

# Executive Summary

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## ES.1 Introduction/Background

On December 9, 2004, Southern California Edison (SCE) submitted to the California Public Utilities Commission (CPUC) application A.04-12-008 for a Certificate of Public Convenience and Necessity (CPCN) and a Proponent's Environmental Assessment (PEA) for the construction and operation of the Antelope-Vincent 500-kV Transmission Line, initially energized to 220 kV (referred to as Segment 2) and the Antelope-Tehachapi 500-kV Transmission Line, connecting Antelope to a new substation in Tehachapi and a 220-kV Transmission Line connecting two new substations within Tehachapi (collectively referred to as Segment 3). SCE submitted an amended application and PEA on September 30, 2005.

The CPUC has prepared this Environmental Impact Report (EIR) for the Segments 2 and 3 of the Antelope Transmission Project ("proposed Project"). For the environmental review process, the CPUC is the lead agency under the California Environmental Quality Act (CEQA).

This EIR evaluates and presents information on the environmental impacts that are expected to result from construction and operation of the proposed Project and presents recommended mitigation measures that, if adopted, would avoid or minimize the significant environmental impacts identified. In accordance with CEQA requirements, this EIR also identifies and evaluated alternatives to the proposed Project that could avoid or minimize significant environmental impacts associated with the proposed Project, including the No Project Alternative. In accordance with CEQA, the impacts of the alternatives to the proposed Project are evaluated in a lesser level of detail than the environmental impacts associated with the proposed Project.

The intent of this EIR is to inform the public, Lead Agency decision makers, and other permitting agencies about the proposed Project and its environmental impacts. The proposed Project is described briefly below and in detail in Section B (Project Description) of this EIR. This EIR does not make a recommendation regarding the approval or denial of the proposed Project; it is purely informational in content and will be used by the CPUC in considering whether or not to approve the proposed Project, and by other agencies in decisions regarding permits that would need to be issued to allow the Project to be implemented.

The content of this EIR reflects relevant input received from government officials, agencies, nongovernmental organizations, and concerned members of the public during the EIR scoping period following the CPUC's publication of the Notice of Preparation (NOP) of an EIR (April 27, 2006). Please see Section ES.1.5 of this Executive Summary for a more detailed description of public involvement activities related to the proposed Project.

### ES.1.1 Overview of the Proposed Project

The proposed Project would provide electric transmission capacity for wind energy resources that are expected to develop in the Tehachapi area of southeastern Kern County. Wind energy development in this area could provide a substantial amount of renewable energy for California consumers; however, a lack of transmission capacity currently limits new wind energy installations. The proposed Project would be capable of transporting power from multiple wind projects in order to utilize the Tehachapi area's potential for generation of wind energy.

The proposed Project consists of two primary elements, the Antelope-Vincent 500-kV Transmission Line, or Segment 2 (initially energized to 220 kV), and the Antelope-Tehachapi 500-kV and 220-kV Transmission Line, or Segment 3. Segment 2 would involve construction of a 21.0-mile 500-kV transmission line and ~~0-~~50.6-mile 220-kV transmission line between SCE's existing Antelope and Vincent Substations. The Antelope Substation is located in the City of Lancaster and the Vincent Substation is located near the community of Acton, both of which are located in northern Los Angeles County. Segment 3 would involve construction of two substations, a 25.6-mile 500-kV transmission line from the existing Antelope Substation to a proposed substation located on Oak Creek Road west of the Mojave area (Substation One), and a 9.6-mile 220-kV transmission line from Substation One to a proposed substation located near Tehachapi Boulevard in the Monolith area (Substation Two). Both proposed substations would be located in Kern County.

The proposed Project would provide transmission for wind energy resources proposed north of Antelope Substation and would also interconnect several potential independent energy producers' wind energy projects to SCE's electrical system. The California Independent System Operator (CAISO) manages the electricity generation interconnection queue, which consists of new generation projects proposed by independent power producers placed in priority order based on submittal of a completed interconnection application. ~~estimates that~~ Wind energy projects generating a combined total of 3,450 MW are currently being planned in the Tehachapi and Mojave areas in Kern County (CAISO, 2006). The additional transmission capacity that would be provided by the proposed Project would accommodate a portion of the potential wind energy that would be generated by these planned wind energy projects. Additional transmission upgrades will be needed in the future to provide the transmission capacity to accommodate the full wind energy potential of the Tehachapi and Mojave areas.

More information on the proposed Project is provided in Section ES.2 below and Section B of the EIR.

### **ES.1.2 Project Objectives**

As required by CEQA (State CEQA Guidelines Section 15124(b)) and described in Section A.2 (Project Objectives), a project's statement of objectives describes the underlying purpose of the project. The project objectives are used to identify a range of reasonable alternatives to be analyzed in the EIR.

Per CPUC Decision 04-06-010, Ordering Paragraph No. 8, SCE is required to "...file an application seeking a certificate authorizing construction of the first phase of...transmission upgrades consistent with its 2002 [2003] conceptual study and the [Tehachapi Collaborative] study group's recommendation..." These transmission upgrades include the proposed Antelope-Vincent (Segment 2) and Antelope-Tehachapi (Segment 3) transmission lines. SCE's objectives for the approval and implementation of the proposed Project have three primary aspects, which are described in more detail in Section A.2 of this EIR:

- Provide transmission capacity from the Tehachapi Wind Resource Area to the Antelope Substation in order to interconnect and integrate wind power generation facilities into the electric system.
- Prevent overloading of the existing Antelope-Mesa transmission line.
- Increase reliability of the SCE transmission grid by increasing capacity to serve demand from planned development in the Antelope Valley.

The CPUC seeks to facilitate the development and distribution of renewable energy within the State of California. The Renewables Portfolio Standard (RPS), established in 2003~~2~~-by Senate Bill 1078 (SB 1078), which was subsequently updated by the passage of SB 107 in 2006, requires investor-owned utilities, including retail sellers of electricity such as SCE, to increase their sale of electricity produced by renewable energy sources (such as wind) by at least one percent per year, achieving 20 percent by no later than 2010~~7~~. The

Tehachapi area is considered the largest wind resource area in the State and, therefore, regulated utilities have focused on the development of wind energy projects in the Tehachapi area, including the development of transmission infrastructure needed to bring this power to customers. As a crucial step in meeting the State's renewable energy goals, as stated in the State of California Energy Action Plan, the CPUC must explore options for the removal of constraints on the transmission of electricity from its point of generation to its point of use.

### **ES.1.3 The Antelope Transmission Project**

As discussed above, the proposed Project is part of a series of anticipated future transmission system upgrades intended to provide capacity to transmit wind energy to SCE customers. These anticipated upgrades are based on SCE's Renewables Conceptual Transmission Plan (RCTP) of 2003 and have been recommended by the Tehachapi Collaborative Study Group (TCSG). The proposed Project (Segments 2 and 3) is part of the Antelope Transmission Project, a three-segment plan to construct upgrades to the transmission system that is part of SCE's RCTP.

Segments 2 and 3 provide transmission capacity for potential future development of unspecified wind energy projects in the Tehachapi Wind Resource Area. Currently, the Antelope-Mesa 220-kV transmission line is operating at capacity south of Antelope Substation and, therefore, any additional power generation connected to the transmission system north of Antelope Substation, such as wind energy projects, would result in thermal overload on the Antelope-Mesa transmission line. Segment 1, also referred to as the Antelope-Pardee 500-kV Transmission Project, would increase transmission capacity south of Antelope Substation in order to avoid this thermal overload problem on the Antelope-Mesa transmission line, thereby allowing planned wind energy projects to deliver wind power in the near term and help meet the State's Renewables Portfolio Standard (see Section A.2.5 above). Segment 1 would accomplish this by constructing an alternative transmission path that allows power to flow southwest to the Pardee Substation in Santa Clarita rather than to the Vincent Substation. The immediate necessity to provide transmission capacity to serve wind energy projects that are planned to be constructed in the near term is verified by Docket I. 00-11-001 which, as described below, requires that Segment 1 be addressed as a separate project from Segments 2 and 3 in order to avoid delay in its implementation.

When initially operated at 220 kV, Segment 1 would allow up to 350 MW of additional power generated from wind projects to be transmitted south without overloading the Antelope-Mesa transmission line. The additional transmission capacity provided by Segment 1 may be used to accommodate power from any source injecting new power to the system at Antelope Substation; however, up to 300 MW of this new capacity would be needed to serve the planned PdV Wind Energy Project, which has an application for approval pending with Kern County. Without this transmission capacity, Tehachapi-area wind energy projects that are scheduled to go online within the next few years, such as the PdV Project, cannot deliver additional wind energy to customers through Antelope Substation.

### **ES.1.4 CEQA Process**

This Draft EIR has been prepared by the CPUC in compliance with CEQA requirements. The CPUC is the Lead Agency responsible for compliance with the procedural and substantive requirements of CEQA for the SCE's CPCN application for the proposed Project and has primary responsibility for approving or denying the Project.

The CPUC determined that the proposed Project could cause a significant adverse effect on the environment and, therefore, initiated the preparation of an EIR would be needed. The CPUC filed a Notice of Preparation (NOP) with the State Clearinghouse in the Office of Planning and Research, which formally initiated a 30-day scoping period during which public and agency input was solicited on the scope of issues that should be addressed in the EIR.

In accordance with CEQA, the EIR must be completed before the Lead Agency makes any decision to approve the proposed Project. The EIR must disclose a project's expected impacts on the environment, recommend measures to reduce or avoid significant impacts, and analyze a reasonable range of feasible alternatives to the proposed Project. The purpose of this process is to inform the public about the impacts of the proposed Project and to provide information to agency decision makers that could aid them in their decision(s) regarding the Project.

Copies of the Draft EIR are distributed for public review and comment and are also submitted to the State Clearinghouse, as well as responsible, trustee, and cooperating agencies as defined by CEQA. A Notice of Availability (NOA) of the Draft EIR is published in local newspapers and posted with the county clerk. The Draft EIR is made available for public review and comment for a 45-day public review period.

Responses to substantive comments received on the Draft EIR are prepared by the Lead Agency and published in the Final EIR. The Final EIR may also present additional information in response to comments made on the Draft EIR and include minor corrections to the Draft EIR that were discovered during the comment period.

At the end of the EIR process, the Lead Agency will review the Final EIR and certify its adequacy prior to taking any action to approve the Project. If the Final EIR identifies one or more significant environmental effects of the proposed Project that cannot be mitigated to a level of insignificance, the Lead Agency must make specific findings regarding its approval of the project. These findings must either state that alterations have been made to the project to avoid or substantially reduce each significant impact, or that specific economic, legal, social, technological, or other considerations make mitigation of a significant impact infeasible.

If the CPUC decides to approve the proposed Project even though significant unavoidable impacts would occur, it must prepare and adopt a Statement of Overriding Considerations (SOC), which explains why the significant and unavoidable environmental impacts associated with the Project are acceptable when compared to the benefits of other alternatives. The Lead Agency is required to file a Notice of Determination (NOD) with the State Clearinghouse within five working days after approval of a project for which an EIR was prepared.

In addition, various other agencies may need to provide approvals prior to initiation of the proposed Project (see Section A.3 of the EIR). These agencies will utilize the information contained in the Final EIR in making their decisions regarding permits and approvals required for the proposed Project.

### **ES.1.5 Summary of Public Involvement Activities**

To date, there have been extensive public participation efforts for Segments 2 and 3 of the Antelope Transmission Project. These activities are summarized below:

- The CEQA 30-day scoping process for the Antelope Transmission Project, Segments 2 and 3, began with the CPUC's issuance of the Notice of Preparation (NOP) of an EIR on April 27, 2006. Copies of the NOP were available at five local repositories.

- The NOP was mailed to 450 federal, State, regional, and local agencies and elected officials, as well as community organizations, interest groups, and property owners in the vicinity of the proposed Project route on April 27, 2006.
- ~~A Notice of Public Scoping Meetings was mailed to community organizations, interest groups, and property owners in the vicinity of the proposed Project route.~~
- Notice of the two scoping meetings appeared on the CPUC project website. A newspaper advertisement appeared in five regional and local newspapers between April 26, 2006 and May 1, 2006.
- On May 9 and May 10, 2006, the CPUC held two public scoping meetings to collect input for the scope and content of the EIR, as well as to provide an opportunity for the public to provide input on alternatives to the project and potential mitigation measures.
- Twenty-four written comments were received. In addition, ten individuals presented oral comments at the public scoping meetings. Comments were received from members of the public, government and public agencies, and organizations and private companies. A comprehensive Scoping Report was prepared in July, 2006, to document the public scoping effort and assemble comments made on the scope and content of the proposed Project EIR. Copies of the Scoping Report are available for the public to review upon request.
- A Notice of Availability (NOA) was mailed to over 500 addresses, including community organizations, interest groups, and property owners in the vicinity of the proposed Project route.
- Copies of the full Draft EIR were sent to 38 interested parties and agencies, and to the five information repositories, which include area libraries. In addition, 23 CDs with an electronic pdf version of the Draft EIR, including the NOA, were also sent out.
- On October 11 and 12, 2006, the CPUC conducted informational workshops and public participation hearings. The informational workshops provide an opportunity for interested parties to speak informally with the specialists who wrote the Draft EIR and ask questions. The public participation hearings are formal hearings conducted by the CPUC to receive oral and written comments on the Draft EIR or any other matters related to the CPUC proceedings on SCE's application.
- A notice cancelling the originally scheduled public meetings and rescheduling public participation hearings, and an extension notice announcing that the public comment period for the Draft EIR was extended from October 9 to October 16, 2006 were distributed to all contacts on the Project notificaton list, which included over 800 individuals.

An EIR e-mail address was created along with a telephone and fax hotline for project information. An internet site was used to post all public environmental documents (including this Draft EIR) and to announce public meetings.

