

5.1 INTRODUCTION

This section presents an assessment of potential environmental impacts that would be associated with construction and operation of the proposed Antelope Transmission Project – Segments 2 and 3, including T/L and substation facilities that are described in detail in Section 3.0 (Description of the Proposed Project). The assessments presented herein consider impact significance criteria, which include the criteria contained in CEQA, Appendix G. Additional significance criteria are utilized (e.g., local agency criteria), where applicable. This section also presents applicant-proposed mitigation measures (APMs) to reduce the significance of potential impacts associated with the project. APMs are presented at the end of each resource discipline assessment, as applicable.

A summary of project-related potentially significant adverse environmental effects as well as a comparison of alternatives are presented in Section 6.0. A completed CEQA Initial Study Checklist is presented in Appendix A of this PEA.

The balance of this section is organized as follows:

- 5.2 Aesthetics
- 5.3 Agricultural Resources
- 5.4 Air Quality
- 5.5 Biological Resources
- 5.6 Cultural Resources
- 5.7 Geological Resources
- 5.8 Hazards and Hazardous Materials
- 5.9 Hydrology and Water Quality
- 5.10 Land Use and Planning
- 5.11 Mineral Resources
- 5.12 Noise
- 5.13 Population and Housing
- 5.14 Public Services/Utilities
- 5.15 Recreation
- 5.16 Traffic and Transportation

Other impact related assessments presented in subsequent sections of this PEA are as follows:

- 6.0 Significant Environmental Impacts and Comparison of Alternatives
- 7.0 Cumulative Impacts
- 8.0 Growth-Inducing Impacts
- 9.0 Indirect Effects

The following technical backup reports and/or related consultations and communications are presented in appendices to the PEA:

- Appendix A: CEQA Initial Study Checklist
- Appendix B: SCE Public Involvement Program
- Appendix C: SCE Agency Communications
- Appendix D: Biological Resources
- Appendix E: Cultural Resources Technical Report
- Appendix F: Native American Consultation
- Appendix G: Property Owner List
- Appendix H: Air Quality Emission Calculations
- Appendix I: Road Story Aerials

5.2 AESTHETICS**5.2.1 Significance Criteria**

The potential to create visual impacts is determined primarily by CEQA criteria and by local criteria as cited in Section 4.2. Based on the criteria in the Environmental Checklist Form in Appendix G of the CEQA Guidelines, a proposed project would have a significant visual impact if it would result in one or more of the following conditions:

- Have a substantial adverse effect on a scenic vista
- Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway
- Substantially degrade the existing visual character or quality of the site and its surroundings
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area

In addition, local ordinances and regulations are evaluated herein where they apply.

These criteria are applied when considering the proposed project within the context of the visual quality, viewer sensitivity and the viewer exposure identified in Section 4.2.

5.2.2 Construction Impacts

Short-term construction impacts on visual resources would result from the temporary presence of equipment, materials, and workforce along the T/L corridors and at the substations. Vehicles, heavy equipment, facility components, and workers would be visible during construction of new towers and conductor installation, including creation of new access spur roads.

In general, the substations, and in some locations the T/L routes, are sufficiently distant from public travel corridors and rural residences that construction of these project components would not be visible. In areas where the T/L route(s) is close to residential development, construction would be more in public view. During construction, debris and materials would be kept as orderly as possible to minimize negative visual impact. Given the short-term nature of the construction and with implementation of APM VIS-1, visual impacts related to project construction activities would be less than significant.

5.2.3 Operation Impacts

Operation impacts focus on the longer-term visual impacts resulting from project operation and the presence of aboveground built facilities in the existing landscape. Changes in the visual environment would result from the addition of T/Ls to the landscape, and modification or construction of substations.

5.2.3.1 Segment 2 (Antelope – Vincent)

To facilitate the review of operation impacts along the proposed Segment 2 500 kV T/L route, the proposed route has been divided into seven sections for this visual assessment. This allows a more detailed evaluation of the potential impacts based upon the land characteristics, the number and duration of viewers, and the characteristics of the T/L itself. While many of the sections are relatively invisible, photo simulations were developed for three locations to show before and after conditions that would represent the reasonable worst case for the sector under discussion. Where simulations have been prepared, the before, or baseline, condition is identified as Photo A and the project, or after construction condition, is identified as Photo B.

Table 5.2-1 provides a detailed discussion of the potential for adverse changes to visual resources on a section-by-section basis for Segment 2. The photo references to baseline conditions and simulations are also listed.

In summary, with implementation of the APMs for visual impacts presented in Section 5.2.4.2, operational impacts associated with Segment 2 facilities would be less than significant.

5.2.3.2 Segment 2 Alternatives

Two alternatives have been identified for Segment 2. Alternative AV1 provides for a cross over from the west to the east of the existing T/L corridor for a 2.1-mile-long section about 0.75 mile north of Elizabeth Lake Road. From a visual perspective, there is no difference between the alternative and the proposed route since they are both in the same corridor and there are no significant visual receptors in the area. Alternative AV2 would maintain the T/L on the east side of the existing T/L corridor through the Ritter Ranch area. Even though the T/L will be adjacent to existing lines, it does pass through an area proposed to be developed on both sides of the corridor. The proposed T/L route traverses open space areas within the Ritter Ranch and Anaverde developments, thereby avoiding or minimizing potential visual impacts on planned homes.

TABLE 5.2-1
SEGMENT 2 – POTENTIAL FOR ADVERSE CHANGES TO VISUAL RESOURCES

<ul style="list-style-type: none"> • Impact Number • Project Segment: Milepost (MP) • Project Element • Viewing Area 	<p>Photo Reference</p>	<p>Visual Significance Assessment</p>
<p>Impact VIS2-1 Segment 2: MP 0.0 to MP 3.0 Transmission line Avenues K & L/80th, 90th, and 100th Streets W.</p>	<p>Figure 4.2-1 Photo 1 (no simulation)</p>	<p>The proposed 500 kV line leaves the Antelope Substation on tubular steel poles, passing under the Antelope-Magunden 220 kV corridor and the Midway-Vincent No. 3 corridor. The line would cross the valley toward the southeast alongside the existing 66/500 kV R-O-W. Once away from the substation, the line would consist of 500 kV towers (initially energized at 220 kV).</p> <p>There are few residences in this sector and traffic on Avenue L is low. The new T/L would always been seen in the context of the existing T/L corridor. A simulation for this general area was prepared by SCE in response to CPUC data requests for Segment 1 and may be reviewed in that document.</p> <p>While the new towers would add somewhat to the existing visual impact in the area, the impact would be less than significant.</p>
<p>Impact VIS2-2 Segment 2: MP 3.0 to MP 4.5 Transmission line Avenue M New residential development Around 70th & 75th Streets</p>	<p>Figure 4.2-1 Photo 2 (no simulation)</p>	<p>The T/L would enter into the foothills of Portal Ridge after crossing Avenue M paralleling the existing 66/220 kV R-O-W. The new line is currently planned to be west of the existing four lines.</p> <p>The new 500 kV towers would add an additional visual element to the existing corridor, but would not obstruct any major scenic vistas and would not silhouette the sky at this location.</p> <p>Residential construction (Tract 060431) is currently underway in the area of W 70th and W 75th Streets abutting the existing T/L corridor. The residential area would have increased sensitivity to changes in the surrounding visual environment. Another subdivision proposed along either side of the existing corridor at W 80th and Avenue M has the potential to locate more sensitive residential receptors close to the transmission corridor.</p> <p>While the visual change of the new T/L is adverse, it would be seen in the context of the existing four line corridor, and would be less than significant.</p>

TABLE 5.2-1 (CONTINUED)
SEGMENT 2 – POTENTIAL FOR ADVERSE CHANGES TO VISUAL RESOURCES

<ul style="list-style-type: none"> • Impact Number • Project Segment: Milepost (MP) • Project Element • Viewing Area 	<p>Photo Reference</p>	<p>Visual Significance Assessment</p>
<p>Impact VIS2-3 Segment 2: MP 4.5 to MP 7.0 Transmission line Goode Road</p>	<p>Figure 4.2-2 Photo 3 (no simulation)</p>	<p>The new T/L would be visible from Goode Road, near Goode Pass, where it crosses under the existing T/L corridor.</p> <p>With the exception of Goode Road, the existing transmission corridor is visibly inaccessible to any significant number of viewers. Thus, the new T/L paralleling the existing transmission corridor would also be essentially visually inaccessible. At Goode Road the line would be perpendicular to travelers and would not add significantly to the existing visual clutter of the corridor.</p> <p>Impacts to the visual environment would be less than significant.</p>
<p>Impact VIS2-4 Segment 2: MP 7.0 to MP 14.8 Transmission line Elizabeth Lake Road – Ritter Ranch</p>	<p>Figure 5.2-1 Photo A = Baseline B = Simulation</p>	<p>The 500 kV towers would cross Elizabeth Lake Road on the west side of the existing transmission corridor. South of Elizabeth Lake Road, the proposed 500 kV line route forms a large loop to the west on the Ritter Ranch development area to avoid or minimize potential conflicts with the residential development.</p> <p>The 500 kV towers would be seen by travelers on Elizabeth Lake Road in the context of the existing T/L corridor. Currently the area around Elizabeth Lake Road at the existing transmission corridor is relatively undeveloped. At this time there are no significant roads (other than small ranch roads) south of Elizabeth Lake Road close to the existing transmission corridor. Where glimpsed at a distance, the towers would be viewed in the context of the existing transmission corridor.</p> <p>Future development of the Ritter Ranch community is planned for a 10,625-acre area south of Elizabeth Lake Road. The rerouting of the T/L around this proposed development would result in residential neighborhoods occurring only to the east of the proposed route, a condition preferred by the land owner.</p> <p>Given the relatively low number of viewers along Elizabeth Lake Road at the current time and views of the new T/L in the context of the existing transmission corridor, impacts would be less than significant. Given the pending development on Ritter Ranch, the addition of the new T/L to the west would incrementally affect the visual environment. Given the fact that the new T/L would be constructed beyond the currently planned perimeter of the proposed development, the impacts would be less than significant.</p>

TABLE 5.2-1 (CONTINUED)
SEGMENT 2 – POTENTIAL FOR ADVERSE CHANGES TO VISUAL RESOURCES

<ul style="list-style-type: none"> • Impact Number • Project Segment: Milepost (MP) • Project Element • Viewing Area 	<p>Photo Reference</p>	<p>Visual Significance Assessment</p>
<p>Impact VIS2-5 Segment 2: MP 14.8 to MP 15.1 Transmission line Ritter Ranch – Anaverde</p>	<p>Figure 5.2-2 Photo A = Baseline B = Simulation</p>	<p>The proposed 500 kV T/L route rejoins the existing transmission corridor at MP 14.8. At this point higher towers are required to transition over the existing lines to reach the new corridor addition on the east. This transition occurs at the corner of the Anaverde development which is now under construction.</p> <p>While there will be new residences in this area, the visual quality of the area to the west of the development is already characterized by the four lines in the existing corridor. The new lines are also set back from the development by an open space dedication.</p> <p>Reference to the simulation for this condition indicates that while the new line does adds a visual element to the corridor, it will not noticeably further degrade the view of this relatively bland hillside. Therefore the impact is considered as less than significant.</p>
<p>Impact VIS2-6 Segment 2: MP 15.1 to MP 20.2 Transmission line BLM: Sierra Palona</p>	<p>Figure 4.2-3 Photo 6 (no simulation)</p>	<p>The proposed line follows the existing transmission corridor that is in the vicinity of BLM land.</p> <p>This area is relatively inaccessible other than to off-road vehicles. Only a minimal number of potential viewers would see the new line in the context of the existing corridor.</p> <p>Changes to the visual environment would be less than significant.</p>
<p>Impact VIS2-7 Segment 2: MP 20.2 to MP 21.0 Transmission line Soledad Canyon – Highway 14 Corridor</p>	<p>Figure 5.2-3 Photo A = Baseline B=Simulation</p>	<p>The lattice towers of proposed 500 kV T/L would be northwest of the two existing 230 kV lines (see Photo A of Figure 5.2-3) but essentially be imbedded in this corridor with three existing lines.</p> <p>This sector is a very heavily used transportation corridor with State Highway 14, Soledad Canyon Road and the Metro Link commuter system. However, the visual quality of the area is degraded and classified as low.</p> <p>The addition of the new line, while adverse, would probably be unnoticed by almost all travelers and, therefore, would be less than significant (see simulation Photo B, Figure 5.2-3).</p>

TABLE 5.2-1 (CONTINUED)
SEGMENT 2 – POTENTIAL FOR ADVERSE CHANGES TO VISUAL RESOURCES

<ul style="list-style-type: none"> • Impact Number • Project Segment: Milepost (MP) • Project Element • Viewing Area 	<p>Photo Reference</p>	<p>Visual Significance Assessment</p>
<p>Impact VIS2-8 Segment 2: MP 21.0 to MP 21.5 Transmission Line</p>	<p>Figure 4.2-4 Photo 7</p>	<p>The proposed T/L would enter the Vincent Substation from the west. Views of the substation, but not the proposed T/L, are visible from Angeles National Forest Road N3, which passes the Vincent Substation on the east side.</p>

5.2.3.3 Proposed Segment 3 (Antelope to Substations One and Two)

To facilitate the review of operation impacts along the proposed Segment 3 T/L route, the proposed corridor has been divided into six sections. This allows a more detailed evaluation of the potential impacts based upon the land characteristics, the number and the duration of viewers and characteristics of the T/L itself. While many of the sections are relatively invisible, photo simulations were developed for three locations to show before and after conditions that would represent the reasonable worst case for the segment under discussion. Where simulations have been prepared, baseline condition is identified as Photo A, and the and the post-construction condition is identified as Photo B. Where simulations have not been prepared, reference is provided to context photos in Section 4.2.

Table 5.2-2 provides a detailed discussion of the potential for adverse changes to visual resources on a section-by-section basis for Segment 3.

In summary, with implementation of the APMs for visual impacts presented in Section 5.2.4.2, operational impacts associated with Segment 3 facilities would be less than significant.

5.2.3.4 Segment 3 Alternatives

For the southern portion of the Segment 3 T/L route through the Antelope Valley, two alternative routes (A and B) have been identified. Their overall visual impacts are very similar to the proposed route in that they cross relatively undeveloped open and rural lands up to the area of Substation One. The only notable difference is that Alternative A parallels 100th Street W., which is slightly more developed than the proposed 105th Street W. corridor. Alternative B avoids the proposed Del Sur Ranch development by passing to the west by 2,700 feet; however, this north/south route places it on the eastern edge of the proposed Copa De Oro/Kern Ross Estates project. While this route might be considered a slight visual advantage, the location along 110th Street W. means that, in the Gaskell Avenue area, the line would not be in an existing transmission corridor.

Alternative C is an alternate 220 kV T/L route between Substations One and Two. This route turns north at approximately MP 4.4 and traverses a small ridge through a wind turbine farm, crosses Cameron Canyon Road and the Pacific Crest Trail. It then rises across the main Tehachapi Ridge through another wind turbine farm before dropping downhill to Substation Two. While the majority of this route is through the industrial character of existing wind turbine farms, the portion of the T/L between MP 5.0 and 6.0 passes a relatively scenic rural residential area. As such, Alternative C is less desirable than the proposed route from a visual perspective.

