail, a baseball field, two soccer/football fields, picnic areas, and play structures (City of Mission Viejo, 2003b).
- **Lake Mission Viejo.** Lake Mission Viejo is approximately 800 feet west-southwest of the proposed project alignment between the Youth Athletic Park and Florence Joyner Olympiad Park. Lake Mission Viejo is a private recreation facility with access limited only to members of the Lake Mission Viejo Association. The lake is 124.6 acres and includes two beaches with areas for swimming, fishing, boating, playgrounds, snack bars, volleyball and basketball courts, and picnic areas (Lake Mission Viejo Association, 2003).

Applicable Regulations, Plans, and Standards

The following are regulations, plans, and standards associated with recreational resources and activities that are directly applicable to the proposed project.

- **County of Orange General Plan Recreation Element, Updated 2000.** Under California State planning law, each incorporated City and County must adopt a comprehensive, long-term General Plan that governs the physical development of all lands under its jurisdiction. The general plan is a broadly scoped planning document and defines large-scale planned development patterns over a relatively long timeframe. The General Plan consists of a statement of development policies and must include a diagram and text setting forth the objectives, principles, standards and proposals of the document. At a minimum, a General Plan has seven mandatory elements including Land Use; Circulation; Housing; Conservation; Open Space; Noise and Safety. Additionally, many localities, including Orange County, have also adopted Recreation elements as a portion of their General Plan. Goals are an expression of the County as a general, ultimate ideal to be sought. Policies are statements setting forth guidelines and implementation measures towards achieving a specific goal. The following goals and policies are applicable to the proposed project.
 - **Master Plan of Regional Recreation Facilities Policy 16.** Where significant historical, scientific or wildlife features are included within a facility site, provisions for their preservation which are reasonable and consistent with other environmental considerations shall be made during its development and operation.
 - **Master Plan of Regional Recreation Facilities Policy 17.3. WILDERNESS PARKS:** Permits only restricted hardscape and domestication appropriate to provide access and enjoyment/observation of natural resources and processes. Interpretive programs permitted. Concessions permitted.
 - **Master Plan of Regional Recreation Facilities Policy 22.** Adequate development setbacks for proposed development adjacent to existing and proposed regional recreation facilities shall be sought without encroachment into regional recreation facilities to (a) buffer park uses from park neighbors (e.g., screen views, mitigate light and noise), and (b) accommodate Fire Authority needs (e.g., fuel modification areas, fire access roads/trails). Setbacks for proposed development shall be determined on a case-by-case basis (e.g., topography, vegetation). Types of setbacks may include, but shall not be limited to, resource and/or scenic preservation easement dedications, or fee dedications, to ensure adequate physical distancing between private developments (e.g., buildings, patios, walls, etc.) and adjacent existing and/or proposed regional recreation facilities.
 - **Master Plan of Regional Recreation Facilities Policy 30.** The natural resources of regional recreation facilities shall be evaluated for their preservation and protection. Provision shall be made for periodic monitoring of resource management plans to insure that natural areas are used appropriately.

- **City of Mission Viejo General Plan, Amended 1992.** In addition to the seven mandatory elements required in a General Plan, the City of Mission Viejo also includes the Elements of Public Facilities, Economic Development, and Growth Management. Lacking a specific Recreation Element, the City of Mission Viejo General Plan addresses recreational issues in the Land Use and Conservation/Open Space Elements. Goals are an expression of the County as a general, ultimate ideal to be sought. Policies are statements setting forth guidelines and implementation measures towards achieving a specific goal. The following goals and policies are applicable to the proposed project.
- **Land Use Element Goal 4.0.** Maintain open space resources for the purpose of providing recreational opportunities, protecting the public from safety hazards and conserving natural resources.
- **Conservation and Open Space Goal 1.0.** Conserve the City's Natural Resources.
- **Policy 1.10.** Establish and manage wildlife habitat corridors within public parks and natural resource protection areas where appropriate to allow for wildlife use.
- **Goal 2.0.** Protect open space areas to preserve natural resources.
- **Goal 3.0:** Provide for present and future recreational and open space needs.

B.3.14.2 Environmental Impacts and Mitigation Measures

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. In general, the increase in use of existing recreational facilities is spurred by project-induced population growth, which increases demand on existing recreational resources. Such a demand on these resources could result in the physical deterioration of the facilities. However, as demonstrated in Section B.3.12 (Population and Housing), the proposed project is not expected to induce either short-term or long-term population growth, either during project construction or operation. As such, there would not be an increased need for recreational resources and the project would not lead to the physical deterioration of recreational facilities due to increased use. No impacts to recreational resources due to increased use would occur during project construction or operation.

b. Would 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 recreational facilities. As such, no adverse physical effects on the environment would be generated by recreational facilities resulting from the proposed project. No impact would occur.

c. Would the project result in permanent and/or temporary impacts, such as possible disruption of recreational activities, affecting the recreational value of existing facilities?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. As discussed above in Section B.3.14.1 (Setting), the proposed project crosses overhead or runs immediately adjacent to a variety of recreational facilities. Temporary or permanent restriction or impediment of access to recreational facilities or the preclusion of use of the facilities could result in adverse impacts on these recreational facilities. These impacts could include:

- Temporary construction-related disturbances (e.g., dust, noise, traffic, etc.), which would temporarily decrease the value of existing recreational resources;
- Temporary impediment of access to, or preclusion of, the use of recreational facilities;
- Permanent diminished value of a recreational resource due to construction of new transmission towers.

The following describes the impact that the proposed project would have on the recreational facilities described in Section B.3.14.1 (Setting). Additionally, as the goals, policies, standards, and regulations associated with recreational facilities are developed so as to mitigate or restrict the impacts to recreational facilities, the project's consistency with applicable plans, regulations, and standards is also presented below.

