

CHAPTER 3

Alternatives and Cumulative Projects

This section documents: (1) the range of alternatives that was suggested and evaluated; (2) the approach and methods used to screen the feasibility of these alternatives according to guidelines established under CEQA; (3) the results of the alternatives screening; and (4) the description of cumulative projects. This section is organized as follows: Section 3.1 is an overview of the alternatives screening process; Section 3.2 describes the methodology used for alternatives evaluation; Section 3.3 presents a summary of the alternatives that have been selected for full EIR analysis as well as a summary of the alternatives that have been eliminated based on CEQA criteria; Section 3.4 describes the alternatives that have been retained for full EIR analysis, including the No Project Alternative; and Section 3.5 presents descriptions of each of the alternatives that were eliminated from EIR analysis and explains why each was eliminated. Finally, Section 3.6 identifies and describes the other past, present, and reasonably foreseeable future projects that are considered in the cumulative impact analysis for this EIR.

3.1 Alternatives Development and Screening Process

One of the most important aspects of the environmental review process is the identification and assessment of reasonable alternatives that have the potential for avoiding or minimizing the impacts of a proposed project. In addition to mandating consideration of the No Project Alternative, CEQA Guidelines (Section 15126(d)) emphasize the selection of a reasonable range of technically feasible alternatives and adequate assessment of these alternatives to allow for a comparative analysis for consideration by decision makers. CEQA Guidelines state that the discussion of alternatives shall focus on alternatives capable of eliminating or reducing significant adverse environmental effects of a proposed project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly. However, CEQA Guidelines declare that an EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote or speculative.

Several alternatives were identified by SCE in its Proponent's Environmental Assessment (PEA) and others were developed by SCE and the EIR preparers subsequent to SCE's filing of the PEA. Particular emphasis was placed on developing feasible alternatives that would place the upgraded and new subtransmission lines entirely within SCE's existing ROW.

In total, the alternatives screening process culminated in the identification and screening of 12 potential alternatives to SCE's Proposed Project. These alternatives included different alignments to various reconductoring options as well as "non-wires alternatives."¹

3.2 Alternatives Screening Methodology

The evaluation of alternatives to the proposed Devers-Mirage 115 kV Subtransmission System Split Project was completed using a screening process that consisted of three steps, including:

Step 1: Clarify the description of each alternative to allow comparative evaluation.

Step 2: Evaluate each alternative using CEQA criteria (defined below).

Step 3: Determine the suitability of each alternative for full analysis in the EIR. Infeasible alternatives and alternatives that clearly offered no potential for overall environmental advantage were removed from further analysis.

Following the three-step screening process, the advantages and disadvantages of the remaining alternatives were carefully weighed with respect to CEQA's criteria for consideration of alternatives. These criteria are discussed in greater detail below.

CEQA Guidelines (Section 15126(a)) state that:

An EIR shall describe a reasonable range of alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project.

In order to comply with CEQA's requirements, each alternative that has been suggested or developed for this project has been evaluated in three ways:

- Does the alternative meet most basic project objectives?
- Is the alternative feasible (legal, regulatory, technical)?
- Does the alternative avoid or substantially lessen any significant effects of the Proposed Project (including consideration of whether the alternative itself could create significant effects potentially greater than those of the Proposed Project)?

3.2.1 Consistency with Project Objectives

CEQA Guidelines require the consideration of alternatives capable of eliminating or reducing significant environmental effects even though they may "impede to some degree the attainment of project objectives" (Section 16126.6(b)). Therefore, it is not required that each alternative meet all of SCE's objectives.

¹ "Non-wires alternatives" include methods of meeting project objectives that do not require major subtransmission lines (e.g., renewable energy supplies, conservation and demandside management, etc.).

The objectives of the Proposed Project are defined by SCE in its PEA (SCE, 2008). This EIR does not adopt or endorse the objectives that SCE has defined for its Proposed Project. SCE's stated objectives are presented below.

SCE's Proposed Project Objectives

- Serve projected electrical demand requirements in the Electrical Needs Area.
- Maintain electrical system reliability within the Devers 220 kV Transmission System and Electrical Needs Area.
- Enhance operational flexibility by providing the ability to transfer load between subtransmission lines and substations within the Electrical Needs Area.
- Utilize existing SCE facilities and ROWs, where feasible.
- Meet projected need while minimizing environmental impacts.
- Meet project need in a cost-effective manner.

3.2.2 Feasibility

CEQA Guidelines (Section 15364) define feasibility as:

...capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

In addition, CEQA requires that the lead agency consider site suitability, economic viability, availability of infrastructure, general plan consistency, other regulatory limitations, jurisdictional boundaries, and proponent's control over alternative sites in determining the range of alternatives to be evaluated in the EIR (CEQA Guidelines Section 15126.6(f)). Feasibility can include three components:

- **Legal Feasibility:** Does the alternative have the potential to avoid lands that have legal protections that may prohibit or substantially limit the feasibility of permitting a sub-transmission or transmission line?
- **Regulatory Feasibility:** Does the alternative have the potential to avoid lands that have regulatory restrictions that may substantially limit the feasibility of, or permitting of, a sub-transmission or transmission line within a reasonable period of time?
- **Technical Feasibility:** Is the alternative feasible from a technological perspective, considering available technology; the construction, operation, and maintenance or spacing requirements of multiple facilities using common rights-of-way; and the potential for common mode failure?

For the screening analysis, the legal, technical, and regulatory feasibility of potential alternatives was assessed. The assessment was directed toward reverse reason; that is, a determination was

made as to whether there was anything about the alternative that would be infeasible on technical, legal, or regulatory grounds.

This screening analysis does not focus on relative economic factors or costs of the alternatives (as long as they are found to be economically feasible) since CEQA Guidelines require consideration of alternatives capable of eliminating or reducing significant environmental effects even though they may “impede to some degree the attainment of project objectives or would be more costly” (CEQA Guidelines Section 16126.6(b)).

3.2.3 Potential to Eliminate Significant Environmental Effects

CEQA requires that to be fully considered in an EIR, an alternative must have the potential to “avoid or substantially lessen any of the significant effects of the project” (CEQA Guidelines Section 16126.6(a)).

If an alternative were identified that clearly would not provide potential overall environmental advantage as compared to the Proposed Project, it would have been eliminated from further consideration. At the screening stage, it is neither possible, nor legally required, to evaluate all of the impacts of the alternatives in comparison to the Proposed Project with absolute certainty, nor is it possible to quantify impacts. However, it is possible to identify elements of an alternative that are likely to be the sources of impact and to relate them, to the extent possible, to general conditions in the subject area.

Table 3-1 presents a summary of the potential significant environmental effects of the Proposed Project. This impact summary was prepared using a liberal definition of “potentially significant” so as to avoid excluding alternatives that may provide some overall environmental benefit. Also, since this impact summary was prepared prior to completion of the EIR analysis, it may not be complete in comparison to the detailed analysis now presented in Section 4 of this EIR. However, the impacts in Table 3-1 are representative of those resulting from preliminary EIR preparation and were therefore used to determine whether an alternative met CEQA Guidelines Section 16126.6(a) requirements.

3.3 Summary of Screening Results

Table 3-2 provides a composite list of the alternatives considered, and the results of the screening analysis with respect to the criteria findings for consistency with project objectives, feasibility, and environmental effectiveness. Alternatives carried forward for full EIR analysis are listed below in Section 3.3.1. Alternatives eliminated from further consideration follow in Section 3.3.2. Of the nine alternatives that would result in routing the upgraded transmission line, four were eliminated based on technical infeasibility.

**TABLE 3-1
SUMMARY OF POTENTIAL SIGNIFICANT ENVIRONMENTAL IMPACTS
OF THE DEVERS-MIRAGE 115KV SUBTRANSMISSION SYSTEM SPLIT PROJECT**

Issue Area	Impact
Aesthetics	<ul style="list-style-type: none"> • Degradation of viewshed due to replacement of existing poles with taller poles, and installation of new lattice towers
Air Quality	<ul style="list-style-type: none"> • Short-term equipment exhaust emissions could exceed applicable thresholds
Biological Resources	<ul style="list-style-type: none"> • Temporary and/or permanent impacts to habitat important to listed species • Inconsistency with Coachella Valley Multi Species Habitat Conservation Plan
Cultural Resources	<ul style="list-style-type: none"> • Construction disturbance to recorded and/or unknown cultural and historic resources
Hazards and Hazardous Materials	<ul style="list-style-type: none"> • Impacts to surface or groundwater from construction-related use of hazardous materials
Hydrology and Water Quality	<ul style="list-style-type: none"> • Degradation of water quality through sedimentation or construction-related erosion
Noise	<ul style="list-style-type: none"> • Construction-related short-term noise impacts on sensitive land uses • Continuous operational noise from substations and/or transmission line corona discharge
Transportation and Traffic	<ul style="list-style-type: none"> • Short-term closures or traffic controls on highways and roads during construction • Short-term construction interruption to pedestrian/bicycle/vehicular traffic, public transit, property access, and/or emergency response vehicles

3.3.1 Alternatives Analyzed in the EIR

The alternatives listed below are those that have been selected through the alternative screening process for detailed EIR analysis; the No Project Alternative is also included as required by CEQA. Each of the alignment alternatives would substantially meet project objectives, would be feasible, and would avoid or reduce some of the potential environmental effects of the Proposed Project. The alternatives are briefly described in Table 3-2 as well as in greater detail in Section 3.4. Figure 3-1, *Alternatives Overview*, illustrates the general alignment of the five project alternatives compared to the Proposed Project alignments.

- No Project Alternative
- Alternative 2
- Alternative 3
- Alternative 5
- Alternative 6
- Alternative 7

**TABLE 3-2
SUMMARY OF ALTERNATIVES SCREENING ANALYSIS FOR THE DEVERS-MIRAGE 115 KV SUBTRANSMISSION SYSTEM SPLIT PROJECT**