TABLE 5.2-2
SEGMENT 3 – POTENTIAL FOR ADVERSE CHANGES TO VISUAL RESOURCES

<ul style="list-style-type: none"> • Impact Number • Project Segment: Milepost (MP) • Project Element • Viewing Area 	<p style="text-align: center;">Photo Reference</p>	<p style="text-align: center;">Visual Significance Assessment</p>
<p>Impact VIS3-1 Segment 3: MP 0.0 to MP 2.0 Transmission line Avenue J – Del Sur Ranch</p>	<p>Figure 4.2-5 Photo 8 (no simulation)</p>	<p>The proposed new Segment 3 500 kV line leaves the Antelope Substation in a northwestern direction across rural lands, crossing W Avenue J and W Avenue I to MP 2.0 before turning at a right angle and crossing under the existing Midway-Vincent and Antelope-Magunden T/Ls and heading due north away from the existing corridor.</p> <p>Avenue I serves as the connecting rural highway between Lancaster and Gorman (Lancaster Road). As the line departs from the Antelope Substation it would be seen within the context of the existing T/L corridor. Once it leaves the existing corridor, the proposed T/L would be perceived as a new element in the visual environment.</p> <p>While the T/L has the potential to degrade the visual character of the surrounding area once it departs from the existing corridor, there are currently no sensitive visual receptors in the area.</p>
<p>Impact VIS3-2 Segment 3: MP 2.0 to MP 22.6 Transmission line 105th Street W. Corridor</p>	<p>Figure 4.2-5 Photo 9 (no simulation)</p>	<p>The proposed T/L runs north along the 105th Street W. alignment just west of the proposed Del Sur Ranch project. At present this is all open country as can be seen in Photo # 9 of Figure 4.2-5. It runs adjacent to 105th Street W. on the west side until MP 9.0 where it slants to the west to pick up an alignment at 107th Street W. At MP 12.0 the T/L follows and existing corridor until MP 13.0 where it again tracks north along an alignment at 103rd Street W. The character of the surrounding area along this corridor is rural with occasional residences located along the quarter section avenues.</p> <p>Depending on the design of the Del Sur Ranch development, the addition of the new T/L could have a negative effect on the visual environment. In the context of existing adjacent residential development the addition of the line, while adverse, would be less than significant.</p>
	<p>Figure 5.2-4 Photo A = Baseline B = Simulation</p>	<p>Along the 105th Street W. corridor, the addition of 500 kV scattered towers would for the most part be seen in the context of the rural countryside with minimal development except for scattered power lines. Given the moderately low character of the existing landscape and the small number of viewers, the impact would be less than significant. Under the applicable CEQA criteria, the addition of the T/L would not adversely affect a scenic vista nor damage scenic resources and the impact would be less than significant.</p>

TABLE 5.2-2 (CONTINUED)
SEGMENT 3 – POTENTIAL FOR ADVERSE CHANGES TO VISUAL RESOURCES

<ul style="list-style-type: none"> • Impact Number • Project Segment: Milepost (MP) • Project Element • Viewing Area 	<p style="text-align: center;">Photo Reference</p>	<p style="text-align: center;">Visual Significance Assessment</p>
<p>Impact VIS3-3 Segment 3: MP 22.6 to MP 26.0 Oak Creek wash Substation One</p>	<p>Figure 5.2-5 Photo A = Baseline B = Simulation</p>	<p>The 500 kV T/L in this sector would be in a new corridor. Substation One is proposed to be located on presently undeveloped land adjacent to and south of Oak Creek Road and a currently operating wind farm.</p> <p>The general area of the proposed T/L south of Substation One is open space and inaccessible to all but off-road vehicles. The visual quality of the area is moderate and relatively untouched by roads or structures (with the exception of a railroad branch line to the Cal Cement plant).</p> <p>The context of Substation One is relatively industrial given its proximity to extensive wind farm developments to the north and the Cal Cement plant's operation 2 miles to the west. Much of the vehicular traffic is related to these two industrial operations.</p> <p>Given the lack of sensitive viewers along the T/L route, the visual impact would be less than significant. While the addition of Substation One would occur on undeveloped land and the view of the distant hills is altered, the general electrical/industrial character of the area suggests adverse but less than significant visual impacts. Under CEQA criteria, the addition of the T/L would not adversely affect a scenic vista nor significantly damage scenic resources. Therefore, impacts would be less than significant.</p>
<p>Impact VIS3-4 Segment 3: MP 26.0 to MP 30.0 Transmission line Oak Creek Road Corridor</p>	<p>Figure 4.2-6 Photo 12 (no simulation)</p>	<p>The 220 kV T/L route for this sector would follow the southern side of Oak Creek Road for just over a mile and then follow an existing 66 kV subtransmission line within the existing wind farm.</p> <p>While the general visual character for this area is moderate in scenic value, the immediate context of the T/Ls, as seen from Oak Creek Road, would be that of the wind farms.</p> <p>The impact, while adverse from the addition of the line, would be less than significant in this context and with the limited number of viewers.</p>

TABLE 5.2-2 (CONTINUED)
SEGMENT 3 – POTENTIAL FOR ADVERSE CHANGES TO VISUAL RESOURCES

<ul style="list-style-type: none"> • Impact Number • Project Segment: Milepost (MP) • Project Element • Viewing Area 	<p style="text-align: center;">Photo Reference</p>	<p style="text-align: center;">Visual Significance Assessment</p>
<p>Impact VIS3-5 Segment 3: MP 30.0 to MP 35.0 Transmission line Cameron Canyon/Tehachapi Mtns.</p>	<p>Figure 4.2-7 Photo 13</p>	<p>This sector of the proposed 220 kV T/L route is, for the most part, across open country through the rolling terrain of an eastern spur of the Tehachapi Mountains. At MP 31.4 it crosses the Pacific Crest Trail which is a scenic resource and Cameron Canyon Road which heads northeast toward a small valley occupied by half a dozen small farms and residences.</p> <p>The terrain is one of rolling scrub-covered hills. The land uses are open space interspersed with several wind generation farms and a 66 kV subtransmission line. While hikers and travelers to the residences are considered to be potentially sensitive visual receptors, the T/L is relatively perpendicular to the path of travel and the location of the lattice towers would be set back from the routes of travel, as practical.</p> <p>With the setback measure for towers adjacent to the Pacific Crest Trail in place, the impact of the line, while adverse, would be less than significant.</p>
<p>Impact VIS3-6 Segment 3: MP35. 0 Substation Two Highline Road</p>	<p>Figure 5.2-6 Photo A = Baseline B = Simulation</p>	<p>Substation Two is located at the foot of the Tehachapi Mountains spur on the southern side of Tehachapi Valley. Access is by the Highway 58 frontage road and then along one-half mile of Monolith Street. The proposed T/L would connect from the south.</p> <p>While this site is set against a relatively scenic backdrop, it is on the valley floor. The substation would be seen in the context of several wind generation farms and the General Electric assembly and maintenance facility to the southwest. To the west are several farms with large sheds and sheet metal structures. A mile and a half north is the large Monolith Cement facility. While the simulation (Photo B of Figure 5.2- 6) does project into the skyline, this would not be the case from Highway 58, which is half a mile north with a different perspective.</p> <p>Given the somewhat industrial context of the immediate area, and the low visual mass when compared to other manmade structures in the area, the visual impact would be less than significant.</p>

In summary, with implementation of the APMs for visual impacts presented in Section 5.2.4.2, operational impacts associated with the T/L route and substation site alternatives for Segment 3 would be less than significant. One exception is alternate Substation 1C site which would result in a significant visual impact on the Pacific Crest National Scenic Trail since the trail crosses the site. Alternative substation site 1C is not considered to be a viable alternative.

5.2.4 Mitigation Measures

5.2.4.1 Construction

APM VIS-1. Debris removal. During project construction, the work site would be kept clean of debris and construction waste. Material and construction storage areas would be selected to minimize views from public roads, trails and nearby residences.

5.2.4.2 Operation

APM VIS-2. Location of new spur roads. New access spur roads would be located to minimize visibility from public roads and trails especially in the Portal/Ritter Ridge (Segment 2) lands and the Tehachapi Mountains areas (Segment 3).

APM VIS-3. Spacing of towers next to the Pacific Crest Trail. Where the proposed (or Alternate C) 220 kV T/L crosses the Pacific Crest Trail north of Oak Creek Road, the transmission towers would be placed with a minimum setback of 300 feet from the trail.

5.3 AGRICULTURAL RESOURCES**5.3.1 Significance Criteria**

The significance criteria listed below were derived from Appendix G, CEQA Guidelines. Impacts to agricultural resources in the project area would be considered significant if the project would:

- Convert prime agricultural land to non-agricultural land
- Impair the agricultural productivity of prime farmland

5.3.2 Segment 2 (Antelope – Vincent)

Construction activities for the proposed 20.0 miles of 500 kV T/L and 0.5 mile of 220 kV T/L would cause a temporary increase in vehicular traffic that may result in a short-duration disruption in farming and grazing activities that are directly associated with the access roads crossed by the proposed T/L route. This potential disruption of farming and grazing would be temporary and intermittent. This would not impair the agricultural productivity of the area or the ability to conduct existing agricultural practices. Such impacts would be less than significant, if they occur at all.

As discussed in Section 4.3, potential Prime Farmland and Farmland of Local Importance exists in two small areas along the route. Grading would occur along the T/L route (e.g., tower locations and access/spur roads), however, this impact to soils would generally be only temporary. Only minor amounts of land would be converted to a new use (for tower placement), and installation and operation of the T/L would not be expected to significantly impair the agricultural productivity of designated farmlands.

5.3.3 Segment 3 (Antelope to Substations One and Two)

Approximately 10 miles of the proposed 500 kV T/L (and Alternatives A and B) is within Los Angeles County. The northern portion of the T/L is located in Kern County.

The proposed 500 kV T/L and associated Alternatives A and B traverse small extents of potential Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and grazing land. In order to minimize potential impacts to agricultural resources SCE is proposing to install single-footing TSPs instead of LSTs with four-footings. The grading that would need to occur along the T/L route would generally only temporarily impact soils. Only a minor amount of land would be converted to a new use, and installation of the T/L would not significantly impair the agricultural productivity of the designated farmlands. The aforementioned impact findings also apply to the proposed 220 kV T/L and Alternative C

(220 kV T/L) between Substations One and Two. In summary, project-related impacts to agricultural resources would be less than significant.

5.3.4 Proposed and Alternative Substations

5.3.4.1 Segment 2

The proposed Segment 2 related electrical tie-ins at the existing Antelope and Vincent Substations would have no effect on agricultural resources.

Proposed construction at the Antelope Substation includes minor modifications and additions of equipment, however, no Prime Farmland or any other important farmland exists within the construction area. Grazing may intermittently occur around the Antelope Substation, however, construction of the additional facilities at this location would not significantly hinder grazing activities. Therefore, no adverse impacts to agricultural resources are anticipated. No important farmland resources occur at the Vincent Substation, and construction at that location would not impact any agricultural resources.

5.3.4.2 Segment 3

The proposed Segment 3 related electrical tie-ins at the Antelope Substation would have no effect on agricultural resources.

Grazing lands are located at and around proposed and alternative Substations One and Two on the northern portion of Segment 3. However, no Prime, Statewide, Local, or Unique Farmlands occur at the two proposed sites or alternatives. Construction of the new substations would not significantly hinder grazing activities or operations, and no adverse impacts to agricultural resources are anticipated.

5.3.5 Operation Impacts

Although small amounts of designated farmland may be affected by implementing Segments 2 and 3, the project would not convert prime agricultural farmland areas to non-agricultural uses or impair the agricultural productivity of Prime Farmland. Impacts would be less than significant.

5.3.6 Mitigation Measures

No significant impacts to agricultural resources are anticipated, thus no mitigation measures are proposed.

5.4 AIR QUALITY**5.4.1 Significance Criteria**

Standards of significance were derived from the CEQA Guidelines, the AVAQMD, and the KCAPCD.

Project-related air quality impacts are considered significant by the AVAQMD if they:

- Generate total emissions (direct and indirect) exceeding the thresholds provided in Table 5.4-1; and/or,
- Generate a violation of any ambient air quality standard when added to the local background; and/or,
- Do not conform with the applicable attainment or maintenance plan(s); and/or,
- Expose sensitive receptors to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to 1 in a million and/or a Hazard Index (HI) (non-cancerous) greater than or equal to 0.1

**TABLE 5.4-1
AIR QUALITY SIGNIFICANCE THRESHOLDS**

Pollutant	AVAQMD		KCAPCD
	Thresholds Total Tons	Thresholds Pounds per Day	Thresholds Pounds per Day
NO _x	25	137	137 ¹
VOC	25	137	137 ¹
PM ₁₀	15	82	
SO _x	25	137	
CO	100	548	

¹ Emissions from motor vehicle trips (indirect sources only).

Project-related air quality impacts are considered significant by the KCAPCD if they:

- Emit (from all project sources subject to KCAPCD Rule 201) more than offsets-trigger levels set forth in Subsection III.B.3. of KCAPCD's Rule 210.1 (New and Modified Source Review Rule)
- Emit more than 137 pounds per day of NO_x or Reactive Organic Compounds from motor vehicle trips (indirect sources only)
- Cause or contribute to an exceedance of any California or National Ambient Air Quality Standard

- Exceed the District health risk public notification thresholds adopted by the KCAPCD Board
- Are inconsistent with adopted federal and state Air Quality Attainment Plans

Table 5.4-1 provides the thresholds of significance, by pollutant, for the AVAQMD and KCAPCD.

5.4.2 Construction Impacts

PM₁₀ is the primary air-pollutant source from T/L and substation construction activities. In addition to PM₁₀, there are pollutants associated with construction-equipment usage, and with vehicular emissions from transporting workers, equipment, and supplies. With implementation of the APMs listed in Section 5.4.4, short-term air quality impacts associated with construction of Segments 2 and 3 of the Antelope Transmission Project would be expected to be less than significant.

The total estimated construction emissions for Segments 2 and 3 are summarized in Table 5.4-2. The total estimated construction emissions for Segments 2 and 3 in the AVAQMD and the KCAPCD are also itemized in Table 5.4-2. The emission estimate calculation spreadsheets that were developed for this project are presented in Appendix H (Air Quality Emission Calculations). The estimates are worst-case and assume no emission controls are in place.

A comparison of the estimated project emissions to the applicable AVAQMD and KCAPCD thresholds of significance indicate that the daily thresholds are exceeded for all pollutants except SO₂ and VOC. As noted previously, the emission estimates are worst-case and assume no controls. With implementation of the applicant-proposed measures presented in Section 5.4.4.1, actual project-related emissions would be expected to be substantially less. No long-term, adverse project-related air quality impacts would occur.

5.4.3 Operation

Once constructed and operating, the project would not result in long-term air emissions from any stationary sources. Intermittent vehicular and helicopter emissions associated with maintenance and repair of the project components would be the only sources of emissions during the operational phase.

5.4.4 Mitigation Measures

5.4.4.1 Construction Phase

APMs for combustion emissions and fugitive dust include:

**TABLE 5.4-2
TOTAL ESTIMATED PROJECT EMISSIONS
FOR SEGMENTS 2 AND 3¹**

Emission Category	TOTAL ESTIMATED PROJECT EMISSIONS - SEGMENT 2									
	NO _x		PM ₁₀		SO ₂		CO		VOC	
	lbs/day	Tons	lbs/day	Tons	lbs/day	Tons	lbs/day	Tons	lbs/day	Tons
Construction Equipment Exhaust Emissions	191.65	6.05	15.29	0.47	18.91	0.60	229.08	6.56	26.17	0.82
Fugitive Dust from Construction			173.03	4.42						
Segment 2 Total Construction Emissions	191.65	6.05	188.32	4.89	18.91	0.60	229.08	6.56	26.17	0.82
	TOTAL ESTIMATED PROJECT EMISSIONS - SEGMENT 3									
	NO _x		PM ₁₀		SO ₂		CO		VOC	
	lbs/day	Tons	lbs/day	Tons	lbs/day	Tons	lbs/day	Tons	lbs/day	Tons
Construction Equipment Exhaust Emissions	440.29	16.12	34.82	1.24	42.95	1.59	818.29	49.28	58.18	2.23
Fugitive Dust from Construction			439.29	11.89						
Segment 3 Total Construction Emissions	440.29	16.12	474.11	13.13	42.95	1.59	818.29	49.28	58.18	2.23
AVAQMD Total:	84.59	3.64	104.85	2.96	8.35	0.36	194.90	14.37	11.96	0.52
KCAPCD Total:	355.71	12.47	369.26	10.17	34.60	1.23	623.39	34.91	46.21	1.71

¹ Notes:

- (1) Due to the variety of helicopter types and construction methods, it is not possible to specify the helicopter type or assess emissions in advance of construction.
- (2) Construction exhaust emission factors obtained from the South Coast Air Quality Management District (SCAQMD) CEQA Air Quality Handbook, Tables A9-8-A and A9-8-B.
- (3) Fugitive Dust PM₁₀ emission factors for dirt pushing operations assumed 15 percent for moisture content, SCAQMD CEQA Air Quality Handbook, Table A9-9-F.
- (4) Paved and Unpaved Road Dust emission calculations applied emission factors from AP-42, Chapters 13.2.1 and 13.2.2, (December 2003).
- (5) The AVAQMD portion of the Segment 3, Antelope Substation to Substation One T/L construction is assumed to be 38 percent or 9.6 miles of the 25.6-mile-long segment.
- (6) Emissions from demolition and relocation of 4.4 miles of 66 kV subtransmission line south of the Antelope Substation along Segment 2 are not included.
- (7) The KCAPCD portion of the Segment 3, Antelope to Substation One T/L construction is assumed to be 62 percent or 16 miles of the 25.6-mile-long segment.
- (8) Refer to Appendix H for emission calculation spreadsheets.