Temporary Impacts Resulting from Transmission Towers and Substation Activities. Transmission tower removal and replacement and substation construction would largely occur outside the boundaries of recreational areas. Most effects associated with this demolition and construction would be screened by intervening terrain or vegetated areas and so would have little impact on the facilities. Due to the location of construction outside the majority of the recreation areas, work on the transmission towers and the substations is not anticipated to significantly restrict access or preclude the use of recreation facilities. Any impacts would be short-term and temporary and so are anticipated to be less than significant.

O'Neill Regional Park. The proposed project is not visible from O'Neill Regional Park and intervening topography, streets, and structures would screen any noise or dust from reaching the Park. No impacts would occur at this location.

Whiting Ranch Wilderness Park. The proposed Viejo Substation is visible from the southern edge of Whiting Ranch Wilderness Park, which follows Glenn Ranch Road. This view is largely screened by other structures along Glenn Ranch and Definition Roads and so would not adversely affect recreational use of the park. Additionally, an entrance for the park is located along Glenn Ranch Road. Construction access for the proposed Viejo Substation would use Glenn Ranch Road to access Definition Road and the proposed substation site. As a result, construction traffic has the potential to interfere with access to the park, but Section B.3.15, Transportation/Traffic, demonstrates that construction-related traffic using Glenn Ranch Road would be unlikely to be of a volume that would significantly impair ingress and egress to the park. Any impacts to users of Whiting Ranch Wilderness Park could be adverse, but would be less than significant, as shown in Section B.3.15. No permanent impacts would occur to Whiting Ranch Wilderness Park as a result of the project.

Orange County Bikeways. Construction activities associated with the substation construction and removal and replacement of the three northernmost 220 kV LSTs and four northernmost 66 kV TSPs, along with the removal and replacement of the five southernmost 66 kV structures, would most affect designated Orange County Bikeways. Construction activities on the southern end of the proposed project corridor would roughly parallel Olympiad Road Bikeway, but would occur approximately 100 to 300 feet from the bikeway and would be largely screened by intervening trees and vegetation. For these reasons, the Olympiad Road Bikeway is unlikely to be affected by project construction activities. Impacts to the unnamed off-road bikeway along the northern portion of the route, however, would be less screened and could result in greater impacts. While the terrain along the unnamed off-road bikeway is hilly and would partially screen construction activities, the area is less densely vegetated and lacks intervening roads or structures. Noise, dust, and views of construction equipment and activities could reduce the recreational value of the off-road bikeway. Construction activities would not restrict or impair access along the bikeway, however. Impacts to the off-road bikeway would be adverse, but as the activities would be temporary and short-term and would not restrict recreational use of the bikeway, impacts would be less than significant.

Although construction activities could affect bikeways crossed by the proposed project ROW, impacts to these resources would occur only during re-stringing of the transmission lines and would not be impacted by structure removal and replacement activities. Re-stringing activities would occur for a short period of time and any resulting access restrictions would be very limited. Impacts would be less than significant. Bikeways would be unaffected by the project after construction is completed.

Birchwood Park. Removal of existing 60 kV transmission structures and construction of new structures would be distant enough from Birchwood Park that any construction impacts, such as noise, dust, or traffic, would be screened by other land uses. Re-stringing the transmission lines following completion of the 60 kV transmission structure replacement, however, could require that portions of the park be temporarily closed to the public while the lines are replaced on the new structures. As such, impacts to Birchwood Park resulting from the proposed project would be adverse, but less than significant.

Castlewood Park. As with Birchwood Park, the transmission structures, while visible from the park, are not immediately adjacent to the park. While the removal and replacement of the transmission towers would be visible from the park, construction activities at these locations would largely be screened by trees and other intervening land uses. Re-stringing of the transmission lines could temporarily restrict park access, but as described for Birchwood Park, re-stringing activities would occur only for a short period. Impacts to Castlewood Park resulting from the proposed project could be adverse, but would be less than significant.

Eastbrook Park. Although Eastbrook Park is considerably larger than Castlewood or Birchwood Parks, impacts from the proposed project would be the same. Transmission lines currently run directly overhead in this park, but the transmission towers are located away from the park to the north and south, and are screened from the park by trees. Removal and replacement of the transmission towers would be largely blocked from park views by trees and so would not significantly disturb park activities. Re-stringing the transmission lines could require closure or restricted access to the park for a short time period. While this impact would be considered adverse, due to the short time period required for this activity, the impact would be considered less than significant.

Melinda Park. The proposed project is not visible from Melinda Park and intervening topography, streets, and structures would screen any noise or dust from reaching the Park. No impacts would occur at this location.

Pinecrest Park. The transmission corridor traverses the eastern edge of Pinecrest Park, in a strip of open space away from designated park facilities. Construction activities associated with the removal and replacement of the transmission towers along this corridor would be largely in full view of park users, but would not restrict park access or park activities. Impacts associated with construction, such as dust, noise, and views of construction activities would temporarily degrade the recreational value of the park. The duration of the construction activities, however, would be short, so impacts would be adverse, but less than significant. As the transmission corridor is along the outer edge of the park, re-stringing of the transmission lines should not interfere with park activities or restrict access to any park facilities. Impacts to Pinecrest Park resulting from the proposed project would be adverse, but less than significant.

Youth Athletic Park. Although the existing transmission corridor runs parallel to the eastern border of the Youth Athletic Park and can be seen from the park, construction and operation of the proposed project along the transmission ROW would have little impact on the park. The proposed project would be approximately 300 feet east of the park and construction activities would be screened by intervening trees, streets, and homes. It is not anticipated that the project would disrupt any park activities or restrict access to any facilities at the Youth Athletic Park.