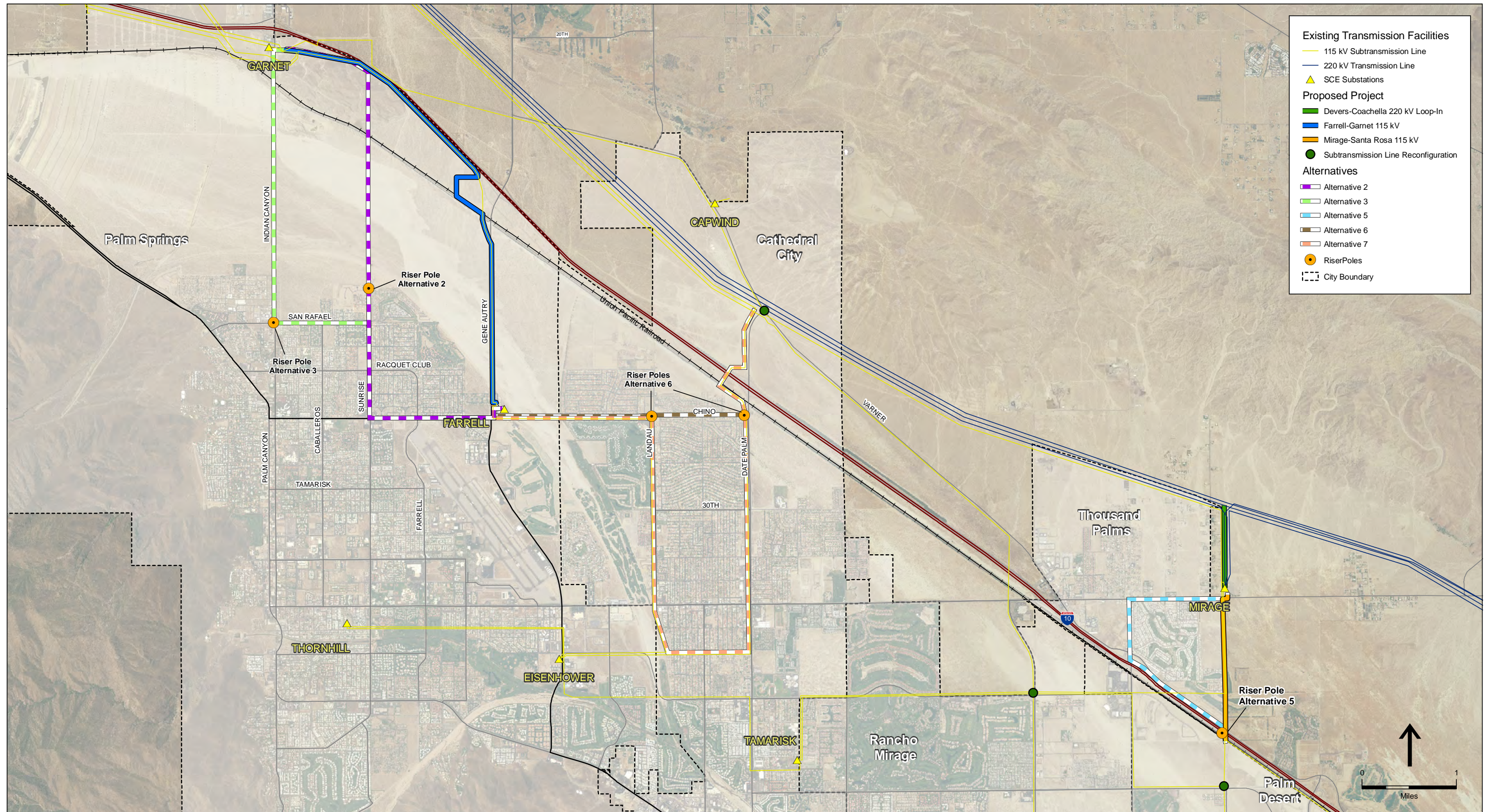
Alternative	Project Objectives Criteria	Feasibility Criteria	Environmental Criteria
Passes Screening			
<p>Alternative 2</p> <ul style="list-style-type: none"> Alternative to the proposed Farrell-Garnet subtransmission line, avoids sensitive resources along Gene Autry Trail Uses 1.5 miles of existing distribution ROW, 1.5 miles of subtransmission line ROW, and 3.0 miles of road franchises (total length, 0.2 mile longer than the proposed alignment), no new SCE ROW required 3.0 miles of underground line in existing roads 	Meets the basic project objectives.	Meets feasibility criteria.	Meets environmental criteria, although may result in different types of impacts than the proposed Farrell-Garnet subtransmission line.
<p>Alternative 3</p> <ul style="list-style-type: none"> Alternative to the proposed Farrell-Garnet subtransmission line, avoids sensitive resources along Gene Autry Trail Uses 2.9 miles of existing distribution ROW and 3.6 miles road franchises (total length, 0.7 mile longer than the proposed alignment), no new SCE ROW required 3.6 miles of underground line in existing roads 	Meets the basic project objectives.	Meets feasibility criteria.	Meets environmental criteria, although may result in different types of impacts than the proposed Farrell-Garnet subtransmission line.
<p>Alternative 5</p> <ul style="list-style-type: none"> Alternative to the proposed Mirage-Santa Rosa subtransmission line, avoids sensitive resources along the proposed alignment Uses 3.1 miles of road franchises (total length, 1.5 miles longer than the proposed alignment), no new SCE ROW required 3.0 miles of underground line in existing roads 	Meets the basic project objectives.	Meets feasibility criteria.	Meets environmental criteria, although may result in different types of impacts than the proposed Mirage-Santa Rosa subtransmission line.
<p>Alternative 6</p> <ul style="list-style-type: none"> Alternative to the proposed Farrell-Garnet subtransmission line, avoids sensitive resources along Gene Autry Trail Uses 3.2 miles of existing subtransmission line ROW, and 1.0 mile of road franchise (total length, 1.6 miles shorter than the proposed alignment), no new SCE ROW required 1.0 mile of underground line in existing roads 	Meets the basic project objectives.	Meets feasibility criteria.	Meets environmental criteria, although may result in different types of impacts than the proposed Farrell-Garnet subtransmission line.

TABLE 3-2 (Continued)
SUMMARY OF ALTERNATIVES SCREENING ANALYSIS FOR THE DEVERS-MIRAGE 115KV SUBTRANSMISSION SYSTEM SPLIT PROJECT

Alternative	Project Objectives Criteria	Feasibility Criteria	Environmental Criteria
Passes Screening (cont.)			
Alternative 7 <ul style="list-style-type: none"> Alternative to the proposed Farrell-Garnet subtransmission line, avoids sensitive resources along Gene Autry Trail Uses 9.1 miles of existing subtransmission ROW (total length, 3.3 miles longer than the proposed alignment), no new SCE ROW required 	Meets the basic project objectives.	Meets feasibility criteria.	Meets environmental criteria, although may result in different types of impacts than the proposed Farrell-Garnet subtransmission line.
Fails Screening			
Alternative 1 <ul style="list-style-type: none"> Alignment is within existing SCE ROW north of the UPRR Would avoid the need for new SCE ROW associated with the proposed Farrell-Garnet subtransmission line 	Meets the basic project objectives.	Fails. Legal feasibility is uncertain given lease renewal issues along the existing ROW.	Meets environmental criteria, although may result in different types of impacts than the proposed Farrell-Garnet subtransmission line.
Alternative 1A <ul style="list-style-type: none"> Avoids BLM land that would be crossed by the proposed Farrell-Garnet subtransmission line in the vicinity of the UPRR Requires 0.8 mile of new SCE ROW 	Meets the basic project objectives.	Fails. Legal feasibility is uncertain given lease renewal issues along the existing ROW.	Meets environmental criteria, although may result in different types of impacts than the proposed Farrell-Garnet subtransmission line.
Alternative 2 – Overhead <ul style="list-style-type: none"> Follows the same alignment as Alternative 2; however, the entire line would be overhead 	Meets the basic project objectives.	Fails. Poles along Vista Chino in the vicinity of Palm Springs International Airport would be considered obstacles to air navigation. FAA would not permit as defined.	Fails. Poles along Vista Chino in the vicinity of Palm Springs International Airport would be considered obstacles to air navigation causing significant safety hazards to air navigation in the area.
Alternative 3 – Overhead <ul style="list-style-type: none"> Follows the same alignment as Alternative 3; however, the entire line would be overhead 	Meets the basic project objectives.	Fails. Poles along Vista Chino in the vicinity of Palm Springs International Airport would be considered obstacles to air navigation. FAA would not permit as defined.	Fails. Poles along Vista Chino in the vicinity of Palm Springs International Airport would be considered obstacles to air navigation causing significant safety hazards to air navigation in the area.
No System Split Alternative <ul style="list-style-type: none"> Two new subtransmission lines would be constructed, but the existing 115 kV Subtransmission System would not be split. 	Fails. Would not achieve the demand requirement or system operation flexibility objectives.	Meets feasibility criteria.	Meets environmental criteria, although may result in different types of impacts than the Proposed Project.

TABLE 3-2 (Continued)
SUMMARY OF ALTERNATIVES SCREENING ANALYSIS FOR THE DEVERS-MIRAGE 115 KV SUBTRANSMISSION SYSTEM SPLIT PROJECT

Alternative	Project Objectives Criteria	Feasibility Criteria	Environmental Criteria
Fails Screening (cont.)			
<p>Non-Wires – Energy Conservation and Demand Side Management</p> <ul style="list-style-type: none"> • Replace need for subtransmission lines and the 220 kV loop-in through implementation of energy conservation programs 	<p>Fails. Would not serve projected demand or reliability objectives for the Proposed Project.</p>	<p>Fails. These programs are not feasible on a scale that would be suitable to replace the Proposed Project within a reasonable period of time.</p>	<p>Meets environmental criteria. Complete avoidance of the Proposed Project would eliminate the potential impacts of the construction, operation, and maintenance of the subtransmission lines and 220 kV loop-in, and no new significant impacts would be created.</p>
<p>Non-Wires – Renewable or Conventional/Distributed Generation Energy Resources</p> <ul style="list-style-type: none"> • Renewable or Conventional/Distributed Generation • Provide local sources of electricity that would not require the upgrade of the subtransmission and transmission lines or substations 	<p>Fails. There is limited potential for local renewable resources or distributed generation to meet the projected demand or reliability objectives for the Proposed Project.</p>	<p>Fails. Because even local renewable or distributed resources would require upgraded or new subtransmission and transmission infrastructure.</p>	<p>Fails. Large scale geothermal, wind, or solar facilities would potentially result in greater environmental impacts for aesthetics, cultural, and biological resources, and would occur in addition to the impacts from upgraded or new subtransmission and transmission infrastructure.</p>



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3.3.2 Alternatives Eliminated from EIR Consideration

The alternatives that have been eliminated through the alternative screening process from analysis in the EIR are listed below. As summarized in Table 3-2, these alternatives have been eliminated due to project objectives and feasibility concerns, and in some cases because the alternative would have greater environmental impacts than the Proposed Project. The rationale for elimination of each alternative is summarized in Table 3-2 and is described in greater detail in Section 3.5.

- Alternative 1
- Alternative 1A
- Alternative 2 - Overhead
- Alternative 3 - Overhead
- No System Split Alternative
- “Non-Wires” – Energy Conservation and Demand Side Management
- “Non-Wires” – Renewable or Conventional/Distributed Generation Energy Resources.

3.4 Alternatives Evaluated in this EIR

3.4.1 No Project Alternative

CEQA requires an evaluation of the No Project Alternative in order for decision makers to compare the impacts of approving the project with the impacts of not approving the project. According to CEQA Guidelines (Section 15126.6[e]), the No Project Alternative must include:

- (a) the assumption that conditions at the time of the Notice of Preparation (i.e., baseline environmental conditions) would not be changed since the Proposed Project would not be installed, and
- (b) the events or actions that would be reasonably expected to occur in the foreseeable future if the project were not approved. The first condition is described in the EIR for each environmental discipline as the “environmental baseline,” since no impacts of the Proposed Project would be created. This section defines the second condition of reasonably foreseeable actions or events. The impacts of these actions are evaluated in each issue area’s analysis in Section 4.

Under the No Project Alternative, the Proposed Project would not be implemented. The existing Devers 115 kV Subtransmission System would not be split and the existing Devers-Coachella Valley 220 kV transmission line would not be looped into Mirage Substation. None of the Project Objectives would be met, and the Electrical Needs Area would potentially experience a shortage of electricity during the summer peak season and electrical system could become vulnerable to upset until a new project could be designed, permitted, and constructed to provide additional transmission capacity and reliability to the area. The improved system reliability and operating flexibility associated with the Proposed Project would not occur. Therefore, without upgrades to the existing system, as new facilities are added, the system would experience system-wide power flow and reliability problems due to overloading of the existing system, such as curtailed generation, thermal overload, and blackouts.

If the Proposed Project 115 kV components and/or the alignment alternatives are not implemented, SCE would continue to implement existing operating procedures to compensate for the anticipated shortfall in the supply of electric power for the Electrical Needs Area. Operating procedures to relieve base case thermal overloads would include transferring load between the substations via distribution circuits, load dropping on one or more distribution circuits, or disconnecting entire substations from the Devers 115 kV Subtransmission System. The latter two operating measures would cause extended outages within the Electrical Needs Area until the base case thermal overload conditions could be eliminated.

Similarly, if the proposed Devers-Coachella Valley 220 kV Loop-In is not constructed, voltage problems would exist on the Devers 220 kV Transmission System by 2010. The No Project Alternative would leave SCE vulnerable to be unable to provide sufficient, reliable service to the Electrical Needs Area, in violation of North American Electric Reliability Corporation (NERC) and the Western Electricity Coordinating Council (WECC) criteria.

In addition, SCE would likely be required to implement demand-side management (DSM) programs to reduce customer energy consumption and overall electricity use, including shifting energy use to off-peak periods. The CPUC supervises various DSM programs administered by the regulated utilities, and many municipal electric utilities have their own DSM programs. The combination of these programs constitutes the most ambitious overall approach to reducing electricity demand administered by any state in the nation. Reducing demand is an essential part of SCE's operations with or without the Proposed Project and is not directly related to the Proposed Project.

It would be speculative to predict the type and location or schedule of permanent development for new power plants and transmission needed to overcome the transmission system constraints that would remain under the No Project Alternative. However, for purposes of this analysis, the No Project Alternative could include either of the following components or combination of components:

- Construction of new subtransmission and transmission facilities at 115 kV and 220 kV or higher voltage, possibly requiring the development of new transmission alignments; and
- Construction of additional regional generation.

3.4.2 Alternative 2

Alignment Description

Alternative 2 would include the construction of approximately six miles of a new underground and overhead single-circuit 115 kV subtransmission line within existing California Department of Transportation (Caltrans) and the City of Palm Springs road franchise locations and SCE rights-of-way (ROW) between the Farrell and Garnet substations. See Figure 3-1, *Alternatives Overview*, for an illustration of the Alternative 2 alignment.

From Farrell Substation, the underground segment of Alternative 2 would head south on Gene Autry Trail to Vista Chino. It would then continue west along Vista Chino for approximately 1.3 miles. At Sunrise Way, the line would turn north, and proceed along Sunrise Way to Four Seasons Boulevard, where the underground segment would end and the subtransmission line would transition to overhead at a riser pole (see riser pole discussion under *Underground Line Construction*, below). From Four Seasons Boulevard to the intersection of the existing Devers-Farrell-Windland 115 kV subtransmission line (approximately 1.5 miles), the new overhead line would be constructed within existing SCE distribution line² ROWs. The alignment would then turn west, within the existing Devers-Farrell-Windland 115 kV subtransmission line ROW for approximately 1.5 miles. Within the existing subtransmission line ROW, the proposed Farrell-Garnet and existing Devers-Farrell-Windland lines would be consolidated on new double-circuit support structures on the south side of I-10 to Garnet Substation.