APM AQ-1. Use of low sulfur diesel fuel.

APM AQ-2. Use of clean-burning on-road and off-road diesel engines. Where feasible, heavy-duty diesel powered construction equipment manufactured after 1996 (with federally-mandated “clean” diesel engines) would be utilized.

APM AQ-3. Construction workers would carpool when possible.

APM AQ-4. Vehicle idling time would be minimized.

APM AQ-5. Water all active construction areas, access roads, and staging areas as needed.

APM AQ-6. Cover all trucks hauling soil and other loose material, or require at least 2 feet of freeboard.

APM AQ-7. Construction vehicles would use paved roads to access the construction site when possible.

APM AQ-8. Limit vehicle speeds to 15 mph on unpaved roads.

APM AQ-9. Clean paved streets daily if visible soil material is carried onto adjacent public streets.

APM AQ-10. Apply soil stabilizers to inactive construction areas on an as-needed basis.

APM AQ-11. Enclose, cover, water twice daily, or add soil binders to exposed stockpiles of soil and other excavated materials.

APM AQ-12. Replant vegetation in disturbed areas following the completion of construction.

5.4.4.2 Operations Phase

Because air-quality impacts during operations would be minor and less than significant, mitigation measures are not required.

5.5 BIOLOGICAL RESOURCES

5.5.1 Significance Criteria and Impacts

Under CEQA Significance Criteria, a project would be considered to have a potentially significant biological impact if it would:

- 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.

Summary: Habitat for some special-status plant and wildlife species may be impacted by ground-disturbing activity associated with the project. Permanent habitat losses will occur at tower and pole locations, access and spur roads, and at the new substation sites (Table 3-3). Some of these areas to be cleared are in previously disturbed habitats or in agricultural areas with low potential for the occurrence of sensitive species. Other project-related impacts are expected to be temporary and have no lasting effects on the future existence of the species in the area. None of the ground-disturbing activities are expected to have substantial adverse effects on special-status species, however pre-construction surveys will be conducted in areas with the potential for sensitive species as discussed in Section 4.5. If any unanticipated effects do arise, SCE will implement appropriate compensatory mitigation through negotiation with the resource agencies.

- 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.

Summary: No substantial adverse effects are expected as a result of the proposed project to any riparian areas or sensitive natural communities identified in any local or regional plans, policies, or regulations by the California Department of Fish and Game or the U.S. Fish and Wildlife Service. Riparian areas along Anaverde Creek, Ritter Creek, Amargosa Creek, and Oak Creek are spanned by transmission lines and no towers are planned for construction in riparian zones. All of these creeks currently have bridges or culverts with pre-existing roads for access over the waterway. Construction vehicles will use these roads to avoid impacting riparian habitats.

Joshua tree woodland is a CNDDDB sensitive community and covers a large portion of Segment 3. The number of total acres of Joshua Tree Woodland permanently disturbed by the new LSTs, TSPs, roads, and Substation One is estimated to be 15 to 25 acres (see Table 3-3 and Figure 4.5-1B, Sheet 6 of 7). The California Desert Native Plants Act (Act), California Food and Agricultural Code, Division 23, requires a permit from several

counties in southern California (including Los Angeles and Kern Counties) for the removal of Joshua trees and other native vegetation occurring in the deserts of California. In addition, Joshua trees are protected under City of Palmdale Code, Chapter 14.04 Joshua Tree and Native Desert Vegetation Preservation which requires: (1) a desert vegetation preservation plan with minimum preservation standards for removal of vegetation at sites with Joshua trees (2 Joshua trees per gross acre); and (2) obtaining a permit from the City landscape architect. SCE will comply with the required protection measures for Joshua trees and other native species in the respective regulations discussed above where applicable to utilities.

- 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.

Summary: Based on surveys completed to date there are no jurisdictional wetlands as defined by Section 404 of the Clean Water Act that would be impacted by 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 native wildlife nursery sites.

Summary: The construction and operation of the proposed project would not substantially interfere with the movement of any native resident fish or wildlife species or with any known or established migratory wildlife corridors. The work would be temporary and would create no physical barriers to wildlife movement in the region. No new paved roads would be created in the area.

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Summary: The proposed project would not conflict with any local policies or ordinances protecting biological resources. As discussed above, SCE will comply with the required protection measures for Joshua trees and other native species in the respective regulations discussed above where applicable to utilities. If the project requires that one or more oaks must be removed to facilitate construction, SCE would comply with the Los Angeles County Oak Tree Ordinance regarding permit requirements to the extent feasible.

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Summary: The proposed project would not conflict with any provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Portions of the project occur within the planning area of the West Mojave Plan, a Natural Community Conservation Plan/Habitat Conservation Plan for a specific portion of the Mojave Desert. As discussed previously, this Plan has not yet been implemented although the documents prepared for the Plan were referenced for species information in this PEA.

In general, the primary criteria for determining significance of an impact on biological resources are sensitivity ratings and regulatory protection assigned by federal and state resource agencies (e.g., USFWS, CDFG). Any activity within the proposed project area that results in the “take” of a federally or state-listed threatened or endangered species would be considered significant. To “take” is defined in the federal Endangered Species Act as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect an endangered or threatened species or to attempt to engage in any of these activities.” Harm not only includes killing a species, but activities that modify or significantly degrade habitat that could result in death or injury to individual members of a species by significantly disrupting their essential behavioral patterns. The number of individuals impacted is not relevant to determining significance; if one individual is, or could be impacted, then the impact would be considered significant.

Impacts to biological resources resulting from the construction of the proposed project and each alternative can be characterized as four types that are described below:

- Direct impacts occur when biological resources are altered, disturbed, destroyed, or removed during the course of project implementation. Examples of direct impacts are loss of habitat because of grading or filling.
- Indirect impacts occur when project-related activities impact biological resources in a manner other than direct. Potential indirect impacts include increased noise levels and nonnative weed establishment.
- Permanent impacts result in the irreversible loss of biological resources. Examples include the removal of sensitive vegetation or vegetation that supports a sensitive species or chronic disturbance of sensitive species during a critical period (e.g., breeding season).
- Temporary impacts are reversible with the implementation of mitigation measures. Examples include the revegetation of an area cleared during construction, or short-term noise events associated with construction.

Twelve general habitat types are designated as occurring along Segments 2 and 3 and their alternatives. Several sensitive habitat types identified and tracked by the CNDDDB also occur

in the region (see above). Construction impacts would affect vegetation and, therefore, wildlife habitat, where certain ground-disturbing activities would occur.

Indirect impacts associated with construction would likely include an increase in non-native invasive weeds. To the fullest extent possible, weedy vegetation would be discouraged from becoming established. Native species would be used for reestablishing seed beds where native vegetation was displaced by construction activities.

Special-status plant species, other than state/federal listed species that are found prior to construction in areas where ground-disturbing activity is expected, would be flagged and protected from direct or indirect impacts during construction. When this is not possible, an effort would be made to salvage and replant if biologically feasible, or to collect seeds and reseed the area post-construction. If a plant designated as “rare” under the California Native Plant Protection Act of 1977 (Fish and Game Code Section 1900 – 1913) is discovered during pre-construction surveys, SCE will notify the CDFG in accordance with Section 1913 (c) of the Act.

No federal or state listed wildlife species are expected to be impacted by the project. Other non-listed but special-status species may be encountered. In some cases, local construction activities may cause permanent impacts such as loss, injury, permanent displacement, and permanent or temporary avoidance of particular areas.

5.5.2 Mitigation Measures

APM Bio-1. Pre-construction biological clearance surveys would be performed as discussed in Section 4.5 to minimize impacts to special-status plants or wildlife species.

APM Bio-2. Every effort would be made to minimize vegetation removal and permanent loss at construction sites. If necessary, native vegetation would be flagged for protection. A project revegetation plan would be prepared for areas of native habitat temporarily impacted during construction. Joshua trees would be afforded protection under applicable provisions of the the California Desert Native Plants Act and the City of Palmdale Code, Chapter 14.04 Joshua Tree and Native Desert Vegetation Preservation.

APM Bio-3. Construction crews would avoid impacting the streambeds and banks of any streams along the route to the extent feasible. If necessary, a Streambed Alteration Agreement (SAA) would be secured from California Department of Fish and Game. Impacts would be mitigated based on the terms of the SAA. No streams with flowing waters and capable of supporting special-status species would be expected to be impacted by the project.

APM Bio-4. Crews would be directed to use Best Management Practices (BMPs) where applicable. These measures would be identified prior to construction and incorporated into the construction operations.

APM Bio-5. Biological monitors would be assigned to the project. The monitors would be responsible for ensuring that impacts to special-status species, native vegetation, wildlife habitat, or unique resources would be avoided to the fullest extent possible. Where appropriate, monitors would flag the boundaries of areas where activities need to be restricted in order to protect native plants and wildlife, or special-status species. These restricted areas would be monitored to ensure their protection during construction.

APM Bio-6. A Worker Environmental Awareness Program (WEAP) would be prepared and all construction crews and contractors would be required to participate in WEAP training prior to starting work on the project. The WEAP training would include a review of the special-status species and other sensitive resources that could exist in the project area, the locations of the sensitive biological resources, their legal status and protections, and measures to be implemented for avoidance of these sensitive resources. A record of all personnel trained would be maintained.

APM Bio-7. If it was determined that significant and unavoidable impacts occurred to any special status resources, SCE would purchase lands or otherwise enhance habitat to compensate.

APM Bio-8. SCE would conduct project-wide raptor surveys and remove trees, if necessary, outside of the nesting season (February 1 – August 31). If a tree containing a raptor nest must be removed during the nesting season, or if work is scheduled to take place in close proximity to an active nest on an existing transmission tower or pole, SCE would coordinate with the CDFG and USFWS and obtain written verification prior to moving the nest.

APM Bio-9. All transmission and subtransmission towers and poles would be designed to be raptor-safe in accordance with the Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996 (Avian Power Line Interaction Committee, 1996).

5.6 CULTURAL RESOURCES**5.6.1 Significance Criteria**

Potential impacts to cultural resources could occur if:

- A substantial adverse change in the significance of a historical resource either listed or eligible for listing on the National Register of Historic Places, the California Register of Historic Resources, or a local register of historic resources were to occur, or
- The project were to cause a substantial change in the significance of a unique archaeological resource, destroy a unique paleontological resource or site or disturb human remains, including those interred outside of formal cemeteries.

Potential impacts to archaeological and historic resources are further defined as follows:

- Potentially Significant Impacts are those resulting from construction, operation, or maintenance activities that would adversely impact the integrity of significant or potentially significant prehistoric archaeological resources, and are unavoidable as the project is planned. Examples of these resources are archaeological resources or historic districts that cover an extensive area, are materially dense, and provide little or no opportunity for avoidance or adequate mitigation.
- Less Than Significant Impacts are those resulting from construction, operation, or maintenance activities that could adversely impact the integrity of significant or potentially significant prehistoric archaeological resources, and for which there is sufficient opportunity for resource avoidance. Examples of these resources are archaeological resources or historic sites that have an uneven distribution providing adequate opportunities for avoidance, or for which adequate mitigation is available.
- No Impacts would occur where no known or previously unrecorded resources are present in the project area or close enough to be impacted by the project.

Paleontological resource sensitivity is further defined as follows:

- Paleontologic sensitivity is defined as the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, past history of the rock unit in producing significant fossils, and fossil localities that are recorded from that unit. Paleontologic sensitivity is derived from the fossil data collected from the entire geologic unit, not just from a specific survey.

A three-tiered classification system for paleontological sensitivity, recommended by the Society of Vertebrate Paleontologists (SVP) and recognized in California is listed below:

- High sensitivity – Indicates fossils are currently observed onsite, localities are recorded within the study area and/or the unit has a history of producing numerous significant fossil remains.
- Low sensitivity – Indicates significant fossils are not likely to be found because of a random fossil distribution pattern, extreme youth of the rock unit and/or the method of rock formation, such as alteration by heat and pressure.
- Indeterminate Sensitivity – Unknown or undetermined sensitivity indicates that the rock unit has not been sufficiently studied or lacks good exposures to warrant a definitive rating. This rating is treated initially as having a high sensitivity or potential. After study or monitoring, the unit may fall into one of the other categories.

Fossils are considered to be scientifically significant if they meet or potentially meet any one or more of the following criteria:

- Taxonomy – fossils that are scientifically judged to be important for representing rare or unknown taxa, such as defining a new species.
- Evolution – fossils that are scientifically judged to represent important stages or links in evolutionary relationships, or fill gaps or enhance under-represented intervals in the stratigraphic record.
- Biostratigraphy – fossils that are scientifically judged to be important for determining or constraining relative geologic (stratigraphic) age, or for use in regional to interregional stratigraphic correlation problems.
- Paleoecology – fossils that are scientifically judged to be important for reconstructing ancient organism community structure and interpretation of ancient sedimentary environments.
- Taphonomy – fossils that are scientifically judged to be exceptionally well or unusually or uniquely preserved, or are relatively rare in the stratigraphy.

5.6.2 Segment 2

5.6.2.1 Construction

Along proposed Segment 2 and Alternatives AV1 and AV2, there are 28 prehistoric archaeological sites and four historic sites. The prehistoric sites include an occupation site (CA-LAN-954), seven lithic scatters (CA-LAN-952, -953, -959, -1645, -1755, -1960, and – 2303), one roasting pit (CA-LAN-405), a quarry (CA-LAN-806), pictographs and petroglyphs (CA-LAN-947, -1636), two cupule sites (CA-LAN-1957, -1956), four bedrock

milling stations (CA-LAN-1335, -1627, -1628, -3393), nine hunting blinds (CA-LAN-1759 through -1764, CA-LAN-1769 through -1771), and depressions (CA-LAN-1643).

The historic sites along this route include a stone cabin foundation (CA-LAN-1758H), a building foundation (CA-LAN-1841H), a historic refuse deposit (CA-LAN-1644H), and a historic SCE T/L (P-19-186857). For the paleontological resources, there is the potential of encountering significant fossils of older Quaternary age.

These sites collectively represent the prehistoric and historic land uses of the area encompassing proposed Segment 2 and how those land uses changed over time, thereby contributing to our understanding of the prehistory of the project area. Nevertheless, per the model discussed above, should the route be constructed along proposed Segment 2, potential impacts are anticipated to be less than significant. It should be kept in mind, however, that the limited scope of the fieldwork precluded a comprehensive search for updated and new archaeological sites.

5.6.3 Segment 3

5.6.3.1 Construction

There are 62 prehistoric archaeological and 14 historic sites in the area around proposed Segment 3, including Alternatives A, B, and C, and Substations One and Two. As the proposed T/L routes are so close in proximity to each other, they are considered together here. The prehistoric sites include 32 lithic scatters (for trinomials, see Table 1 in Appendix E), four habitation sites (CA-KER-320, -1803, -1998, and -6062), nine quarries or quarry workshops (CA-KER-5565 through -5569, CA-KER-6015 through -6018), 12 milling station sites (CA-KER-1420, -1515, -1677, -1678, -1801, -1804, -1805, -2433, -2819, -3324, -3393, and -4414), three rocks rings or cairns (CA-KER-1320, -1321, and -1322), and roasting pits or hearths (CA-KER-321 and -2434).

Historic sites along these routes include a house site with a privy (CA-KER-1323H), a burial with picket fence (CA-KER-1615H), a cemetery (CA-KER-3560H), remains of a small country school (CA-KER-3053H), miners' test holes (CA-KER-1949/H; also has a prehistoric component with bedrock mortars and lithics), portions of historic roads (CA-KER-3537H, -3538H, -3542H, and P-15-004755), portions of the Los Angeles Aqueduct (CA-KER-3535H, -3536H, and -4591H), a historic refuse deposit (CA-KER-1477H), and State Historic Landmark No. 37 (CA-KER-7346H). For the paleontological resources, there is the potential of encountering significant fossils of older Quaternary and Late Miocene age.

As with proposed Segment 2, the sites in this part of the study area collectively represent the prehistoric and historic land uses of this area and how those uses changed over time, thereby contributing to our understanding of the prehistory of the region. Nevertheless, per the model

discussed above, should the route be constructed along proposed Segment 2, potential impacts are anticipated to be less than significant. It should be kept in mind, however, that the limited scope of the fieldwork precluded a comprehensive search for updated and new archaeological sites.