Florence Joyner Olympiad Park. The existing transmission corridor travels down the eastern border of the Florence Joyner Olympiad Park, with the proposed project following the same ROW. Construction activity near Florence Joyner Olympiad Park would include replacement of two TSP with H-Frames HF-02 and HF-03, and the permanent removal of M0-P4 (see Figures 7 and 9). Construction of the new 66 kV segment and replacement of the existing 66 kV transmission towers with H-frame structures would occur along a graded dirt access road used in the park as a walking or biking trail. The majority of this trail runs along the ridge to the east of the park and is generally elevated and separated from the rest of the park by trees and other vegetation. At the northern end of the park, however, the access road connects

to a park walking/biking trail opposite the park’s baseball field. At this fork in the trail, one of the 66 kV TSP structures would be replaced with a new H-frame structure.

Project construction activities within Florence Joyner Olympiad Park could temporarily restrict the use of the access road for recreational use, but tower replacement activities at the northernmost tower in the park would also temporarily block access on the walking/biking trail for a short segment. Similarly, noise, dust, and views of construction equipment and activities, which could degrade the recreational value of the facility would be visible from many parts of the park, but would be most prominent for activities at the northern end of the park. These impacts would be considered potentially significant, but could be reduced to a less than significant level with the implementation of Mitigation Measure R-1.

R-1 Avoidance of Peak Use Periods and On-Site Notification. SCE shall provide onsite notification, and notify affected jurisdictions, of recreational access closures at least two weeks in advance, through the posting of signs and/or notices at all public entrances. Documentation of such notification should be submitted to CPUC.

Lake Mission Viejo. Although the proposed project could be visible from Lake Mission Viejo, the proposed project would have no impact on the recreational uses of the lake. The proposed project construction sites would be too distant from Lake Mission Viejo for it to be impacted by noise or dust associated with construction activities. Impacts would be less than significant.

County of Orange General Plan Recreation Element, Updated 2000. The proposed project’s consistency with the goals and policies of the Recreation Element of the Orange County General Plan are described below in Table B.3-14. The project would be consistent with all applicable recreation goals and policies in the Orange County General Plan and so would result in no impact.

Table B.3-14: Orange County Regulations, Plans, and Standards Consistency - Recreation

Goal or Policy	Consistency	Basis for Consistency
Master Plan of Regional Recreation Facilities Policy 16. Where significant historical, scientific or wildlife features are included within a facility site, provisions for their preservation which are reasonable and consistent with other environmental considerations shall be made during its development and operation.	Yes	No portion of the project would be located within the bounds of any Orange County recreational facilities.
Master Plan of Regional Recreation Facilities Policy 17.3. WILDERNESS PARKS: Permits only restricted hardscape and domestication appropriate to provide access and enjoyment/observation of natural resources and processes. Interpretive programs permitted. Concessions permitted	Yes	No construction would occur within Orange County recreational facilities
Master Plan of Regional Recreation Facilities Policy 22. Adequate development setbacks for proposed development adjacent to existing and proposed regional recreation facilities shall be sought without encroachment into regional recreation facilities to (a) buffer park uses from park neighbors (e.g., screen views, mitigate light and noise), and (b) accommodate Fire Authority needs (e.g., fuel modification areas, fire access roads/trails). Setbacks for proposed development shall be determined on a case-by-case basis (e.g., topography, vegetation). Types of setbacks may include, but shall not be limited to, resource and/or scenic preservation easement dedications, or fee dedications, to ensure adequate physical distancing between private developments (e.g., buildings, patios, walls, etc.) and adjacent existing and/or proposed regional recreation facilities.	Yes	The proposed Viejo substation and associated transmission lines would be approximately ½-mile south of Whiting Ranch Wilderness Preserve with buildings and roads between the project and the park.

Table B.3-14: Orange County Regulations, Plans, and Standards Consistency - Recreation

Goal or Policy	Consistency	Basis for Consistency
Master Plan of Regional Recreation Facilities Policy 30. The natural resources of regional recreation facilities shall be evaluated for their preservation and protection. Provision shall be made for periodic monitoring of resource management plans to insure that natural areas are used appropriately.	Yes	The proposed project would not impact the recreational resources of any Orange County regional recreation facilities.

City of Mission Viejo General Plan, Amended 1992. The proposed project's consistency with the goals and policies of the City of Mission Viejo's General Plan are described below in Table B.3-15. The project would be consistent with all applicable recreation goals and policies in the Mission Viejo General Plan and so would result in no impact.

Table B.3-15: City of Mission Viejo Regulations, Plans, and Standards Consistency - Recreation

Goal or Policy	Consistency	Basis for Consistency
Land Use Element Goal 4.0. Maintain open space resources for the purpose of providing recreational opportunities, protecting the public from safety hazards and conserving natural resources.	Yes	As the proposed project consists largely of the replacement of transmission structures as well as the removal of six 66 kV TSPs, the project would reduce the open space used for transmission structures. Existing signage in parks impacted by the project warning against kite-flying and model plane flying would continue to be applicable for the proposed project.
Conservation and Open Space Goal 1.0. Conserve the City's Natural Resources.	Yes	Construction of the proposed project would not reduce the amount of open space or other natural resources in Mission Viejo. Removal of six kV TSPs would slightly increase the open space within the city.
Policy 1.10. Establish and manage wildlife habitat corridors within public parks and natural resource protection areas where appropriate to allow for wildlife use.	Yes	Construction activities would occur along graded dirt access roads in recreation areas. Impacts to wildlife habitat corridors within public parks would be minimal.
Goal 2.0. Protect open space areas to preserve natural resources.	Yes	As discussed for Conservation and Open Space Goal 1.0, construction of the proposed project would not reduce the amount of open space or other natural resources in Mission Viejo. Removal of six kV TSPs would slightly increase the open space within the city.
Goal 3.0: Provide for present and future recreational and open space needs.	Yes	Construction of the proposed project would not conflict with any Mission Viejo recreation projects. Although the project could potentially restrict the location of future recreational facilities, the alignment of the existing transmission corridor would result in the same restrictions to recreational development.