Overhead Line Construction

Along the overhead segment, the existing distribution poles would be removed and the distribution circuits would be installed on the new 115 kV single circuit structures. The heights of the existing distribution circuit support structures that would be replaced range from 34 feet to 48 feet above the ground surface. The single circuit subtransmission line poles that would replace the distribution poles would range in length from 61 feet to 71 feet above the ground surface. Construction of this alternative would require installation of approximately 101 new light-weight steel (LWS) poles, five tubular steel pole (TSP) double-circuit structures, one new TSP riser pole, and two sets of substation riser pedestals. See Figures 2-3 and 2-8 for illustrations of the LWS and TSP poles that would be associated with Alternative 2.

Riser poles, or riser pedestals, are required at the point at which an underground line terminates at an overhead line and vice versa. Alternative 2 would require two sets of eight-foot-tall substation riser pedestals at Farrell Substation to transition the overhead line from the substation rack to an underground line. A 95-foot-tall riser pole would be required where the line would transition from underground to overhead at Four Seasons Boulevard. A photograph of a riser pole similar to that that would be used for Alternative 2 is shown in Figure 3-2, *Example of a 115 kV Double-Circuit Riser Pole*. The cables would transition to overhead/underground at the risers through rigid conduits inside the risers. The low profile riser pedestals would be necessary at Farrell Substation, as opposed to riser poles, due to the substation's close proximity to Palm Springs International Airport and the associated flight paths.

Construction activities and methods that would be associated with the overhead line segments of the alternative would be similar to those described for the Proposed Project (see Section 2.4.3). Below is a description of the construction activities and methods that would be associated with the underground segment of Alternative 2.

² A distribution line is an electric power line designed at a voltage level of 50 kV or less. Distribution lines tend to provide electricity directly to electricity users.



SOURCE: SCE, 2008

Devers-Mirage 115 kV Subtransmission System Split Project . 207059

Figure 3-2
Example of a 115 kV Double-Circuit Riser Pole

Underground Line Construction

To match the current carrying capacity of the alternative's overhead single-circuit 115 kV subtransmission line, the underground system would require the installation of two cables for each phase of the 115 kV lines resulting in six underground cables for the circuit. Each individual underground cable would be 1,750 kcmil cross linked polyethylene (XPLE) jacketed underground cable.

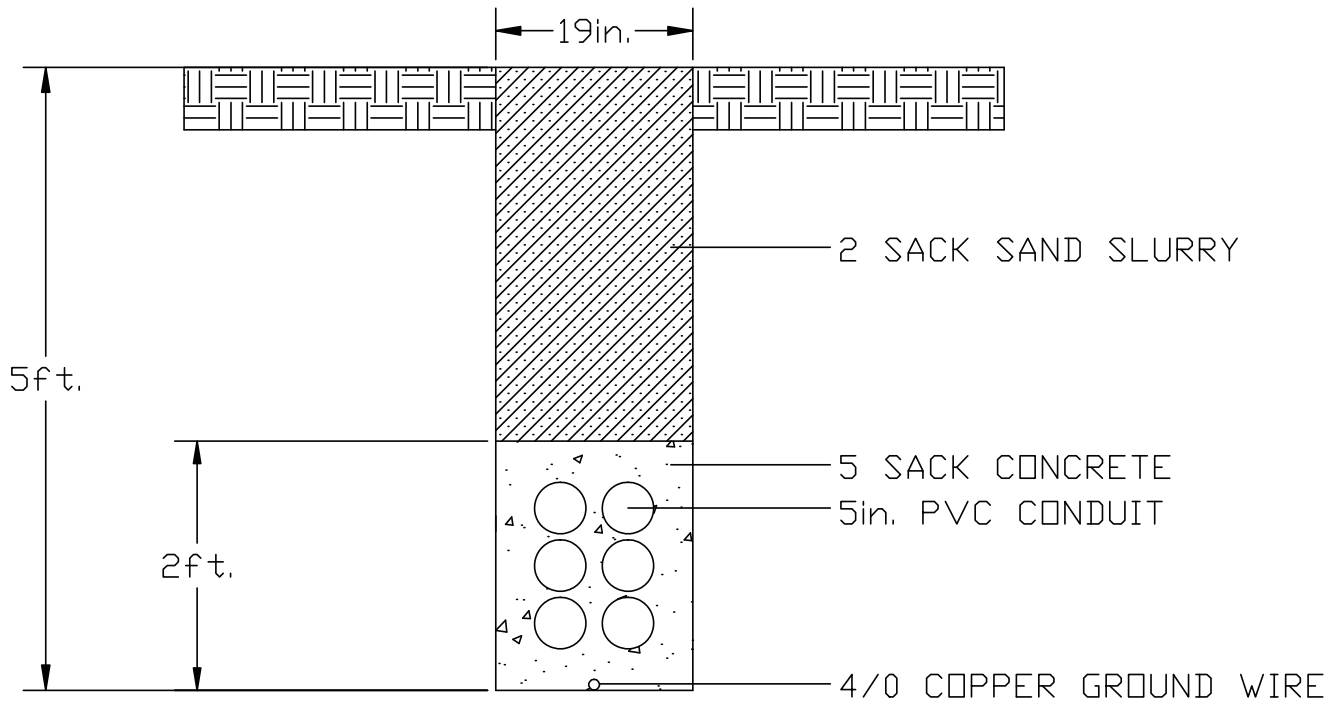
The underground cables would be installed in a buried concrete-encased duct bank system, as shown in Figure 3-3, *115 kV Double-Circuit Duct Bank*. The duct bank system would consist of six five-inch conduits, stacked vertically in columns of two, and one 4/0 copper ground wire. The conduit would be encased with five sack concrete and the trench would be backfilled with two sack sand slurry. As illustrated in Figure 3-3, the minimum dimension requirements for the subtransmission underground trench would be approximately five feet deep and 19 inches wide.

The trench may need to be deeper and/or wider depending on the location of other utilities, or other obstacles, that are in the ground along these alignments.

The total volume of excavated material for the three-mile segment associated with duct bank construction would amount to approximately 4,700 cubic yards. All excavated material would be disposed offsite. The location of the disposal would be the responsibility of the contractor installing the duct bank. It is anticipated that conduit installation would proceed at a rate of approximately 100 to 125 feet per day. Road closures and detours would be required along Vista Chino and Sunrise Way. During non-work hours, any open trench would be covered by either heavy-duty plywood in non-traffic areas or by steel plates in roadways.

Cable vaults would be installed at regular intervals below the ground surface along the underground segment. These vaults would house equipment and splices for the underground circuit due to the practical limit of the length of cable supplied on a reel. SCE has indicated that without the benefit of having conducted engineering of the underground line or surveying of the existing underground facilities in the area, they are not able to accurately determine how many vaults would be required along the underground segment. Although SCE has not engineered or surveyed the specifics of an underground segment associated with this alternative, they have recently indicated that the practical limit to distances between vaults is up to approximately 2,000 feet to allow splicing of the cable ends (CPUC, 2007). In addition, due to the requirements for cable pulling, vaults must be placed within 150 feet of the riser pole and riser pedestals. Therefore, it is reasonable to assume that at least 10 vaults would be required for Alternative 2.

It is estimated that the vaults would be approximately eight feet wide, 20 feet long, and approximately 10 feet deep, with a four by five foot opening at the top. Total excavated material for each vault would amount to approximately 50 cubic yards. All of the excavated material would need to be disposed of offsite. If the top of the vault would be below grade, concrete rings may be added until the "neck" of the vault would be at the ground surface. Then, a manhole section would be placed on top with a manhole cover. The vaults would be prefabricated and made of reinforced concrete. The vaults would be backfilled with two sack sand slurry around the



outside of the vault once installation would be completed. Installation of each vault would take place over a period of approximately three days.

After the conduit system and the riser pole and riser pedestals have been constructed, the cable would be installed. Starting at one end, cable would be pulled from the first vault up through the riser pole or riser pedestals. Cable would then be pulled through to the next vault, and so on, until the last length of cable has been pulled through the riser pole or riser pedestals. Once installed, the cable would be ready to be spliced, terminated, tested, and energized. As described above, installation of two cables would be required per phase, resulting in the use of each of the six conduits in the duct bank for the single circuit.

After cable installation is complete, the cables would be spliced at all vaults. A splice trailer would be located near the vault manhole openings for easy access by workers. A mobile power generator would be located directly behind the trailer. The dryness of the vault would be maintained 24 hours per day to ensure that unfinished splices are not contaminated with water or impurities. Normal splicing hours would be 8 to 10 hours per day. At the end of each construction day, the vault would be closed and secured. When splicing would be completed at each vault, the splicing apparatus setup would be moved to the next vault location and splicing activities would be resumed.

Construction of the underground segment would be performed by SCE construction crews or contractors under the supervision of SCE personnel. Anticipated construction personnel and equipment are summarized below in Table 3-3, *Construction Equipment and Workforce Estimates (Alternative 2 Underground Segment)*.

Construction Schedule

On average, SCE estimates that it would take approximately 44 days to complete one mile of underground cable installation, including all of the components (e.g., vaults, etc.). The number of construction days required to install the underground cable segment would depend upon the number of vaults, cable splices, cable terminations, and lightning arrestors necessary to complete the project. Therefore, the underground line segment of Alternative 2 would require approximately six months of work effort. However, assuming construction of the overhead segment of the alternative would occur simultaneously with the underground segment, the overall length of calendar time to complete installation of Alternative 2 is estimated to be nine months.

Operations and Maintenance of Underground Segment

Regular maintenance would be required for the underground system on an annual basis. This would be accomplished through visual inspections of the cable and splices installed in each vault. Inspections would require approximately two full days of work with a two-person crew in a pick-up truck.

**TABLE 3-3
CONSTRUCTION EQUIPMENT AND WORKFORCE ESTIMATES
(Alternative 2 Underground Segment)**

Construction Element (e.g., survey, etc.)	Number of Personnel	Number of Days	Equipment Requirements (including #, eq. description, hp)
Survey	4	5	2 – Pick-ups (Gasoline)
Substructure Installation (vaults, conduits, & riser pole foundations)	10	30	2 – Backhoes (Diesel) 1 – Auger machine (Diesel) 3 – Concrete trucks (Diesel) 3 – Pick-ups (Gasoline) 2 – Dump trucks (Diesel)
Steel Riser Pole Installations	10	4	1 – Line Truck (Diesel) 1 – 80-ton Hydro Crane (Diesel) 2 – Pick-ups (Gasoline) 1 – Bucket Truck (Diesel) 2 – Semi-tractors (Diesel)
Cable pulling	10	30	1 – Cable Pulling Machine (Diesel) 2 – Pickups (Diesel) 2 – Semi-Tractors (Diesel) 1 – Line Truck (Diesel)
Cable makeup (vault splicing)	10	30	2 – Crew vehicles (Gasoline) 1 – Splicing Van (Diesel)
Pothead terminations & surge arrestors	10	10	2 – Pick-ups (Gasoline) 1 – Bucket Truck (Diesel) 1 – Line Truck (Diesel)
Clean-up & restoration	5	22	1 – 10-ton Dump Truck (Diesel) 1 – Pick-up (Diesel) 1 – Asphalt truck (Diesel) 1 – Pavement compactor (Diesel)

3.4.3 Alternative 3

Alignment Description

Alternative 3 would include the construction of approximately 6.5 miles of new underground and overhead single-circuit 115 kV subtransmission line within existing Caltrans and the City of Palm Springs road franchise locations and SCE ROW between the Farrell and Garnet substations. See Figure 3-1 for an illustration of the Alternative 3 alignment.

From Farrell Substation, the underground segment of Alternative 3 would head south on Gene Autry Trail to Vista Chino. At Vista Chino, Alternative 3 would head west for approximately 1.3 miles until reaching Sunrise Way where the line would turn north and proceed along Sunrise Way to San Rafael Road. At San Rafael Road, Alternative 3 would head west to Indian Canyon Drive, where it would turn north and continue underground for approximately 50 feet before it would rise above ground at a riser pole. North of the riser pole, the line would continue north

overhead along Indian Canyon Drive within existing SCE distribution line ROW or City franchise to Garnet Substation. Along Indian Canyon Drive the line would cross over the Whitewater River drainage adjacent to the Whitewater River Floodplain Preserve.