### ES.1.6 Areas of Controversy and Issues to be Resolved

State CEQA Guidelines Section 15123 requires that an EIR include a summary of the document (the Executive Summary), which must include a discussion of areas of controversy known to the Lead Agency, as well as identification of issues that need to be resolved. These may include issues raised by other agencies and the public during the public scoping process, as well as issues realized during the environmental analysis process. Various issues of concern were expressed at public scoping meetings for the proposed Project, as well as through responses to the Notice of Preparation (Appendix 1), and comments provided during the Draft EIR public review period. Some areas of controversy that were raised during the public scoping process and Draft EIR public review period include the following:

- **Loss of Property and Adverse Effects on Property Values.** The proposed Project would require the condemnation through eminent domain of several existing homes and properties located along the proposed route. Property owners have expressed the concern that the Project may also cause a decrease in property values along the route that are not secured via eminent domain, due to the potential adverse impacts, such as aesthetics.
- **Conflicts with Existing or Planned Land Uses.** The proposed Project may affect a planned Antelope Valley Unified High School District (AVUHSD) school site, as well as the school district's funding.

- **Conflicts with Approved Planned Communities.** Option B of the proposed Project would affect approved plans for housing, school sites, and infrastructure associated with two master plan communities, specifically Ritter Ranch and Anaverde Ranch along Segment 2.

Many of the areas of controversy and issues identified in the list above would be resolved through the implementation of applicable mitigation measures or through coordination of development activities with the Applicant and/or affected agencies, which are summarized in Table ES-2 and discussed in detail in Section C (Environmental Analysis) of this EIR.

## ES.2 Summary Description of Proposed Project

This summary provides a physical description of the proposed Project. A more detailed description is provided in Section B (Project Description) of this document.

### ES.2.1 Proposed Facilities and Modifications

Construction of the proposed Project would include approximately 56.8 miles of new 500/220-kV transmission line, initiating in the Tehachapi Wind Resource Area in southern Kern County and extending south-southeast towards the community of Acton, in unincorporated Los Angeles County. The proposed Project would connect through SCE's existing Antelope Substation in the City of Lancaster, with Segment 2 consisting of the portion of the proposed route located south of Antelope Substation (between Antelope Substation and Vincent Substation) and Segment 3 consisting of the portion of the proposed route located north of Antelope Substation. Segment 3 would also include the construction of two substation facilities in southern Kern County: Substation One and Substation Two. Segment 3B would consist of the proposed route between Substation Two and Substation One, while Segment 3A would consist of the proposed route between Substation One and Antelope Substation. In addition, Segment 2 includes two routing options (Option A and Option B), which are discussed below.

#### Location and Proposed Route

As described above, the proposed Substations One and Two are both included as part of Segment 3 of the proposed Project. Substation Two, a ~~500/220/66-kV~~ facility, would be constructed near SCE's existing Monolith Substation, northwest of ~~the Western Area Power Administration's~~ SCE's existing Cal Cement Substation in the Tehachapi Wind Resource Area in southern Kern County. Substation One, a 500/220/66-kV facility, would be constructed near the existing Cal Cement Substation, also located in the Tehachapi Wind Resource Area of southern Kern County. The proposed Project would consist of the following transmission line features:

- Segment 3B, a new 220-kV transmission line, would initiate at Mile S3-0.0 (Substation Two) and extend south, then east, to Mile S3-9.6 (Substation One). Segment 3B would traverse a portion of the Tehachapi Wind Resource Area in southern Kern County.
- Segment 3A, a new 500-kV transmission line, initially energized to 220 kV, would initiate at Mile S3-9.6 (Substation One) and extend south to Mile S3-35.2 (Antelope Substation), in the City of Lancaster. Segment 3A would travel through Kern County for nearly 16 miles before entering Los Angeles County at approximately Mile S3-25.5.
- Segment 2 would initiate at Mile S2-0.0 (Antelope Substation) and extend southeast to Mile S2-21.6 (Vincent Substation), near the community of Acton in unincorporated Los Angeles County. Segment 2 would include a new 500-kV transmission line, initially energized to 220 kV, from Mile S2-0.0 to Mile S2-21.0 and a new 220-kV transmission line from Mile S2-21.0 to Mile S2-21.6, thus allowing connection to Vincent Substation.

Improvements to Antelope Substation would be required to accommodate both the termination of Segment 3 and the initiation of Segment 2, and improvements to Vincent Substation would be required to accommodate the termination of Segment 2. In addition, as described in Table ES-1, approximately 29.4 miles of the proposed transmission line route would be situated adjacent to an existing transmission corridor, while approximately 27.4 miles of the proposed route would require the establishment of a new ROW. Installation of information technology facilities would also be required for the proposed Project. A summary of the proposed Project components is provided below in Table ES-1.

<b>Table ES-1. Features of the Proposed Project</b>		
Transmission Line	Linear distance of transmission line Segment 2 (500 kV + 0.6 miles 220 kV) Segment 3A (500 kV) Segment 3B (220 kV)	56.8 miles TOTAL (all overhead) 21.6 miles 25.6 miles 9.6 miles
	66-kV line at Antelope Substation	Relocate/new construction of 4.4 miles of double-circuit wood poles onto 96 new lightweight TSPs.
Towers	Segment 2 Segment 3A Segment 3B	2 dc 220/500-kV TSPs, 106 sc 500-kV LSTs, and 6 sc 220-kV LSTs 79 sc 500-kV TSPs and 44 500-kV LSTs 57 sc 220-kV LSTs
ROW	Linear distance of new ROW adjacent to existing transmission corridor(s) Segment 2 Segment 3A Segment 3B	29.4 miles TOTAL 19.1 miles 2.4 miles 7.9 miles
	Linear distance of entirely new ROW Segment 2 Segment 3A Segment 3B	27.4 miles TOTAL 2.5 miles 23.2 miles 1.7 miles
Substations	Antelope Substation	Segment 2: 220-kV Position No. 11 would be fully equipped for the Vincent No. 2 500-kV T/L. Segment 3: 220-kV Antelope switchrack Position No. 6 upgraded to a 3000-ampere rating.
	Vincent Substation	220-kV Position No. 3 would be fully equipped for the termination of the new Antelope No. 2 220-kV T/L.
	Substation One	New 500/220/66-kV substation located on 53.7 acres. Additional 8.3 acres of grading for side slopes would be required to blend the existing terrain with the new pad.
	Substation Two	New 220/66-kV substation located on 20.2 acres. Additional 8.1 acres of grading for side slopes, transmission line passage, vehicular access, and roads.
Information Technology	Telecommunication Systems	<u>Segment 2: Two paths, (1) Primary path using existing SCE infrastructure; (2) Secondary path provided by optical ground wire installed on all of the new transmission lines.</u> <u>Segment 3: Two paths, (1) Primary path using three new microwave paths, Antelope Substation to Oak Peak Communication Site, Substation 1 to Oak Peak Communication Site and Substation 2 to Oak Peak Communication Site (2) Secondary path provided by optical ground wire installed on all of the new transmission lines.</u>
	Microwave Facilities – Installation of microwave antennas on new towers	Antelope Substation: 80-ft tower replaced with 120-ft tower Oak Peak Communication Site: 50-ft tower replaced with 120-ft tower Substation One: New 100-ft tower Substation Two: New 100-ft tower
Construction	Schedule (total duration)	16 months
Operations & Maintenance	Frequency/Type	Periodic inspections (once per year) on as as-needed bases. Preventative maintenance every six months.

As mentioned, Segment 2 includes two routing options. Option A would deviate from the proposed route between Mile S2-5.7 and Mile S2-7.7, remaining parallel to the proposed route. Option B would deviate from the proposed route between Mile S2-8.1 and Mile S2-14.9, remaining parallel to the existing Antelope-Vincent corridor rather than routing around the Ritter Ranch and Anaverde Ranch community development areas, as the proposed Project does. For the purposes of the EIR, Options A and B are fully analyzed with the proposed Project. Further detail on Options A and B is provided in Section B.2.1 (Proposed Transmission Facilities) of the EIR, including a comparison of the components of Options A and B to the components of the proposed Project, which is provided in Table B.2-1 (Option A and B: Segment 2 Components Compared to the Proposed Project).

## ES.2.2 Project Construction

The total duration of Project construction is estimated to be 16 months, with the simultaneous construction of Segments 2 and 3. Construction activities for the proposed Project are anticipated to begin in March of 2008 and continue until July of 2009. Further details regarding Project construction and the estimated construction schedule are provided in Section B. SCE proposes that crews would work Monday through Saturday, 6:30 a.m. to 5:00 p.m., with possible extended hours requiring a variance (SCE, 2005). A workforce of approximately 50 to 300 persons would be required, with a daily average workforce of approximately 130 persons. All construction work would be performed with conventional construction techniques in accordance with an SCE construction specification, which includes regional environmental criteria; CPUC General Order 95; Institute of Electrical and Electronic Engineers; American Concrete Institute; and other industry-specific standards.

During construction of the proposed Project, a total of roughly 312 acres of land would be temporarily disturbed, of which an estimated 147 acres would be restored. A detailed description of Project-related land disturbance is provided in Table B.3-7 in Section B (Project Description). Construction of the proposed Project would result in permanent land disturbance on roughly 165 acres as a result of the following Project features:

- Substation One (62.9 acres)
- Substation Two (28.3 acres)
- LST / TSP footings (0.15 acres)
- Roadwork, including the construction of new access roads and spur roads, improvements to existing roads, and radius areas from access to spur roads (~~73-768.3~~ acres)
- Primary marshalling yard (5 acres)

Prior to the onset of construction, SCE would conduct pre-construction clearance surveys in potential habitat areas in an effort to minimize negative impacts incurred by special-status plant species and wildlife species as a result of the proposed Project.

## ES.2.3 Facility Operations and Maintenance

SCE would operate and maintain all components of the proposed Project, including transmission line facilities and substation facilities, in accordance with existing SCE procedures. Operation and maintenance activities for the proposed Project, including Substations One and Two, would be conducted by existing SCE employees; additional personnel would not be required during the operation and maintenance phase. These activities would include periodic (annual) inspection using helicopter/s and truck/s. Maintenance would be performed as needed. Preventative maintenance would be scheduled approximately every six months to ensure system reliability and performance (SCE, 2005).

## ES.3 Alternatives

A screening process was conducted to identify a reasonable range of alternatives to the proposed Project to be analyzed in the EIR. Section D.2 of the EIR (Project Alternatives Overview and Screening) provides a detailed description of this screening process. In total, 10 potential alternatives were identified or developed by SCE, the Tehachapi Collaborative Study Group (TCSG), the EIR team, and comments from the public. The following CEQA criteria were used to determine which of these alternatives should be carried for analysis in the EIR:

- Consistency of the alternative with the objectives of the proposed Project (State CEQA Guidelines Section 15126.6(b))
- Economic, environmental, legal, social, and technological feasibility of the alternative (State CEQA Guidelines Section 15364)
- Potential of the alternative to avoid or substantially lessen any significant environmental effects of the proposed Project (State CEQA Guidelines Section 15126.6(a))

Of the initial 10 potential alternatives that were initially identified, four were determined through the screening process to be consistent with the CEQA criteria described above. Following is a brief description of each of these alternatives as well as the CEQA-required “No Project” alternative, all of which were carried forward for analysis in the EIR. Further detail on each of these alternatives is provided in Section D.3 of the EIR (Descriptions of Alternatives Analyzed).

**Alternative 1: Substation 2C to Substation One via Cameron Canyon Road (Segment 3B).** Rather than initiating at the proposed Substation Two, Segment 3B of this alternative would initiate at a different substation site. This alternate substation, Substation 2C, would be located directly north of the proposed site for Substation Two. From Substation 2C, Segment 3B would continue south and then east to Substation One, diverting from the proposed Project route between Mile S3-0.0 and S3-5.3. Other aspects of Alternative 1 would be identical to the proposed Project.

**Alternative 2: Substation 1B to Antelope via 100th Street (Segments 3A/3B).** With this alternative, Segment 3B would not connect to the proposed Substation One. Rather, an alternate substation site called Substation 1B would be used. Substation 1B would be located directly east of the proposed site for Substation One. The proposed route for Alternative 2 would deviate from the proposed Project route between Mile S3-9.5 and Mile S3-22.1, as well as between Mile S3-25.3 and Mile S3-30.6. Other aspects of Alternative 2 are identical to the proposed Project.

**Alternative 3: Antelope-Vincent Re-route 1 (Segment 2).** This alternative is a routing combination of Options A and B of the proposed Project. At Mile S2-5.7 of the proposed Project route, the transmission line would follow the Option A route, starting at Mile S2-5.7. Rather than re-joining the proposed Project route at Mile S2-7.7, the proposed route for Alternative 3 would remain east of the existing transmission corridor to subsequently follow the Option B route through Ritter Ranch and Anaverde Ranch, rejoining the proposed Project route at Mile S2-11.2 (proposed Project Mile S2-14.8). Other aspects of Alternative 3 are identical to the proposed Project.

**Alternative 4: Antelope-Vincent Re-route 2 (Segment 2).** This alternative would deviate from the proposed Project route for 6.8 miles, between Mile S2-3.4 and Mile S2-10.2 (proposed Project Mile S2-10.7). The proposed route for Alternative 4 would avoid the northern portion of the Ritter Ranch community development area, where a proposed school site is located, and homes along the proposed Project route. Other aspects of Alternative 4 are identical to the proposed Project.

**No Project Alternative.** Under the No Project alternative, neither the proposed Project nor any Project alternatives, as proposed, would be implemented. However, in the absence of the proposed Project or an alternative thereof, SCE still would be required to interconnect and integrate power generation facilities into its electric system, as required under Sections 210 and 212 of the Federal Power Act (16 U.S.C. § 824 [i] and [k]) and Sections 3.2 and 5.7 of the CAISO’s Tariff. As described in Section D.3.5, this alternative would lead to the construction of a comparable transmission project along a different alignment.