Temporary Impacts Resulting from Re-Stringing Activities. Transmission tower removal/replacement and substation construction would likely affect only a few recreation facilities, as discussed above. Most of the facilities along the transmission corridor would be affected for a short period during the re-stringing of the transmission lines. Re-stringing activities could require that portions of parks or trails be temporarily closed to the public while the lines are replaced on the new transmission structures. However,

given the short-term nature of these temporary closures, the impact would be less than significant and no mitigation would be required.

Permanent Impacts Resulting from Operation. Operation of the project would not restrict or preclude access to recreation resources. The proposed site for the Viejo Substation is not located in an area in which it would restrict or preclude recreational activities and there are no known recreational facilities planned for the substation site. The proposed alignment for the new 66 kV subtransmission line would follow the existing 220 kV/66 kV alignment, removing the existing 66 kV TSPs and replacing them with H-frame structures adjacent to the 220 kV LSTs. The 220 kV LSTs, in their existing locations, do not restrict recreational activities or preclude access to recreational resources. Similarly, the planned locations of the new H-frame structures adjacent to the 220 kV LSTs also would not restrict or preclude recreational activities or access to recreational resources. Operation of the project would have no impact on access to or use of recreational facilities.

B.3.15 Transportation/Traffic

TRANSPORTATION AND TRAFFIC				
Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	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 type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>
e. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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"/>

Significance criteria established by CEQA Guidelines, Appendix G

B.3.15.1 Setting

The proposed project would include the new Viejo Substation site, to be located in the City of Lake Forest, north of the crossing of El Toro Road with the Foothill Transportation Corridor Freeway (SR 241), and improvements to the transmission system within the 3.1-mile corridor extending into the City of Mission Viejo to the south. Figure 2 depicts the streets and roadways in the project vicinity. A major transportation corridor in this part of south Orange County is the Foothill Transportation Corridor, which provides access to the regional freeway network and cities in north Orange County. Local streets that would be crossed by the proposed route or used by project-related traffic include Alicia Parkway, Melinda Road, Santa Margarita Parkway, Los Alisos Boulevard, and El Toro Road.

Highways

State Route SR 241 – the Foothill Transportation Corridor – is a six-lane limited-access north-south toll highway. It is roughly parallel to and east of the San Diego Freeway (Interstate 5) and serves as an alternate inland connection to north Orange County and the freeway network. The nearest access points to SR 241 are at the Los Alisos Boulevard interchange south of the project area and the Portola Parkway interchange to the north. Tolls are paid to the Foothill/Eastern Transportation Corridor Agency, which is responsible for funding operation of the highway (TCA, 2003). This highway, which is under the jurisdiction of the California Department of Transportation (Caltrans), carries average daily traffic volumes of over 44,000 vehicles (Caltrans, 2002).

Arterials and Local Streets

There are a number of arterial roadways that would be crossed by or adjacent to the proposed project. The primary function of arterial roadways is to move large volumes of traffic through one section of a city to other sections and beyond.

In the City of Lake Forest, the proposed substation would include a new driveway connecting the substation to Definition Street. New telecommunications vaults would be constructed along Icon and Ellipse Streets and Glenn Ranch Road, to Portola Parkway.

In the City of Mission Viejo, the proposed transmission line would cross Alicia Parkway near the Chiquita Substation. It would then parallel Olympiad Road northward and cross Melinda Road before heading into a residential neighborhood. The proposed transmission line would then cross Santa Margarita Parkway, Los Alisos Boulevard, El Toro Road, and finally, the Foothill Transportation Corridor.

No new construction would occur in the City of Irvine, but work crews would need to access existing telecommunication vaults to install fiber optic cable under the streets.

Table B.3-16 lists daily average traffic volumes for arterials and collector roads that could be affected by the proposed project.

Table B.3-16: Average Daily Traffic Volumes

Roadway	Average Daily Traffic	Number of Lanes
Caltrans		
SR 241: East of Portola Pkwy, Eastbound	22,000	6
SR 241: West of Los Alisos Blvd, Westbound	24,500	
Lake Forest		
Glenn Ranch Road: Definition Rd to Portola Pkwy	16,000	4
Portola Parkway: Glenn Ranch Rd to SR 241	32,000	6
Portola Parkway: SR 241 to El Toro Rd	26,000	6
Mission Viejo		
El Toro Road: East of Marguerite Pkwy	13,900	5
Los Alisos Boulevard: East of Marguerite Pkwy	14,200	4
Santa Margarita Parkway: El Toro Rd to Los Alisos Blvd	25,000	6
Santa Margarita Parkway: Los Alisos Blvd to Marguerite Pkwy	27,200	6
Santa Margarita Parkway: Marguerite Pkwy to Melinda Rd	26,000	6
Marguerite Parkway: Santa Margarita Pkwy to Olympiad Rd	21,600	4
La Barca: Marguerite Pkwy to Flamenco Park	4,900	2
Melinda Road: Olympiad Rd to Santa Margarita Pkwy	6,900	4
Olympiad Road: Marguerite Pkwy to Melinda Rd	9,900	4
Olympiad Road: Melinda Rd to Alicia Pkwy	10,000	4
Alicia Parkway: East of Olympiad Road	35,000	6

Sources: SCE, 2003a/City of Mission Viejo, 2003.