5.6.4 Mitigation Measures

5.6.4.1 Segments 2 and 3

5.6.4.1.1 APM Cultural-1: Archaeological and Historic Resources. As demonstrated by the records search and field check phases of the Antelope Transmission Project, a number of archaeological and historical resources occur along the proposed T/L routes and substation sites. Therefore, prior to construction, a full-scale archaeological reconnaissance will be undertaken for the approved T/L routes and substations sites. Based on the results of the surveys archaeological monitoring will take place as needed in order to minimize any potential impacts to these resources. In some cases, additional mitigation measures might be necessary in order to reduce potentially significant impacts to a less than significant level on such resources. These mitigation measures may include, but not be limited to, standard test pits, testing for depth and extent of an archaeological deposit, or data recovery. Unanticipated discoveries will be dealt with in a similar fashion, in compliance with applicable State and Federal guidelines.

5.6.4.1.2 APM Paleo-1: Paleontological Resources. The following mitigation measures have been developed to reduce the adverse impacts of project construction on paleontological resources to a less than significant level. The measures are derived from the guidelines of the SVP and meet the requirements of Kern and Los Angeles counties and CEQA. These mitigation measures have been used throughout California and have been demonstrated to be successful in protecting paleontological resources while allowing timely completion of construction:

1. A certified paleontologist will be retained by SCE to monitor construction activities within areas of paleontological sensitivity for the proposed project. Paleontological monitoring would include inspection of exposed rock units and microscopic examination of matrix to determine if fossils are present. The monitor would have authority to temporarily divert grading away from exposed fossils in order to recover the fossil specimens.
2. If microfossils are present, the monitor would collect matrix for processing. In order to expedite removal of fossiliferous matrix, the monitor may request heavy machinery to assist in moving large quantities of matrix out of the path of construction to designated stockpile areas. Testing of stockpiles would consist of screen washing small samples to determine if significant fossils are present. Productive tests would result in screen

washing of additional matrix from the stockpiles to a maximum of 6,000 pounds per locality to ensure recovery of a scientifically significant sample.

3. Quaternary Alluvium, Colluvium and Quaternary Landslide Deposits have a low paleontological sensitivity level, and would be spot-checked on a periodic basis to insure that older underlying sediments are not being penetrated. All soil removal would be monitored.
4. A certified paleontologist would prepare monthly progress reports to be filed with the client.
5. Recovered fossils would be prepared to the point of curation, identified by qualified experts, listed in a database to allow analysis, and deposited in a designated repository.
6. At each fossil locality, field data forms would record the locality, stratigraphic columns would be measured, and appropriate scientific samples would be submitted for analysis.
7. The certified paleontologist would prepare a final mitigation report to be filed with the client, the lead agency, and the repository.

Implementation of the measures above would mitigate all potential impacts to paleontological resources to a less than significant level.

5.7 GEOLOGICAL RESOURCES**5.7.1 Significance Criteria**

In accordance with the CEQA Guidelines, Appendix G, impacts related to geological resources would be considered potentially significant if Segments 2 and 3 of the Antelope Transmission Project would result in:

- Unstable earth conditions or changes in geologic substructures
- Disruptions, displacements, compaction, or overcovering of the soil
- Change in topography or ground surface relief features
- The destruction, covering, or modification of any unique geologic or physical features
- Any increase in wind and water erosion of soils, either on or off the site
- Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion, which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet, or lake
- Exposure of people or property to geologic hazards, such as earthquakes, landslides, mudslides, ground failure, or similar hazards

5.7.2 Assessment of Geologic Hazards**5.7.2.1 Strong Ground Shaking**

During the design life of the proposed project, moderate to high levels of ground shaking are possible given the seismic setting of the project area. Design-level studies would identify the hazard levels and present engineering recommendations to support appropriate seismic designs. Substation equipment can be engineered and constructed to withstand strong motions and moderate ground deformation. For example, specific requirements for seismic design would be followed based on the Institute of Electrical and Electronic Engineers' (IEEE) 693 "Recommended Practices for Seismic Design of Substation." Strong ground shaking is considered during substation design, but is not relevant to T/L tower design because wind design criteria used, are more conservative than ground shaking considerations.

5.7.2.2 Ground Rupture

While ground ruptures and ground acceleration due to fault activity may impart significant loads onto T/L structures, loads imparted by wind on transmission structures are considered a

greater force and more likely to cause damage to these structures. Therefore, wind loads would be used as the governing force in the design of the proposed transmission structures.

5.7.2.2.1 Segment 2. The Segment 2 T/L route crosses the primary rift zone of the active San Andreas fault zone between MP 7.6 and MP 8.2. A minor branch off of the primary fault zone is also crossed at MP 4.9. Another possible branch fault, the Nadeau fault, is crossed at MP 8.2 of Segment 2 and at MP 0.1 of Segment 2, Alternative AV2. This fault is mapped as concealed in this location. These branch faults represent significantly less rupture hazard than the primary fault zone.

5.7.2.2.2 Segment 3. The active Garlock fault is crossed by the proposed Segment 3 route at MP 31.7. Alternative C crosses the fault from approximately MP 5.8 to MP 6.0. The inactive Rosamond-Willow Springs fault is crossed by the proposed 500 kV T/L and the alternative A and B routes in the Willow Springs area. This fault is not considered a fault rupture hazard.

In general, active faults with significant displacement are best mitigated by placing T/L structures outside the fault zone, where practical.

5.7.2.3 Liquefaction

Potential liquefaction hazards have been identified along the Segment 2 T/L route based on recent CGS hazard mapping. Liquefaction hazards would be evaluated during site specific design-level studies for the project. In general, liquefaction hazards in this setting for these kinds of structures can be mitigated with appropriate foundation design.

5.7.2.4 Expansive and Collapsible Soils

Engineering studies would evaluate the presence and extent of expansive or collapsible soil, if present within the proposed foundation areas of proposed structures. Standard design practices are available to mitigate these soil conditions if encountered.

5.7.2.5 Subsidence

Significant subsidence has not been documented in the project area. Design-level studies should verify this and address the potential hazard from subsidence in the Antelope and Tehachapi Valleys, if present. In general, because subsidence-related ground movements are relatively small and occur over a very wide area, they are not likely to represent a significant potential for differential settlements within or between the foundation zones of project components. Therefore, the hazard to the electrical T/Ls or substation equipment resulting from subsidence in the Antelope Valley or the Tehachapi Valley is considered remote.

5.7.2.6 Erosion

The construction of T/L structures would require grading to create pads for tower sites and grading to expand the existing access road system to reach the new tower sites. This would result in some soil disturbance and loss of vegetation that would in turn promote a short term increase in erosion. Erosion control measures and Best Management Practices would be included as part of the Construction Storm Water Pollution Prevention Plan (SWPPP), which would be implemented during construction to minimize erosion and sedimentation during grading. Access roads would be laid out to maximize use of existing access roads for the adjacent T/Ls. Design-level studies would address erosion and sediment control issues during construction and operation of the project. No significant impacts would be expected to result from this project.

5.7.3 Mitigation Measures

The following are APMs to limit geological resource related impacts to less than significant levels.

APM Geo-1. For new substation construction, specific requirements for seismic design would be followed based on the Institute of Electrical and Electronic Engineers' 693 "Recommended Practices for Seismic Design of Substation."

APM Geo-2. Prior to final design of substation foundations and T/L structure foundations, a geotechnical study would be performed to identify site-specific geologic conditions in enough detail to support final engineering.

APM Geo-3. T/L and substation construction activities would be performed in accordance with the soil erosion/water quality protection measures specified in the Construction SWPPP.

5.8 HAZARDS AND HAZARDOUS MATERIALS**5.8.1 Significance Criteria**

According to CEQA Guidelines, Appendix G, a project is considered to have a potentially significant adverse impact on the environment if it would create a potential public health hazard or involve the use, production or disposal of materials which pose a hazard to people or animal or plant populations in the affected area.

Managed and disposed of properly, hazardous materials used and stored and hazardous wastes generated during the Project would not cause significant environmental or health and safety impacts.

5.8.2 Construction Impacts**5.8.2.1 Hazardous Materials and Hazardous Wastes**

As stated previously in Section 4.8, SCE would conduct a Phase I ESA for all project areas subject to grading or excavation activities prior to construction to confirm that no soil contamination is present. SCE's current policy is to perform a Phase I ESA of all project land at the time of property acquisition. Phase I ESA results are used to identify areas of potential contamination. Construction-related ground disturbance of potentially contaminated areas would be avoided, if possible. If the area could not be avoided during construction, a Phase II ESA would be performed and appropriate remedial action would be taken. This ESA process would occur for all land acquired by SCE for the Antelope Transmission Project that is not currently held in fee or easement. If potential contamination sites were encountered during construction of the Antelope Transmission Project, SCE would conduct the appropriate ESA and would take all action to either avoid or remediate these sites if determined necessary.

If a Phase II ESA were required, the method (monitoring well, test excavation, boring, etc.) of the Phase II ESA would be identified and implemented depending on the type of contaminant. Partial or complete excavation and removal of the contaminated material are possible mitigation actions depending on the type and extent of the contaminant.

SCE does have some limited information regarding soil environmental site characterizations conducted at the Antelope and Vincent substations. SCE has previously provided reports to the CPUC (associated with the SCE Responses to CPUC Data Request HAZ-4 for the Segment 1 CPCN/PEA) documenting the results of soil environmental site characterizations conducted at the Antelope Substation. These soil environmental site characterizations included testing for the possible presence of total petroleum hydrocarbons (TPH), polychlorinated biphenyls (PCBs), California Assessment Method (CAM) Metals, and Volatile Organic Compounds (VOCs). The testing was conducted for work taking place

within the existing substation boundary and concluded that the soils tested do not appear to have been adversely impacted by substation operations.

Information regarding previous oil spill history is also included in the existing Spill Prevention, Countermeasure, and Control (SPCC) Plan for the Antelope Substation. The SPCC Plan states that there are no documented oil spills known to have occurred at the Antelope Substation. A SPCC Plan, prepared in 2000, also exists for the Vincent Substation. The SPCC Plan for the Vincent Substation is currently being updated (5-year cycle).

There is potential for impacts from hazardous materials and hazardous wastes during construction of the proposed project (and alternatives). Small volumes of hazardous materials would be used during construction activities. There is the potential for incidents involving release of gasoline, diesel fuel, oil, hydraulic fluid and lubricants from vehicles or other equipment or the release of paints, solvents, adhesives or cleaning chemicals from construction activities. A Storm Water Pollution Prevention Plan (SWPPP) would be prepared and implemented prior to the start of construction of transmission line and substation facilities once final engineering had been completed. The SWPPP would utilize Best Management Practices to address the storage and handling of hazardous materials during construction activities. Upon completion of construction no hazardous materials would be stored on the transmission line right-of-way. To minimize, avoid, and/or clean up such material should an unforeseen spill occur, construction would be performed in accordance with SCE's Construction SWPPP. No impacts from exposure to hazardous materials are anticipated associated with T/L construction or substation modification and construction activities.

5.8.2.2 Fire Hazards

The risk of fire danger from the project is related to smoking, refueling, and operating vehicles and other equipment off roadways. Welding during construction of towers or support structures could also potentially result in the combustion of native materials in close proximity to the welding site.

SCE has standard fire prevention and response procedures that would be followed for construction of this project. These established standards and practices would minimize the risk of fire danger, and in the case of fire, provide for immediate suppression and notification. The standards address spark arresters, smoking and fire rules, storage and parking areas, use of gasoline-powered tools, road closures, use of a fire guard, fire suppression tools, fire suppression equipment and training requirements. Trained fire suppression personnel and fire suppression equipment would be established at key locations, and the personnel and equipment would be capable of responding to a fire within 15 minutes of notification. Portable communication devices (i.e., radio or mobile telephones) would be

available to construction personnel. SCE would clear potential proximate objects during construction, so as not to come in proximity of a line.

All vehicle parking, storage areas, stationary engine sites and welding areas would be cleared of all vegetation and flammable materials. Additionally all areas used for dispensing or storage of gasoline, diesel fuel, or other oil products would be cleared of vegetation and other flammable materials. These areas would be posted with a sign identifying the area as a “No Smoking” area.

5.8.3 Operation Impacts

5.8.3.1 Hazardous Materials

There is the potential for release of hazardous materials from operation of substations. There is potential of incidents involving release of mineral oil from transformers or lubricants from other substation equipment. However, implementation of SCE’s operation-phase storm water management plans and SPCC plans would be expected to minimize these hazards.

SPCC plans may need to be modified for the Antelope and Vincent substations. The plans would include engineered and operational methods for preventing, containing, and controlling potential releases (for example, by constructing retention pond, motes, or berms), and provisions for a quick and safe cleanup. The plans would be submitted to Kern County and Los Angeles County for review. Current SPCC plans for the existing substations (Antelope and Vincent) would be revised to include new equipment. Any spilled oil would be properly characterized, collected, and transported to an approved disposal site in accordance with applicable regulations. Incorporation of SPCC measures into the project design would reduce impacts to a less than significant level.

SCE does not anticipate the need to prepare SPCC plans for the initially constructed Substations One and Two (Segment 3) because they would be initially built without transformers (i.e., no transformer oil). Therefore, initially these substations would not contain sufficient quantities of oil to trigger preparation of an SPCC plan. An SPCC plan would be prepared and implemented when SPCC thresholds for oil volume are reached.

The substations would be operated in compliance with all applicable federal, state and local regulations. Compliance with these regulations would reduce the potential impacts from hazardous materials to a less than significant level.

5.8.3.2 Fire Hazard

T/Ls may pose a fire hazard, when a conducting object, comes in close proximity of a line or when a live-phase conductor falls to the ground. SCE would clear potential proximate objects

and maintain clearance during the life of the T/L to reduce the fire hazard potential. Potential impacts from fire hazards would be less than significant.

SCE's standard fire prevention and response procedures would minimize the risk of fire danger during the operation of facilities, and in the case of fire, provide for immediate suppression and notification. The standard procedures address spark arresters, smoking and fire rules, storage and parking areas, use of gasoline-powered tools, road closures, use of a fire guard, fire suppression tools, fire suppression equipment and training requirements.

5.8.4 Mitigation Measures

Measures to avoid and/or minimize impacts from hazards or hazardous materials have been included as part of the proposed project design (e.g., Construction SWPPP, SPCC plans for substations, and standard fire prevention and response plans).

The following mitigation measure is proposed by SCE to further limit the potential for adverse project impacts related to hazards and hazardous materials:

APM HazMat-1. A Phase I ESA would be performed at each new substation location and along newly acquired T/L R-O-Ws. Depending on the results of the Phase I ESA, soil sampling would be conducted and remedial activities would be implemented, if applicable. If hazardous materials were encountered during any construction activities, work would be stopped until the material was properly characterized and appropriate measures were taken to protect human health and the environment. If excavation of hazardous materials is required, they would be handled, transported, and disposed of in accordance with federal, state, and local regulations.

5.9 HYDROLOGY AND WATER QUALITY

This section describes the potential impacts on water resources from development and operation of Segments 2 and 3 of the Antelope Transmission Project. With implementation of the recommended mitigation measures, construction and operation of all phases of the project are expected to have less than significant impacts on hydrology and water quality.

5.9.1 Significance Criteria

Significance criteria were derived from Appendix G of the CEQA Guidelines. Impacts to surface water or groundwater quality would be considered potentially significant if the project would:

- Permanently decrease the capacity of drainages or alter drainage patterns
- Cause a detrimental increase in site erosion or downstream siltation
- Increase the potential for substantial flood damage
- Expose people or structures to flooding in the event of a dam failure
- Result in a substantial degradation of surface or groundwater quality to the extent that beneficial uses are impacted or water quality criteria are exceeded

When evaluating the potential impacts, it was assumed that all applicable federal, state, and local regulatory requirements that protect surface water and groundwater would be complied with. For example, transmission towers would not be placed within the waterway protection corridors that are defined by city and county codes and, therefore, would not impact these waterways. In accordance with the Clean Water Act, a Storm Water Pollution Prevention Plan (SWPPP) would be prepared and implemented, including Best Management Practices (BMPs) to minimize construction impacts on surface and groundwater quality. The SWPPP would be prepared once the project is approved and after project facilities are sited and designed. The SWPPP would then be approved by Los Angeles or Kern counties, depending on the applicable project component area.