## ES.4 Summary of Impacts and Mitigation Measures

This section summarizes the environmental impacts and mitigation measures for the proposed Project. The impacts and mitigation measures discussed in this section are described in full detail in Section C (Environmental Analysis) of this EIR. In accordance with CEQA, the impact assessment methodology considers the existing regulatory setting, direct and indirect effects of the Project, any potential growth-inducing impacts, and cumulative impacts.

### ES.4.1 Summary of Impacts and Mitigation Measures for the Proposed Project

The major findings of the EIR analysis are summarized below according to environmental issue area. Impact findings and associated mitigation measures are summarized in Table ES-2 on the following page. The complete impact analysis for the proposed Project and the full text of recommended mitigation measures are presented in Sections C.2 through C.13 of the EIR.

### ES.4.2 Summary of Significant and Unavoidable Impacts

Table ES-3 below, lists the significant and unavoidable (Class I) impacts associated with construction and/or operation and maintenance of the proposed Project. Detailed analyses of these impacts are presented in Sections C.2 through C.13 of the EIR.

Table ES-3. Summary of Significant and Unavoidable Impacts for the Proposed Project	
Impacts	Mitigation Measures
<i>Air Quality</i>	
A-1: Project emissions would exceed the AVAQMD regional emission thresholds.	A-1a through A-1i
<i>Land Use and Public Recreation</i>	
L-32: Operation of the proposed Project would require the removal of residences in unincorporated Los Angeles County. (Project and Project with Opt. B only)	None identified.
L-43: Operation of the proposed Project would preclude the development of a school property. (Project and Project with Opt. BA only)	L-4a3
L-54: Implementation of Option B would preclude planned development within Ritter Ranch and Anaverde Ranch. (Project with Opt. B only)	L-43
<i>Agricultural Resources</i>	
AG-6: Operation would conflict with a Williamson Act contract.	None identified.
<i>Noise</i>	
N-2: Operational noise levels would violate local standards.	None identified.
N-4: Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines.	None identified.
<i>Visual Resources</i>	
V-7: Construction of the proposed Project and increase of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-7 – Avenue L Near Olive Grove.	V-1b, V1-c, a through V-1e, and V-5

<b>Table ES-3. Summary of Significant and Unavoidable Impacts for the Proposed Project</b>	
V-10: Construction of the proposed Project and increase of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-10 – Elizabeth Lake Road. (Project and Project with Opt. B only)	<del>V-1b through V-1e, V-5,</del> <del>V-9</del> None identified.
<i>Population and Housing</i>	
P-1: The proposed Project would require the removal of residential housing structures. (Project and Project with Opt. B only)	<del>L-3</del> L-2

<b>ES-2. Summary of Impacts and Mitigation Measures for the Proposed Project</b>		
<b>Impact</b>	<b>Impact Significance</b>	<b>Mitigation Measures</b>
<i><b>Air Quality</b></i>		
A-1: Project emissions would exceed the AVAQMD regional emission thresholds.	Class I	A-1a. Implement Construction Fugitive Dust Control Plan. A-1b. Properly Maintain Mechanical Equipment. A-1c. Use Ultra Low-sulfur Diesel Fuel. A-1d. Restrict Engine Idling to 10 Minutes. A-1e. Schedule Deliveries Outside of Peak Traffic Hours. A-1f. Off-road Diesel-fueled Equipment Standards. A-1g. On-road Vehicles Standards. A-1h. Off-road Gasoline-fueled Equipment Standards. A-1i. Reduction of Helicopter Emissions.
A-2: Project emissions would exceed the KCAPCD regional emission thresholds.	Class II	See Mitigation Measures A-1a through A-1i above.
A-3: The Project would expose sensitive receptors to substantial pollutant concentrations.	Class II	See Mitigation Measures A-1a through A-1i above.
A-4: The Project would create objectionable odors.	Class III	None required.
<i><b>Biological Resources</b></i>		
B-1: Permanent Loss of Non-native Annual Grassland Habitat, and Agricultural and Developed Areas.	Class III	None required.
B-2: Permanent Loss of Creosote Scrub, Montane Scrub, Desert Scrub, and Saltbush Scrub Habitat.	Class III	None required.
B-3: Loss of Sensitive Desert Wash Resources.	Class II	B-3a. Avoid Desert Wash Habitat. B-3b. Preserve Off-Site Desert Wash Habitat.
B-4: Loss of Sensitive Joshua Tree Woodland and Juniper Woodland Habitat and Removal of Joshua Trees and Juniper Trees.	Class II	B-4a. Avoid Joshua Tree and Juniper Woodland Habitat. B-4b. Preserve Off-Site Joshua Tree Woodland and Juniper Woodland Habitat.
B-5: Take of California Red-legged Frogs.	Class II	B-5a. Obtain Technical Assistance from the USFWS for California Red-Legged Frogs. B-5b. Conduct Focused Surveys for California Red-Legged Frog.
B-6: Take of Desert Tortoises.	Class II	B-6a. Obtain Technical Assistance from the USFWS For Desert Tortoise. B-6b. Conduct Focused Clearance Surveys in Designated Areas.
B-7: Disturbance of Nesting Swainson's Hawks.	Class II	B-7a. Conduct Pre-Construction Surveys for Swainson's Hawks. B-7b. Remove Nest Trees.
B-8: Loss of Foraging Habitat for Swainson's Hawk.	Class III	None required.
B-9: Disturbance to Nesting Special-Status Riparian Birds.	Class II	B-9a. Avoid Construction During the Breeding Season. B-9b. Conduct Pre-Construction Surveys at Amargosa Creek Crossing and Oak Creek.

<b>ES-2. Summary of Impacts and Mitigation Measures for the Proposed Project</b>		
<b>Impact</b>	<b>Impact Significance</b>	<b>Mitigation Measures</b>
<b>B-10:</b> Potential Take of, and Habitat Loss for, Mohave Ground Squirrels.	Class II	<b>B-10a.</b> Conduct Focused Surveys for Mohave Ground Squirrels. <b>B-10b.</b> Implement Construction Monitoring and Worker Environmental Awareness Program. <b>B-10c.</b> Preserve Off-Site Habitat for Mojave Ground Squirrel.
<b>B-11:</b> Mortality and/or Disturbance to Mariposa Lily Plant Populations.	Class III	None required.
<b>B-12:</b> Loss of and/or Disturbance to Short-joint Beavertail.	Class II	<b>B-12a.</b> Conduct Focused Surveys for Short-Joint Beavertail. <b>B-12b.</b> Avoid Impacts to Short-Joint Beavertail. <b>B-12c.</b> Remove and Reintroduce Short-Joint Beavertail.
<b>B-13:</b> Loss of Montane Scrub/Juniper Woodland Habitats as Habitat for Special-Status Plants.	Class II	<b>B-13a.</b> Conduct Focused Surveys for the San Gabriel Oak. <b>B-13b.</b> Avoid Impacts to the San Gabriel Oak. <b>B-13c.</b> Minimize Impacts to Montane Scrub and Juniper Woodland Habitats. <b>B-13d.</b> Preserve Off-Site Montane Scrub and Juniper Woodland Habitats.
<b>B-14:</b> San Emigdio Blue Butterfly Mortality From Construction Disturbance.	Class III	None required.
<b>B-15:</b> Mortality of, and Loss of Habitat for, Coast Horned Lizards and Silvery Legless Lizards.	Class III	None required.
<b>B-16:</b> Southwestern Pond Turtle and Two-striped Garter Snake Mortality.	Class II	<b>B-16.</b> Conduct Focused Surveys for Southwestern Pond Turtle and Two-Striped Garter Snake.
<b>B-17:</b> Loss of Nesting and Foraging Habitat for Loggerhead Shrikes, Bendire's Thrashers, and LeConte's Thrashers.	Class II	<b>B-17.</b> Conduct Pre-Construction Surveys and Monitoring for Breeding Birds.
<b>B-18:</b> Disturbance to wintering Mountain Plovers.	Class III	None required.
<b>B-19:</b> Loss of Occupied Burrowing Owl Habitat.	Class II	<b>B-19a.</b> Implement CDFG Protocol for Burrowing Owls. <b>B-19b.</b> Compensate for Loss of Burrowing Owl Habitat.
<b>B-20:</b> Disturbance of Nesting Raptors.	Class II	<b>B-20a.</b> Avoid Nesting Season for Raptors. <b>B-20b.</b> Conduct Pre-Construction Surveys for Nesting Raptors.
<b>B-21:</b> Electrocution of State and/or Federally Protected Birds.	Class III	None required.
<b>B-22:</b> Mortality of State and/or Federally Protected Bird Species from Collisions with Project Improvements.	Class III	None required.
<b>B-23:</b> Mortality of, and Loss of Habitat for, Tehachapi Pocket Mouse, Southern Grasshopper Mouse, and Tulare Grasshopper Mouse.	Class III	None required.
<b>B-24:</b> Loss of Habitat for Ringtail.	Class III	None required.
<b>B-25:</b> Mortality of Special-Status Bat Species Due to Electrocution and/or Transmission Line Strikes.	Class III	None required.
<b>B-26:</b> Loss of Habitat for American Badgers.	Class III ; Removal of Active Den (Class II)	<b>B-26a.</b> Passively Relocate American Badgers During the Non-breeding Season.

<b>ES-2. Summary of Impacts and Mitigation Measures for the Proposed Project</b>		
<b>Impact</b>	<b>Impact Significance</b>	<b>Mitigation Measures</b>
B-27: Disturbance to Desert Tortoise Movement as a result of Habitat Modification.	Class II	B-27a. Avoid Creating Barriers to Movements. B-27b. Invasive Weed Prevention.
B-28: Degradation of Water Quality.	Class III	None required.
B-29: Mortality of Desert Tortoises as a Result of Increased Predation by Common Ravens.	Class III	None required.
<b><i>Cultural Resources</i></b>		
C-1: Impacts to Destruction of CA-KER-2434 would occur as a result of the Project.	Class II	C-1. Avoid CA-KER-2434 or Evaluate Eligibility and Perform Data Recovery.
C-2: Impacts to AP3-131 would occur as a result of the Project.	Class II	C-2. Avoid AP3-131 or Evaluate Eligibility and Perform Data Recovery.
C-3: Impacts to AP3-132 would occur as a result of the Project.	Class II	C-3. Avoid AP3-132 or Evaluate Eligibility and Perform Data Recovery.
C-4: Impacts to AP3-133 would occur as a result of the Project.	Class II	C-4. Avoid AP3-133 or Evaluate Eligibility and Perform Data Recovery.
C-5: Impacts to AP3-134 would occur as a result of the Project.	Class II	C-5. Avoid AP3-134 or Evaluate Eligibility and Perform Data Recovery.
C-6: Impacts to AP3-110 would occur as a result of the Project.	Class II	C-6. Avoid AP3-110 or Evaluate Eligibility and Perform Data Recovery.
C-7: Impacts to AP3-111 would occur as a result of the Project.	Class II	C-7. Avoid AP3-111 or Evaluate Eligibility and Perform Data Recovery.
C-8: Impacts to CA-KER-2821 would occur as a result of the Project.	Class II	C-8. Avoid CA-KER-2821 or Evaluate Eligibility and Perform Data Recovery.
C-9: Impacts to AP3-112 would occur as a result of the Project.	Class II	C-9. Avoid AP3-112 or Evaluate Eligibility and Perform Data Recovery.
C-10: Impacts to AP3-113 would occur as a result of the Project.	Class II	C-10. Avoid AP3-113 or Evaluate Eligibility and Perform Data Recovery.
C-11: Impacts to AP3-114 would occur as a result of the Project.	Class II	C-11. Avoid AP3-114 or Evaluate Eligibility and Perform Data Recovery.
C-12: Impacts to AP2-101 would occur as a result of the Project.	Class II	C-12. Avoid AP2-101 or Evaluate Eligibility and Perform Data Recovery.
C-13: Impacts to CA-LAN-806 would occur as a result of the Project.	Class II	C-13. Avoid CA-LAN-806 or Evaluate Eligibility and Perform Data Recovery.
C-14: Impacts to AP2-106 would occur as a result of the Project.	Class II	C-14. Avoid AP2-106 or Evaluate Eligibility and Perform Data Recovery.
C-15: Impacts to AP2-107 would occur as a result of the Project.	Class II	C-15. Avoid AP2-107 or Evaluate Eligibility and Perform Data Recovery.
C-16: Modification of CA-LAN-3477 would occur as a result of the Project.	Class II	C-16. Evaluate the CRHR Eligibility of CA-LAN-3477 and Perform Historical Documentation if Eligible.
C-17: Impacts to Destruction of CA-LAN-1956 would occur as a result of the Project.	Class II	C-17. Avoid CA-LAN-1956 or Evaluate Eligibility and Perform Data Recovery.
C-18: Impacts to AP3-116 would occur as a result of the Project.	Class II	C-18. Avoid AP3-116 or Evaluate Eligibility and Perform Data Recovery.
C-19: Impacts to AP3-117 would occur as a result of the Project.	Class II	C-19. Avoid AP3-117 or Evaluate Eligibility and Perform Data Recovery.
C-20: Impacts to AP3-119 would occur as a result of the Project.	Class II	C-20. Avoid AP3-119 or Evaluate Eligibility and Perform Data Recovery.
C-21: Impacts to AP3-121 would occur as a result of the Project.	Class II	C-21. Avoid AP3-121 or Evaluate Eligibility and Perform Data Recovery.
C-22: Impacts to AP3-118 would occur as a result of the Project.	Class II	C-22. Avoid AP3-118 or Evaluate Eligibility and Perform Data Recovery.
C-23: Impacts to AP3-120 would occur as a result of the Project.	Class II	C-23. Avoid AP3-120 or Evaluate Eligibility and Perform Data Recovery.
C-24: Impacts to AP3-122 would occur as a result of the Project.	Class II	C-24. Avoid AP3-122 or Evaluate Eligibility and Perform Data Recovery.
C-25: Impacts to AP3-123 would occur as a result of the Project.	Class II	C-25. Avoid AP3-123 or Evaluate Eligibility and Perform Data Recovery.
C-26: Impacts to AP3-124 would occur as a result of the Project.	Class II	C-26. Avoid AP3-124 or Evaluate Eligibility and Perform Data Recovery.