Mass Transit

The Orange County Transportation Authority (OCTA) provides a number of bus routes through the Cities of Lake Forest and Mission Viejo. Along Alicia Parkway and Santa Margarita Parkway, bus routes (#82 and 87) connect to Rancho Santa Margarita, the Santa Margarita High School, and a transportation center at the Laguna Hills Mall. About twenty buses run each day on each of these routes. There are no bus routes along El Toro Road, Los Alisos Boulevard, or Olympiad Road.

Bicycle

The OCTA oversees a network of bikeways throughout the project area in the Cities of Lake Forest and Mission Viejo (OCTA, 2003). Nearly all of the major roads in the vicinity of the project include some features for bicyclists. El Toro Road includes a Class I (off-road, paved) bikeway, and Alicia Parkway,

Olympiad Road, Santa Margarita Parkway, Los Alisos Boulevard, and Glenn Ranch Road each include Class II (on-road, striped lanes) bikeways. An unpaved bicycle trail also connects El Toro Road with Glenn Ranch Road, just east of the proposed Viejo Substation location.

Rail

Commuter rail service is provided by Metrolink (on the Inland Empire-Orange County line), which services a station in Laguna Niguel/Mission Viejo (south of the proposed project). There are approximately ten trains that stop at this station daily heading north to Orange and San Bernardino, and nine trains daily head south to San Diego County. Amtrak also provides regional rail service (on the Pacific Surfliner) through Orange County via stations in Santa Ana and Irvine (west of the proposed project). Approximately ten trains run daily north to Los Angeles and ten run south to San Diego.

Air Transportation

The nearest airport in the area is the former El Toro Marine Corps Air Station (MCAS) located approximately three to four miles west of the proposed Viejo Substation site. This airport is closed, and the land is currently slated for replacement with residential development (see Appendix 6). The nearest operational airport is the John Wayne Airport in Santa Ana, approximately ten miles west of the proposed Viejo Substation site.

Future Road Work Plans

The City of Mission Viejo is in the midst of street-work programs for resurfacing or repairs to curbs, sidewalks, and gutters. Certain road improvements are also underway in the City of Lake Forest, but not in the vicinity of the project. The discussion of cumulative projects identifies recent and ongoing work to many streets in Mission Viejo that would be used by construction vehicles accessing the project area (see Appendix 6, Cumulative Projects). Other projects in Mission Viejo would improve circulation of traffic by improving intersections or widening roads.

Permits and Approvals Necessary

California Department of Transportation. SCE would need to apply for and obtain a Caltrans Transportation Permit for movement of vehicles that may qualify as an oversized or excessive load, or for transportation of oversized or excessive loads. This permit would determine a specific route for the shipper to follow from origin to destination.

City of Lake Forest. SCE would need to apply for and obtain a transportation permit for movement of oversized or excessive loads and an encroachment permit for temporary positioning of oversized vehicles that may obstruct traffic on through roads.

When moving more than 5,000 cubic yards of material over public roads, the Lake Forest Municipal Code (Chapter 8.30, Grading and Excavation) requires confining grading operations to certain hours of the day. The requirements depend on city approval, and they would take into consideration the proximity of properties likely to be disturbed by noise. The approved grading plan would also need to identify the access points. Proper signage would also be required to provide warning of the access road (Section 8.30.070).

City of Mission Viejo. SCE also expects to apply for and obtain transportation and encroachment permits for work within the public right-of-way or lane closures, as in Lake Forest. Also, similar requirements for grading activities and access to public roads apply in Mission Viejo (Section 8.10.555) for project sites that involve moving more than 5,000 cubic yards of material.

B.3.15.2 Environmental Impacts and Mitigation Measures

- 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 IMPACT. The proposed project would contribute to traffic congestion resulting from truck trips to and from the project work sites during construction. The peak level of estimated truck trips would occur during removal of approximately 5,500 cubic yards of material from grading the substation site. Construction vehicles and workers would have regional access to the proposed substation site via the Foothill Transportation Corridor (SR 241). During the one-month site clearing and soil removal phase, about seven truck trips per day would be needed for soil removal and additional trucks would be needed to bring equipment and materials (such as concrete) to the work site. During transmission line construction, equipment would be delivered to grade existing roadways within the corridor.

Trucks and cranes would also be needed to position towers and poles, and periodic deliveries of pole segments, conductor spools, hardware, and other equipment would occur. Access to the corridor, including existing and proposed facility locations, would be provided via the following roadways:

- Foothill Transportation Corridor: Existing Towers M23-T2, M23-T1, M22-T4 and Poles M2-P6, M2-P5, M2-P4, Proposed Towers HF-13, HF-12, HF-11;
- El Toro Road and Los Aliso Boulevard: Towers M22-T3, M22-T2, M22-T1 and Poles M2-P3, M2-P2, M2-P1, M1-P6, M1-P5, M1-P4, Proposed Towers HF-10, HF-9, HF-8;
- La Barca Street and Melinda Road: Towers M21-T3, M21-T2, M21-T1 and Poles M1-P3, M1-P2, M1-P1, M0-P9, Proposed Towers HF-7, HF-6, HF-5; and
- Olympiad Road: Towers M21-T1, M20-T5, M20-T4, M20-T3, M20-T2 and Poles M0-P8, M0-P7, M0-P6, M0-P5, M0-P4, M0-P3, Proposed Towers HF-4, HF-3, HF-2, HF-1.

In addition to the project truck trips, construction workers would generate about 15 to 20 trips per day by commuting to the work sites each workday. This level of project-related traffic is considered a negligible increase when added to the existing daily traffic volumes of freeways and arterial roadways in the project area as presented above in Table B.3-16, and would not increase traffic to a level that is substantial in relation to the existing traffic load and capacity of the street system. Therefore, congestion caused by construction vehicles accessing the work areas, and construction worker commute vehicles would be minimal and limited to the short-term duration of construction. As such, the increase in traffic would not be substantial, and this impact would be less than significant.