Overhead Line Construction

The existing pole lengths for the distribution circuits that would be replaced range from 34 feet to 48 feet above the ground surface. Construction of this alternative would require installation of approximately 96 new LWS poles, 10 TSP structures, one TSP riser pole, and two sets of substation riser pedestals. See Figures 2-3 and 2-8 for general illustrations of the LWS and TSP poles that would be associated with Alternative 3 and Figure 3-2 for an example of a riser pole similar to that that would be required for Alternative 3. Several of the distribution poles that would be replaced just south of Garnet Substation support four distribution circuits. For an illustration of the new 115 kV poles that would also support the four existing distribution circuits, see Figure 3-4, *Single Circuit 115 kV Pole with Four Distribution Circuits*. Two sets of substation riser pedestals would be required at Farrell Substation to transition the overhead line from the substation rack to an underground line and one 95-foot riser pole would be required where the line would transition from underground to overhead on Indian Canyon Drive. Construction activities and methods that would be associated with the overhead line segments of the alternative would be similar to those described for the Proposed Project (see Section 2.4.3).

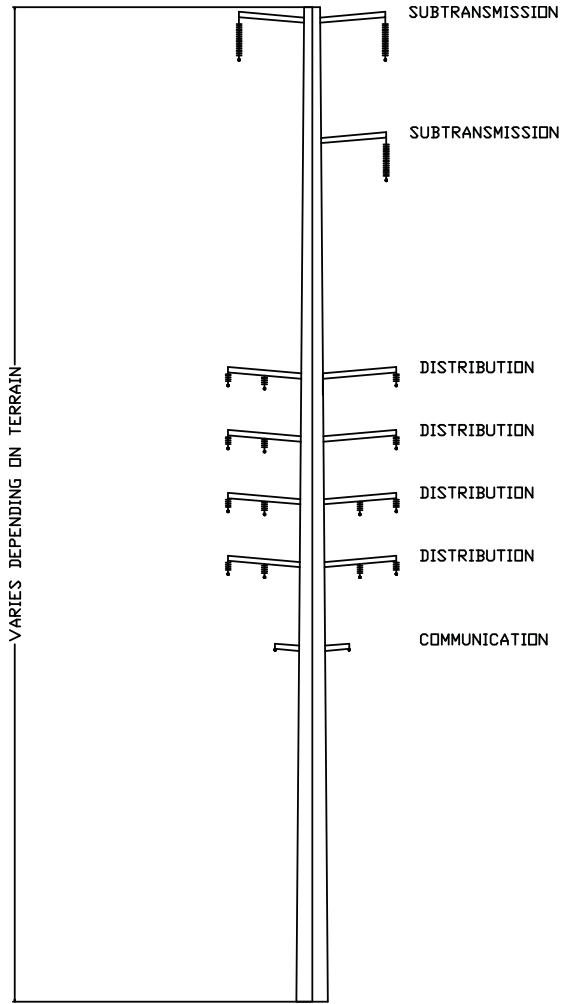
Underground Line Construction

Underground cables would be installed in a buried concrete-encased duct bank system. The total volume of excavated material for the 3.6-mile segment associated with Alternative 3 duct bank construction would amount to approximately 5,500 cubic yards. Road closures and detours would be required along Vista Chino, San Rafael Drive, and Sunrise Way. Cable vaults would be installed at regular intervals below the ground surface along the underground segment. Based on the practical limit to distances between vaults, it is reasonable to assume that at least 11 vaults would be required for Alternative 3. For more details regarding the underground components and associated construction, maintenance, and operational activities, refer to Section 3.4.2.

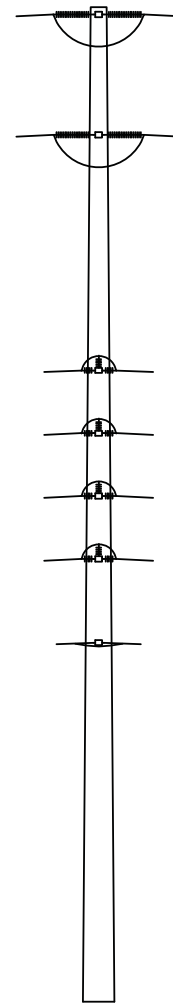
Construction of the underground segment would be performed by SCE construction crews or contractors under the supervision of SCE personnel. Anticipated construction personnel and equipment are summarized below in Table 3-4, *Construction Equipment and Workforce Estimates (Alternative 3 Underground Segment)*.

Construction Schedule

It is estimated that the underground line segment of Alternative 3 would require approximately seven months of work effort. However, assuming the overhead segment of the alternative would occur simultaneously with the underground segment, the overall length of calendar time to complete installation of Alternative 3 is estimated to be approximately ten months.



FRONT VIEW OF A SINGLE CIRCUIT ENGINEERED STEEL SUBTRANSMISSION SUSPENSION POLE WITH FOUR DISTRIBUTION CIRCUITS AND TWO COMMUNICATION CIRCUITS (IF NECESSARY)



SIDE VIEW OF A SINGLE CIRCUIT ENGINEERED STEEL SUBTRANSMISSION DEAD END POLE WITH FOUR DISTRIBUTION CIRCUITS AND TWO COMMUNICATION CIRCUITS (IF NECESSARY)

**TABLE 3-4
CONSTRUCTION EQUIPMENT AND WORKFORCE ESTIMATES
(Alternative 3 Underground Segment)**

Construction Element (e.g., survey, etc.)	Number of Personnel	Number of Days	Equipment Requirements (including #, eq. description, hp)
Survey	4	5	2 – Pick-ups (Gasoline)
Substructure Installation (vaults, conduits, & riser pole foundations)	10	33	2 – Backhoes (Diesel) 1 – Auger machine (Diesel) 3 – Concrete trucks (Diesel) 3 – Pick-ups (Gasoline) 2 – Dump trucks (Diesel)
Steel Riser Pole Installations	10	4	1 – Line Truck (Diesel) 1 – 80-ton Hydro Crane (Diesel) 2 – Pick-ups (Gasoline) 1 – Bucket Truck (Diesel) 2 – Semi-tractors (Diesel)
Cable pulling	10	33	1 – Cable Pulling Machine (Diesel) 2 – Pickups (Diesel) 2 – Semi-Tractors (Diesel) 1 – Line Truck (Diesel)
Cable makeup (vault splicing)	10	33	2 – Crew vehicles (Gasoline) 1 – Splicing Van (Diesel)
Pothead terminations & surge arrestors	10	10	2 – Pick-ups (Gasoline) 1 – Bucket Truck (Diesel) 1 – Line Truck (Diesel)
Clean-up & restoration	5	22	1 – 10-ton Dump Truck (Diesel) 1 – Pick-up (Diesel) 1 – Asphalt truck (Diesel) 1 – Pavement compactor (Diesel)

3.4.4 Alternative 5

Alignment Description

Alternative 5 would include the construction of approximately 3.1 miles of mostly new underground single-circuit 115 kV subtransmission line within existing Riverside County road franchise locations and SCE ROW between Mirage Substation and the existing Santa Rosa-Tamarisk 115 kV line. See Figure 3-1 for an illustration of the Alternative 5 alignment.

Alternative 5 would be installed underground between the Mirage Substation and the existing Mirage-Concho 115 kV overhead transmission line. From the Mirage Substation, Alternative 5 would head south on Vista de Oro until Ramon Road where it would turn and head west. At Monterey Avenue the alternative alignment would turn and head south to Varner Road, where it would then turn southeast on Varner Road and proceed to the point where it would join the existing Mirage-Concho 115 kV overhead transmission line. At this location, the underground

line would rise overhead, double circuiting the Mirage-Concho 115 kV subtransmission line. Alternative 5 would cross I-10 on TSPs and would connect with the existing Santa Rosa-Tamarisk line south of I-10.

Overhead Line Construction

Alternative 5 would require two 95-foot-tall riser poles to transition the overhead line to underground and vice versa. One pole would be located inside the Mirage Substation and the second pole would be located at the intersection of Varner Road and Vista De Oro. A photograph of a riser pole similar to those that would be used for Alternative 5 is shown in Figure 3-2. The cables would transition to overhead/underground at the risers through rigid conduits inside the risers. Construction activities and methods that would be associated with the overhead line segments of the alternative would be similar to those described for the Proposed Project (see Section 2.4.3).

Underground Line Construction

The total volume of excavated material for the three-mile segment associated with Alternative 5 duct bank construction would amount to approximately 3,130 cubic yards. The underground cable would be placed in street right of way provided that there is adequate space for SCE's facilities. Road closures and detours would be required along Ramon Road, Varner Drive, and Monterey Drive. Cable vaults would be installed at regular intervals below the ground surface along the underground segment. Based on the practical limit to distances between vaults, it is reasonable to assume that approximately ten vaults would be required for Alternative 5.

Construction of the underground segment would be performed by SCE construction crews or contractors under the supervision of SCE personnel. Anticipated construction personnel and equipment are summarized below in Table 3-5, *Construction Equipment and Workforce Estimates (Alternative 5 Underground Segment)*. For more details regarding the general underground components and associated construction, maintenance, and operational activities, refer to Section 3.4.2.

Construction Schedule

It is estimated that the underground line segment of Alternative 5 would require approximately six months of work effort. However, assuming the overhead segment of the alternative would occur simultaneously with the underground segment, the overall length of calendar time to complete installation of Alternative 5 is estimated to be approximately six months.

**TABLE 3-5
CONSTRUCTION EQUIPMENT AND WORKFORCE ESTIMATES
(Alternative 5 Underground Segment)**

Construction Element (e.g., survey, etc.)	Number of Personnel	Number of Days	Equipment Requirements (including #, eq. description, hp)
Survey	4	5	2 – Pick-ups (Gasoline)
Substructure Installation (vaults, conduits, & riser pole foundations)	10	30	2 – Backhoes (Diesel) 1 – Auger machine (Diesel) 3 – Concrete trucks (Diesel) 3 – Pick-ups (Gasoline) 2 – Dump trucks (Diesel)
Steel Riser Pole Installations	10	4	1 – Line Truck (Diesel) 1 – 80-ton Hydro Crane (Diesel) 2 – Pick-ups (Gasoline) 1 – Bucket Truck (Diesel) 2 – Semi-tractors (Diesel)
Cable pulling	10	30	1 – Cable Pulling Machine (Diesel) 2 – Pickups (Diesel) 2 – Semi-Tractors (Diesel) 1 – Line Truck (Diesel)
Cable makeup (vault splicing)	10	30	2 – Crew vehicles (Gasoline) 1 – Splicing Van (Diesel)
Pothead terminations & surge arrestors	10	10	2 – Pick-ups (Gasoline) 1 – Bucket Truck (Diesel) 1 – Line Truck (Diesel)
Clean-up & restoration	5	22	1 – 10-ton Dump Truck (Diesel) 1 – Pick-up (Diesel) 1 – Asphalt truck (Diesel) 1 – Pavement compactor (Diesel)

3.4.5 Alternative 6

Alignment Description

Alternative 6 would include the construction of approximately 4.2 miles of new underground and overhead single-circuit 115 kV subtransmission line within existing Caltrans and Cathedral City road franchise locations and SCE ROW between Farrell Substation and the existing Garnet-Santa Rosa 115 kV ROW. See Figure 3-1 for an illustration of the Alternative 6 alignment.

Alternative 6 would exit Farrell Substation as an overhead line by heading south on Gene Autry Trail to Vista Chino. The line would then head east on Vista Chino approximately 1.7 miles to Landau Boulevard, where a riser pole would transition the line from overhead to underground. From Landau Boulevard, the underground line would continue east along Vista Chino traversing one mile to the existing SCE ROW of the Devers-Eisenhower 115 kV line along the west side of Date Palm Drive, where the line would transition from underground to overhead. From the

intersection of Vista Chino and Date Palm Drive, the new poles would continue 1.5 miles north within existing SCE ROW and Cathedral City franchise, to the Garnet leg of the Garnet-Santa Rosa 115 kV subtransmission line.

It should be noted that the proposed reconfigurations at Date Palm Drive and Varner Road would result in the Garnet-Santa Rosa 115 kV line becoming idle between Date Palm Drive/Varner Road and Garnet Substation (see *Reconfigured Mirage-Capwind-Devers-Tamarisk 115 kV Line* discussion in Section 2.4.2). The new 115 kV single circuit associated with Alternative 6 would connect to the proposed idle Garnet-Santa Rosa 115 kV subtransmission line, re-energizing the idle line to Garnet Substation.

Overhead Line Construction

Alternative 6 would replace the existing single circuit poles associated with the Eisenhower-Farrell 115 kV subtransmission line along Vista Chino from Farrell Substation to Landau Boulevard with new double circuit poles. In addition, the Alternative 6 overhead segment along Date Palm Drive and existing SCE ROW would replace the existing single-circuit poles associated with the Devers-Eisenhower 115 kV subtransmissions line with new double circuit poles. A combination of LWS and engineered steel poles would be used for Alternative 6.