<b>ES-2. Summary of Impacts and Mitigation Measures for the Proposed Project</b>		
<b>Impact</b>	<b>Impact Significance</b>	<b>Mitigation Measures</b>
C-27: Impacts to AP3-125 would occur as a result of the Project.	Class II	C-27. Avoid AP3-125 or Evaluate Eligibility and Perform Data Recovery.
C-28: Impacts to AP3-126 would occur as a result of the Project.	Class II	C-28. Avoid AP3-126 or Evaluate Eligibility and Perform Data Recovery.
C-29: Impacts to AP3-127 would occur as a result of the Project.	Class II	C-29. Avoid AP3-127 or Evaluate Eligibility and Perform Data Recovery.
C-30: Impacts to AP3-128 would occur as a result of the Project.	Class II	C-30. Avoid AP3-128 or Evaluate Eligibility and Perform Data Recovery.
C-31: Impacts to AP3-129 would occur as a result of the Project.	Class II	C-31. Avoid AP3-129 or Evaluate Eligibility and Perform Data Recovery.
C-32: Undiscovered cultural resources would be disturbed through Project activities.	Class II	C-32. Conduct Construction Monitoring in the Project Area, <u>Where High Potential for Prehistoric Archaeological Sites Occurs</u> , Evaluate the Eligibility of Previously Undiscovered Resources, and Perform Archaeological Data Recovery if Eligible.
<b><i>Geology, Soils, and Paleontology</i></b>		
G-1: Excavation and grading during construction activities could cause slope instability.	Class II	G-1. Protect Against Slope Instability.
G-2: Erosion could be triggered or accelerated by construction or disturbance of landforms.	Class II	G-2. Minimize Soil Erosion.
G-3: Transmission line could be damaged by surface fault ruptures at crossings of active faults.	Class II	G-3. Minimize Project Structures within Active Fault Zones.
G-4: Project structures could be damaged by landslides, liquefaction, settlement, lateral spreading, and/or surface cracking resulting from seismic events.	Class II	G-4. Geotechnical Investigations for Liquefaction and Seismic Slope Instability.
G-5: Project structures could be damaged by strong groundshaking.	Class II	G-5. Reduce Effects of Groundshaking.
G-6: Buried tower and substation foundations could be damaged by corrosive soils.	Class II	G-6. Geotechnical Studies for Corrosive Soils.
G-7: Transmission line structures could be damaged by landslides, earth flows, or debris slides.	Class II	G-7. Geotechnical Surveys for Landslides.
G-8: Excavation for transmission line structures could damage unique or significant fossils.	Class II	G-8. Protect Paleontological Resources.
<b><i>Hazards and Hazardous Materials</i></b>		
HAZ-1: The release of hazardous materials occurs during construction activities.	Class II	HAZ-1a. Implement an Environmental Training and Monitoring Program. HAZ-1b. Implement a Hazardous Substance Control and Emergency Response Plan. HAZ-1c. Ensure Proper Disposal of Construction Waste. HAZ-1d. Emergency Spill Supplies and Equipment for Construction Activities.
HAZ-2: The release of hazardous materials occurs during operation and maintenance activities.	Class II	HAZ-2a. Implement Spill Prevention, Countermeasure, and Control Plans. HAZ-2b. Emergency Spill Supplies and Equipment for Operation and Maintenance Activities.

<b>ES-2. Summary of Impacts and Mitigation Measures for the Proposed Project</b>		
<b>Impact</b>	<b>Impact Significance</b>	<b>Mitigation Measures</b>
<b><i>Hydrology and Water Quality</i></b>		
H-1: Water quality degradation would result from soil erosion and sedimentation caused by construction activities.	Class II	H-1a. Implementation of Best Management Practices for Erosion and Sediment Control. H-1b. Maximum Road Gradient. H-1c. Road Surface Treatment. H-1d. Timing of Construction Activities. H-1e. Control of Side-cast Material, Right-of-Way Debris and Roadway Debris.
H-2: Degradation of water quality would result from the accidental release of hazardous materials during construction activities.	Class II	See Mitigation Measures HAZ-1a through HAZ-d, and HAZ-2b, above. <del>H-2a. Environmental Training and Monitoring Program. H-2b. Hazardous Substance Control and Emergency Response Plan. H-2c. Proper Disposal of Construction Waste. H-2d. Emergency Spill Supplies and Equipment.</del>
H-3: Degradation of water quality would result from the accidental release of hazardous materials during operational activities.	Class III	None required.
H-4: Existing groundwater resources would be disturbed through Project-related excavation activities.	Class II	H-4. Develop and Implement a Groundwater Remediation Plan.
H-5: Increased surface water runoff would result through the introduction of new impermeable areas.	Class III	None required.
H-6: Runoff introduced as a result of permanent Project features would cause the overloading of a local stormwater drainage system.	Class III	None required.
H-7: Flood hazards would be created through the placement of permanent aboveground structures in a flood hazard area, a floodplain, or a watercourse.	Class II	H-7. Protect Aboveground Structures Against Flood and Erosion Damage.
<b><i>Land Use and Public Recreation</i></b>		
L-1: Construction of the proposed Project would temporarily disturb land uses that are traversed by or adjacent to the Project.	Class II	L-1a. Coordinate Construction Schedule and Activities with the Authorized Officers for the Recreation Areas. L-1b. Provide Access for Pacific Crest National Scenic Trail and Other Hiking Trail Users. L-1c. Identify Alternative Recreation Areas. N-3a. Provide Advance Notification of Construction. N-3b. Implement Best Management Practices for Construction Noise.
<del>L-2: Operation of the proposed Project would require the removal of a residence in the City of Lancaster.</del>	Class II	<del>L-2. Re-locate Project ROW to Avoid Residence.</del>
L-32: Operation of the proposed Project would require the removal of residences in unincorporated Los Angeles County.	Class I (Project and Project with Opt. B only; No Impact for Opt. A)	None identified.

<b>ES-2. Summary of Impacts and Mitigation Measures for the Proposed Project</b>		
<b>Impact</b>	<b>Impact Significance</b>	<b>Mitigation Measures</b>
L-43: Operation of the proposed Project would preclude the development of a school property.	Class III (Project and Project with Opt. A only; No Impact Class I for Opt. B)	L-34a. Coordinate with Ritter Ranch and Anaverde Ranch. Antelope Valley Union High School District and Ritter Ranch.
L-54: Implementation of Option B would preclude planned development within Ritter Ranch and Anaverde Ranch.	Class I (Project with Opt. B only; No Impact for Project and Project with Opt. A)	L-43b. See Mitigation Measure L-3, above (Option B). Coordinate with Ritter Ranch and Anaverde Ranch.
L-65: Operation of the proposed Project would change the character of a recreational resource, diminishing its recreational value.	Class II	L-65. Site Towers to Avoid Pacific Crest National Scenic Trail Trailhead.
<b><i>Agricultural Resources</i></b>		
AG-1: Construction activities would temporarily convert Farmland to non-agricultural use.	Class III	None required.
AG-2: Operation would permanently convert Farmland to non-agricultural use.	Class III	None required.
AG-3: Construction activities would interfere with agricultural operations.	Class II	N-3a. Provide Advance Notification of Construction. AG-3. Establish Agreement and Coordinate Construction Activities with Agricultural Landowners.
AG-4: Operation would interfere with agricultural operations.	Class II	AG-4. Locate Transmission Towers and Pulling/Splicing Stations to Avoid Agricultural Operations.
AG-5: Construction activities would conflict with a Williamson Act contract.	Class III	None required.
AG-6: Operation would conflict with a Williamson Act contract.	Class I	None identified.
<b><i>Noise</i></b>		
N-1: Construction noise levels would violate local standards.	Class II	N-1. Provide Shields for Stationary Construction Equipment.
N-2: Operational noise levels would violate local standards.	Class I	None identified.
N-3: Construction noise could substantially disturb sensitive receptors.	Class II	N-3a. Provide Advanced Notification of Construction. N-3b. Implement Best Management Practices for Construction Noise.
N-4: Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines.	Class I	None identified.
N-5: Maintenance activities during transmission line operation would increase ambient noise levels.	Class III	None required.
N-6: Operation of modified and new substations would result in increased ambient noise levels.	Class III	None required.

ES-2. Summary of Impacts and Mitigation Measures for the Proposed Project		
Impact	Impact Significance	Mitigation Measures
<i>Visual Resources</i>		
V-1: Construction of the proposed Project and introduction of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-1 – Highway 58 and Jameson Street.	Class II	V-1a. Use Tubular Steel Poles. V-1b. Construct, Operate, and Maintain with Existing Access Roads. V-1c. Dispose of Cleared Vegetation. V-1d. Slope-Round and Dispose of Excavated Materials. V-1e. Treat Surfaces with Appropriate Colors, Textures, and Finishes. V-1f. Establish Evergreen Vegetative Screen.
V-2: Construction of the proposed Project and introduction of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-2 – Pacific Crest National Scenic Trail and Trailhead.	Class II	See Mitigation Measure V-1a through V-1e, above. V-1b. Construct, Operate, and Maintain with Existing Access Roads. V-1c. Dispose of Cleared Vegetation. V-1e. Treat Surfaces with Appropriate Colors, Textures, and Finishes.
V-3: Construction of the proposed Project and introduction of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-3 – Oak Creek Road.	Class II	See Mitigation Measure V-1a through V-1f, above. V-1b. Construct, Operate, and Maintain with Existing Access Roads. V-1c. Dispose of Cleared Vegetation. V-1e. Treat Surfaces with Appropriate Colors, Textures, and Finishes. V-5. Match Structure Spacing and Spans.
V-4: Construction of the proposed Project and introduction of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-4 – Tehachapi Willow Springs Road.	Class III	See Mitigation Measure V-1b, V-1c, and V-1e, above. V-1b. Construct, Operate, and Maintain with Existing Access Roads. V-1c. Dispose of Cleared Vegetation. V-1e. Treat Surfaces with Appropriate Colors, Textures, and Finishes.
V-5: Construction of the proposed Project and introduction of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-5 – Avenue A at 110 <sup>th</sup> Street West.	Class III	See Mitigation Measure V-1b, V-1c, and V-1e, above. V-1b. Construct, Operate, and Maintain with Existing Access Roads. V-1c. Dispose of Cleared Vegetation. V-1e. Treat Surfaces with Appropriate Colors, Textures, and Finishes. V-5. Match Structure Spacing and Spans.
V-6: Construction of the proposed Project and introduction of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-6 – Avenue G at 105 <sup>th</sup> Street West.	Class III	See Mitigation Measure V-1b, V-1c, and V-1e, above. V-1a. Use Tubular Steel Poles. V-1b. Construct, Operate, and Maintain with Existing Access Roads. V-1c. Dispose of Cleared Vegetation. V-1d. Slope Round and Dispose of Excavated Materials. V-1e. Treat Surfaces with Appropriate Colors, Textures, and Finishes. V-5. Match Structure Spacing and Spans.

<b>ES-2. Summary of Impacts and Mitigation Measures for the Proposed Project</b>		
<b>Impact</b>	<b>Impact Significance</b>	<b>Mitigation Measures</b>
<b>V-7:</b> Construction of the proposed Project and increase of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-7 – Avenue L Near Olive Grove.	Class I	See Mitigation Measure <b>V-1b</b> , <b>V-1c</b> , <b>V-1e</b> , and <b>V-5</b> above. <b>V-1a.</b> Use Tubular Steel Poles. <b>V-1b.</b> Construct, Operate, and Maintain with Existing Access Roads. <b>V-1c.</b> Dispose of Cleared Vegetation. <b>V-1d.</b> Slope Round and Dispose of Excavated Materials. <b>V-1e.</b> Treat Surfaces with Appropriate Colors, Textures, and Finishes. <b>V-5.</b> Match Structure Spacing and Spans.
<b>V-8:</b> Construction of the proposed Project and increase of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-8 – Avenue N at Agena Road.	Class III	See Mitigation Measure <b>V-1a</b> through <b>V-1e</b> , and <b>V-5</b> above. <b>V-9.</b> Construct New Access and Spur Roads with Least Visual Disturbance. (Option A only)
<b>V-9:</b> Construction of the proposed Project and increase of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-9 – Godde Hill Road.	Class II	See Mitigation Measure <b>V-1a</b> through <b>V-1e</b> , and <b>V-5</b> above. (Project and Option B) <b>V-9.</b> Construct New Access and Spur Roads with Least Visual Disturbance. (Option A only)None identified.
<b>V-10:</b> Construction of the proposed Project and increase of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-10 – Elizabeth Lake Road.	Class I (Project and Project with Opt. B only; No Impact for Project with Opt. A)	None identified. <b>V-1b.</b> Construct, Operate, and Maintain with Existing Access Roads. <b>V-1c.</b> Dispose of Cleared Vegetation. <b>V-1d.</b> Slope Round and Dispose of Excavated Materials. <b>V-1e.</b> Treat Surfaces with Appropriate Colors, Textures, and Finishes. <b>V-5.</b> Match Structure Spacing and Spans. <b>V-9.</b> Construct New Access and Spur Roads with Least Visual Disturbance.
<b>V-11:</b> Construction of the proposed Project and increase of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-11 – Ritter Ranch from Godde Hill Road.	Class II (Project and Project with Opt. A only; No Impact for Project with Opt. B)	See Mitigation Measure <b>V-1a</b> through <b>V-1e</b> , and <b>V-9</b> above. <b>V-1a.</b> Use Tubular Steel Poles. <b>V-1b.</b> Construct, Operate, and Maintain with Existing Access Roads. <b>V-1c.</b> Dispose of Cleared Vegetation. <b>V-1d.</b> Slope Round and Dispose of Excavated Materials. <b>V-1e.</b> Treat Surfaces with Appropriate Colors, Textures, and Finishes. <b>V-5.</b> Match Structure Spacing and Spans. <b>V-9.</b> Construct New Access and Spur Roads with Least Visual Disturbance.
<b>V-12:</b> Construction of the proposed Project and increase of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-12 – Sierra Pelona Ridge from Avenue S.	Class II	See Mitigation Measure <b>V-1b</b> through <b>V-1e</b> , and <b>V-5</b> above. <b>V-1b.</b> Construct, Operate, and Maintain with Existing Access Roads. <b>V-1c.</b> Dispose of Cleared Vegetation. <b>V-1d.</b> Slope Round and Dispose of Excavated Materials. <b>V-1e.</b> Treat Surfaces with Appropriate Colors, Textures, and Finishes. <b>V-5.</b> Match Structure Spacing and Spans.