Temporary traffic slowdowns may occur while large equipment is moved from public roadways onto the access roads or work sites. Some traffic would need to use dirt access roads and small neighborhood access streets. SCE anticipates that the majority of truck traffic would use major streets and would be scheduled to occur during non-peak hours. Heavy transport vehicles would be used to deliver transformers to the substation site, and SCE anticipates that a traffic control service would be used for transformer delivery.

The proposed power line would cross Alicia Parkway, Melinda Road, La Barca, Santa Margarita Parkway, Los Alisos Boulevard, El Toro Road, and the Foothill Transportation Corridor (SR 241). The construction of the proposed project would result in temporary (about 15 minutes at a time) lane closures for the local roads and possibly SR 241. These closures would result in some level of traffic congestion. Because SCE would need to coordinate with and secure approvals from the local jurisdictions, local road closures would be required to occur in non-peak traffic periods.

By law, SCE would be required to obtain transportation permits from the Cities and Caltrans. Some of the stipulations of each transportation permit would designate the haul routes to be taken and require SCE to

repair any damage caused to any restricted load limit streets. SCE would also adhere to standard protocols illustrated in the Work Area Protection and Traffic Control Manual. For excerpts of the Work Area Protection and Traffic Control Manual see Appendix 7. In addition to required City permits, SCE proposes APM T-1 to further reduce potential construction impacts resulting from temporary roadway and lane closures. These protocols ensure use of highly visible warning signs, flaggers, barricades, flashers, or traffic cones to give advance warning, and use of channelization devices to define traffic lanes through the work zone and separate opposing lanes of traffic. Flaggers would need to wear approved warning garments follow standard flagging procedures. Pedestrian and bicycle protection would also need to be provided. With these procedures in place, congestion caused by project-related traffic or lane closures would cause temporarily adverse, but less-than-significant impacts.

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?

LESS-THAN-SIGNIFICANT IMPACT. Level of Service (LOS) defines a roadway's performance based on traffic volumes compared to the roadway's capacity. Level of service for uninterrupted flow (flow unrestrained by the existence of traffic control devices) is measured by letter designations from A (free flow) to F (forced or breakdown flow). As stated in the answer to Checklist Question B.3.15(a) above, project-related traffic would result in a negligible increase when added to the existing daily traffic on freeways and arterial roadways presented above in Table B.3-16, and would not increase traffic to 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. Construction of the proposed project would cause a minor short-term increase in the local traffic throughout the project study area (see discussion above). Therefore, level of service standards would not be exceeded.

Operation of the proposed project would only require periodic maintenance visits and would not cause level of service standards to be exceeded.

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. The nearest operating airport is located in Santa Ana approximately ten miles from 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. The proposed transmission line would not exceed the height of the towers in the existing transmission corridor. 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?

NO IMPACT. The project does not involve any design hazards or incompatible uses related to transportation. Therefore, the proposed project would not increase hazards on area roadways due to a design feature or incompatible uses.

e. Would the project result in inadequate emergency access?

LESS-THAN-SIGNIFICANT IMPACT. The construction of the proposed project would result in temporary lane closures for the local roads and SR 241 (see discussion above), which could potentially affect emergency access. However, SCE would need to coordinate with the Cities of Mission Viejo and Lake Forest, California Department of Transportation (Caltrans) and the California Highway Patrol (CHP) for timing of closures. Coordination with these agencies would ensure impacts associated with inadequate emergency access due to temporary lane closures are less than significant. This coordination would occur during and as a component of the required permit application process(es). In addition to required City

permits, APM T-1 would further reduce potential construction impacts resulting from temporary roadway and lane closures. Impacts would be less than significant.

f. Would the project result in inadequate parking capacity?

NO IMPACT. The proposed project does not cross any parking lots and would not affect street parking on the roadways near the proposed project. Therefore, there would be no impact to parking.

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

NO IMPACT. As stated above, the project area contains alternative transportation facilities. However, since the proposed project would not physically alter or impact 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.3.16 Utilities and Service Systems

UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	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 checked="" type="checkbox"/>	<input type="checkbox"/>
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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G

B.3.16.1 Setting

Utility and service system facilities associated with electricity, domestic (potable) water, stormwater, solid waste, communications, and natural gas are typically provided and maintained by a variety of local purveyors, including cities, counties, special districts, water agencies, and private companies. Utilities such as domestic water, wastewater and stormwater sewers, and natural gas are usually transmitted via underground pipelines or conduits. Electricity and telecommunication services can also be installed underground or overhead on utility poles. The vast majority of the urban utility and public service infrastructure exists within public rights of way.

The new substation would be located within the City of Lake Forest, while much of the 220 kV corridor and the existing Chiquita Substation lie within the City of Mission Viejo. Table B.3-17 lists applicable utility providers by jurisdiction.