Alternative 6 would also require two 95-foot-tall riser poles to transition the overhead line to underground and vice versa. One pole would be located on the corner of Vista Chino and Landau Boulevard. The second pole would be located on the corner of Vista Chino and Date Palm Drive. A photograph of a riser pole similar to those that would be used for Alternative 6 is shown in Figure 3-2. The cables would transition to overhead/underground at the risers through rigid conduits inside the risers. Construction activities and methods that would be associated with the overhead line segments of the alternative would be similar to those described for the Proposed Project (see Section 2.4.3). See Figures 2-3 and 2-8 for illustrations of the poles that would be associated with Alternative 6.

Underground Line Construction

The total volume of excavated material for the one-mile underground segment associated with Alternative 6 duct bank construction would amount to approximately 1,570 cubic yards. Road closures and/or detours would be required along Vista Chino, Landau Drive, and Date Palm Drive. It is estimated that approximately five vaults would be required for Alternative 6.

Construction of the underground segment would be performed by SCE construction crews or contractors under the supervision of SCE personnel. Anticipated construction personnel and equipment are summarized below in Table 3-6, *Construction Equipment and Workforce Estimates (Alternative 6 Underground Segment)*. For more details regarding the underground components and associated construction, maintenance, and operational activities, refer to Section 3.4.2.

**TABLE 3-6
CONSTRUCTION EQUIPMENT AND WORKFORCE ESTIMATES
(Alternative 6 Underground Segment)**

Construction Element (e.g., survey, etc.)	Number of Personnel	Number of Days	Equipment Requirements (including #, eq. description, hp)
Survey	4	5	2 – Pick-ups (Gasoline)
Substructure Installation (vaults, conduits, & riser pole foundations)	10	15	2 – Backhoes (Diesel) 1 – Auger machine (Diesel) 3 – Concrete trucks (Diesel) 3 – Pick-ups (Gasoline) 2 – Dump trucks (Diesel)
Steel Riser Pole Installations	10	4	1 – Line Truck (Diesel) 1 – 80-ton Hydro Crane (Diesel) 2 – Pick-ups (Gasoline) 1 – Bucket Truck (Diesel) 2 – Semi-tractors (Diesel)
Cable pulling	10	15	1 – Cable Pulling Machine (Diesel) 2 – Pickups (Diesel) 2 – Semi-Tractors (Diesel) 1 – Line Truck (Diesel)
Cable makeup (vault splicing)	10	15	2 – Crew vehicles (Gasoline) 1 – Splicing Van (Diesel)
Pothead terminations & surge arrestors	10	10	2 – Pick-ups (Gasoline) 1 – Bucket Truck (Diesel) 1 – Line Truck (Diesel)
Clean-up & restoration	5	22	1 – 10-ton Dump Truck (Diesel) 1 – Pick-up (Diesel) 1 – Asphalt truck (Diesel) 1 – Pavement compactor (Diesel)

Construction Schedule

It is estimated that the underground line segment of Alternative 6 would require approximately two months of work effort. However, assuming the overhead segment of the alternative would occur simultaneously with the underground segment, the overall length of calendar time to complete installation of Alternative 6 is estimated to be approximately nine months.

3.4.6 Alternative 7

Alternative 7 would include the construction of approximately 9.1 miles of a new overhead single-circuit 115 kV subtransmission line within existing Caltrans and Cathedral City road franchise locations and SCE rights-of-way (ROW) between Farrell Substation and the existing Garnet-Santa Rosa 115 kV ROW. See Figure 3-1 for an illustration of the Alternative 7 alignment.

Alternative 7 would exit Farrell Substation as an overhead line and head south on Gene Autry Trail to Vista Chino. The line would then head east on Vista Chino for approximately 1.7 miles to Landau Boulevard, where the line would turn south and continue along Landau Boulevard for approximately 2.5 miles before reaching 33rd Street. At 33rd Street, the line would turn east and continue along 33rd Street for approximately 0.9 mile to Date Palm Drive, where the line would turn north. On Date Palm Drive the line would continue north for 4.0 miles to the existing Garnet-Santa Rosa 115 kV ROW. See Figure 3-1 for an illustration of the Alternative 7 alignment.

Overhead Line Construction

Alternative 7 would replace the existing single circuit poles associated with the Eisenhower-Farrell 115 kV subtransmission line along Vista Chino from Farrell Substation to Landau Boulevard and along Landau Boulevard from Vista Chino to 33rd Street with new double circuit poles. In addition, along 33rd Street, Date Palm Drive, and existing SCE ROW, Alternative 7 would replace the existing single-circuit poles associated with the Devers-Eisenhower 115 kV subtransmission line with new double circuit poles. A combination of LWS and engineered steel poles would be used for Alternative 7. Construction activities and methods that would be associated with the alternative would be similar to those described for the Proposed Project (see Section 2.4.3). See Figures 2-3 and 2-8 for illustrations of the poles that would be associated with Alternative 7.

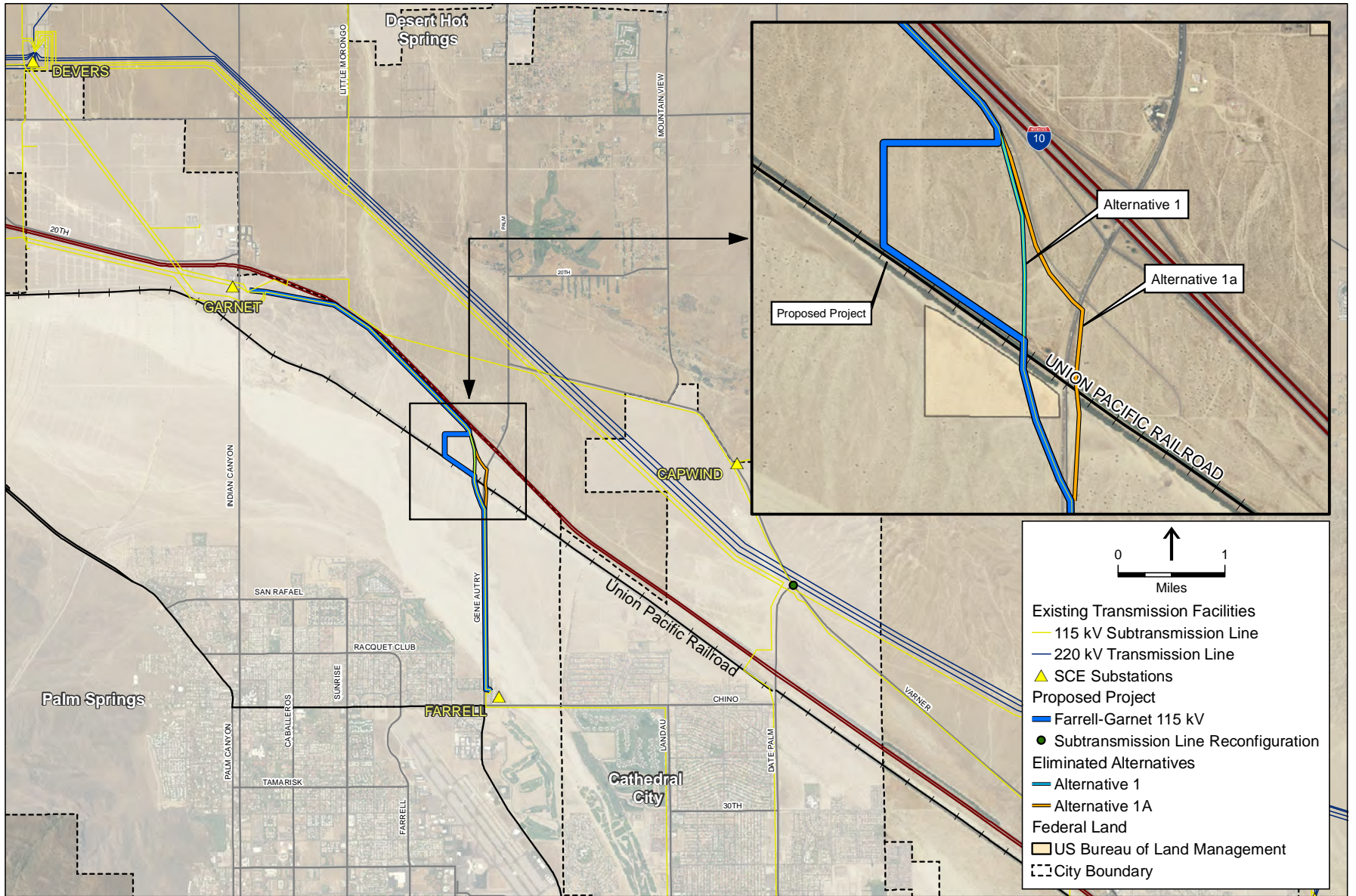
It should be noted that the proposed reconfigurations at Date Palm Drive and Varner Road would result in the Garnet-Santa Rosa 115 kV line becoming idle between Date Palm Drive/Varner Road and Garnet Substation (see *Reconfigured Mirage-Capwind-Devers-Tamarisk 115 kV Line* discussion in Section 2.4.2). The new 115 kV single circuit that would be associated with Alternative 7 would connect to the proposed idle Garnet-Santa Rosa 115 kV subtransmission line, re-energizing the line to Garnet Substation. It is estimated that construction of Alternative 7 would occur over a period of approximately 12 months.

3.5 Alternatives Eliminated from Full EIR Evaluation

3.5.1 Alternative 1

Alignment Description

SCE originally identified Alternative 1 as part of its proposed alignment for the Farrell-Garnett 115 kV Subtransmission Line. Instead of the alignment turning northwest within a new ROW just north of the Union Pacific Railroad (UPRR) as currently proposed, the double-circuit poles associated with Alternative 1 would replace the existing single circuit poles within the 0.8 mile of existing SCE ROW that would be avoided by the Proposed Project alignment. As opposed to the Proposed Project, Alternative 1 would require no new ROW. See insert map on Figure 3-5, *Alternatives 1 and 1A Eliminated from EIR Consideration*, for an illustration of the Alternative 1 alignment.



SOURCE: SCE, 2008

Devers-Mirage 115 kV Subtransmission System Split Project . 207059

Figure 3-5

Alternatives 1 and 1A - Eliminated from EIR Consideration

Rationale for Elimination

Alternative 1 was eliminated from further consideration in the EIR because subsequent to SCE's submittal of its PEA, it became apparent to SCE that the ROW lease held by the property owner along the existing 115 kV ROW is set to expire within the next few years and the subject property owner has indicated that he would not be willing to renew the lease agreement for the existing ROW alignment that extends from the UPRR to approximately 0.8 mile north of the UPRR, and the existing poles will have to be removed from the 0.8-mile segment. Through consultation with SCE, the property owner identified a preferred alignment to the west that would avoid the subject 0.8-mile portion of the existing ROW. Therefore, due to the lease renewal issues described above, SCE withdrew its support for Alternative 1 and modified its Proposed Project accordingly. From the CPUC's perspective, the legal feasibility of Alternative 1 is at best uncertain; therefore, full consideration of Alternative 1 was eliminated from this EIR.

3.5.2 Alternative 1A

Alignment Description

Alternative 1A would follow the proposed Farrell-Garnett alignment with the exception of an area near the intersection of Gene Autry Trail and the UPRR (see inset map on Figure 3-5). Instead of crossing Gene Autry Trail south of the railroad, Alternative 1A would continue north on the east side of Gene Autry Trail as a single circuit, until reaching Salvia Road. At Salvia Road this alternative alignment would then cross Gene Autry Trail on the south side of Salvia Road and follow Salvia Road until reaching I-10, where the alternative alignment would again be the same as the proposed Farrell-Garnett alignment. Alternative 1A would require new easements along Salvia Road but would not cross U.S. Bureau of Land Management (BLM) land.

Rationale for Elimination

As described above under the Alternative 1 discussion, subsequent to SCE's submittal of its PEA, it became apparent to SCE that the ROW lease held by the property owner along the existing 115 kV ROW north of the UPRR is set to expire within a few years and the subject property owner is not willing to renew the lease agreement for the existing ROW alignment that extends from the UPRR to approximately 0.8 mile north of the UPRR. The sole purpose of Alternative 1A was to have an option available for the Farrell-Garnett 115 kV line that would avoid the BLM land south of the UPRR. However, now that it is apparent that the 0.8 mile of existing poles north of the UPRR will have to be removed due to lease renewal issues, in order for Alternative 1A to be technically feasible, the poles south of the UPRR to the southern end of Alternative 1A would also have to be removed. Removal of the poles south of UPRR would require extensive construction activities on the BLM land, which would require BLM approval and would defeat the original purpose of the alternative. Therefore, due to the lease renewal issues described above and the inability of Alternative 1A to fulfill its original purpose of avoiding BLM land, full consideration of Alternative 1A was eliminated from this EIR.