<b>ES-2. Summary of Impacts and Mitigation Measures for the Proposed Project</b>		
<b>Impact</b>	<b>Impact Significance</b>	<b>Mitigation Measures</b>
V-13: Construction of the proposed Project and increase of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-13 – Sierra Highway and Antelope Valley Freeway.	Class III	See Mitigation Measure <u>V-1b</u> through <u>V-1e</u> , and <u>V-5</u> above. <del>V-1b. Construct, Operate, and Maintain with Existing Access Roads.</del> <del>V-1c. Dispose of Cleared Vegetation.</del> <del>V-1d. Slope Round and Dispose of Excavated Materials.</del> <del>V-1e. Treat Surfaces with Appropriate Colors, Textures, and Finishes.</del> <del>V-5. Match Structure Spacing and Spans.</del>
V-14: Construction of the proposed Project and increase of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-14 – Acton/Vincent Grade Metrolink Park and Ride.	Class II	See Mitigation Measure <u>V-1b</u> through <u>V-1e</u> , and <u>V-5</u> above. <del>V-16. Local Agency Approvals (Miles S3-0.0 to S3-35.2 and S2-0.0 to S2-21.6).</del>
V-15: The Project would conflict with applicable visual resource policies, regulations, and standards contained in state and local plans.	Class III	<del>V-15a. Local Agency Approvals (Miles S3-0.0 to S3-35.2 and S2-0.0 to S2-21.6). Use Only Non-Specular and Non-Reflective Conductors and Insulators.</del> <del>V-17b. Use Magnetic Coils at Entrance Gate.</del> <del>V-17c. Use Only Low Level, Directional, Shielded Lighting.</del> <del>V-17d. Only Perform Routine Maintenance Activities During Daylight Hours.</del>
V-16: The Project would create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.	Class II	See Mitigation Measure <u>V-1e</u> above. <del>V-16a. Use Only Non-Specular and Non-Reflective Conductors and Insulators. Use Tubular Steel Poles.</del> <del>V-16b. Use Magnetic Coils at Entrance Gate. Construct, Operate, and Maintain with Existing Access Roads.</del> <del>V-16c. Use Only Low-Level, Directional, Shielded Lighting. Dispose of Cleared Vegetation.</del> <del>V-16d. Only Perform Routine Maintenance Activities During Daylight Hours. Slope Round and Dispose of Excavated Materials.</del> <del>V-1e. Treat Surfaces with Appropriate Colors, Textures, and Finishes.</del> <del>V-1f. Establish Evergreen Vegetative Screen.</del>
<b><i>Traffic and Transportation</i></b>		
T-1: Closure of roads to through traffic or reduction of travel lanes would result in substantial congestion.	Class II	T-1a. Prepare Traffic Control Plans. T-1b. Restrict Lane Closures.
T-2: Construction traffic would result in <u>substantial</u> congestion on area roadways.	Class II	T-2. Prepare Construction Transportation Plan.
T-3: Construction activities would temporarily interfere with emergency response.	Class II	T-1a. Prepare Traffic Control Plans. T-1b. Restrict Lane Closures.
T-4: Construction activities would temporarily disrupt transit bus routes.	Class II	T-4. Avoid Disruption of Transit Service. T-1a. Prepare Traffic Control Plans. T-1b. Restrict Lane Closures.
T-5: Construction activities would temporarily disrupt rail traffic.	Class II	T-5. Avoid Disruption of Rail Service.

<b>ES-2. Summary of Impacts and Mitigation Measures for the Proposed Project</b>		
Impact	Impact Significance	Mitigation Measures
T-6: Construction activities would temporarily impede pedestrian movements and bike paths.	Class III	None required.
T-7: Construction activities would conflict with planned improvements to SR-14.	Class II	T-7. Avoid Conflicts with Planned Improvements to SR-14.
T-8: Construction vehicles and equipment would damage road ROWs.	Class II	T-8. Repair Damaged Road ROWs.
T-9: Transmission structures would present an aviation hazard.	Class III	None required.
T-10: Construction activities would be inconsistent with transportation plans.	Class II	T-7. Avoid Conflicts with Planned Improvements to SR-14.
<b><i>Population and Housing</i></b>		
P-1: The proposed Project would require the removal of residential housing structures.	Class I (Project and Project with Opt. B only; <del>Class II</del> No Impact for Project with Opt. A)	L-3. Coordinate with Ritter Ranch and Anaverde Ranch. <del>L-2. Re-locate Project ROW to Avoid Residence.</del>

## ES.5 Summary Comparison of Alternatives

### ES.5.1 Methodology for Alternatives Comparison

This section provides a comparison of the impacts of the proposed Project and alternatives based on the analysis presented in Section C (Environmental Analysis) and Section D (Alternatives Analysis) of the EIR. Consistent with State CEQA Guidelines (Section 15126.6(e)(2)), the environmentally superior alternative identified by the Lead Agency is also presented below and in Section D.5.2 (Environmentally Superior Alternative) of the EIR. The following methodology was used to compare alternatives:

- **Step 1: Identification of Alternatives.** As described in Section ES.3, an alternative screening process was used to identify a number of alternatives to the proposed Project.
- **Step 2: Determination of Environmental Impacts.** The environmental impacts of the proposed Project and Project alternatives, including the No Project alternative, were identified in Sections C.2 through C.13. This includes the potential impacts of the construction and operation of the transmission line and other components.
- **Step 3: Comparison of Proposed Project with Alternatives.** The environmental impacts of the proposed Project were compared to those of each alternative to determine the environmentally superior alternative as required by CEQA.

Determining an environmentally superior alternative requires balancing many environmental factors. In order to identify the environmentally superior alternative, the most important impacts in each issue area were identified and compared. Although this EIR identifies an environmentally superior alternative, it is possible that decision-makers could balance the importance of each impact area differently and reach a different conclusion.

### ES.5.2 Impacts Comparison

As explained previously in Section ES.2, and in full detail in Section D of this EIR, after conducting an alternatives screening analysis, five alternatives were selected for full analysis in this EIR, including the No Project Alternative. Table ES-4 (Impact Significance of the Proposed Project and Alternatives) presents a summary matrix of the environmental impacts (see discussion of significance classification system below) associated with the proposed Project, including Options A and B, as described in Section C (Environmental Analysis), and the Project alternatives, as described in Section D.4 (Analysis of Alternatives) of this EIR. While the No Project Alternative would likely have impacts, the future transmission upgrades carried out under the No Project Alternative are unknown at this time; therefore, the No Project Alternative is not included in Table ES-4.

The matrix provided in Table ES-4 is organized by environmental issue area and impact parameter. As discussed in Section C.1.3 (Significance Categories), a classification system was applied to the impacts of the proposed Project and alternatives in order to provide for a comprehensive and systematic evaluation of potential environmental impacts for each issue area. The following classifications were uniformly applied to each identified impact:

- **Class I: Significant impact; cannot be mitigated to a level that is not significant.** Class I impacts are significant adverse effects that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.
- **Class II: Significant impact; can be mitigated to a level that is not significant.** A Class II impact is a significant adverse effect that can be reduced to a less than significant level through the application of feasible mitigation measures presented in this EIR/EIS.

- **Class III: Adverse, less than significant.** A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.
- **Class IV: Beneficial impact.** Class IV impacts represent beneficial effects that would result from project implementation.

In cases where there is a potential for a certain type of impact, but no such impact would occur for the proposed Project or an alternative, a “no impact” classification was assigned.

### Comparison of Alternatives

For the comparison analysis provided below, the proposed Project and alternatives are compared by environmental issue area, based on the analysis completed in Section D.4 of this EIR. Noteworthy differences between the alternatives are identified on an issue-by-issue basis, as shown in Table ES-5, below. The alternative/s which would have the least environmental impact is also identified on an issue-by-issue basis. This analysis is provided to support the conclusion of the CEQA environmentally superior alternative (Section ES.4.3). The No Project Alternative has not been included in the discussion below, as it was not possible to identify the environmental impacts that would occur under the No Project Alternative (Section D.4.5). ~~was determined for all issue areas that no impacts would occur. Based on an initial evaluation, this would make the No Project Alternative the environmentally superior alternative; although, the No Project Alternative would likely have indirect impacts, but the future transmission upgrades carried out under the No Project Alternative are unknown at this time. CEQA (Section 15126.6[e][2]) requires an EIR to identify an environmentally superior alternative from among the other alternatives when the environmentally superior alternative is the No Project Alternative; therefore, the discussion below focuses on the other alternatives and does not include the No Project Alternative.~~

Issue Area	Impact	Impact Significance				
		Project	Alt. 1	Alt. 2	Alt. 3	Alt. 4
Air Quality	A-1: Project emissions would exceed the AVAQMD regional emission thresholds.	I	I	I	I	I
	A-2: Project emissions would exceed the KCAPCD regional emission thresholds.	II	II	II	II	II
	A-3: The Project would expose sensitive receptors to substantial pollutant concentrations.	II	II	II	II	II
	A-4: The Project would create objectionable odors.	III	III	III	III	III
Biological Resources	B-1: Permanent Loss of Non-native Annual Grassland Habitat, and Agricultural and Developed Areas.	III	III	III	III	III
	B-2: Permanent Loss of Creosote Scrub, Montane Scrub, Desert Scrub, and Saltbush Scrub Habitat.	III	III	III	III	III
	B-3: Loss of Riparian or Sensitive Desert Wash Resources.	II	II	II	II	II
	B-4: Loss of Sensitive Joshua Tree Woodland and Juniper Woodland Habitat and Removal of Joshua Trees and Juniper Trees.	II	II	II	II	II
	B-5: Take of California Red-legged Frogs.	II	II	II	II	II
	B-6: Take of Desert Tortoises.	II	II	II	II	II
	B-7: Disturbance of Nesting Swainson’s Hawks.	II	II	II	II	II
	B-8: Loss of Foraging Habitat for Swainson’s Hawk.	III	III	III	III	III
	B-9 Disturbance to Nesting Special-Status Riparian Birds.	II	II	II	II	II
	B-10: Potential Take of, and Habitat Loss for, Mohave Ground Squirrels.	II	II	II	II	II
	B-11: Mortality and/or Disturbance to Mariposa Lily Plant Populations.	III	III	III	III	III

Issue Area	Impact	Impact Significance				
		Project	Alt. 1	Alt. 2	Alt. 3	Alt. 4
	B-12: Loss of and/or Disturbance to Short-joint Beavertail.	II	II	II	II	II
	B-13: Loss of Montane Scrub/Juniper Woodland Habitats as Habitat for Special-Status Plants.	II	II	II	II	II
	B-14: San Emigdio Blue Butterfly Mortality From Construction Disturbance.	III	III	III	III	III
	B-15: Mortality of, and Loss of Habitat for, Coast Horned Lizards and Silvery Legless Lizards.	III	III	III	III	III
	B-16: Southwestern Pond Turtle and Two-striped Garter Snake Mortality.	II	II	II	II	II
	B-17: Loss of Nesting and Foraging Habitat for Loggerhead Shrikes, Bendire's Thrashers, and LeConte's Thrashers.	II	II	II	II	II
	B-18: Disturbance to Wintering Mountain Plovers.	III	III	III	III	III
	B-19: Loss of Occupied Burrowing Owl Habitat.	II	II	II	II	II
	B-20: Disturbance of Nesting Raptors.	II	II	II	II	II
	B-21: Electrocution of State and/or Federally Protected Birds.	III	III	III	III	III
	B-22: Mortality of State and/or Federally Protected Bird Species from Collisions with Project Improvements.	III	III	III	III	III
	B-23: Mortality of, and Loss of Habitat for, Tehachapi Pocket Mouse, Southern Grasshopper Mouse, and Tulare Grasshopper Mouse.	III	III	III	III	III
	B-24: Loss of Habitat for Ringtail.	III	III	III	III	III
	B-25: Mortality of Special-Status Bat Species Due to Electrocution and/or Transmission Line Strikes.	III	III	III	III	III
	B-26: Loss of Habitat for American Badgers.	III; Removal of Active Den (II)				
	B-27: Disturbance to Desert Tortoise Movement as a result of Habitat Modification.	II	II	II	II	II
	B-28: Degradation of Water Quality. (Indirect)	III	III	III	III	III
	B-29: Mortality of Desert Tortoises as a Result of Increased Predation by Common Ravens. (indirect)	III	III	III	III	III
Cultural Resources <sup>1</sup>	C-1: Destruction of CA-KER-2434 would occur as a result of the Project	II	II	II	II	II
	C-2: Destruction of AP3-131 would occur as a result of the Project.	II	II	II	II	II
	C-3: Destruction of AP3-132 would occur as a result of the Project.	II	II	II	II	II
	C-4: Destruction of AP3-133 would occur as a result of the Project.	II	No Impact	II	II	II
	C-5: Destruction of AP3-134 would occur as a result of the Project.	II	No Impact	II	II	II
	C-6: Destruction of AP3-110 would occur as a result of the Project.	II	II	II	II	II
	C-7: Destruction of AP3-111 would occur as a result of the Project.	II	II	II	II	II
	C-8: Destruction of CA-KER-2821 would occur as a result of the Project.	II	II	II	II	II

<sup>1</sup> Specific additional cultural resources sites that would be impacted by Alternatives 1 through 4 have not been included herein due to lack of field survey of the alternative routes. As such, Table D.5-1 may make the alternatives look like they will impact fewer cultural resources than the proposed Project route, which may in fact not be the case.