Table B.3-17: Utility Providers by Jurisdiction

Jurisdiction	Utility System Provider
City of Lake Forest	Natural gas – Southern California Gas Company Electricity – Southern California Edison Water – Irvine Ranch Water District, El Toro Water District, Trabuco Canyon Water District Wastewater – South Orange County Wastewater Authority Telephone – Pacific Bell Solid Waste – Waste Management <i>Landfills Used:</i> Altamont Landfill - Resource Recovery, Frank R. Bowerman Sanitary Landfill, Olinda Alpha Sanitary Landfill, Prima Deshecha Sanitary Landfill

Table B.3-17: Utility Providers by Jurisdiction

Jurisdiction	Utility System Provider
City of Mission Viejo	<p>Natural gas – Southern California Gas Company</p> <p>Electricity – Southern California Edison, San Diego Gas and Electric</p> <p>Water – El Toro Water District, Moulton Niguel Water District, Santa Margarita Water District, Trabuco Canyon Water District</p> <p>Wastewater – South Orange County Wastewater Authority</p> <p>Telephone – Pacific Bell, GTE Service Corporation</p> <p>Solid Waste – Waste Management</p> <p><i>Landfills Used:</i> Arvin Sanitary Landfill, Frank R. Bowerman Sanitary Landfill, Olinda Alpha Sanitary Landfill, Prima Deshecha Sanitary Landfill, Simi Valley Landfill - Recycling Center</p> <p><i>Transformation Facilities (Waste-To-Energy) Used:</i> Commerce Refuse-to-Energy Facility (Los Angeles County)</p>

Sources: California Integrated Waste Management Board, 2003 / City of Lake Forest, 2003b / City of Mission Viejo, 2003c / HospitalLink.com, 2003 / San Diego Gas and Electric, 2003 / South Orange County Wastewater Authority, 2003 / Southern California Edison, 2003b.

Table B.3-18 lists the total and remaining capacities of solid waste processors serving the cities of Lake Forest and Mission Viejo.

Table B.3-18: Landfill Capacities

Landfill Name	Total Capacity (cubic yards)	Remaining Capacity (cubic yards)	Remaining Capacity (%)	Maximum Throughput (Tons per day)
Altamont Landfill - Resource Recovery (Alameda)	58,900,000	15,843,000	27%	11,150
Arvin Sanitary Landfill (Kern County)	11,464,719	2,246,339	20%	N/A
Commerce Refuse-to-Energy Facility (Los Angeles County)	N/A	N/A	N/A	1,000
Frank R. Bowerman Sanitary Landfill (Orange County)	117,000,000	81,600,000	70%	8,500
Olinda Alpha Sanitary Landfill (Orange County)	74,900,000	50,242,370	67%	8,000 Cubic Yards
Prima Deshecha Sanitary Landfill (Orange County)	81,000,000	-8,400,000	-10%	4,000
Simi Valley Landfill - Recycling Center (Ventura County)	43,500,000	9,473,131	22%	3,000

Source: California Integrated Waste Management Board, 2003

B.3.16.2 Environmental Impacts and Mitigation Measures

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

LESS-THAN-SIGNIFICANT IMPACT. Both the Santa Ana and San Diego Regional Water Quality Control Boards (RWQCB) regulate the project area. Currently, no wastewater is generated or discharged from the project site. The contractor would provide portable toilets on-site during construction, which would then be removed from the site on a regular basis for servicing off-site. This would be the only wastewater source associated with the proposed project. The amount of wastewater generated by workers during project construction would be minimal and temporary in nature and would not adversely affect the treatment plant that would receive the wastewater. The construction-related increase in wastewater would be temporary and represent a small fraction of the permitted annual flow increase for the treatment plants operating within the South Orange County Wastewater Authority. Upon completion of construction, the

proposed project would not generate wastewater, as the proposed Viejo Substation would be an unmanned, automated facility. Therefore, because wastewater generated during project construction would result in a negligible and temporary increase, the proposed project would not exceed the wastewater treatment requirements of the applicable RWQCB. Impacts 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?

LESS-THAN-SIGNIFICANT IMPACT. The proposed project would generate minimal water demand or wastewater. As discussed in Checklist Questions B.3.16 (a) and B.3.16 (d), existing wastewater and water facilities are adequate to accommodate the demand generated by the proposed project. Thus, the project would not require or result in the construction of new water supplies, wastewater treatment facilities, or expansion of existing facilities. Upon completion of construction, the proposed project would not generate a significant demand for water or wastewater treatment, as the proposed Viejo Substation would be an unmanned, automated facility. Therefore, the proposed project is not expected to exceed the existing water supplies or wastewater treatment capacity available to the proposed project, and would not require the construction of new water or wastewater treatment facilities. Impacts would be less than significant.

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. Under existing conditions, stormwater runoff flows from the proposed substation site to a system of concrete drainage swales and down drains on the neighboring property to the east of the proposed substation site. This system is designed to bring surface runoff to catch basins and into a below ground pipe system to the nearest street. However, existing overgrown vegetation restricts performance of the existing drainage system. Further, drainage system deficiencies cause soil and debris to be carried onto the proposed substation site and down the access road. During substation site preparation, all hillside drainage structures would be cleaned and repaired, with substation construction activities correcting existing drainage problems. A concrete curb and three-foot drainage swale would be placed outside the full length of the east substation fence, adjacent to the neighboring hillside. This would direct hillside runoff north, away from the substation pad into existing storm water drains. The walled substation area would have a crushed rock surface that would allow surface storm water to sheet flow from the southerly end of the substation site to three existing concrete catch basins located at the northerly end of the graded pad, where it would be pumped and conveyed to the public storm water system through existing reinforced concrete pipes. Because the substation would not change the amount of stormwater currently draining from the site, and would be located in a developed area with adequate existing drainage facilities, no new or expanded stormwater drainage facilities would be required.

The existing transmission corridor is located along hillside areas where stormwater runoff currently flows downward along the ground surface to areas of lower elevation. Construction activities within the existing transmission line corridor would require excavations for tower bases, crane pads, material lay-down and assembly areas, and stub roads. The nature and extent of excavations would depend on the specific construction techniques employed. Although much of the work within the corridor is anticipated to be staged from existing access roads, site grading would be required to provide access and work areas for multi-axle heavy equipment utilized for footing construction, tower and pole erection, tower demolition, and conductor stringing operations. Upon completion of this construction, the project design would return site grading to existing topography within the transmission corridor and would not change existing stormwater drainage patterns within the right-of-way. No new or expanded drainage facilities would be required within the existing transmission line corridor. Therefore, impacts would be less than significant.