5.9.2 Construction Impacts**5.9.2.1 Accelerated Soil Erosion, Downstream Sedimentation, and Reduced Surface Water Quality**

Accelerated soil erosion and subsequent downstream sedimentation and reduced surface water quality could potentially increase during construction of the proposed project as described below.

5.9.2.1 Overhead Transmission Lines. Overhead T/L construction would require excavation, road, tower, and pull pad clearing and grading, and soil stockpiling. Proposed T/Ls and access roads would cross numerous ephemeral and intermittent creeks. Soil erosion rates could potentially be accelerated and sedimentation of downstream waterways could occur. Surface water quality could be diminished as a result of the following: 1) vehicular traffic and foundation excavation in the vicinity of tower locations; 2) vehicular traffic, scraping and grading, and material laydown at pull sites/laydown areas; 3) scraping and grading, construction of culverts in ephemeral creeks; 4) scraping and grading for the construction of new access roads; and 5) scraping, grading, and constructing the proposed substations.

If sediment-laden runoff from the construction sites entered the nearby waterways, it could potentially increase turbidity, increase sedimentation, and reduce the flood-carrying capacity of downstream channels. Construction activities conducted when the ground is wet also creates the potential for increased runoff due to a reduction in infiltration and evaporation through vegetation removal. However, with implementation of measures APMs Water -1 and -2, impacts would be less than significant.

5.9.2.1.2 Substations. Substations for Segments 2 and 3 (and Segment 3 alternatives) are located on relatively flat valley floors and gently sloping alluvial fans. A number of the sites are crossed by ephemeral waterways that convey runoff from the upland and adjacent slopes during storm events. If grading is required for the proposed substation modifications (Antelope and Vincent) or new substation construction (Substations One and Two) to divert stormwater runoff into swales and the ephemeral creeks, there is a potential for accelerated erosion and siltation in the creeks. With implementation of mitigation measures APMs Water -1 and -2, impacts would be less than significant.

5.9.2.2 Water Quality Degradation Caused by Accidental Release of Environmentally Deleterious Materials

Surface and groundwater quality could potentially be impacted during construction at tower locations, pull sites/laydown areas, or new substation sites by an accidental release from a vehicle or motorized piece of equipment (diesel, gasoline, lubrication oil, hydraulic fluid, antifreeze, transmission fluid, or lubricating grease), or from a release of materials during concrete preparation or pouring for the pole foundations. Such spills could wash into nearby drainages or infiltrate into the soil. Surface or groundwater quality could potentially be degraded. However, with implementation of mitigation measures APMs Water -1, -2, -3, and -4, impacts would be less than significant.

5.9.2.3 Increased Runoff from Construction of Pole Foundations, Permanent Access Roads, Pull Site/Laydown Areas, and Substations

Construction of proposed substations One and Two (Segment 3) would require scraping and grading and the installation of concrete foundations and pavement in some areas. These activities would potentially diminish the storm water infiltration capacity at substation sites and could result in increased runoff volumes and rates. Run-off from construction of the substations is likely to slightly increase because the sites slope to ephemeral tributaries. However, because most of the substation areas would not be paved and runoff would pass through a detention pond before it was channeled to applicable drainages, the impact would be less than significant.

Scraping and grading for new access roads would remove vegetation and disturb the soil surface, which would result in a reduction in the infiltration and absorption capacity of the impacted area. The potential impacts would be localized and temporary, therefore, impacts would be less than significant.

At each T/L tower site, a concrete foundation would be constructed. Placement of impervious material would slightly restrict storm water infiltration. However, this impact is considered less than significant because the total area impacted by tower foundations is very small.

5.9.2.4 Project Construction in Existing Contaminated Sites

T/L towers and new substations would not be erected near any known contaminated sites. If any contaminated sites were encountered during construction, workers could potentially be exposed to contaminants or spread the contamination by disposing of soil or groundwater at other locations. Implementation of mitigation measures APMs Water -5 and -6 would reduce impacts to less than significant levels.

5.9.3 Operation Impacts**5.9.3.1 Water Quality Degradation Caused by Accidental Releases of Mineral Oil**

Surface water and groundwater quality could potentially be impacted by a mineral oil release from oil-filled electrical equipment at the proposed substations. Such releases, either from slow leaks or catastrophic failure, could wash into nearby drainages or infiltrate to the water table. The Federal Clean Water Act and the State Porter-Cologne Water Quality Control Act prohibit the release of any oil to waters of the State. Los Angeles and Kern counties require that all necessary measures be taken to regulate runoff from urban uses to protect the quality of surface and groundwater from detrimental conditions. In the event of a release, surface or groundwater quality could be degraded.

Prior to regulatory thresholds being reached, SCE would prepare Spill Prevention, Countermeasure and Control (SPCC) plans for both of the proposed new substations (i.e., Substations One and Two). Initially, neither Substation One nor Substation Two would include transformers (i.e., or transformer oil), thus, an SPCC Plan would not be required until transformers were installed in the future. The plans would include engineered and operational methods for preventing, containing, and controlling potential releases (for example, by constructing retention pond, moles, or berms), and provisions for a quick and safe cleanup. The plan would be submitted to Kern County for review. SCE already has SPCC plans for its existing Antelope and Vincent substations. Current SPCC plans for the existing substations would be revised as needed to include new equipment. Incorporation of SPCC measures into the project design would reduce impacts to a less than significant level.

5.9.4 Mitigation Measures

APM Water-1. A Construction SWPPP would be submitted to Los Angeles and Kern counties along with grading permit applications. Implementation of the Plan would help stabilize graded areas and waterways, and reduce erosion and sedimentation. The plan would designate BMPs that would be adhered to during construction activities. Erosion minimizing efforts such as straw wattles, water bars, covers, silt fences, and sensitive area access restrictions (for example, flagging) would be installed before clearing and grading begins. Mulching, seeding, or other suitable stabilization measures would be used to protect exposed areas during construction activities.

During construction activities, measures would be in place to ensure that contaminants are not discharged from the construction sites. The SWPPP would define areas where hazardous materials would be stored, where trash would be placed, where rolling equipment would be parked, fueled and serviced, and where construction materials such as reinforcing bars and structural steel members would be stored. Erosion control during grading of the construction sites and during subsequent construction would be in place and monitored as specified by the SWPPP. A silting basin(s) would be established, as necessary, to capture silt and other materials, which might otherwise be carried from the site by rainwater surface runoff.

APM Water-2. An environmental training program would be established to communicate environmental concerns and appropriate work practices, including spill prevention and response measures, and SWPPP measures, to all field personnel. A monitoring program would be implemented to ensure that the plans are followed throughout the period of construction.

APM Water-3. The Construction SWPPP identified above would include procedures for quick and safe cleanup of accidental spills. This plan would be submitted with the grading permit application. The Construction SWPPP would prescribe hazardous materials handling

procedures for reducing the potential for a spill during construction, and would include an emergency response program to ensure quick and safe cleanup of accidental spills. The plan would identify areas where refueling and vehicle maintenance activities and storage of hazardous materials, if any, would be permitted.

APM Water-4. Oil-absorbent materials, tarps, and storage drums would be used to contain and control any minor releases of transformer oil. In the event that excess water and liquid concrete escapes from foundations during pouring, it would be directed to bermed areas adjacent to the borings where the water would infiltrate or evaporate and the concrete would remain and begin to set. Once the excess concrete has been allowed to set up (but before it is dry), it would be removed and transported to an approved landfill for disposal.

APM Water-5. A Phase I ESA would be performed at each new substation location and along newly acquired T/L R-O-Ws. Depending on the results of the Phase I ESA, soil sampling would be conducted and remedial activities would be implemented, if applicable. If hazardous materials were encountered during any construction activities, work would be stopped until the material was properly characterized and appropriate measures were taken to protect human health and the environment. If excavation of hazardous materials is required, they would be handled, transported, and disposed of in accordance with federal, state, and local regulations.

APM Water-6. If groundwater were encountered while excavating or constructing the T/L or substations, dewatering operations would be performed. These operations would include, as applicable, the use of sediment traps and sediment basins in accordance with BMP NS-2 (Dewatering Operations) from the California Stormwater Quality Association's (CASQA) California Stormwater BMP Handbook – Construction (CASQA, 2003).

5.10 LAND USE AND PLANNING**5.10.1 Introduction**

The purpose of this section is to: 1) describe the potential impacts on land use and zoning from development and operation of Segments 2 and 3 of the proposed Antelope Transmission Line Project; 2) provide an evaluation of the level of significance of potential impacts based upon significance criteria; and 3) present applicant-proposed mitigation measures, if needed, to reduce impacts to a less than significant level. The potential impacts of the project on land use were evaluated by considering the initial construction activities (Construction Impacts) and long-term operation (Operation Impacts) of the proposed T/Ls and substations. When evaluating the potential project impacts, it was assumed that all applicable federal, State, and local regulatory requirements would be complied with.

Based on the land use information presented in Section 4.10, four general land use and zoning categories (i.e., human developed areas, natural conservation areas, agricultural areas, and mineral resources areas) were identified from the various source materials which included city and county general plans, land use maps, zoning maps, specific plans, and other relevant land management plan sources. CEQA significance criteria, as presented in Section 5.10.2, were identified to assess the potential impacts of the project to these existing land use and zoning categories. It is noted that some of these CEQA significance criteria are also used in the analyses conducted in other sections of this PEA, including Section 5.5 (Biological Resources), Section 5.3 (Agricultural Resources), and Section 5.11 (Mineral Resources). The impacts analysis and significance criteria determinations presented below are consistent with and support the findings presented in the other referenced sections.

5.10.2 Significance Criteria

Significance criteria were derived from CEQA Guidelines, Appendix G. The relevant CEQA significance criteria included IX. Land Use and Planning (a), (b), and (c); IV. Biological Resources (f); II. Agricultural Resources (a), (b), and (c); and X. Mineral Resources (b), as presented below. Under these significance criteria, impacts to land use, zoning and planning would be considered potentially significant if the project would:

1. Physically divide an established community (IXa)
2. 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, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect (IXb)
3. Conflict with any applicable habitat conservation plan or natural community conservation plan (IXc; IVf)

4. 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 (IIa)
5. Conflict with existing zoning for agricultural use or a Williamson Act contract (IIb)
6. Changes to the environment resulting in conversion of designated farmland to non-agricultural use (IIc)
7. 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 (Xb)

It is noted that the Segment 2 and Segment 3 T/L routes, including alternatives, do not occur on lands that are administered by federal agencies; accordingly, significance criteria pertaining to land use and land management that reflect of federal standards are not addressed in this PEA.

Segment 2 of the proposed Antelope Transmission Project includes minor electrical interconnections within the fenced boundary of SCE's existing Vincent Substation. No land use impacts are expected to occur at the Vincent Substation, thus it is not discussed further in this land use assessment.

5.10.3 Construction Impacts

5.10.3.1 Construction of Overhead T/Ls

The overhead T/L construction would require excavation, road, tower, and pull pad clearing and grading, and soil stockpiling for the Segment 2 and Segment 3 T/L routes. The majority of the areas disturbed by construction would be restored such that only a minimal amount of permanent land use conversion would occur, including transmission tower footing locations and permanent access roads. Impact assessment and determinations are presented, below, for each of the segments, alternatives, and facilities.

The potential placement of transmission towers on land under Williamson Act contract would not remove the land from Williamson Act contract status. Pursuant to Government Code Section 51238, placement of electrical facilities on Williamson Act land is a compatible land use. Furthermore, at any site only a minimal amount of permanent land use conversion would occur. As such, a default determination of less than significant impact is given regarding the proposed project conflicting with existing zoning for agricultural use or a Williamson Act contract, in all the significance criteria determinations presented below.

5.10.3.1.1 Segment 2 – Antelope to Vincent Proposed and Alternative T/L Routes. The proposed 21.5 miles of T/L route would occur within a new 180-foot-wide R-O-W mostly

alongside an existing T/L R-O-W. It would exit and traverse lands in the Ritter Ranch Specific Plan area from MP 7.6 to MP 13.9, whereupon it would enter the Anaverde Specific Plan area. The proposed T/L route would re-connect to the existing R-O-W at MP 14.8 (Figure 3-2, sheet 2 of 3). The route includes low-density residential, mineral resources extraction, agricultural, and open space land use and planning areas.

The Alternative AV1 route crosses over to the east side of the existing T/L corridor at MP 5.7 then crosses back to the west side of the existing T/L corridor at MP 7.6.

The Alternative AV2 route parallels the existing T/L corridor through the Ritter Ranch and Anaverde specific plan areas exiting the proposed T/L route at MP 8.1, and reconnects at MP 14.8 (Figure 3-2, sheet 2 of 3). The route traverses approximately 0.5 mile of Farmland of Local Importance.

Construction impacts pertaining to the proposed and alternative T/L routes would be less than significant regarding physically dividing an established community or conflicting with any applicable general plan, specific plan, or zoning ordinance because there would be minimal to no impacts upon land use and planning in areas under the jurisdiction of the City of Lancaster, the City of Palmdale, and the County of Los Angeles. Construction impacts would be less than significant regarding conflicting with any applicable habitat conservation plan (HCP) or natural community conservation plan (NCCP) because there would be minimal to no impacts upon the designation of the proposed San Andreas Rift Zone Significant Ecological Area (SEA) by Los Angeles County or implementation of the BLMs West Mojave Plan (BLM, 2005). Construction impacts would be less than significant regarding converting Farmland Mapping and Monitoring Program (FMMP) farmlands and other designated farmlands to non-agricultural uses, or causing conflicts with existing zoning for agricultural use because only a minimal amount of permanent land use conversion would occur. Construction impacts would be less than significant regarding loss of availability of a designated locally-important mineral resource recovery site because there would be minimal to no impacts upon City of Palmdale designated minerals extraction areas.

5.10.3.1.2 Segment 3 – Antelope to Substation One 500 kV T/L. The proposed T/L route would occur within a new 200-foot-wide, 25.6-mile-long R-O-W. The route includes low-density residential, agricultural, industrial, and resources management land use and planning areas. The T/L is routed around the proposed Del Sur Ranch Specific Plan area in the City of Lancaster. The route does traverse about 3.0 miles of farmland areas designated by the State as potential Prime and of Statewide Importance.

Construction impacts would be less than significant regarding physically dividing an established community or conflicting with any applicable general plan, specific plan, or zoning ordinance because there would be minimal to no impacts upon land use and planning

by the City of Lancaster, Los Angeles County and Kern County. Construction impacts would be less than significant regarding conflicting with any applicable HCP or NCCP because none occur along the route. Construction impacts would be less than significant regarding implementation of the BLM's West Mojave Plan (BLM, 2005), which also includes a Habitat Conservation Plan (HCP) component. Construction impacts would be less than significant regarding converting FMMP farmlands and other designated farmlands to non-agricultural uses, or causing conflicts with existing zoning for agricultural use because only a minimal amount of permanent land use conversion would occur. Construction impacts would be less than significant regarding loss of availability of a designated locally-important mineral resource recovery site because there would be minimal to no impacts upon Kern County designated mineral and resource areas. The proposed and alternative Segment 3 facilities avoid the limestone mining areas near the Cal Cement facility and north of Highway 58 near Monolith.

5.10.3.1.3 Segment 3 – Alternative A 500 kV T/L (Antelope to Substation 1A). This alternate T/L route would occur within a new 200-foot-wide, 25.9-mile-long R-O-W. The route includes low-density residential, agricultural, industrial, and resources management land use and planning areas. The T/L is routed adjacent to the western boundary of the proposed Del Sur Ranch Specific Plan area in the City of Lancaster. The route does traverse about 1.5 miles of farmland areas designated by the State as potential Prime, Unique, and of Statewide Importance.

The land use impact findings presented in Section 5.10.3.1.2 for the proposed Antelope to Substation One T/L route are also applicable to Alternative A.

5.10.3.1.4 Segment 3 – Alternative B 500 kV T/L (Antelope to Substation 1B). This alternate T/L route would occur within a new 200-foot-wide, 26.04-mile-long R-O-W. The route includes low-density residential, agricultural, industrial, and resources management land use and planning areas. The Alternate B T/L route traverses the east side of the proposed Copa De Oro Estate Specific Plan area in Kern County. The route traverses about 1.3 miles of farmland areas designated by the State as potential Prime, Unique, and of Statewide Importance.

The land use impact findings presented in Section 5.10.3.1.2 for the proposed Antelope to Substation One T/L route are also applicable to Alternative B.