<b>Table ES-4. Impact Significance of the Proposed Project and Alternatives</b>						
Issue Area	Impact	Impact Significance				
		Project	Alt. 1	Alt. 2	Alt. 3	Alt. 4
	C-9: Destruction of AP3-112 would occur as a result of the Project.	II	II	II	II	II
	C-10: Destruction of AP3-113 would occur as a result of the Project.	II	II	No Impact	II	II
	C-11: Destruction of AP3-114 would occur as a result of the Project.	II	II	II	II	II
	C-12: Destruction of AP2-101 would occur as a result of the Project.	II	II	II	II	II
	C-13: Destruction of CA-LAN-806 would occur as a result of the Project.	II	II	II	II	II
	C-14: Destruction of AP2-106 would occur as a result of the Project.	II	II	II	No Impact	No Impact
	C-15: Destruction of AP2-107 would occur as a result of the Project.	II	II	II	No Impact	No Impact
	C-16: Modification of CA-LAN-3477 would occur as a result of the Project.	II	II	II	II	II
	C-17: Destruction of CA-LAN-1956 would occur as a result of the Project.	II	II	II	II	II
	C-18: Destruction of AP3-116 would occur as a result of the Project.	II	II	II	II	II
	C-19: Destruction of AP3-117 would occur as a result of the Project.	II	II	II	II	II
	C-20: Destruction of AP3-119 would occur as a result of the Project.	II	II	II	II	II
	C-21: Destruction of AP3-121 would occur as a result of the Project.	II	II	II	II	II
	C-22: Destruction of AP3-118 would occur as a result of the Project.	II	II	II	II	II
	C-23: Destruction of AP3-120 would occur as a result of the Project.	II	II	II	II	II
	C-24: Destruction of AP3-122 would occur as a result of the Project.	II	II	II	II	II
	C-25: Destruction of AP3-123 would occur as a result of the Project.	II	II	II	II	II
	C-26: Destruction of AP3-124 would occur as a result of the Project.	II	II	II	II	II
	C-27: Destruction of AP3-125 would occur as a result of the Project.	II	II	II	II	II
	C-28: Destruction of AP3-126 would occur as a result of the Project.	II	II	II	II	II
	C-29: Destruction of AP3-127 would occur as a result of the Project.	II	II	II	II	II
	C-30: Destruction of AP3-128 would occur as a result of the Project.	II	II	II	II	II
	C-31: Destruction of AP3-129 would occur as a result of the Project.	II	II	II	II	II
	C-32: Undiscovered cultural resources would be disturbed through Project activities.	II	II	II	II	II
Geology, Soils, and Paleontology	G-1: Excavation and grading during construction activities could cause slope instability.	II	II	II	II	II
	G-2: Erosion could be triggered or accelerated by construction or disturbance of landforms.	II	II	II	II	II
	G-3: Transmission line could be damaged by surface fault ruptures at crossings of active faults.	II	II	II	II	II

Issue Area	Impact	Impact Significance				
		Project	Alt. 1	Alt. 2	Alt. 3	Alt. 4
	G-4: Project structures could be damaged by landslides, liquefaction, settlement, lateral spreading, and/or surface cracking resulting from seismic events.	II	II	II	II	II
	G-5: Project structures could be damaged by strong groundshaking.	II	II	II	II	II
	G-6: Buried tower and substation foundations could be damaged by corrosive soils.	II	II	II	II	II
	G-7: Transmission line structures could be damaged by landslides, earth flows, or debris slides.	II	II	II	II	II
	G-8: Excavation for transmission line structures could damage unique or significant fossils.	II	II	II	II	II
Hazards and Hazardous Materials	HAZ-1: The release of hazardous materials occurs during construction activities	II	II	II	II	II
	HAZ-2: The release of hazardous materials occurs during operation and maintenance activities	II	II	II	II	II
Hydrology and Water Quality	H-1: Water quality degradation would result from soil erosion and sedimentation caused by construction activities.	II	II	II	II	II
	H-2: Degradation of water quality would result from the accidental release of hazardous materials during construction activities.	II	II	II	II	II
	H-3: Degradation of water quality would result from the accidental release of hazardous materials during operational activities.	III	III	III	III	III
	H-4: Existing groundwater resources would be disturbed through Project-related excavation activities.	II	II	II	II	II
	H-5: Increased surface water runoff would result through the introduction of new impermeable areas.	III	III	III	III	III
	H-6: Runoff introduced as a result of permanent Project features would cause the overloading of a local stormwater drainage system.	III	III	III	III	III
	H-7: Flood hazards would be created through the placement of permanent aboveground structures in a flood hazard area, a floodplain, or a watercourse.	II	II	II	II	II
Land Use and Public Recreation <sup>2</sup>	L-1: Construction of the proposed Project would temporarily disturb land uses that are traversed by or adjacent to the Project.	II	II	II	II	II
	<del>L-2: Operation of the proposed Project would require the removal of a residence in the City of Lancaster.</del>	<del>II</del>	<del>II</del>	<del>II</del>	<del>II</del>	<del>II</del>
	L-3 <del>2</del> : Operation of the proposed Project would require the removal of residences in unincorporated Los Angeles County.	I (PP+Op B) No Impact (Op A)	I	I	II	No Impact
	L-4 <del>3</del> : Operation of the proposed Project would preclude the development of a school property.	I (Op B) III (PP+Op A) No Impact (Op B)	III	III	I No Impact	No Impact
	<del>L-54</del> : Implementation of <del>Option B</del> would preclude planned development within Ritter Ranch <del>and Anaverde Ranch</del> .	I (Op B) No Impact (PP+Op A)	No Impact	No Impact	I	No Impact

<sup>2</sup> Unlike the proposed Project, Alternatives 1 and 2 would potentially remove existing residences in unincorporated Kern County, which would be considered a significant and unavoidable impact (Class I).

<b>Table ES-4. Impact Significance of the Proposed Project and Alternatives</b>						
Issue Area	Impact	Impact Significance				
		Project	Alt. 1	Alt. 2	Alt. 3	Alt. 4
	L-65: Operation of the proposed Project would change the character of a recreational resource, diminishing its recreational value.	II	III	II	II	II
Agriculture	AG-1: Construction activities would temporarily convert Farmland to non-agricultural use.	III	III	III	III	III
	AG-2: Operation would permanently convert Farmland to non-agricultural use.	III	III	III	III	III
	AG-3: Construction activities would interfere with agricultural operations.	II	II	II	II	II
	AG-4: Operation would interfere with agricultural operations.	II	II	II	II	II
	AG-5: Construction activities would conflict with a Williamson Act contract.	III	III	III	III	III
	AG-6: Operation would conflict with a Williamson Act contract.	I	III	I	I	I
Noise	N-1: Construction noise levels would violate local standards.	II	II	II	II	II
	N-2: Operational noise levels would violate local standards.	I	I	I	I	I
	N-3: Construction noise could substantially disturb sensitive receptors.	II	II	II	II	II
	N-4: Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines.	I	I	I	I	I
	N-5: Maintenance activities during transmission line operation would increase ambient noise levels.	III	III	III	III	III
	N-6: Operation of modified and new substations would result in increased ambient noise levels.	III	III	III	III	III
Visual Resources	V-1: Construction of the proposed Project and introduction of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-1 – Highway 58 and Jameson Street.	II	II	II	II	II
	V-2: Construction of the proposed Project and introduction of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-2 – Pacific Crest National Scenic Trail and Trailhead.	II	No Impact	II	II	II
	V-3: Construction of the proposed Project and introduction of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-3 – Oak Creek Road.	II	II	II	II	II
	V-4: Construction of the proposed Project and introduction of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-4 – Tehachapi Willow Springs Road.	III	III	III	III	III
	V-5: Construction of the proposed Project and introduction of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-5 – Avenue A at 110th Street West.	III	III	III	III	III

<b>Table ES-4. Impact Significance of the Proposed Project and Alternatives</b>						
Issue Area	Impact	Impact Significance				
		Project	Alt. 1	Alt. 2	Alt. 3	Alt. 4
	V-6: Construction of the proposed Project and introduction of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-6 – Avenue G at 105th Street West.	III	III	III	III	III
	V-7: Construction of the proposed Project and increase of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-7 – Avenue L Near Olive Grove.	I	I	I	I	II
	V-8: Construction of the proposed Project and increase of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-8 – Avenue N at Agena Road.	III	III	III	III	No Impact
	V-9: Construction of the proposed Project and increase of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-9 – Godde Hill Road.	II	II	II	II	No Impact
	V-10: Construction of the proposed Project and increase of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-10 – Elizabeth Lake Road.	I (PP+Op B) No Impact (Op A)	I	I	I	No Impact
	V-11: Construction of the proposed Project and increase of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-11 – Ritter Ranch from Godde Hill Road.	II (PP+Op A) No Impact (Op B)	II	II	II	No Impact
	V-12: Construction of the proposed Project and increase of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-12 – Sierra Pelona Ridge from Avenue S.	II	II	II	II	II
	V-13: Construction of the proposed Project and increase of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-13 – Sierra Highway and Antelope Valley Freeway.	III	III	III	III	III
	V-14: Construction of the proposed Project and increase of industrial character structures would result in a permanent change in landscape character and scenic vistas as seen from KOP-14 – Acton/Vincent Grade Metrolink Park and Ride.	II	II	II	II	II
	V-15: The Project would conflict with applicable visual resource policies, regulations, and standards contained in state and local plans.	III	III	III	III	III
	V-16: The Project would create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.	II	II	II	II	II
Traffic and Transportation	T-1: Closure of roads to through traffic or reduction of travel lanes would result in substantial congestion.	II	II	II	II	II
	T-2: Construction traffic would result in congestion on area roadways.	II	II	II	II	II
	T-3: Construction activities would temporarily interfere with emergency response.	II	II	II	II	II
	T-4: Construction activities would temporarily disrupt transit bus routes.	II	II	II	II	II
	T-5: Construction activities would temporarily disrupt rail traffic.	II	II	II	II	II

Issue Area	Impact	Impact Significance				
		Project	Alt. 1	Alt. 2	Alt. 3	Alt. 4
	T-6: Construction activities would temporarily impede pedestrian movements and bike paths.	III	III	III	III	III
	T-7: Construction activities would conflict with planned improvements to SR 14.	II	II	II	II	II
	T-8: Construction vehicles and equipment would damage road ROWs.	II	II	II	II	II
	T-9: Transmission structures would present an aviation hazard.	III	III	III	III	III
	T-10: Construction activities would be inconsistent with transportation plans.	II	II	II	II	II
Population and Housing	P-1: The proposed Project would require the removal of residential housing structures.	I (PP+Op B) No Impact (Op A)	I	I	I	# No Impact

### ES.5.3 Environmentally Superior Alternative

In accordance with CEQA requirements, an “environmentally superior alternative” must be identified from among the alternatives analyzed in the EIR. The environmentally superior alternative is the alternative found to have an overall environmental advantage compared to the other alternatives, based on the impact analysis in the EIR. As described above, it was not possible to identify the environmental impacts that would occur under the No Project Alternative; therefore, the No Project Alternative was not included in the environmentally superior alternative analysis. ~~If the environmentally superior alternative is also the No Project alternative, State CEQA Guidelines Section 15126.6(e)(2) requires the EIR to identify an environmentally superior alternative from among the other alternatives.~~ The environmentally superior alternative is determined by the CEQA Lead Agency.

Determining which of the alternatives is environmentally superior involves judgment and depends on many factors. Different alternatives are clearly superior in certain environmental issue areas, while there are only slight differences among the alternatives in other issue areas, which ultimately do not alter the significance determinations for the impacts. In order to meet the CEQA requirements to identify an environmentally superior alternative, the EIR preparers primarily considered those issue areas that have the greatest potential for resulting in long-term, significant impacts. These issue areas include visual resources, land use, public recreation, socioeconomics, and noise. Consideration was also given to community concerns, such as air quality, EMF issues, and corona noise, as well as public safety concerns, such as fire safety. Impacts associated with construction (i.e., temporary or short-term) or those that are easily mitigated to less-than-significant levels were given consideration, but were considered less important than permanent impacts. Pursuant to State CEQA Guidelines Section 15126.6(b), alternatives with potential for avoiding or substantially lessening the significant impacts may be considered even if they are more costly.