3.5.3 Overhead Alternatives 2 and 3

Alignment Description

SCE originally identified Alternatives 2 and 3 in its PEA with overhead segments along Vista Chino, Sunrise Way, and San Rafael Road, instead of the underground segments that are identified in Sections 5.4.2 and 5.4.3.

Rationale for Elimination

During the CPUC's review of PEA Alternatives 2 and 3, it was determined that the poles that would be placed north of the Palm Springs International Airport would be classified by the Federal Aviation Administration (FAA) as obstacles and would potentially result in a hazard to air navigation in the vicinity of the airport. Therefore, for the purposes of this EIR, Overhead Alternatives 2 and 3 were determined to be infeasible.

3.5.4 No System Split Alternative

Description

The No System Split Alternative would include the construction of two new 115 kV subtransmission lines, but would not split the existing Devers 115 kV Subtransmission System. The No System Split Alternative would require construction of one new 115 kV line between Mirage Substation and the existing Santa Rosa-Tamarisk 115 kV circuit south of I-10 (Mirage-Santa Rosa-Tamarisk) and a second 115 kV subtransmission line between Mirage and Concho substations (Mirage-Concho No. 2). Additionally, the proposed 220 kV transmission line loop-in would be created by installing 8 LSTs and one TSP from Mirage Substation to the Devers-Coachella Valley 220 kV transmission line. A 280 MVA 220/115 kV transformer would be installed at Mirage Substation, and the 220 kV switchrack would be modified. SCE would construct the new Mirage-Santa Rosa-Tamarisk 115 kV subtransmission line by installing approximately 40 new double-circuit LWS poles, approximately nine wood poles, and approximately five TSPs. The existing Mirage-Tamarisk 115 kV subtransmission line would be transferred to the new LWS poles. SCE would complete the circuit between the Mirage and Santa Rosa substations by adding approximately 1.5 miles of new conductor between Mirage Substation and the existing Santa Rosa-Tamarisk 115 kV line at the south side of I-10. This work would all be conducted within SCE's existing ROW or franchise locations.

In addition, SCE would construct a second Mirage-Concho 115 kV subtransmission line. Approximately 115 new double-circuit TSPs would be installed, and the existing Devers-Capwind-Concho-Mirage 115 kV subtransmission line would be transferred to the new poles. SCE would add approximately 6.4 miles of new conductor within its existing ROWs or franchise locations to complete the circuit between the Mirage and Concho substations.

Also, SCE would modify various line positions and upgrade relay protection at Concho, Santa Rosa, and Tamarisk substations. A new 280 MVA 220/115 kV transformer would be installed at the Mirage Substation. Additional telecommunications equipment, such as channel banks and

fiber optic equipment, would be installed at Concho, Mirage, Santa Rosa, and Tamarisk substations to provide protection circuits to the substation relays.

Rationale for Elimination

The No System Split Alternative would not eliminate the 220 kV power flow from the 115 kV subtransmission system. Failure to eliminate the 220 kV power flow from the 115 kV subtransmission system would negatively impact system operation flexibility. Operational procedures for the Devers 220 kV Transmission System and the existing Devers 115 kV Subtransmission System would need to be modified to address the impacts of the 220 kV power flow associated with the existing Devers 115 kV Subtransmission System. These operating procedures would include, but would not be limited to, rolling blackouts at the distribution-circuit level or interruptions of the entire 115 kV subtransmission line that would lead to eventual load-dropping of substation transformers.

Moreover, this alternative would not create two separate 115 kV subtransmission systems that would create tie lines between two 115 kV subtransmission systems that could serve as alternative sources for distribution substations when peak customer demand would cause a thermal overload condition on a 115 kV subtransmission line. Without such tie-lines, the existing operating procedures would still require dropping customer load when emergency loading limits were exceeded on any one of the 115 kV subtransmission lines on the existing Devers 115 kV Subtransmission System within the Electrical Needs Area.

Finally, this alternative would increase short-circuit duty on 18 substations within the Devers 115 kV Subtransmission System. The increase in short-circuit duty may accelerate the need for future system short-circuit duty upgrades (e.g., higher short-circuit duty rated circuit breakers).

Therefore, due to the No System Split Alternative's inability to achieve most of the stated objectives of the Proposed Project, this alternative was eliminated from full review in this EIR.

3.5.5 Demand-Side Management Alternative

Description

Demand-side management (DSM) programs are designed to reduce customer energy consumption. Regulatory requirements dictate that supply-side and demand-side resource options should be considered on an equal basis in a utility's plan to acquire lowest cost resources. One goal of these programs is to reduce overall electricity use. Some programs also attempt to shift such energy use to off-peak periods.

The CPUC supervises various DSM programs administered by the regulated utilities, and many municipal electric utilities have their own DSM programs. The combination of these programs constitutes the most ambitious overall approach to reducing electricity demand administered by any state in the nation. Economic and price considerations as well as long-term impacts of State-sponsored conservation efforts, such as the Governors 20/20 rebate program and new appliance efficiency standards, are considered in load forecasts.

Rationale for Elimination

The projected capacity savings of DSM activities would not defer the need of the Proposed Project. While reductions in demand are considered an essential part of SCE's existing and future operations, they are incorporated into its system base and peak load forecasts. The available energy savings from these programs would be insufficient to improve the service reliability to the Electrical Needs Area to the level desired and achieved through the Devers-Mirage 115 kV Subtransmission System Split Project. As a stand-alone alternative to the Proposed Project, energy conservation and load management programs in this EIR would represent a small fraction of the capacity requirements needed to meet the stated objectives for the Proposed Project. Therefore, due to the Demand Side Management Alternative's inability to achieve most of the stated objectives of the Proposed Project, this alternative was eliminated from full review in this EIR.

3.5.6 Renewable or Conventional/Distributed Generation Energy Resources Alternative

Description

Renewable

Executive Order #S-14-08 sets California's renewable energy goals at 33 percent by 2020. This requires all retail sellers of electricity to increase their procurement of eligible renewable resources to 33 percent by 2020. This is an increase from California's Renewable Portfolio Standard (RPS) that required retail sellers of electricity to increase their procurement of eligible renewable to 20 percent by 2017. The RPS Program was mandated by Senate Bill 1078 (SB 1078, Sher, Chapter 516, Statutes of 2002) under Public Utilities Code sections 381, 383.5, 399.11 through 399.15, and 445. The CPUC, in collaboration with the California Energy Commission (CEC), is addressing its responsibilities in implementing the RPS through its own proceedings. On March 8, 2003, the CEC and the CPUC approved an Energy Action Plan in addition to the Renewable Portfolio Standard. On April 22, 2004, the CPUC issued an Order Instituting Rulemaking to specifically address the RPS (R.04-04-026). On September 21, 2005, the Energy Action Plan II was finalized. The shared goal of the Energy Action Plan is to:

“Ensure that adequate, reliable, and reasonably-priced electrical power and natural gas supplies, including prudent reserves, are achieved and provided through policies, strategies, and actions that are cost-effective and environmentally sound for California's consumers and taxpayers.”

In January 2006, the CPUC created the California Solar Initiative (CPUC ruling R.04-03-017) which moves the consumer renewable energy rebate program for existing homes from the CEC to the utility companies under the direction of the CPUC.

The CEC manages \$350 million targeted for new residential building construction. It will use funds already allocated to the CEC to foster renewable projects between 2007 and 2011. Called the New Solar Homes Partnership, it will focus on new residential construction.

Most of California's developed geothermal resources are located in Sonoma, Lake, Imperial, and Inyo Counties. Other geothermal resource areas in the State are found in Lassen, Mono, Siskiyou, and Modoc Counties. Some of the sites for new geothermal development are located in areas characterized by sensitive cultural and environmental concerns. Other issues that could delay development include permitting and access to transmission. The technologies most often used to produce electricity from geothermal resources in California are flash steam power and binary cycle power plants. The flash steam power technology is typically used at sites that have high temperature fluids (usually above 400 degrees Fahrenheit). Fluids at these sites boil into steam as they rise to the surface. The steam is used to power a turbine, which turns a generator to produce electricity. Binary cycle power plants can be used with lower temperature geothermal resources where the water does not become steam before rising to the surface.

At present, there are over 16,000 wind turbines in the U.S., with most of them located in California. In total, approximately 1,800 megawatts (MW) of electricity is generated from 105 separate wind farms. According to the Renewable Resources Development Report (CEC, 2003), Riverside County is one of three general area in California with high potential for wind generation capacity. Even in high capacity areas, wind energy technology requires approximately five to six acres per megawatt of wind power. In addition, the primary technical obstacle to utilizing wind generation is the lack of existing transmission infrastructure to transport the wind-generated power to the grid.

Currently there are two types of solar generation available: solar thermal power (also known as concentrating solar power) and photovoltaic (PV) power generation. At present, California generates approximately 345MW of power with solar thermal power plants, with the majority of these facilities being parabolic-trough electric plants installed in the Mojave Desert, due to the large tracks of land required for this technology. PV power systems are available on a significantly smaller scale, and have received increased support from private and public sections since the 1970s. PV systems typically convert about 10 percent of the available solar energy to alternating current electricity, and require approximately one square kilometer (247 acres) for a 100MW rated power system.

Distributed Generation

Distributed generation is electricity production that is on-site or close to the load center that could be interconnected at distribution, subtransmission, or transmission system voltages. Distributed generation is generally limited to systems less than 20 MW. Distributed generation does not include hydroelectricity, geothermal, non-combined heat and power related digester gas, landfill gas, and municipal solid waste.

In March 2007, the CEC released the staff report *Distributed Generation and Cogeneration Policy Roadmap for California* (CEC, 2007). The report included a vision for Distributed Generation and Cogeneration of being significant components of California's electrical system, meeting over 25 percent of the total peak demand. To achieve its vision, California will support incentives in the near term, transition to new market mechanisms, and reduce remaining institutional barriers.

Rationale for Elimination

Renewable resources for renewable energy programs are part of SCE's future operations and are incorporated into its long-term peak load forecasts. As separate and stand-alone programs, these renewable resource alternatives would not replace the need for upgrading the existing subtransmission and transmission infrastructure in the study area. Indeed, transmission system constraints are noted by the CEC as a substantial impediment to effective integration of renewable resources statewide. However, because renewable resources would not provide the demand, reliability, or operational flexibility needs of SCE, as stated in the objectives for the Proposed Project, and subtransmission and transmission infrastructure upgrades would still be required to integrate any renewable resources, this alternative was eliminated from further consideration.

The distributed generation industry is still a nascent industry that survives despite some difficult market conditions. There are numerous institutional, industry and market barriers that have impeded the growth and adoption of the industry to date. Although the potential is recognized, it is not currently a significant energy resource. The current distributed generation penetration is 2.5 percent of total peak demand in California (CEC, 2007). Because distributed generation would not provide the demand, reliability, or operational flexibility needs of SCE, as stated in the objectives for the Proposed Project, and subtransmission and transmission infrastructure upgrades would still be required to integrate distributed generation, this alternative has been eliminated from further consideration.

3.6 Cumulative Projects

As required by CEQA (Section 15130 et seq. of the CEQA Guidelines), this EIR includes an analysis of "cumulative impacts." CEQA defines cumulative impacts as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The cumulative analysis is intended to describe the "incremental impact of the project when added to other, closely related past, present, or reasonably foreseeable probable future projects" and can result from "individually minor but collectively significant projects taking place over a period of time" (CEQA Guidelines, Section 15355).

A cumulative scenario has been developed to identify projects that are reasonably foreseeable and that would be constructed or operated during the life of the Proposed Project. The projects that comprise the cumulative impact scenario do not include existing projects that are completed or in operation. Existing projects are included as part of the environmental setting for individual issue areas and are analyzed with respect to each resource issue area in Chapter 4.

The projects considered to be part of the cumulative scenario are presented in Table 3-7, which also describes the approximate geographic location of each project. The projects in the cumulative scenario include a range of project types from small single-family housing developments and road improvements to one industrial project. Proposed and pending projects are presented that are in the vicinity of the Proposed Project and alternatives. See Figure 3-6 for the approximate locations of the cumulative projects identified in Table 3-7.