5.10.3.1.5 Segment 3 – Substation One to Substation Two - Proposed 220 kV T/L. This 220 kV T/L route would occur within a new 160-foot-wide, 9.6-mile-long R-O-W. The route includes agricultural, industrial, wind farm, resources reserve and management, and minerals land use and planning areas. The route does not intercept farmland areas designated by the State as important.

Construction impacts would be less than significant regarding physically dividing an established community or conflicting with any applicable general plan, specific plan, or zoning ordinance because there would be minimal to no impacts upon land use and planning by Kern County. Construction impacts would be less than significant regarding conflicting with any applicable NCCP because none occur along the route. Construction would be less than significant regarding implementation of the BLM's West Mojave Plan (BLM, 2005), which also includes an HCP component. Construction impacts would be less than significant regarding converting FMMP farmlands and other designated farmlands to non-agricultural uses, or causing conflicts with existing zoning for agricultural use because only a minimal amount of permanent land use conversion would occur. Construction impacts would be less than significant regarding loss of availability of a designated locally-important mineral resource recovery site because there would be minimal to no impacts upon Kern County designated mineral resource areas.

5.10.3.1.6 Segment 3 – Substation One to Substation Two - Alternative C 220 kV T/L.

This alternate 220 kV T/L route would occur within a new 160-foot-wide, 9.5-mile-long T/L R-O-W. The route includes agricultural, industrial, wind farm, resources reserve and management, and minerals land use and planning areas. The route does not intercept farmland areas designated by the State.

The land use impact findings presented above in Section 5.10.3.1.5 are also applicable to Alternative C.

5.10.3.2 Construction of Substation One

Proposed Substation One and alternate substation sites 1A and 1B would be located between 1.5 and 3 miles eastward of Cal Cement, while alternate site 1C would be located approximately 2.5 miles northwest of Cal Cement. The sites occupy lands in Kern County with industrial and limited agricultural zoning designations. As such, construction impacts would be less than significant regarding physically dividing an established community or conflicting with any applicable general plan, specific plan, or zoning ordinance because there would be minimal to no affects upon land use and planning by Kern County. Construction impacts would be less than significant regarding the remaining significance criteria presented in Section 5.10.2, above. However, alternate sites 1A and 1C include an existing, buried hydrocarbons pipeline, which could be incompatible with an electrical system. In addition, Alternate Site 1C is traversed by the Pacific Crest National Scenic Trail; these land uses are not compatible.

5.10.3.3 Construction of Substation Two

Proposed Substation Two and alternate sites 2A and 2B would be located in the Tehachapi Valley south of State Route 58. The sites occupy lands in Kern County with agricultural and wind energy zoning designations. As such, construction impacts would be less than significant regarding physically dividing an established community or conflicting with any applicable general plan, specific plan, or zoning ordinance because there would be minimal to no impacts upon land use and planning by Kern County. Construction impacts would be less than significant regarding the remaining significance criteria presented in Section 5.10.2, above.

5.10.4 Operation Impacts**5.10.4.1 Operation of Overhead T/Ls**

Potential impacts associated with the operation and maintenance of the T/L systems proposed by the Antelope Transmission Project are anticipated to be minimal. As such, potential operational impacts would be less than significant regarding any of the significance criteria presented in Section 5.10.2, above.

5.10.4.2 Operation of the Antelope Substation

Operational impacts of the modified Antelope Substation would be considered less than significant regarding physically dividing an established community or conflicting with any applicable general plan, specific plan, or zoning ordinance because the project would have minimal to no impacts upon land use and planning by the City of Lancaster. There are no impacts regarding the remaining significance criteria presented in Section 5.10.2, above, due to non-applicability.

5.10.4.3 Operation of Substation One and Substation Two

Operational impacts would be considered less than significant regarding Substation One and Substation Two because the project would have minimal to no impacts upon land use and planning by Kern County. There are no impacts regarding the remaining significance criteria presented in Section 5.10.2, above, due to non-applicability.

5.10.5 Mitigation Measures**5.10.5.1 Overhead T/Ls**

The proposed Antelope Transmission Project includes measures to minimize surface disturbance and restore disturbed areas that are not needed for operation of the new T/L systems.

Based upon the evaluation above, potential impacts associated with the construction and operation of the T/L systems are considered to be less than significant. Therefore, no supplemental mitigation measures are identified for land use impacts consistent with the criteria presented above.

5.10.5.2 Substation One and Substation Two

Based upon the evaluation above, potential impacts associated with the construction and operation of Substation One and Substation Two are considered to be less than significant. Therefore, no mitigation measures are identified for land use impacts consistent with the criteria presented above.

5.11 MINERAL RESOURCES**5.11.1 Significance Criteria**

The potential to create impacts to mineral resources is determined primarily by CEQA criteria. Based on the criteria in the Environmental Checklist Form in Appendix G of the CEQA Guidelines, a proposed project would have a potentially significant impact if it would:

- 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
- 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

5.11.2 Construction/Operation Impacts

No potentially significant impacts to mineral resources have been identified for the proposed project. The proposed Segment 2 500 kV and 220 kV T/L routes traverse an area (approximately MP 4.6 to MP 4.7 along the 500 kV T/L portion of Segment 2) designated as Mineral Resource Extraction (MRE) (quarry and reclamation) in the City of Palmdale's General Plan (Palmdale, 1993). Since the proposed 500 kV T/L along Segment 2 would be constructed adjacent to the existing T/L corridor in this area, the proposed project would not be expected to result in the loss of availability of a locally-important mineral resource recovery site.

The proposed 500 kV and 220 kV T/L components of Segment 3 (including Alternatives A, B, and C) stay well east and north of the Cal Cement facility associated limestone mining operations to the west of proposed Substation One. Similarly, the proposed and alternative 220 kV substation and T/L routes on the northern end of Segment 3 stay south of the limestone mining operations near Monolith on the north side of Highway 58.

No active or planned oil and gas related production activities have been identified in the vicinity of proposed or alternative Segment 2 or 3 project components, thus no impacts would be expected to occur.

5.11.3 Mitigation Measures

Since no adverse impacts to mineral resources have been identified, no mitigation measures are proposed.

5.12 NOISE

This section addresses noise issues relative to construction and operation of Segments 2 and 3 of the proposed Antelope Transmission Project.

5.12.1 Significance Criteria

The potential for a project to result in significant noise impacts is determined primarily by CEQA criteria and local criteria, as applicable. In accordance with Appendix G of the CEQA Guidelines, potentially significant noise impacts would occur if the project would 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.
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, the project would expose people residing or working in the project area to excessive noise levels.
- For a project within the vicinity of a private airstrip, the project would expose people residing or working in the project area to excessive noise levels.

5.12.2 Summary of Project-Related Construction Noise

Construction of the proposed project for Segments 2 and 3 would involve the use of heavy equipment to transport material and accomplish installation of T/L towers, conductors, and substation facilities or electrical tie-ins. Grading would be required for creating staging areas, T/L tower foundation pads, conductor pull areas, and in creating spur roads and/or improving access along roads and trails that have not been maintained. In addition, grading would be required at proposed Substations One and Two. Heavy construction equipment typically generates noise levels up to around 95 dBA at 50 feet. To a large extent, these types of noises are common and associated with any development and building activities. Typical T/L and substation equipment noise level estimates are provided in Table 5.16-1.

**TABLE 5.12-1
ESTIMATED dBA FROM TYPICAL
TRANSMISSION CONSTRUCTION EQUIPMENT**

Construction Equipment	Typical Estimated Sound Level dBA at 50'
CAT 973 Track Loader	69
CAT 950 Loader	71
Excavator w/7500 Breaker	78
Excavator w/ Pulverizer	74
10-Wheel Dump Truck	74
Pickup Truck	55
Wood Chipper	89
Jackhammer	88
Rivet Buster	85
Sawcutting Machine	81
Pile driver	101
Crane, Derrick	88
Crane, Mobile	83
Bulldozer	80
Rock Drill	98
CAT 300 Excavator	78
CAT TH-105 Forklift	75
Ford F-550 Flatbed Truck	88
CAT 980F Loader	73
4,000 Gallon Water Truck	70
623 Scraper	81
CAT 14 Blade	81
Ingersol PT125-RTR Roller	74
New Holland 545 Skip Loader	75
Easi-Por 880	81
Concrete Mix Truck	79
Concrete Pump	82
Concrete Vibrator	76
Cr451 Paving Machine	89
CAT CB534C Roller	74
Hyster C340B Roller	74

**TABLE 5.12-1 (CONTINUED)
ESTIMATED DBA FROM TYPICAL
TRANSMISSION CONSTRUCTION EQUIPMENT**

Construction Equipment	Typical Estimated Sound Level dBA at 50'
CAT CB224B Roller	74
JD 310 Skip Loader	75
Ditch Witch R-40 Trencher	81
CAT 950 Loader	71
Ford Bobtail Dump Truck	81
15-Ton Crane	83
25 KW Generator	69
Air Compressor	81
Backhoe	85
185-CFM Air Compressor	70
150-Ton Mobil Crane	65
Bell 412 Helicopter at Hover @ 150-foot Altitude	83

These discussions of construction noise effects apply equally to the construction activities along the Segment 2 and 3 T/L routes and at proposed Substations One and Two in the northern portion of Segment 3.

The project may also involve the use of helicopters to move material in and out from some remote locations. While only a minor component of the overall project, the helicopter operation would result in localized noise conditions for short-term periods. Noise levels from large helicopters, such as the Sikorsky S-64 Skycrane can range from 95-105 dB at distances of about 300 feet (True et al., 1977).

5.12.3 Summary of Jurisdictional Construction Noise Restrictions

5.12.3.1 City of Lancaster

Any construction within 500 feet of any occupied dwelling is prohibited on Sundays and between the hours of 8:00 p.m. and sunrise on all other days of the week.

5.12.3.2 City of Palmdale

Construction activities within the City of Palmdale would be limited to daylight hours (6:30 a.m. to 8:00 p.m.) and weekdays.

5.12.3.3 Los Angeles County Unincorporated Areas

Any construction that would create a noise disturbance across a residential or commercial property line is prohibited between 7:00 p.m. and 7:00 a.m. on weekdays and Saturdays, and all day on Sundays and holidays.

5.12.3.4 Kern County Unincorporated Areas

The Noise Control Ordinance in the Kern County Code (Section 8.36.020 et seq.) prohibits a variety of nuisance noises, but does not specifically mention construction or related noise.

5.12.4 Construction Impacts

The following discussions of potential project-related construction noise effects apply equally to the proposed and alternative T/L routes and proposed and alternative substation locations. The potential for, or degree of, noise impacts is related to the proximity of sensitive land uses. These would include residences, schools, hospitals, parks, and similar areas where peace and quiet are generally expected.

Each portion of the project would involve the use of heavy equipment to transport material to the project sites. Grading would be involved in T/L and substation construction. Cranes and other heavy equipment would be used in the erection of towers and for installing conductors. Heavy construction equipment typically generates noise levels up to around 95 dBA at 50 feet.

One of the areas with the potential for noise impacts exists in the western portion of the City of Lancaster, where work on the Antelope Substation, the northern end of the Segment 2 500 kV T/L route, and the southern portion of the Segment 3 500 kV T/L route would occur. This area is relatively undeveloped now, but is experiencing residential growth. One residence is located on W. Avenue J in western Lancaster, approximately 800 feet to the northwest of the Antelope Substation and within hundreds of feet of the proposed Segment 3 500 kV T/L route.

Depending on the timing of construction for the proposed Antelope Transmission Project segments and proposed residential developments in the project area, project construction related noise could result in temporary noise impacts on the planned Ritter Ranch and Ana Verde developments traversed by Segment 2 in western Palmdale. Temporary construction noise impacts could also occur at the proposed Del Sur Ranch (proposed Segment 3 and Alternative A) or the proposed Copa de Oro/Kern Ross Estate development (Segment 3, Alternative B).

Noise from a point source, such as grading or construction equipment, is reduced according to the inverse square law as it propagates outward from its source. As a general rule, noise levels from point sources are reduced by 6 dBA for each doubling of distance.

Using a construction equipment reference noise level of 95 dBA at 50 feet, the resulting noise level at a distance of 1,000 feet would be about 69 dBA. Heavy construction equipment typically does not operate continuously in one position all day long. The effect on the hourly equivalent noise level would depend on the duration and frequency of operation. The potential for some construction noise related disruption of nearby receptors, including residences, as applicable, could occur.

There are isolated residences throughout the Antelope Valley region, so noise effects on nearby homes from construction of the project would be expected to periodically occur.

At any one location along the proposed T/L routes (including alternatives) helicopter operations would occur for short periods several times per day. Since helicopters would only be used in relatively remote, undeveloped areas, the potential for disturbance to large numbers of residences is small. If necessary, these operations would be limited to daytime working hours only, and would be fairly short-term in nature. Therefore, short-term construction noise impacts from helicopter operations would be less than significant.

Construction noise impacts are usually sporadic and occur during daytime hours. For this reason, they rarely have a significant influence on 24-hour noise descriptors such as CNEL and Ldn. Thus, measured by the standards used in most Noise Elements, construction noise would not be considered a significant impact. Because of its potential to cause a nuisance or disturbance, construction noise is usually considered a potentially significant impact, but one that is short-term in nature and that can be easily mitigated by limiting the hours of construction.

5.12.5 Operation Impacts

Once the proposed T/L towers are erected and the conductors installed, the 500 kV and 220 kV T/Ls associated with Segments 2 and 3 of the Antelope Transmission Project would generate very little noise. The proposed Segments 2 and 3 related modifications at the existing Antelope and Vincent substations would not result in any long-term, operational phase noise effects. Operation of proposed Segment 3 Substations One and Two would result in long-term noise increases in the immediate vicinity of the new substations. Noise that is generated comes from two sources: electrical and related equipment at the substations, and corona discharge and similar phenomena associated with the 500 kV (Segments 2 and 3) and 220 kV (Segments 2 and 3) T/Ls.

Noise from transformers and similar equipment at substations is usually a low frequency (60 Hz) humming sound. To this sound may be added noise from fans or ventilation equipment on buildings. These types of noises commonly range around 50-60 dBA at distances of 100 feet or so. In most circumstances, the resulting exterior noise levels are well below the common noise standard of 65 dBA. Potentially significant noise impacts from substations are usually limited to residences located immediately adjacent to them.

For the Antelope Substation, the nearest residence is to the north, across W Avenue J, about 800 feet to the northwest. At this distance, the noise level from the existing 220 kV substation would be below 50 dBA, and would constitute a less than significant impact.

At the locations for Substation One, and its alternatives 1A and 1B, an inspection of aerial photographs revealed no structures that appeared to be residences within 1 mile in any direction. The nearest active land uses of any type are the wind energy resource area to the north and the Cal Cement operations about 1.5 - 2 miles to the southwest. Therefore, no noise impacts are anticipated from the operations at Substation One, or either of its alternatives.

At the alternate location Substation 1C, adjacent to Cameron Canyon Road, there are a few structures located north of the site along Cameron Canyon Road. The only uses in the area appear to be utility and service roads associated with the wind development to the northeast, Cameron Canyon Road, Oak Creek Road, and Tehachapi-Willow Springs Road, and use of the Pacific Crest Trail. Noise levels from Substation 1C at these locations would be *less than significant*.

Relative to the proposed location for Substation Two, the nearest residences are clustered about 3,000 feet to the northeast. These homes are located about 1,000 feet north of the Substation 2A alternate location, and a similar distance south of SR 58. Noise levels from Substation Two at either of these locations would be less than significant.

A mobile home park is located at the corner of Gemstone Street and East Tehachapi Boulevard, approximately 1,000 feet from the location of alternate Substation 2B. At this distance from the alternate substation location, and with East Tehachapi Boulevard immediately to the north and SR 58 1,500 feet to the south, residents at the mobile home park would not be able to discern any substation noise from the background traffic noise in the area.

The noise from corona discharge and similar electrical phenomena associated with high voltage T/Ls is heard as a crackling or hissing sound, which commonly varies with the humidity. While distinctive, this noise is typically only about 40 - 50 dBA, or less, near the edge of T/L R-O-Ws; it would not be loud enough to exceed any noise compatibility

standards. For this reason, the noise from such electrical discharge would be considered less than significant.

5.12.6 Mitigation Measures

Applicant proposed mitigation measures and anticipated construction permit conditions to reduce the adverse effects of noise are summarized in the following paragraphs, organized by government jurisdiction.