As shown in the alternatives comparison matrix provided in Table ES-5 and as discussed in Section D of the EIR, several of the alternatives have many closely matched impacts, or would have fewer impacts for some issue areas while having greater impacts in other issues area, making a clear demonstration of the environmental superiority of one alternative difficult. In general, many environmental impacts appear to be reduced by decreasing the length of the new transmission line, avoiding existing homes, and placing the new transmission line next to existing transmission corridors to provide for use of existing access roads and similar visual setting. For each issue area, the environmentally superior alternative has been determined as follows:

- Air Quality – *Alternative 3* is preferred as it would reduce the average unpaved road travel distance, resulting in a reduction in fugitive dust emissions, due to a greater portion of the Segment 2 alignment being adjacent to an existing transmission corridor with existing access roads.
- Biological Resources – *Alternative 3* is preferred as it would parallel an existing transmission line corridor throughout Segment 2, where the lands traversed have generally been previously degraded minimizing impacts to biological resources, and would result in the least amount of completely new ROW in native habitats.
- Cultural Resources<sup>3</sup> – *Alternatives 1, 3, and 4* are preferred as they would all have the potential to affect 29 cultural resources sites, whereas the proposed Project and *Alternative 2* would affect a greater number of sites.
- Geology, Soils, and Paleontology – *Alternative 3* is preferred as it would cross less landslide prone area, decreasing the potential severity of impacts from seismically induced slope failures in comparison to the proposed Project. Furthermore, the shorter transmission line route would result in crossing less erosion prone soils.
- Hazards and Hazardous Materials – *No Superior Alternative* has been identified with respect to the potential for hazards and hazardous materials impacts since the proposed Project would have the same potential for these types of impacts as all of the analyzed project alternatives. ~~*Alternative 3* is preferred, as it is the shortest in length and would have the shortest construction schedule thereby minimizing the potential for hazards and hazardous materials impacts compared to the proposed Project or any of the other alternatives.~~
- Hydrology and Water Quality – *Alternative 3* is preferred as the shorter transmission line route would result in reduced impacts to water quality related to soil erosion during construction, there would be less hillside construction, and less potential for release of hazardous materials.
- Land Use – *Alternative 4* is preferred as it avoids impacts to the AVUHSD, and avoids relocation of residences along Segment 2 and the preclusion of residential development in Ritter Ranch.
- Agriculture – *Alternative 1* is preferred generally because use of alternative Substation 2C greatly reducing permanent impacts to Williamson Act lands.
- Noise – *Alternative 4* is preferred as noise impacts from construction and operation of the Project would be limited to a few scattered residences.
- Traffic and Transportation – *Alternatives 1 or 4* are preferred as they would result in similar impacts to the proposed Project, whereas the other alternatives would have the potential to result in greater impacts.
- Visual Resources – *Alternative 3* is preferred as it would parallel an existing transmission line corridor throughout Segment 2; require the relocation of only one existing residence along Segment 2, combining the benefits of Options A and B of the proposed Project; and would eliminate the visual clutter of crossing over/under existing transmission lines in Antelope-Vincent corridor.
- Population and Housing – *Alternative 4 or Option A* is preferred as they would avoid removal of existing and planned residential housing structures it would result in the same impacts as Option A of the proposed Project, whereas the other alternatives would have the potential to result in significant unavoidable greater impacts to existing and planned housing.

From the above summary of preferences by environmental issue area, and considering long-term impacts to the environment, the environmentally superior alternative is *Alternative 3, Antelope-Vincent Re-route 1.*

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<sup>3</sup> Specific additional cultural resources sites that would be impacted by Alternatives 1 through 4 were not identified due to lack of field surveys of the alternative routes. As such, it is possible that the alternative that has the potential to impact the greatest number of cultural resources sites has not been accurately identified. However, with implementation of project mitigation measures, including CA-1a and CA-1b, all impacts to cultural resources would be mitigated to a less-than-significant level (Class II).

<b>Table ES-5. Summary Comparison of Environmental Issues/Impacts</b>				
<b>Proposed Project</b>	<b>Alternative 1: Substation 2C to Substation One via Cameron Canyon Road</b>	<b>Alternative 2: Substation 1B to Antelope via 100th Street</b>	<b>Alternative 3: Antelope-Vincent Re-route 1</b>	<b>Alternative 4: Antelope-Vincent Re-route 2</b>
<b><i>Air Quality</i></b>				
Exceeds AVAQMD regional emission thresholds for: Daily NOx (385 lb/day) Daily PM10 (556 lb/day) Total PM10 (19.2 tons)  <i>Option A:</i> Slightly increases the number of towers and AVAQMD Total PM10 increases (19.3 tons).  <i>Option B:</i> Slightly decreases the number of new towers and reduces AVAQMD Daily NOx (378 lb/day), Daily PM10 (435 lb/day), and Total PM10 (15.2 tons).	Reduction in the average unpaved road travel distance, resulting in reduced fugitive dust emissions (PM10 & PM2.5).  May place a few towers near residences in a couple of locations, specifically near Cameron Canyon Road.	Increase in the average unpaved road travel distance in the AVAQMD portion, resulting in increased fugitive dust emissions.  Tower sites would generally be closer to paved roads (notably Tehachapi Willow Springs Road) for access in the KCAPCD portion, resulting in decreased fugitive dust emissions.	Reduction in the average unpaved road travel distance, resulting in a reduction in fugitive dust emissions. The overall reduction would be more or less the same as Option B of the proposed Project.	Fugitive dust emissions would be very similar to the proposed Project. May place a few towers near residences in a couple of locations, particularly within the Leona Valley.
<b><i>Biological Resources</i></b>				
27.4 miles of completely new ROW (located in native habitats).	27.4 miles of completely new ROW.	25.7 miles of completely new ROW.	24.9 miles of completely new ROW.	29.7 miles of completely new ROW.
Loss of riparian or sensitive desert wash resources (0.4 acres).	Greater impact to Mojave riparian forest habitat than proposed Project due to additional drainage crossings.	Same as proposed Project.	Same as proposed Project.	Same as proposed Project.
Loss of sensitive Joshua Tree woodland habitat and removal of Joshua Trees and Juniper Trees.	Same as proposed Project.	Greater than proposed Project due to crossing more Joshua tree woodland.	Same as proposed Project.	Same as proposed Project.
Potential take of Desert Tortoise.	Same as proposed Project.	Greater than proposed Project due to crossing more Joshua tree woodland-creosote scrub habitats.	Same as proposed Project.	Same as proposed Project.
Potential to disturb nesting Swainson's Hawks.	Same as proposed Project.	Greater than proposed Project due to crossing more suitable nesting and foraging habitat for Swainson's Hawks.	Same as proposed Project.	Same as proposed Project.
Potential to disturb nesting special-status riparian birds.	Would cross additional riparian forest habitat resulting in greater disturbance to nesting special-status riparian birds.	Would cross additional riparian forest habitat resulting in greater disturbance nesting special-status riparian birds.	Same as proposed Project.	Same as proposed Project.

<b>Table ES-5. Summary Comparison of Environmental Issues/Impacts</b>				
<b>Proposed Project</b>	<b>Alternative 1: Substation 2C to Substation One via Cameron Canyon Road</b>	<b>Alternative 2: Substation 1B to Antelope via 100th Street</b>	<b>Alternative 3: Antelope-Vincent Re-route 1</b>	<b>Alternative 4: Antelope-Vincent Re-route 2</b>
Potential to take or loss of habitat for Mohave ground squirrel.	Same as proposed Project.	Greater impacts to habitat suitable for listed species such as Mohave ground squirrel.	Same as proposed Project.	Same as proposed Project.
Potential loss of and/or disturbance to short-joint beavertail cactus.	Slightly greater than proposed Project.	Same as proposed Project.	Same as proposed Project.	Same as proposed Project.
Potential to impact aquatic habitat for southwest pond turtle and two-striped garter snake.	Same as proposed Project.	Same as proposed Project.	Greater than proposed Project.	Same as proposed Project.
Potential loss of nesting and foraging habitat for Loggerhead Shrikes, Bendire's Thrashers, and LeConte's Thrashers.	Same as proposed Project.	Greater than the proposed Project.	Same as proposed Project.	Same as proposed Project.
Potential loss of occupied Burrowing Owl habitat.	Same as proposed Project.	Greater than the proposed Project.	Same as proposed Project.	Same as proposed Project.
Potential to disturb nesting raptors.	Greater than the proposed Project.	Greater than the proposed Project.	Same as proposed Project.	Same as proposed Project.
Potential to disturb Desert Tortoise movement as a result of habitat modification.	Same as proposed Project.	Greater than the proposed Project.	Same as proposed Project.	Same as proposed Project.
<b><i>Cultural Resources<sup>4</sup></i></b>				
Potential to impact 31 cultural resources sites.	Potential to impact 29 cultural resources sites. Would NOT impact AP3-133 and AP3-134.	Potential to impact 30 cultural resource sites. Would NOT impact AP3-113.	Potential to impact 29 cultural resources sites. Would NOT impact AP2-106 and AP2-107.	Potential to impact 29 cultural resources sites. Would NOT impact AP2-106 and AP2-107.
<b><i>Geology, Soils, and Paleontology</i></b>				
Hills and slopes crossed by Segment 2 are underlain by landslide prone Pelona Schist, and several areas cross mapped landslides.  Portions of Segment 3 and most of Segment 2 are underlain by soils classified as having moderate to	Crosses the Garlock fault in an Alquist-Priolo Zone. Continues to cross the San Andreas Fault  Crosses steep slopes in the Tehachapi Mountains increasing the potential for seismically induced slope failures.	Same as the proposed Project.	Crosses less landslide prone area and more area with liquefaction potential, decreasing the potential severity of impacts from seismically induced slope failures and increasing the severity of impacts from liquefaction in comparison to the proposed Project.	Crosses substantially more mapped landslides and a longer section of landslide prone Pelona Schist, and more potentially liquefiable young Alluvium in the Leona Valley than the proposed Project.  Crosses more erosion prone soils than the proposed Project.

<sup>4</sup> Specific additional cultural resources sites that would be impacted by Alternatives 1 through 4 have not been included herein due to lack of field surveys of the alternative routes. As such, it is possible that the alternative that has the potential to impact the greatest number of cultural resources sites has not been accurately identified. However, with implementation of project mitigation measures, including CA-1a and CA-1b, all impacts to cultural resources would be mitigated to a less-than-significant level (Class II).

<b>Table ES-5. Summary Comparison of Environmental Issues/Impacts</b>				
<b>Proposed Project</b>	<b>Alternative 1: Substation 2C to Substation One via Cameron Canyon Road</b>	<b>Alternative 2: Substation 1B to Antelope via 100th Street</b>	<b>Alternative 3: Antelope-Vincent Re-route 1</b>	<b>Alternative 4: Antelope-Vincent Re-route 2</b>
<p>severe hazard of erosion on roads and trails.</p> <p>Crosses active traces of the Garlock and San Andreas faults.</p> <p>Crosses potentially liquefiable deposits in Leona and Anaverde Valleys.</p>			<p>Shorter T/L route crosses less erosion prone soils than the proposed Project.</p> <p>Crosses the San Andreas fault in an Alquist-Priolo Zone. Continues to cross the Garlock fault.</p>	
<b>Hazards and Hazardous Materials</b>				
Potential for soil or groundwater contamination from spills or leaks during construction and operation.	Same as proposed Project.	Same as proposed Project.	Same as proposed Project.	Same as proposed Project.
<b>Hydrology and Water Quality</b>				
<p>Construction activities, especially in hillside areas, would create soil erosion and sedimentation that could affect water quality.</p> <p><i>Option A:</i> Slightly increases the number of T/L towers and associated impacts to water quality.</p> <p><i>Option B:</i> Shorter T/L route would result in reduced impacts to water quality related to: soil erosion related to construction; hillside construction around Ritter Ranch; potential for release of hazardous materials.</p> <ul style="list-style-type: none"> <li>- T/L would cross Anaverde Creek one time (vs. two)</li> <li>- T/L would not cross Ritter Canyon Creek</li> </ul>	<p>Introduces excavation activities (such as tower installation) in the Fremont Valley Groundwater Basin.</p> <p>T/L would cross Cameron Canyon Creek.</p> <p>T/L would potentially cross more ephemeral waterways and valley washes.</p>	<p>Slightly increases the number of T/L towers and associated impacts to water quality.</p> <p>T/L would cross the same waterways as the proposed Project; between Mile S3-9.5 and S3-30.6, these waterways would be crossed to the east of the proposed Project.</p>	<p>Shorter T/L route would result in reduced impacts to water quality related to: soil erosion related to construction; hillside construction around Ritter Ranch; potential for release of hazardous materials.</p> <p>T/L would traverse Anaverde Creek one time (vs. two crossings for the proposed Project).</p> <p>T/L would traverse three minor tributaries of Anaverde Creek between Mile S2-8.6 and S2-10.4.</p> <p>T/L would not traverse Ritter Canyon Creek (proposed Project Mile S2-9.2, S2-10.8).</p>	<p>Crosses fewer ephemeral waterways and valley washes.</p> <p>T/L crosses Rogers Creek (Mile S2-8.7 and Mile S2-9.2) and Pine Creek (Mile S2-9.4 and Mile S2-9.8).</p> <p>T/L does not cross Railroad Canyon Creek (proposed Project Mile S2-4.4).</p>
<b>Land Use</b>				
<p>Precludes the use of the AVUHSD property for educational facilities within 350 feet of the Project ROW.</p> <p>Requires the relocation of at least 3 residences along Cherry Tree Lane</p>	<p>Precludes the use of the AVUHSD property for educational facilities within 350 feet of the Project ROW.</p> <p>Requires the relocation of 3 residences along Cherry Tree Lane</p>	<p>Precludes the use of the AVUHSD property for educational facilities within 350 feet of the Project ROW.</p> <p>Precludes the use of planned educational facilities in Ritter Ranch</p>	<p>Avoids impacts to AVUHSD property.</p> <p>Avoids the relocation of residences along <u>Cherry Tree Lane</u> in Segment 2.</p>	<p>Avoids impacts to AVUHSD property.</p> <p>Avoids the relocation of residences along <u>Cherry Tree Lane</u> in Segment 2, and the preclusion of residential</p>