**TABLE 3-7
CUMULATIVE SCENARIO – APPROVED AND PENDING PROJECTS**

Figure ID	APN or Project Name	Description	Address / Location	Agency / Organization	Details	Status / Timeline	Distance from Proposed Project/ Alternatives
1	Shook Building Systems, Inc.	Major Construction	670 Garnet Avenue West	City of Palm Springs	Construct a 13,680 square foot warehouse building for storage of portable storage units including a 400 square foot office area plus restrooms.	Approved, in Plan Check	Approximately 0.5 mile from Garnet Substation
2	Noble and Company, LLC	Zone Change	63300 Halleck Road	City of Palm Springs	Change of zone from Zone E-1 to Zone M-2 for subdivision of 30 acres into lots intended for commercial/industrial purposes.	In Process	Approximately 0.8 mile from Garnet Substation
3	Del Taco #706	Conditional Use Permit	6620 Indian Canyon Drive North	City of Palm Springs	Construct a Del Taco (#706) store per submitted plans.	Pending Initial Review	Approximately 250 feet from Garnet Substation
4	Office Warehouse	Major Construction	19302 Newhall Street	City of Palm Springs	Construct a 20,000 square foot office and warehouse at 19302 Newhall Street.	Approved Planning Commission	Approximately 0.5 mile from Garnet Substation
5	Warehouse Building/Retail	Major Construction	South of 20th Avenue and North of Indian Avenue.	City of Palm Springs	Construct a 27,926 square foot two-story building for selling and warehousing of stone products with 2,985 square feet of offices.	Approved Planning Commission - 09/28/05	Approximately 0.4 mile from Garnet Substation
6	Warehouse/Office Building	Major Construction	19486 Newhall Street.	City of Palm Springs	Construct a 7,925+ square foot commercial/industrial building for office and warehouse use with parking lot.	In Plan Check	Approximately 0.3 mile from Garnet Substation
7	Desert View East	Major Construction	19024 Ruppert Street	City of Palm Springs	Construct a 5,108 square foot warehouse/office building.	Approved Planning Commission - 06/14/06	Approximately 0.5 mile from Garnet Substation
8	Subdivision	Subdivision	63800 20th Avenue West	City of Palm Springs	Subdivision of a 10.37-acre property for industrial/ commercial lots.	Approved 04/01/09	Approximately 0.3 mile from Garnet Substation
9	Wildcat 36	Major Construction	19391, 19437 Newhall Street	City of Palm Springs	Construction of four 5,144 square foot industrial buildings.	Under Construction	Approximately 0.4 mile from Garnet Substation
10	Orr Warehouse	Major Construction	63-695 Orr Way	City of Palm Springs	Construct three industrial buildings: two at 9,157 square feet and one at 19,199 square feet on 2.16 acres.	In Plan Check	Approximately 0.5 mile from Garnet Substation
11	Palm Springs Material Recovery Facility	Conditional Use Permit	19th Avenue, Orr Way, and McLane Street.	City of Palm Springs	Request to amend CUP 5.0976 to increase the project site to 11.84 acres and to construct a 160,000 square foot Materials Recovery Facility (MRF) and Waste Transfer Station.	Approved 10/08/08	Approximately 0.6 mile from Garnet Substation

TABLE 3-7 (Continued)
CUMULATIVE SCENARIO – APPROVED AND PENDING PROJECTS

Figure ID	APN or Project Name	Description	Address / Location	Agency / Organization	Details	Status / Timeline	Distance from Proposed Project/ Alternatives
12	Wildcat 36/Orr Industrial Building #1 and #2	Major Construction	19432 Ruppert Street	City of Palm Springs	Construct two industrial buildings (10,288 square feet) in the North Palm Springs Business Center.	In Plan Check	Approximately 0.4 mile from Garnet Substation
13	Palm Springs Freeway Development	Hotel with 2 fast-food pads.	610 West Garnet Avenue	City of Palm Springs	Request for a time extension on a 2-story, 65-unit hotel with 2 fast-food pads, parking, and signage.	Approved 7/22/2009	Approximately 0.6 mile from Garnet Substation
14	Commercial Building	Major Construction	19th Avenue West of Indian Avenue	City of Palm Springs	Construct a 7,742 square foot building on a 93,499 square foot site fronting 19th Avenue west of Indian Avenue.	Approved 7/11/07	Approximately 0.6 mile from Garnet Substation
15	Noble and Company, LLC	Zone Change	63400 20th Avenue West	City of Palm Springs	Change zoning to subdivide parcel for future industrial or commercial development on approximately 98.84 acres.	In Process	Approximately 0.3 mile from Garnet Substation
16	Palm Springs International Business Park	Planned Development and Subdivision	South of Salvia Road and west of Gene Autry Trail.	City of Palm Springs	Planned Development District and Tentative Parcel Map to subdivide approximately 174 acres of 286 acres into a 69-lot business park subdivision and solar collector facility.	In Process	Approximately 0.1 mile from proposed Farrell-Garnet alignment
17	Comdyn PS, LLC	Major Construction	3130 Indian Canyon Drive North	City of Palm Springs	Construct 51 attached townhomes and associated common areas at 3130 North Indian Canyon Drive.	Public hearing on 09/09/09	Approximately 0.1 mile from Alternative 3
18	3 Unit Condominium	Major Construction	2794 Junipero Avenue	City of Palm Springs	Development of 3 Tuscan Style Condominiums on 0.24 acres.	Under Construction	Approximately 0.6 mile from Alternative 3
19	Vista San Jacinto (Formerly 32 @ Agave)	Amendment to a Planned Development District	301 Rosa Parks Road	City of Palm Springs	Amend a previously approved Planned development District to allow 73 rentals and 5 for sale residential dwellings on a 5.95 acre lot.	Approved by City Council 07/15/09	Approximately 0.1 mile from Alternative 3
20	K. Hovnanian's Palm Springs II	Planned Development	3801 Sunrise Way North	City of Palm Springs	A 177-unit, single family, residential subdivision on 46+ acres.	Under Construction	Adjacent to Alternative 2
21	Industrial Storage Building	Minor Construction	256 San Rafael Place	City of Palm Springs	A 2,520 square foot industrial storage building.	Under Construction	Approximately 0.1 mile from Alternative 3
22	Lily of the Valley Worship Center	Major Construction	200 Oasis Road	City of Palm Springs	Replace a 7,980 square foot existing church with a 15,342 square foot facility that includes a sanctuary, offices, teaching areas, and two communal areas.	Under Construction	Approximately 0.1 mile from Alternative 3

TABLE 3-7 (Continued)
CUMULATIVE SCENARIO – APPROVED AND PENDING PROJECTS

Figure ID	APN or Project Name	Description	Address / Location	Agency / Organization	Details	Status / Timeline	Distance from Proposed Project/ Alternatives
23	Recycling Center	Conditional Use Permit	280 Oasis Road	City of Palm Springs	A Conditional Use Permit to allow the operation of a recycling center.	Approved 08/13/08	Approximately 0.1 mile from Alternative 3
24	Burgess Warehouses	Major Construction	3585 and 3591 Del Sol Road and 3540 and 3560 Anza Road	City of Palm Springs	Construct four 5,000 square foot warehouse/office units on 1.2 acres.	In Plan Check	Approximately 0.2 mile from Alternative 3
25	Palm Springs Gardens	Conditional Use Permit	3801 North Indian Canyon Drive	City of Palm Springs	Commercial development of a vacant 3 acre property to include drive-thru restaurants.	In Plan Check	Approximately 150 feet from Alternative 3
26	Warehouse	Major Construction	3443 Anza Road	City of Palm Springs	Construct a manufactured steel building with steel exterior siding for warehousing and long term automobile storage.	In Plan Check	Approximately 0.2 mile from Alternative 3
27	Desert Oasis Industrial Lofts	Major Construction	400 West San Rafael Road	City of Palm Springs	Construct 58 "For Sale" service and manufacturing industrial lofts with an approximate square footage of 125,000 square feet inclusive of 7 buildings.	Approved Planning Commission - 03/14/07	Approximately 0.3 mile from Alternative 3
28	Palm Springs Racquet Club	Planned Development	2743 North Indian Canyon Drive	City of Palm Springs	Final Planned Development for construction of 63 townhouses and loft building condominiums in addition to the remodeling of existing historic structures on the site of the Palm Springs Racquet Club.	Under Construction	Approximately 0.3 mile from Alternative 3
29	Single-Family Residential Subdivision	Subdivision	Northeast corner of Los Feliz and Sepulveda	City of Palm Springs	The subdivision of 0.51 acres for three single-family residences.	Plan Check, Construction Pending	Approximately 0.5 mile from Alternative 3
30	Palermo	Condominium Project with retail bordered by a golf course and high-end residential town	Northeast corner of North Indian Canyon Drive and San Rafael Drive.	City of Palm Springs	Final Planned Development for a 211 unit condominium project with 10,000 square feet of retail bordered by a golf course and high-end residential town homes.	Final Map Approved by City Council	Adjacent to Alternative 3
31	PS Avenida Caballeros-San Rafael/Murano	Residential subdivision	North of Francis Drive, south of San Rafael Drive, and east of North Avenida Caballeros	City of Palm Springs	Subdivision of 20 acres into 57 residential lots and internal streets.	Under Construction	Adjacent to Alternative 3
32	Sunny View Modern Homes	Residential development	Northeast corner of North Indian Canyon Drive and Sunny View Drive	City of Palm Springs	Construct a 30-unit, two-story, townhome project on approximately 2.12 acres.	Under Construction	Approximately 0.2 mile from Alternative 3

**TABLE 3-7 (Continued)
CUMULATIVE SCENARIO – APPROVED AND PENDING PROJECTS**

Figure ID	APN or Project Name	Description	Address / Location	Agency / Organization	Details	Status / Timeline	Distance from Proposed Project/ Alternatives
33	Farrell Professional Village	Final Planned Development	888 Farrell Drive North	City of Palm Springs	Final Planned Development District for a 5-building project development with medical office and general office uses.	Approved Planning Commission 11/19/08	Approximately 0.7 mile from Alternative 2 UG and Alternative 3
34	Desert Water Agency Warehouse #3	Major Construction	1200 Gene Autry Trail South	City of Palm Springs	Construct a 3,600 square foot warehouse.	Pending Initial Review	Approximately 0.4 mile from Alternative 2 and Alternative 3
35	Aqua Villas #1 and #2	Major Construction	551 Vista Chino East	City of Palm Springs	Construct seven condominium townhomes with subterranean parking (Aqua Villas #2) and three condominium townhomes with subterranean parking (Aqua Villas #1).	Pending submittal of re-design fees from applicant.	Approximately 0.7 mile from Alternative 2 and Alternative 3
36	Desert Sunshine Preschool and Kindergarten	Major Construction	Sahara Drive and Desert Park Avenue	City of Palm Springs	Construct a 10,694 square foot one-story pre-school and kindergarten school.	Approved City Council - 03/05/08	Approximately 0.1 mile from Alternative 2
37	Millwood Building	Major Construction	1756 Sahara Road	City of Palm Springs	Construct two commercial buildings for medical and general office use on approximately 1.12 acres	Plan Check	Approximately 200 feet from Alternative 2
38	Sunrise Townhomes	General Plan Amendment	Southwest corner of North Sunrise Way and East Vista Chino Road	City of Palm Springs	Proposed GPA and zone change from P to R2 to develop 1.14 acres of vacant land into a gated, residential, 12-unit, two-story condominium project.	Approved; In Plan Check	Approximately 0.1 mile from Alternative 2
39	Sunrise Center	Major Construction	1445 North Sunrise Way	City of Palm Springs	Develop a detached two-story 4,000 square foot office building with an already existing property.	Pending Initial Review	Approximately 0.2 mile from Alternative 2
40	Palm Springs Classic/Escena	Residential, resort development	The southeast corner of East Vista Chino Road and North Gene Autry Trail	City of Palm Springs	Construct an 18-hole golf course, a 450-unit resort hotel or vacation ownership units, and 1,450 residential units on a 460-acre site. Extension of time for final conditions of approval.	Under Construction	Approximately 0.1 mile from Farrell Substation and adjacent to Alternative 2
41	Casa Verona	Residential Subdivision	Verona Road between Verona Road Extension on the east and the Whitewater Country Club property on the west	City of Palm Springs	The subdivision of a 6.1-acre parcel of land into 25 lots – contingent on a zone change from 0-5 to R1D.	Approved City Council	Approximately 0.3 mile from the proposed Farrell-Garnet alignment