5.12.6.1 City of Lancaster

APM Noise-1. Consistent with Section 8.24 of the City of Lancaster Municipal Code, within 500 feet of any occupied dwelling no construction would occur on Sundays, and no construction would occur between the hours of 8:00 p.m. and sunrise on all other days of the week. In the event that construction needed to occur outside of the specified hours, a variance would need to be obtained.

5.12.6.2 City of Palmdale

APM Noise-2. Consistent with Section 8.28 of the Palmdale City Municipal Code, building construction hours are prohibited from 8:00 p.m. to 6:30 a.m. and on weekends. In the event that construction needed to occur outside of the specified hours, a variance would need to be obtained.

5.12.6.3 Los Angeles County Unincorporated Areas

APM Noise-3. Consistent with County Code (Section 12.08.440) no construction activities would occur in a residential area between 7:00 p.m. and 7:00 a.m. on weekdays and Saturdays, and all day on Sundays and holidays. In the event that construction needed to occur outside of the specified hours, a variance would need to be obtained.

5.12.6.4 Kern County and Tehachapi

Although there are no specific restrictions or prohibitions regarding construction noise in the Kern County Code, nuisance noise from a variety of sources is prohibited. Given the predominantly vacant nature of the land crossed by the Segment 3 500 kV and 220 kV T/L routes, and the fact that there are few, if any, sensitive receptors in the vicinities of any of the possible Substation One and Substation Two locations, construction noise effects would be expected to be less than significant, and would not require any special mitigation.

SECTION 5.0**ENVIRONMENTAL IMPACTS AND MITIGATION***Antelope Transmission Project – Segments 2 & 3*

The easterly extent of the Tehachapi City limits is at Tehachapi-Willow Springs Road, about 1 mile west of the proposed Substation Two location. No noise impacts are expected within the City of Tehachapi, and no mitigation measures are necessary.

5.13 POPULATION AND HOUSING**5.13.1 Significance Criteria**

The significance criteria listed below were derived from Appendix G of the CEQA Guidelines. Impacts to population and housing in the project area would be considered potentially significant if the project would:

- 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), (refer to Section 8.0 [Growth-Inducing Impacts] of the PEA)
- Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere

5.13.2 Construction Impacts**5.13.2.1 Introduction**

It is currently estimated that construction activities could occur along the T/L routes (Segments 2 and 3) and substation sites for up to approximately 18 months if Segments 2 and 3 were constructed simultaneously. During construction, SCE's own construction work force and contractors would perform construction.

It is expected that local laborers would be employed and that there would be little or no increase in demand for housing by the project. However, if a non-local labor force was employed, a temporary need for accommodations would arise. This would result in a less than significant impact due to the numerous hotel/motel accommodations serving the project area (within Lancaster, Palmdale, Rosamond, Mojave, and Tehachapi).

5.13.2.2 T/Ls

Construction of the Segment 2 T/L would mainly take place alongside an existing T/L corridor between Antelope and Vincent, including existing access, with the exception of the approximately 7-mile-long curve to the west in the T/L corridor near Palmdale on the Ritter Ranch development. Some spur roads would likely need to be constructed, but there would not be any displacement of existing housing or people. Any necessary staging areas would be located in areas with appropriately zoned property that is suitable for the purpose, and would not displace any existing housing or people. The proposed 500 kV T/L Segment 2 route

avoids the majority of the Ritter Ranch, Anaverde, and Palmdale 1000 residential development areas in western Palmdale (refer to Figures 3-1 and 3-2). Since the proposed 500 kV T/L would be constructed mainly along an existing utility corridor and away from existing and planned residential areas, no displacement of homes or people would be expected to occur.

This impacts analysis applies equally to Alternatives AV1 and AV2 associated with Segment 2, as Alternative AV1 is parallel and in close proximity to the proposed 500 kV T/L route, and Alternative AV2 follows the existing utility corridor. Therefore, neither alternative displaces any existing or proposed housing units. However, the portion of the proposed Segment 2 route that corresponds to Alternative AV1 would require the removal of three existing homes which would constitute an adverse impact to these few homeowners. But would not constitute an adverse impact under the CEQA criteria of whether the project would displace substantial numbers of existing housing, necessitating the construction of the replacement housing elsewhere. Removing three homes in the Antelope Valley would not constitute displacing a substantial number of existing homes. Furthermore, SCE would compensate the displaced homeowners at fair market value for the purchase of their properties, including relocation assistance.

Based on discussions between SCE and Ritter Ranch representatives, the proposed T/L route would result in fewer impacts to planned homes on both the Ritter Ranch and Anaverde development areas. The proposed Segment 2 T/L route does intersect the Ritter Ranch Specific Plan area between MP 7.6 and 13.9, and the Anaverde Specific Plan area between MP 13.9 and 15.0, however, the majority of the development areas would be avoided. The proposed Segment 2 T/L route also traverses the extreme southwest corner of the proposed Palmdale 1000 development (refer to Figures 3-1 and 3-2).

Construction of the proposed 500 and 220 kV T/Ls along Segment 3 would require new R-O-W acquisition for the entire 35.2 miles of T/Ls and some new access and spur roads would need to be built to access the new tower locations proposed. The T/L route skirts the west side of a planned community north of Antelope (proposed Del Sur Ranch), and would not displace any planned housing units. No other proposed developments along the T/L route are anticipated in the near future, and no housing units or people would be displaced, as the route mainly follows existing major roads.

The proposed 220 kV T/L that would be built between new Substation One and new Substation Two on new R-O-W would not displace any existing housing or people.

This impacts analysis applies equally to all of the alternatives associated with Segment 3 (A, B, and C), as the alternative routes are in close proximity to the proposed 500 kV and 220 kV routes, and do not displace any existing or proposed housing units. The Alternative B route

(Segment 3) is adjacent to the east boundary of the proposed Copa de Oro/Kern Ross Estate, but does not traverse this proposed development; therefore it avoids any potential impacts to planned housing units. The Alternative C 220 kV T/L route passes near 3 homes in the vicinity of the T/L crossing of Cameron Canyon Road and would be expected to result in adverse, but less than significant impacts on these homes.

5.13.2.3 Substation Facilities

The modifications to be implemented to the Antelope and Vincent substations (for Segment 2) would not displace any surrounding homes or people. The construction efforts for the substations would occur within or directly adjacent to existing SCE property, and no impacts on existing or planned housing would occur.

The new Substation One (near Cal Cement) and Substation Two (near Monolith) proposed sites, and adjacent alternative sites, are located in areas that do not contain any housing. Therefore, no population or housing related impacts are anticipated.

5.13.3 Operation Impacts

Because the project would not displace people or existing housing and would not create population growth, impacts would be less than significant.

5.13.4 Mitigation Measures

5.13.4.1 Segment 2

Since no potentially significant impacts have been identified, no mitigation measures are proposed.

5.13.4.2 Segment 3

Since no potentially significant impacts have been identified, no mitigation measures are proposed.

5.14 PUBLIC SERVICES/UTILITIES

This section describes the potential impacts on public services and utilities from development and operation of Segments 2 and 3 of the proposed Antelope Transmission Project. With implementation of the applicant-proposed mitigation measures, construction and operation of all phases of the project would be expected to have less than significant impacts on public services and utilities.

The potential impacts of the project on public services and utilities were evaluated by considering the short-term construction activities and long-term operation of the proposed T/Ls and substations. When evaluating the potential project impacts, it was assumed that all applicable federal, state, and local regulatory requirements would be complied with.

5.14.1 Significance Criteria

Standards of significance were derived from Appendix G of the revised CEQA guidelines. Project-related impacts to public services and utilities and service systems would be potentially significant if they resulted in any of the items listed below.

Relative to public services, have an effect upon, or result in a need for new or altered governmental services in any of the following:

- Fire protection
- Police protection
- Schools
- Parks or other recreational facilities
- Maintenance of public facilities, including roads
- Other governmental services

Relative to utilities and service systems, result in a need for new systems, or substantial alterations to the following utilities:

- Power or natural gas
- Communications systems
- Water
- Sewer or septic tanks
- Storm water drainage

- Solid waste and disposal

5.14.2 Construction Impacts**5.14.2.1 Public Services**

The demand for public services, such as fire and police protection, schools, hospitals, and maintenance of public facilities, would not increase significantly during construction of the proposed project (or alternatives).

During construction, the project may require the temporary closure of traffic lanes and subsequent impedance of traffic on several roadways. Temporary lane closures could potentially impact police and fire emergency response times and/or emergency evacuation plans. This impact would be less than significant with the implementation of the mitigation measures presented in Section 5.14.4.

Construction activities would not affect local hospitals. Given the size of local hospital facilities and the number of construction workers relative to the number of physicians and hospitals available, potential medical emergencies among construction crews would not place an undue burden on the local hospitals. This potential impact would be less than significant.

Construction of the proposed project would not be expected to have any effect on schools or other governmental services. The project would also not be expected to impact any parks, although the proposed 220 kV T/L route between Substations One and Two (as well as Alternative C) crosses the Pacific Crest National Scenic Trail. The proposed crossing of the trail would not limit its use or accessibility, therefore impacts would be less than significant from a public services perspective. However, see Section 5.15 regarding the potential for impacts to the Pacific Crest National Scenic Trail that could result if the Alternate Substation 1C were to be constructed.

Construction of the proposed project could result in wear and tear and/or damage to local roadways used to transport heavy materials and oversize loads. This impact would be less than significant with implementation of the mitigation measures presented in Section 5.14.4.

5.14.2.2 Utilities and Service Systems

Construction of the project would not increase the demand for public water supply, nor would it jeopardize the water quality of the public water system, or impact sewer services. The only demand for water would be for domestic use by construction crews and water brought in for dust control. Potable water for drinking and portable restrooms would be brought in for construction. Water used for dust control would be brought in by truck. Potential impacts would be less than significant.

The project would not require wastewater disposal; and thus, would not exceed wastewater treatment requirements of the RWQCB. The project would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Non-hazardous waste materials generated during construction would be recycled or deposited in local landfills. The project would not result in the breach of published national, state, or local standards relating to solid waste or litter control, and potential impacts would be less than significant.

Construction activities could potentially disrupt services provided by underground and overhead utilities. Prior to construction, surveys would be conducted to locate all underground and overhead utilities in the project area. Before any ground disturbance occurred, Underground Service Alert would be contacted to verify the location of existing underground utilities and avoid potential conflicts. Potential impacts would be less than significant, and mitigation is not required.

At the proposed location for Substation One, a major pipeline was identified as bisecting the proposed site. To avoid any potential problems with the pipeline, the proposed substation location has been moved approximately 0.5 mile to the east, resulting in a buffer of approximately 600 feet between the pipe and the substation perimeter.

Additionally, a buried cable line has also been identified along the south edge of Oak Creek Road, directly in front of the Substation One proposed site. This line, along with any other buried lines, would be identified by the land title search, the topographic survey, and finally by an underground alert service provider as is the standard SCE practice for any land disturbance project. If necessary, SCE would pay to relocate any lines that are determined to be incompatible with the project.

With respect to Segment 3, alternate substation locations 1A and 1C include existing underground natural gas pipelines which are potentially incompatible uses due in part to the pipeline operator's need to have access to their buried facility for repair and maintenance. This impact would be avoided by not siting any substation facilities on top of a buried natural gas pipeline.

5.14.3 Operations Impacts

5.14.3.1 Public Services

No significant impacts would result to public services during operation of the project. The proposed T/Ls and substations would be maintained on a regular basis and there would be no

need for local government involvement in maintenance activities. Operation of the proposed project would not create a higher demand for public services.

5.14.3.2 Utilities

By increasing the amount of energy available to the electrical grid from planned (by others) wind farm development, the project would help promote renewable energy goals of the State and reduce the possibility of power shortages. The project would have no impact on the provision of utilities during operation. No significant impacts to other utilities would occur.

5.14.4 Mitigation Measures

APM PS/U-1. Where T/L road crossings are necessary, lane closures would be conducted in accordance with the Work Area Protection and Traffic Control Manual (California Joint Utility Traffic Control Committee, 1996). The duration of lane closures would be kept to the minimum required for construction.

APM PS/U-2. Road use related wear and tear would be documented during construction of T/L facilities and the applicant would repair any damaged roadway sections, as applicable.

APM PS/U-3. Overhead and underground services would be identified prior to the commencement of construction and the appropriate measures would be taken to protect them in place or, if needed, relocated at SCE's expense.

5.15 RECREATION**5.15.1 Significance Criteria**

The significance criteria listed below for Recreation were derived from Appendix G of the CEQA Guidelines. Impacts to Recreation would be considered potentially significant if the project would:

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

5.15.2 Segment 2 – Antelope to Vincent**5.15.2.1 Lancaster**

Construction activities along the proposed 500 kV T/L route (including modifications to the existing Antelope substation) would not impinge on or otherwise affect any City parks, County parks and facilities, or state preserves in this area. Therefore, no adverse effects to recreational uses in this area would be expected to occur.

5.15.2.2 Palmdale

No Palmdale City parks would be crossed by or are near any portion of the Segment 2 500 kV T/L route. Goode Hill Road, which provides access to the A.C. Warnack Nature Park would be crossed by the route approximately 0.5 mile west of the park. No direct effects on the park are anticipated.

The only recreational facility or planned facility in this area of the Segment 2 project that might be affected by project construction would be a trail or trails along the California Aqueduct. In general terms, any trails crossed by the construction operations would be subject to temporary disturbance or closure for safety reasons during construction. Any such crossings or disturbance would require approvals by the County (or other responsible agency) and would be subject to conditions that would require appropriate planning, noticing, safety warning and control, and restoration, if necessary.

5.15.2.3 Los Angeles County Unincorporated Areas

No Los Angeles County or regional recreational facilities are located in areas that would be crossed by or directly affected by construction of the proposed Segment 2 500 kV and 220 kV T/L route.

5.15.3 Segment 3 – Antelope to Substations One and Two**5.15.3.1 T/L Routes**

Since there are no parks, preserves, or other recreational facilities along the Segment 3 500 kV T/L route between the Antelope Substation and Substation One (including Alternatives A and B), no significant impacts are expected regarding recreational resources. Distances of 2-5 miles separate the facilities from the nearest parks or preserves, thus there would be no direct effects on them.

In the northern, 220 kV portion of the Segment 3 T/L route, views from Tehachapi Mountain Park include SR 58, roadways, the wind energy resource area, rural areas, and disturbed land. Construction of the Segment 3 facilities would have no impact on activities in Tehachapi Mountain Park. However, the proposed 220 kV T/L route between Substations One and Two and Alternative C both cross the Pacific Crest National Scenic Trail at approximately MP 30.5 and MP 5.2, respectively. Additionally, the Pacific Crest Trail traverses the location of Alternate Substation C.

Construction and operation of the proposed 220 kV T/L (or Alternate C) across this portion of the Pacific Crest National Scenic Trail would be considered adverse, but less than significant, since there are existing roads and existing and planned wind farm development in this same area (i.e., developed, not pristine).

In the southern portion of the Segment 3 500 kV T/L route, there are two other powerline corridors between Segment 3 and the Antelope Valley California Poppy Preserve. These existing features and the intervening distance of at least 2 miles, would make the effect of the new Segment 3 500 kV T/L insignificant from the preserve.

5.15.3.2 Segment 3 Substations

None of the Substation One or Two proposed or alternative locations is near any established parks. As discussed in Section 5.15.3.1, the Pacific Crest National Scenic Trail traverses the wind farm area, including the Alternate 1C Substation location. Construction of Alternative Substation C would be regarded as an adverse and significant impact upon the Pacific Crest National Scenic Trail. The trail is regulated pursuant to the National Trails System Act of 1968 (Act), jointly by the Secretary of the Interior and the Secretary of Agriculture. As such,

impacts to the trail R-O-W at the Alternative Substation 1C site would have to be coordinated with the involved federal entities subject to the provisions of Section 7(a) through (k), and Section 9(a) through (f), of the Act.

5.15.4 Mitigation Measures

With regard to the proposed Segments 2 and 3 500 kV and 220 kV T/L facilities, no significant adverse construction or operation effects on regional recreational resources are expected, therefore, no mitigation measures are proposed.