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. Currently, no water mains exist within the proposed project site and no permanent water lines serve either the proposed substation site or existing transmission line corridor. Prior to operation of the substation, water lines and other necessary utilities would be extended from existing lines at the intersection of Definition Road and Icon Road. During construction, water may be required for dust suppression and cleaning of construction equipment. Water for these uses would come from a truck or other mobile source during work within the right-of-way and at the substation site prior to the extension of utilities to the site. The extent of this potential water increase is not known and dependent upon variable factors such as site conditions and types of construction equipment. However, the amount of water for dust suppression and cleaning activities is considered to be minimal in comparison to available water supplies. This potential increase in water use is considered temporary and limited to construction activities only. Therefore, the construction-related increase in water use would represent a small fraction of the available potable water from the resources listed in Table B.3-17. Upon completion of construction, the proposed project would generate minimal daily water demand, resulting mainly from landscaping irrigation needs at the proposed substation. Furthermore, the project would utilize any non-potable water available to the site for construction and landscaping activities to the extent feasible. Therefore, the proposed project would not be expected to exceed the existing water supplies available to serve the proposed project. Impacts 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?

LESS-THAN-SIGNIFICANT IMPACT. The proposed project would result in minimal wastewater generation. As discussed in Checklist Question B.3.16 (a), existing wastewater facilities are adequate to accommodate the minor demand generated by the proposed project. Therefore, the wastewater treatment providers serving the area would have adequate capacity, in addition to their existing commitments, to serve the proposed project's projected demand. Therefore, impacts would be less than significant.

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. Landfill capacity is often a concern with construction projects, as unanticipated construction may burden a region's landfill system beyond capacity. Various public agencies and private companies provide solid waste services in the Cities of Lake Forest and Mission Viejo. During project construction, any solid waste generated on-site would be collected and transported by a private contractor. As such, collection and transport of project-related solid waste would have no impact on public services. Construction of the proposed project would generate small amounts of demolition debris, resulting mainly from pole removal. Some of the poles may be recycled or reused on site. SCE intends to recycle removed poles, contingent on their condition after removal. Demolition debris (such as concrete and metal) not re-used on site would be disposed of at one of several unclassified landfills identified in Table B.3-15. In addition, soil export during excavation may be required. Construction debris is disposed of at Unclassified Landfills, which typically do not have daily waste limits. Therefore, landfills serving the site would have sufficient capacity to accommodate project construction solid waste disposal needs. Total solid waste generated by construction of the proposed project is anticipated to be within the capacity of existing landfills serving the project area. Therefore, solid waste impacts would be less than significant.

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 part of the proposed project. As identified in Checklist Question B.3.16 (f), landfills serving the site would have sufficient capacity to accommodate project construction solid waste disposal needs, and the disposal of project refuse 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.3.17 Mandatory Findings of Significance

MANDATORY FINDING OF SIGNIFICANCE

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	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 pre-history?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Does the project have impacts that are individually limited, but cumulatively considerable? (<i>Cumulatively considerable</i> 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 that would cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G

- 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 WITH MITIGATION INCORPORATED. As described in Section B.3.4, Biological Resources, the project could result in impacts to habitats that support sensitive species. However, implementation of the measures outlined in the Central and Coastal NCCP and the mitigation measures (**BIO-1** through **BIO-9**) described in Section B.3.4 would reduce these potential impacts to less-than-significant levels. Similarly, while some potential exists to impact an archaeological resource, mitigation described in Section B.3.5, Cultural Resources, would reduce this potential impact to a less-than-significant level.

With the suggested mitigation, the proposed project would not have a significant adverse effect, either individually or cumulatively, on natural resources. No significant impacts would occur that could not be mitigated to a less-than-significant level.

- 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. To assist in the evaluation of potential cumulative impacts, a list of planned or proposed projects in the vicinity of the proposed Viejo System Project has been assembled (see Appendix 6, Cumulative Projects List).

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. The construction impacts of the proposed project (primarily related to biological resources, noise, air pollutant emissions, and minor traffic) have little potential to combine with similar effects of other projects in the general vicinity,

particularly considering that the implementation of appropriate mitigation measures (see Sections B.3.1 through B.3.16, and the Mitigation Monitoring Plan in Section C) would reduce the construction-related effects of the proposed project to less-than-significant levels. Because the construction-related impacts of the proposed project are 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. Therefore, the potential for construction impacts that are cumulatively considerable is limited.

After the project has been constructed, the only continuing effect of the proposed project evaluated in this Initial Study is the incremental visual change it would represent compared to current conditions. From a cumulative perspective, the incremental visual effects of the proposed project are considered in combination with past visual changes in the area and anticipated changes from future projects. Over time, visual conditions in the project vicinity have changed substantially as a result of land development and construction of supporting infrastructure. 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 are adverse, but not considerable enough to represent a significant cumulative impact. Similarly, with regard to the remaining areas of analysis (Sections B.3.2 through B.3.16), 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?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. The preceding sections of this Initial Study discuss various types of impacts that could adverse effects on human beings, including:

- Dust and air pollutant emissions associated with project construction activities (see Section B.3.3, Air Quality)
- Hazards, such as seismic hazards, exposure to hazardous substances, flooding, or wildland fires (see Section B.3.6, Geology and Soils; Section B.3.7, Hazards and Hazardous Materials; and Section B.3.8, Hydrology and Water Resources)
- Noise generated by project construction and operation (see Section B.3.11, Noise); and
- Traffic hazards related to project-generated traffic (see Section B.3.15, Transportation/Traffic).

These are all 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 Mitigation Monitoring Plan, Section C, for a complete listing of impacts and the associated mitigation 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.