Table ES-5. Summary Comparison of Environmental Issues/Impacts				
Proposed Project	Alternative 1: Substation 2C to Substation One via Cameron Canyon Road	Alternative 2: Substation 1B to Antelope via 100th Street	Alternative 3: Antelope-Vincent Re-route 1	Alternative 4: Antelope-Vincent Re-route 2
<p>in Segment 2.</p> <p><u>Temporary closure of the PCT and trails within Ritter Ranch and other areas of the City of Palmdale and unincorporated L.A. County.</u></p> <p><u>Siting of lattice steel towers along Segment 3 may permanently affect recreational access to the PCT (i.e., parking).</u></p> <p><i>Option A</i> avoids the relocation of these residences.</p> <p><i>Option B</i> precludes planned development in Ritter Ranch <u>and Anaverde Ranch.</u></p> <p><i>Option B</i> precludes the use of <u>planned educational facilities in Ritter Ranch and Anaverde Ranch.</u></p> <p><u>Temporary closure of the PCT and trails within Ritter Ranch.</u></p> <p><i>Option B</i> avoids impacts to Ritter Ranch trails.</p> <p><u>Siting of lattice steel towers along Segment 3 may permanently affect recreational access to the PCT (i.e., parking).</u></p>	<p>in Segment 2, and may require the relocation of residences on Cameron Canyon Road along Segment 3.</p> <p>Temporary closure of the PCT and trails within Ritter Ranch.</p> <p>Avoids the PCT trailhead and parking area.</p>	<p><u>and Anaverde Ranch.</u></p> <p>Requires the relocation of 3 residences along <u>Cherry Tree Lane</u> in Segment 2, and may require the relocation of a residence on Hamilton Road along Segment 3.</p> <p>Temporary closure of the PCT and trails within Ritter Ranch <u>and other areas of the City of Palmdale and unincorporated L.A. County.</u></p> <p>Siting of lattice steel towers along Segment 3 may permanently affect recreational access to the PCT (i.e., parking).</p>	<p>Precludes planned residential development in Ritter Ranch <u>and Anaverde Ranch.</u></p> <p>Temporary closure of the PCT <u>and trails within City of Palmdale and unincorporated L.A. County.</u></p> <p>Avoids trails within Ritter Ranch.</p> <p>Siting of lattice steel towers along Segment 3 may permanently affect recreational access to the PCT (i.e., parking).</p>	<p>development in Ritter Ranch <u>and Anaverde Ranch.</u></p> <p>Temporary closure of the PCT and trails within Ritter Ranch <u>and trails within City of Palmdale and unincorporated L.A. County.</u></p> <p>Siting of lattice steel towers along Segment 3 may permanently affect recreational access to the PCT (i.e., parking).</p>
<b>Agriculture</b>				
<p>Temporary conversion of Farmland: 1.2 acres Prime Farmland 0.6 acre Farmland of Statewide Importance 0.1 acre Unique Farmland</p>	<p>Temporary conversion of Farmland: Same as proposed Project</p>	<p>Temporary conversion of Farmland: 1.8 acres Prime Farmland 0.6 acre Farmland of Statewide Importance 0.1 acre Unique Farmland</p>	<p>Temporary conversion of Farmland: Same as proposed Project</p>	<p>Temporary conversion of Farmland: 1.5 acres Prime Farmland 0.6 acre Farmland of Statewide Importance 0.1 acre Unique Farmland</p>

**Table ES-5. Summary Comparison of Environmental Issues/Impacts**

Proposed Project	Alternative 1: Substation 2C to Substation One via Cameron Canyon Road	Alternative 2: Substation 1B to Antelope via 100th Street	Alternative 3: Antelope-Vincent Re-route 1	Alternative 4: Antelope-Vincent Re-route 2
Permanent conversion of Farmland: 2.0 acres Prime Farmland 1.5 acres Farmland of Statewide Importance 0.3 acre Unique Farmland	Permanent conversion of Farmland: Same as proposed Project	Permanent conversion of Farmland: 2.9 acres Prime Farmland 1.5 acres Farmland of Statewide Importance 0.2 acre Unique Farmland	Permanent conversion of Farmland: Same as proposed Project	Permanent conversion of Farmland: 2.1 acres Prime Farmland 1.5 acres Farmland of Statewide Importance 0.3 acre Unique Farmland
Temporary disturbance of Williamson Act lands: 0.9 acre Prime Farmland 0.6 acre Mixed	Temporary disturbance of Williamson Act lands: Same as proposed Project	Temporary disturbance of Williamson Act lands: 1.8 acres Prime Farmland 0.6 acre Mixed	Temporary disturbance of Williamson Act lands: Same as proposed Project	Temporary disturbance of Williamson Act lands: Same as proposed Project
Permanent disturbance of Williamson Act lands: 1.0 acre Prime Farmland 28.6 acres Mixed	Permanent disturbance of Williamson Act lands: 1.0 acre Prime Farmland 0.3 acre Mixed	Permanent disturbance of Williamson Act lands: 1.2 acres Prime Farmland 28.6 acres Mixed	Permanent disturbance of Williamson Act lands: Same as proposed Project	Permanent disturbance of Williamson Act lands: Same as proposed Project
<b>Noise</b>				
Construction equipment noise levels between 70 and 90 dBA (at 50 feet) would violate local noise ordinances along the route.  Operational corona noise levels would increase ambient noise levels for sensitive receptors along the route.  Operational noise levels between 55 and 65 dBA (wet weather, heavy load) would exceed LA County Noise Ordinance standard of 45 dBA for sensitive areas.  <i>Option A:</i> Reduced number of sensitive receptors between Mile S2-5.7 and Mile S2-7.7.  <i>Option B:</i> Increased number of sensitive receptors between Mile S2-8.1 and Mile S2-11.2 (proposed route Mile S2-14.9)	Construction and operational noise would affect additional sensitive receptors along Cameron Canyon Road.  Noise impacts would be greater than the proposed Project.	Construction and operational noise impacts would increase for residences near the Los Angeles/Kern County line, including on Hamilton Road, Avenue A, 100 <sup>th</sup> Street West (between Avenues A & B), and Avenue D.  Noise impacts would be greater than the proposed Project.	Construction and operational noise impacts would increase for residences along Godde Hill Road, Hacienda Ranch Road, Cherry Tree Lane in unincorporated LA County.  Nearby sensitive receptors within the Ritter Ranch and Anaverde Ranch community developments would be affected.  Noise impacts would have the potential to be greater than the proposed Project depending on development within Ritter Ranch and Avaverde community development areas.	Construction and operational noise impacts would occur for residences along Elizabeth Lake Road, Calva Street, 86 <sup>th</sup> Street West, and Bouquet Canyon Road.  Noise impacts would be generally the same as the proposed Project.

<b>Table ES-5. Summary Comparison of Environmental Issues/Impacts</b>				
<b>Proposed Project</b>	<b>Alternative 1: Substation 2C to Substation One via Cameron Canyon Road</b>	<b>Alternative 2: Substation 1B to Antelope via 100th Street</b>	<b>Alternative 3: Antelope-Vincent Re-route 1</b>	<b>Alternative 4: Antelope-Vincent Re-route 2</b>
<b>Traffic and Transportation</b>				
<p>Temporary road closures would be required during stringing of the T/L.</p> <p>Traffic detours or controlled continuous traffic breaks may be required at road crossings.</p> <p>Construction-related traffic may contribute to congestion on heavily traveled or narrow roads.</p> <p>Short-term road closures could interfere with emergency response vehicles, bus routes, rail traffic, pedestrian movements, bike paths.</p> <p><i>Option A:</i> The alignment would be longer than the proposed route, but impacts to traffic and transportation would be the same.</p> <p><i>Option B:</i> At least one additional road crossing would occur in the Ritter Ranch and Anaverde Ranch developments.</p>	<p>T/L would cross over Cameron Canyon Road.</p> <p>T/L would not cross over Tehachapi-Willow Springs Road.</p> <p>Traffic and transportation impacts would be the same as the proposed Project.</p>	<p>Construction activities within the road ROW for 100<sup>th</sup> Street could be greater due to the T/L alignment being adjacent to 100<sup>th</sup> Street.</p> <p>Duration of construction activities within a road ROW could be extended.</p> <p>Traffic and transportation impacts would be greater than the proposed Project.</p>	<p>T/L route would cross through a portion of the Ritter Ranch development area, affecting traffic on area roadways.</p> <p>Construction of the T/L may impede pedestrian movements and bike paths in the Ritter Ranch development area.</p> <p>Traffic and transportation impacts would be greater than the proposed Project.</p>	<p>T/L would cross Bouquet Canyon Road. T/L would not cross Godde Hill Road.</p> <p>Traffic and transportation impacts would be the same as the proposed Project.</p>
<b>Visual Resources</b>				
<p>Requires the relocation of at least 4 residences along Segment 2, resulting in significant, unavoidable (Class I) visual impacts.</p> <p><i>Option A:</i> Avoids the relocation of 3 of these residences.</p> <p><i>Option B:</i> Avoids new ROW and visual impacts to Sierra Pelona Ridge in Ritter Ranch.</p> <p>Visual impacts seen from PCT and PCT trailhead.</p> <p>Siting of 500-kV lattice steel towers along Segments 2 &amp; 3 would create</p>	<p>Substation 2C is 800-feet closer to Highway 58 and Jameson Street, therefore greater visual impacts to foreground views (KOP-1).</p> <p>220-kV line would potentially pass over 3 residences on Cameron Canyon Road, requiring relocation.</p> <p>220-kV line would be seen at foreground distances from several other residences on Cameron Canyon Road.</p> <p>Visual impacts would be greater than the proposed Project.</p>	<p>Would require the relocation of more than two-dozen existing residences.</p> <p>500-kV transmission line would be visible in the immediate foreground of 100<sup>th</sup> Street West for several miles.</p> <p>Visual impacts would be greater than the proposed Project.</p>	<p>Requires the relocation of 1 residence along Segment 2; however, 3 other existing residences at Elizabeth Lake Road remain intact, combining the benefits of Options A &amp; B of proposed Project.</p> <p>Parallels an existing transmission line corridor throughout Segment 2.</p> <p>Eliminates visual clutter of crossing over/under existing transmission lines in Antelope-Vincent corridor, plus the visual clutter of the cut-over of Segment 2 at Mile 14.9.</p>	<p>In Segment 2, all significant, unavoidable (Class I) visual impacts would be eliminated. Existing residences would remain and be unaffected.</p> <p>Visual impacts to foreground and middleground views from Bouquet Canyon Road are greater than the proposed Project or any other alternative.</p> <p>Visual impacts occur in middle-ground landscapes on Sierra Pelona Ridge for longer distances; therefore, fewer miles of foreground</p>

Table ES-5. Summary Comparison of Environmental Issues/Impacts				
Proposed Project	Alternative 1: Substation 2C to Substation One via Cameron Canyon Road	Alternative 2: Substation 1B to Antelope via 100th Street	Alternative 3: Antelope-Vincent Re-route 1	Alternative 4: Antelope-Vincent Re-route 2
skyline blockage where no landform backdrops exist, creating significant visual impacts.			Visual impacts would be less than the proposed Project.	views to new transmission lines. Visual impacts would be greater than the proposed Project.
<b>Population and Housing</b>				
<p>Removal of the following residential structures would occur:</p> <ul style="list-style-type: none"> <li>Single family home on Avenue "L" in Lancaster would be eliminated without the implementation of Mitigation Measure L-2.</li> <li>Removal of a minimum of three existing residences in unincorporated Los Angeles County along Cherry Tree Lane.</li> </ul> <p><i>Option A:</i> Avoids removal of a existing residences along Cherry Tree Lane. Would require the removal of single family home on Avenue "L" in Lancaster without implementation of Mitigation Measure L-2</p> <p><i>Option B:</i> Removal of planned home sites under construction within Ritter Ranch and home sites planned within Anaverde Ranch. Option B would continue to require the removal of residential units along Cherry Tree Lane, identical to those listed above for the proposed Project.</p>	<p>Removal of 3 additional single-family residences (ranchettes with horse stables) along Cameron Canyon Road.</p> <p>In addition, this alternative would continue to require the removal of residential units along Cherry Tree Lane, identical to those listed for the proposed Project.</p> <p>Housing impacts would be greater than the proposed Project.</p>	<p>Removal of the following residential units would be required in unincorporated Kern County:</p> <ul style="list-style-type: none"> <li>2 homes north of Rosamond Blvd</li> <li>16 homes north of Ave. A</li> <li>1 home north of Ave. B</li> <li>several homes along Leslie Ave off 100<sup>th</sup> Street</li> <li>6 homes north of Ave. A.</li> </ul> <p>In addition, this alternative would continue to require the removal of residential units along Cherry Tree Lane, identical to those listed for the proposed Project.</p> <p>Housing impacts would be greater than the proposed Project.</p>	<p>Residential structures along Elizabeth Lake Road and Cherry Tree Lane would not be removed.</p> <p>ROW through the Ritter Ranch and Anaverde Ranch development areas would be widened, thus increasing the removal of planned home sites under construction within Ritter Ranch and home sites planned within Anaverde Ranch.</p> <p>Housing impacts would be greater than the proposed Project.</p>	<p><del>This Alternative would require the removal of residential units identical to those listed above for the proposed Project.</del></p> <p><u>No existing or planned residential units would be removed for this alternative.</u></p> <p>Housing impacts would be identical less than those described for the proposed Project.</p>

## Figure Links

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page

**Figure ES-1**

**Regional Location**

**ES-37**

**Figure ES-2**

**Proposed Project and Alternatives**

**ES-38**