5.16 TRAFFIC AND TRANSPORTATION**5.16.1 Significance Criteria**

This section addresses potential traffic and transportation related effects associated with construction and operation of Segments 2 and 3 of the proposed Antelope Transmission Project. The proposed project would result in short-term traffic related impacts during the construction phase. No long-term, operations phase impacts would be expected to occur. In accordance with Appendix G of the CEQA guidelines, project related impacts relative to traffic and transportation would be considered to be potentially significant if they would result in the following:

- Generation of substantial additional vehicular movement
- Effects on existing parking facilities, or demand for new parking
- Substantial impact upon existing transportation systems
- Alterations to present patterns of circulation or movement of people and/or goods
- Alterations to waterborne, rail or air traffic
- Increase in traffic hazards to motor vehicles, bicyclists, or pedestrians

Estimated average construction trips per day and total project trips (by road type) are presented in Table 5.16-1, by segment.

5.16.2 Segment 2 – Antelope to Vincent**5.16.2.1 Freeways and State Highways**

The project would involve construction adjacent to SR 14, and construction operations (placement of the conductors on towers) across the highway. This operation would temporarily delay traffic, and could affect normal operations of the highway for short periods. This type of construction is not unique, and there are several procedures used by SCE to avoid and minimize potential impacts on traffic (refer to Section 3.0).

All construction within or adjacent to roadway R-O-Ws would be coordinated with the appropriate government agency – Caltrans for state highways, and local public works departments for city and county streets. All such construction requires an encroachment or entry permit, and the issuing governmental agency can place conditions on the permit to ensure that the work does not cause excessive traffic delays.

Steps and techniques to avoid or minimize the potential effects on traffic movement include the following:

**TABLE 5.16-1
ESTIMATED AVERAGE CONSTRUCTION TRIPS PER DAY**

Segment/Component and Task	Average Trips Per Day on Each Type of Road					Number of Vehicles	Duration in Days	Total Project Trips
	Interstate	Primary	Secondary	Unimproved	R-O-W			
Segment 2: Antelope to Vincent								
G.O. Staff (Managers, Engineers, Survey)	0.2	0.2	0.2	0.2	0.2	3	300	900
Site Construction Management	1	1	1	1	1	1	300	1,500
Inspection Services	1	1	1	1	1	1	215	1,075
Division Personnel	1	1	1	1	1	1	215	1,075
Construction Workers (personal auto)	1	1	1	0	0	42	215	27,090
Mobilization (equipment delivery)	0.5	0.5	0.5	0	0	125	1	188
Mobilization (yard setup)	1	1	1	0	0	3	5	45
Material Recovery	0	1	1	1	0	1	60	180
Material Delivery>Returns (steel, wire, hardware)	1	1	1	0	0	2	65	390
Road Construction/Maintenance	0	0	1	1	2	6	201	4,824
Foundation Materials	1	1	1	1	1	7	60	2,100
Foundation Construction	0	0	1	1	2	16	60	3,840
Steel Construction (Assembly phase)	0	0	1	1	2	23	77	7,084
Steel Construction (Erection phase)	0	0	1	1	1	4	135	1,620
Guard Pole Installation	0	0	0.2	0.5	0.5	4	15	36
Conductor & Static Installation	0	0	1	1	2	19	63	4,788
Cleanup & Demobilization	1	1	1	1	1	7	15	525
Demobilization (equipment returns)	0.5	0.5	0.5	0	0	125	1	188

**TABLE 5.16-1(CONTINUED)
ESTIMATED AVERAGE CONSTRUCTION TRIPS PER DAY**

Segment/Component and Task	Average Trips Per Day on Each Type of Road					Number of Vehicles	Duration in Days	Total Project Trips
	Interstate	Primary	Secondary	Unimproved	R-O-W			
Segment 3: Antelope to Substation One to Substation Two								
G.O. Staff (Managers, Engineers, Survey)	0.2	0.2	0.2	0.2	0.2	3	335	1,005
Site Construction Management	1	1	1	1	1	1	335	1,675
Inspection Services	1	1	1	1	1	1	270	1,350
Division Personnel	1	1	1	1	1	1	270	1,350
Construction Workers (personal auto)	1	1	1	0	0	42	270	34,020
Mobilization (equipment delivery)	0.5	0.5	0.5	0	0	136	1	204
Mobilization (yard setup)	1	1	1	0	0	3	5	45
Material Recovery	0	1	1	1	0	1	60	180
Material Delivery>Returns (steel, wire, hardware)	1	1	1	0	0	4	65	780
Road Construction/Maintenance	0	0	1	1	2	6	244	5,856
Foundation Materials	1	1	1	1	1	7	133	4,655
Foundation Construction	0	0	1	1	2	16	133	8,512
Steel Construction (Assembly phase)	0	0	1	1	2	32	104	13,312
Steel Construction (Erection phase)	0	0	1	1	1	8	116	2,784
Guard Pole Installation	0	0	0.2	0.5	0.5	4	52	125
Conductor & Static Installation	0	0	1	1	2	19	88	6,688
Cleanup & Demobilization	1	1	1	1	1	7	15	525
Demobilization (equipment returns)	0.5	0.5	0.5	0	0	136	1	204

- Coordination with Caltrans and local agencies and the preparation of a traffic management plan as part of the project construction plans. The traffic management plan may include provisions for signage and noticing to inform the public about work before any disruptions occur, temporary detour routes, the use of flagmen and/or escort vehicles to control and direct traffic flow, and scheduling work during nighttime hours or periods of minimum traffic flow.
- The erection of temporary guard poles, structures and/or netting to protect the underlying roadways or other structures during the stringing of conductors or other work.
- Implementation of a California Highway Patrol (CHP) controlled continuous traffic break while stringing operations are performed.

These measures, combined with the fact that the construction and stringing operation at any one location would be short-term in nature, would reduce the effect of potential traffic disruptions to a level that is less than significant.

5.16.2.2 Transit and Rail Service

5.16.2.2.1 Lancaster and Palmdale Areas. Since the project components for Segment 2 are remote from transit and rail facilities in the Lancaster area, no effects would be anticipated from their direct construction.

The proposed project includes a primary marshalling yard that would be located in the vicinity of the Antelope Substation. It is currently anticipated that the majority of construction materials (e.g., 500 kV T/L tower components, conductor, and substation modification components for the Antelope Substation) would be transported via truck to the primary marshalling yard. No use of rail lines is planned, thus no project-related impacts to rail lines would occur associated with delivery of materials.

5.16.2.2.2 Los Angeles County Unincorporated Areas. The Vincent Grade/Acton Metrolink station is immediately to the east of the existing T/L R-O-W between Antelope and Vincent containing the existing Midway-Vincent # 3 500 kV lines, Midway-Vincent # 1 500 kV lines, and other lines. The southern third of the new Antelope-Vincent 500 kV R-O-W would be located adjacent to the current R-O-W. Construction of the Segment 2 line would cross the driveway leading to the Vincent Substation parking lot from Sierra Highway, and would cross the Union Pacific Railroad line just south of the Metrolink station.

Just as with roadways, the crossing of the driveway, rail line, or other property associated with the Metrolink station would have to be coordinated with the appropriate authorities. Measures similar to those described above for state highways would be incorporated into the construction plans. These measures would include the following:

- Coordination with Metrolink and Union Pacific and the preparation of a traffic management plan as part of the project construction plans. The traffic management plan may include provisions for signage and noticing to inform the public about work before any disruptions occur, temporary detour routes, the use of flagmen and/or escort vehicles to control and direct traffic flow, and scheduling work during periods of minimum traffic flow.
- The erection of temporary guard poles, structures and/or netting to protect the underlying roadways, rail line, or other structures during the stringing of conductors or other work.

These measures would serve to avoid or minimize effects to the users of the Metrolink station at Vincent Grade/Acton.

The Los Angeles Metropolitan Transit Authority (MTA) bus service does not extend northward into the areas that would be affected by the project, so no effects on MTA bus service or facilities would be expected to occur.

5.16.2.3 Air Transportation

No elements of Segment 2 for the project are near general aviation or larger airports; therefore, no adverse effects are anticipated. Work in some remote areas may involve the use of helicopters. Adherence to Federal Aviation Administration regulations and coordination with appropriate air traffic control authorities would serve to avoid any effects on other air transportation services in the project area. The proposed 500 kV towers are of a height similar to existing 500 kV towers along the R-O-W. No adverse effects on air traffic safety are expected due to the high visibility of the 500 kV T/L facilities.

5.16.2.4 Local Roadways

5.16.2.4.1 Lancaster and Palmdale. Construction work for Segment 2 of the project would involve the use of City of Lancaster and Palmdale roadways generally on the west side of these cities. Primary and secondary marshalling yards and various staging areas would be chosen to provide convenient storage and access for construction work. If any work requires modifications or activities within local road R-O-Ws, then the appropriate local permits would be obtained. This process would involve the preparation of traffic management plans and provisions to ensure local streets are not damaged, or that any damage is repaired.

In the general area west of Lancaster and Palmdale, some of the potentially affected roadways are major streets that connect other unincorporated communities. These include Goode Hill and Elizabeth Canyon Roads. Both of these roads would be crossed by the T/L and would be used by construction workers and traffic during work in these areas.

In general terms, traffic volumes on all of the streets in this area are relatively small. If any construction work would affect public streets, either the larger roads or local residential streets, the local permit process would require the preparation and approval of a traffic management and/or detour plan to ensure that potential delays are minimized and only short term. For these reasons, the anticipated effects of construction of Segment 2 on local roadways would be expected to be less than significant.

5.16.2.4.2 Los Angeles Unincorporated Areas. For the most part, the Segment 2 Antelope-Vincent route passes through vacant land or areas with very little development. Near its southern end, however, it would cross several roads that carry regular traffic. These include the frontage roads adjacent to SR 14 (Forest View Road and Sierra Highway), and West Carson Mesa Road. There is little or no development near these roadways, but construction activities would involve the use of these streets, and in some cases may necessitate temporary encroachments or other activities requiring specific permission from the County (or Caltrans if the frontage roads are within the Caltrans R-O-W). The primary effect of construction would be temporary delays in local traffic. Depending on the specific location and nature of construction activities, it is also possible that some streets could be affected by overweight vehicles or other direct impacts. The mitigation measures presented in Section 5.16.6 would be expected to minimize potential effects to levels that are less than significant.

5.16.3 Modifications to Antelope and Vincent Substations

The existing SCE Antelope and Vincent Substations would undergo minor modifications for electrical tie-ins associated with Segment 2 of the proposed Antelope Transmission Project. No adverse traffic and transportation related impacts would occur associated with these modifications.

5.16.4 Segment 3 – Antelope to Substations One and Two

5.16.4.1 Freeways and State Highways

Each of the alternative routes for the Segment 3 500 kV T/L crosses SR 138 in northern Los Angeles County. In Kern County, other than normal traffic use, the only portion of the Segment 3 construction that would involve a state highway is the Alternative C 220 kV T/L route that would cross SR 58 to reach Alternative Substation 2B, about 0.5 mile north of the highway. Thus, the construction of Segment 3 facilities would involve crossing SR 138, and possibly SR 58 (if Substation 2B were selected).

The effects of project construction would include disruptions adjacent to the highway, for the erection of towers, guard structures, and/or staging areas. There would also be some operations across the highway, to install guard structures and then to install the conductors on the towers. This construction will temporarily delay traffic, and could affect normal

operations of the highway for short periods. This type of construction is not unique, and there are several procedures used by SCE to avoid and minimize effects on traffic.

Steps and techniques to avoid or minimize the potential effects on traffic movement include those discussed in Section 5.16.2.1 for Segment 2.

These measures, combined with the fact that the construction and stringing operation at any one location would be short-term in nature, would reduce the effect of potential traffic disruptions to a level that is less than significant.

5.16.4.2 Transit and Rail Service

5.16.4.2.1 Lancaster Area. Since the project components for Segment 3 are remote from transit and rail facilities in the Lancaster area, no effects are anticipated from their direct construction.

5.16.4.2.2 Los Angeles County Unincorporated Areas. There are no MTA or Metrolink facilities in the vicinity of any portion of Segment 3, including the T/L route alternatives and the substation locations and their alternatives. Therefore, no effects on Los Angeles County transit facilities are expected with Segment 3.

5.16.4.2.3 Kern County and Tehachapi. The proposed Segment 3 500 kV T/L (and alternatives) cross a rail spur that connects to the Cal Cement facility (see Figure 3-1). Additionally, the alternate 220 kV T/L to alternate Substation 2B crosses the Union Pacific Railroad north of SR 58. With implementation of the mitigation measures presented in Section 5.16.6, short-term construction impacts would be less than significant.

5.16.4.3 Air Transportation

No elements of Segment 3 for the project are near general aviation or larger airports; therefore, no adverse effects are anticipated. Edwards AFB is located approximately 8-9 miles to the east of the majority of the Segment 3 500 kV T/L route between Antelope and Substation One (refer to Figure 3-1). Based on a preliminary review by Edwards AFB and NAVAIR personnel in 2004, the proposed Antelope Transmission Project would not have significant impacts on the military mission in the area (refer to correspondence in Appendix C of this PEA).

5.16.4.4 Local Roadways

5.16.4.4.1 Lancaster Area. Construction work for Segment 3 of the project would involve the use of City of Lancaster roadways. Secondary marshalling yards and various staging areas would be chosen to provide convenient storage and access for construction work. Based

on current City Limits, paved city roadways that would be directly affected by crossing or adjacent construction are: W. Avenue J and W. Avenue G. Several other unpaved roads in Lancaster would also be affected by construction. Like any construction project, the Segment 3 work could cause some disruption of local traffic and the use of heavy trucks and equipment could cause some damage to the roadways.

5.16.4.4.2 Los Angeles Unincorporated Areas. For the most part, the Segment 3 route passes through vacant land or areas with very little development. Long stretches of each Segment 3 alternative run north-south along existing roads. For the proposed route, Alternative A, and Alternative B, these roads are 105th Street W., 100th Street W., and 110th Street W., respectively. 110th Street W. is paved in some areas, the other two are unpaved. Construction of the middle portions of the Segment 3 T/L route would place truck and heavy equipment traffic on these roadways, and may include some work within a road R-O-W. There are also several east-west County roads that would be affected by Segment 3 crossings. Paved County roads that would be crossed include: W. Avenue C and W. Avenue B. Roadways crossed by the Segment 3 construction could suffer minor traffic delays and damage from the use of heavy trucks and equipment during construction.

5.16.4.4.3 Kern County and Tehachapi. Paved roadways within Kern County that would be crossed by Segment 3 construction or are located near the proposed route or one of its alternatives include: Gaskell Road, West Rosamond Boulevard, Tehachapi-Willow Springs Road, Oak Creek Road, and East Tehachapi Boulevard (crossed by Alternative C only). Construction across or adjacent to these roadways could cause temporary delays of traffic and the use of heavy trucks and equipment could cause some damage to the roads. There are also several dozen unpaved and unimproved roads within Kern County that could be similarly affected.

All of the Segment 3 facilities would be outside of the Tehachapi City limits, and no significant impacts are anticipated. Construction vehicles and worker traffic would use City streets to access construction sites, but there would be no construction activity or construction incursions into City streets.

5.16.5 Segment 3 Substations

Construction traffic for work at the Antelope Substation would access the property via W. Avenue J, but the construction itself would not affect any local roadways.

The proposed and alternate (1A and 1B) locations for Substation One are all south of Oak Creek Road. Construction traffic would use this roadway, but there would be no direct construction effects on it. The same statement is true for Substation Two and Highline Road, alternate Substation 1C and Cameron Canyon Road, and Substation 2B and Williamson

Road. Since the substation locations are relatively close to each of these roadways, it is possible that construction may cause temporary traffic delays. There should be no other impacts from the substation construction.

5.16.6 Mitigation Measures

For all potential direct and indirect effects on highways and local roadways, whether from work on the Segments 2 and 3 T/L routes or from substation installation or improvements, the following mitigation measures would be implemented to minimize impacts to traffic and transportation to a less than significant level:

APM Traffic-1. Construction activities would be designed to minimize work on or use of local streets.

APM Traffic-2. When local streets must be used for more than normal traffic purposes, an encroachment permit or similar authorization would be obtained from the County (or other agency, as applicable).

APM Traffic-3. Any construction or installation work requiring the crossing of a local street, highway, or rail line would incorporate the use of guard poles, netting, or similar means to protect moving traffic and structures from the activity. If necessary on state highways, continuous traffic breaks operated by the CHP would be planned and provided.

APM Traffic-4. Traffic control and other management plans will be prepared where necessary to minimize project impacts on local streets.

APM Traffic-5. Any damage to local streets would be repaired, and streets would be restored to their pre-project condition.