TABLE 3-7 (Continued)
CUMULATIVE SCENARIO – APPROVED AND PENDING PROJECTS

Figure ID	APN or Project Name	Description	Address / Location	Agency / Organization	Details	Status / Timeline	Distance from Proposed Project/ Alternatives
42	Parallel 8 Townhomes	Planned Development	275 and 435 Chuckwalla Road	City of Palm Springs	Construct eight two-story townhomes on individual lots with contemporary architecture and individual color treatments on 0.48 acres.	Pending Initial Review	Approximately 0.9 mile from Alternative 2 and Alternative 3
43	City of Palm Springs Animal Shelter	Major Construction	4575 Mesquite Avenue East	City of Palm Springs	Develop an animal care facility to include the holding, treatment and adoption of animals on approximately 3.0 acres.	Pending Initial Review	Approximately 0.2 mile from the Eisenhower Substation and 1.3 miles from Alternative 7
44	Office Building	Major Construction	1865 Carriage Lane (Lot 82); 1805 and 1815 East Desert Park Avenue	City of Palm Springs	Construct a single- story professional office building (2,000 square feet) with attached private parking and garage for owner's use (827 square feet)	Plan Check	Adjacent to Alternative 2
45	K. Hovnanian's Four Seasons at Palm Springs	Tentative Tract Map	4000 Sunrise Way North & Whitewater River	City of Palm Springs	Subdivide 24 acres for the development of 70 single-family residential lots.	Approved by City Council 01/18/06	Adjacent to Alternative 2
46	Williams Road Industrial Building	Major Construction	661 Williams Road	City of Palm Springs	Construct a new 10,642 square foot, four-unit, industrial service facility on 0.6 acres.	Approved Planning Commission/ In Plan Check	Approximately 0.4 mile from Eisenhower Substation
47	Desert Air Conditioning	Major Construction	Gene Autry Trail and Ramon Rd	City of Palm Springs	Add additional office space to an existing building with a new two-story addition.	Under Construction	Approximately 0.5 mile from Eisenhower Substation
48	Gene Autry Plaza	Conditional Use Permit	5001 East Ramon Road	City of Palm Springs	Develop a 6.75+ acre retail center as an extension of existing Lowe's Center sharing a common entry, consisting of 50,000+ square feet of anchor tenant buildings and one free-standing drugstore with drive through.	Under Construction	Approximately 0.5 mile from Eisenhower Substation
49	Indian Oasis Business Park	Major Construction	921 Crossley Road, at Sunny Dunes, Indian Springs, and Rio Blanco	City of Palm Springs	Develop two industrial lots into a retail and office complex of two compatible buildings with an approximate square footage of 23,500 square feet.	In Plan Check	Approximately 0.47 mile from Eisenhower Substation
50	Indian Oasis Self-Storage	Major Construction	Rio Blanco Road and Indian Springs Road	City of Palm Springs	Construct 108,005 square feet of climate-controlled storage facilities in a 1- story building on 4.8 acres.	Approved Planning Commission - 10/10/07	Approximately 0.4 mile from Eisenhower Substation

TABLE 3-7 (Continued)
CUMULATIVE SCENARIO – APPROVED AND PENDING PROJECTS

Figure ID	APN or Project Name	Description	Address / Location	Agency / Organization	Details	Status / Timeline	Distance from Proposed Project/ Alternatives
51	Crosse Pointe	Planned Development	East Ramon Road and Crossley Road	City of Palm Springs	Construct four retail buildings with a central main building (Building B) having two stories, with executive office suites on the second floor on 3.78 acres (168,578 square feet).	Approved City Council - 10/03/07; 2 year extension granted 07/22/09	Approximately 0.6 mile from Eisenhower Substation
52	World Class Auto Center, LLC Sunny Dunes Business Park	Major Construction	Northeast corner of San Luis Road	City of Palm Springs	Construct 20 multi-tenant, light office/industrial buildings on 2.5 acres.	Approved - On Hold	Approximately 0.31 mile from Eisenhower Substation
53	Office Building	Major Construction	4375 Calle De Ricardo	City of Palm Springs	Construct a 6,452 square foot addition to existing office building.	Under Construction	Approximately 0.6 mile from Eisenhower Substation
54	The Springs	Commercial and retail development.	Northeast corner of East Ramon Road and South Gene Autry Trail	City of Palm Springs	Subdivision of a 37-acre parcel into 8 parcels for commercial and retail use.	Approved by City Council/Under Construction	Approximately 0.5 mile from Eisenhower Substation
55	Slurry Seal Projects	Transportation	All streets between and including San Rafael, south to Vista Chino and from Indian Canyon Drive East to Sunrise Way	City of Palm Springs	Slurry and seal of roadways	Construction scheduled for April 2010	Includes roads crossed by Alternative 2 and Alternative 3
56	CUP 07-015	Conditional Use Permit	67320 – 67270 Ramon Road	Cathedral City	Construct two commercial buildings totaling 5,660 square feet for automotive repair use.	Approved	Approximately 0.7 mile from Alternative 7 and Eisenhower
57	TTM 32558	Tentative Tract Map	Northerly terminus of San Joaquin Drive, north of San Mateo Drive	Cathedral City	Subdivide 15.64 acres into 41 single family residential lots.	Under Construction	Approximately 0.9 mile from Alternative 6 and Alternative 7
58	CUP08-006	Conditional Use Permit	67711 30th Avenue	Cathedral City	Construct a hotel located on 10.97 acres.	Building Department Plan Check	Approximately 0.2 mile from Alternative 7
59	TTM 31774	Tentative Tract Map	Approximately 125 feet east of Santoro Drive between McCallum Way and Ramon Road	Cathedral City	Construct 292 single family dwelling units and recreational amenities on 65.9 acres.	Under Construction	Approximately 0.6 mile from Alternative 7
60	CUP 06-002	Conditional Use Permit	Northwest corner of Date Palm Drive and McCallum Way	Cathedral City	Construct a 15,674 square foot Longs Drugs store with drive-through.	Approved	Adjacent to Alternative 7
61	CUP 06-008	Conditional Use Permit	Northeast corner of Date Palm Drive and McCallum Way	Cathedral City	Construct an approximately 68,685 square foot commercial development within the Uptown Village Specific Plan.	Approved	Adjacent to Alternative 7

TABLE 3-7 (Continued)
CUMULATIVE SCENARIO – APPROVED AND PENDING PROJECTS

Figure ID	APN or Project Name	Description	Address / Location	Agency / Organization	Details	Status / Timeline	Distance from Proposed Project/ Alternatives
62	DR 08-001	Design Review	32165 Date Palm Drive	Cathedral City	Construct a 5,625 square foot commercial building.	Building Department Plan Check	Adjacent to Alternative 7
63	TPM 35920	Tentative Parcel Map	Southwest corner of Date Palm Drive and 30th Avenue	Cathedral City	Construct an approximately 13,969 square foot grocery market.	Approved	Adjacent to Alternative 7
64	DR 07-005	Design Review	Southwest corner of Landau Boulevard and Quijo Road	Cathedral City	Construct a 158 multi-family development.	Building Department Plan Check	Approximately 0.2 mile from Alternative 6 and Alternative 7
65	TTM 32559	Tentative Tract Map	Northwest of Avenida Quintana and Verona Road	Cathedral City	Subdivide 12.36 acres into 71 single-family residential lots.	Building Department Plan Check	Approximately 0.5 mile from Alternative 6 and Alternative 7
66	TPM 30726	Subdivision	Southwest of the intersection of Date Palm Dr. and Varner Rd.	Cathedral City	Subdivide 18.3 acres into 10 parcels for light industrial use.	Approved	Approximately 250 feet from proposed reconfiguration at Varner Road and Date Palm Drive.
67	Mary Wood- Palm Valley School	Specific Plan	35525 Da Vall Drive	City of Rancho Mirage	Approval of 3 elementary school buildings, paved and grassed areas and driveway/parking are substantially consistent with approved master Plan	Under Construction	Approximately 0.5 mile from Tamarisk Substation
68	Section 19 Specific Plan	Specific Plan	Northeast of Bob Hope Drive and Dinah Shore Drive	City of Rancho Mirage	Develop a 268 acre area northeast of the intersection of Bob Hope Drive and Dinah Shore Drive.	Under Review	Approximately 0.3 mile from proposed reconfiguration at Bob Hope and Dinah Shore Drive and approximately 0.8 mile from Alternative 5
69	Monterey Marketplace II, Phase I and Phase II	Commercial retail center	Dinah Shore Drive, east of Key Largo (APN 618-600-037).	City of Rancho Mirage	Approval of a 107,500-square-foot commercial retail center known as Monterey Marketplace II, Phase I (8 proposed buildings) and Phase II (6 proposed buildings) on 9.85 acres adjacent to the existing Monterey Marketplace Center.	Under Construction	Approximately 0.5 mile from Alternative 5 and 0.7 mile from proposed reconfiguration at Bob Hope Drive and Dinah Shore Drive
70	Stantec Consulting	Commercial Subdivision	Southeast corner of Dinah Shore Drive and Bob Hope Drive	City of Rancho Mirage	Subdivide PM 34371 (4.1 acres) into 5 commercial lots	Tentative Map Approval	Adjacent to proposed reconfiguration at Bob Hope Drive and Dinah Shore Drive
71	Versailles (Final Phase III)	Residential Development	Located at the northwest corner of Monterey and Gerald Ford.	City of Rancho Mirage	Develop (Versailles Phase III) 30.96 acres into 78 single family homes (90 lots).	Under Construction	Approximately 0.9 mile from Alternative 5

TABLE 3-7 (Continued)
CUMULATIVE SCENARIO – APPROVED AND PENDING PROJECTS

Figure ID	APN or Project Name	Description	Address / Location	Agency / Organization	Details	Status / Timeline	Distance from Proposed Project/ Alternatives
72	Sares Regis Group	Residential Development	North side of Gerald Ford Drive	City of Palm Desert	Construct 320 residential condominium units on a 25-acre site on the North side of Gerald Ford Drive.	Under Construction	Approximately 0.8 mile from reconfiguration at Portola Avenue and Gerald Ford Drive
73	University Park	Subdivision	74-255 Gerald Ford Drive	City of Palm Desert	Construct 244 single-family homes on 42.2 acre site.	Approved 04/06	Approximately 0.2 mile from proposed reconfiguration at Portola Avenue and Gerald Ford Drive.
74	University Park	Subdivision	36-200 Pacific Avenue	City of Palm Desert	Tentative Tract Map for 141 single-family homes.	Approved 04/06	Approximately 0.5 mile from proposed reconfiguration at Portola Avenue and Gerald Ford Drive.
75	Desert Wells	Subdivision	Gerald Ford/Portola/Cook	City of Palm Desert	Subdivide 69.26 acres into 270 single-family lots.	Approved 03/05	Approximately 0.5 mile from proposed reconfiguration at Portola Avenue and Gerald Ford Drive.
76	Development Resources	Precise Plan	73-550 Dinah Shore Drive	City of Palm Desert	Construct a 52,164 sq ft Showroom/Warehouse building.	Approved 01/05	Approximately 0.2 mile from Alternative 5
77	Promontory Point	Precise Plan	73-650 Dinah Shore Drive	City of Palm Desert	Construct an 86,000 sq ft two-story medical/general office building with a parking structure.	Approved 08/06	Approximately 0.2 mile from Alternative 5
78	Darmon Real Estate Investments	Precise Plan	34-501 and 34-601 Spyder Circle	City of Palm Desert	Construct two contiguous industrial buildings with totaling 18,991 sq ft on a 1.12 acre site.	Approved 09/05	Approximately 0.3 mile from Alternative 5
79	Stonecrest	Precise Plan	73-500 Dinah Shore Drive	City of Palm Desert	Construct a 43,446 sq ft Office/Warehouse complex on Lot 34 of PM 24255.	Approved 12/04	Approximately 0.1 mile from Alternative 5
80	2006-019. Prest Vuksic	Precise Plan	73-665 Dinah Shore Drive	City of Palm Desert	Construct a 15,267 sq ft Industrial building including a tower element up to 34 ft in height.	Approved 12/06	Approximately 0.2 mile from Alternative 5
81	Ochoa Tire	Precise Plan	73-741 Spyder Circle	City of Palm Desert	Construct a 8,913 sq ft automotive tire facility with a tower element at 30 feet, without the tire element.	Approved 1/08	Approximately 0.3 mile from Alternative 5
82	2007-003 Auto Repair	Precise Plan	73-731 Spyder Circle	City of Palm Desert	Construct a 7,540 sq ft Auto Repair building.	Approved 03/07	Approximately 0.3 mile from Alternative 5

TABLE 3-7 (Continued)
CUMULATIVE SCENARIO – APPROVED AND PENDING PROJECTS

Figure ID	APN or Project Name	Description	Address / Location	Agency / Organization	Details	Status / Timeline	Distance from Proposed Project/ Alternatives
83	Ponderosa Homes II	Subdivision	Northwest Corner of Portola Avenue and Gerald Ford Drive	City of Palm Desert	Subdivide 87.45 Acre site into 237 single-family lots. TT 31490	Under Construction	Approximately 0.2 mile from proposed reconfiguration at Portola Avenue and Gerald Ford Drive.
84	Indian Ridge Country Club	Subdivision	Country Club Drive and Eldorado Drive	City of Palm Desert	Construct 1,278 residential units with (2) 18 hole golf courses	Under Construction	Approximately 0.2 mile from Concho Substation
85	Desert Gateway	Precise Plan, Subdivision	Southeast Corner of Monterey Avenue and Dinah Shore Drive	City of Palm Desert	Subdivide 70 acres into 24 parcels and construct 689,071 square feet gross commercial.	Approved 2/03 Under construction	Approximately 0.3 mile from Alternative 5
86	Pacific Pointe	Precise Plan	34-300 Gateway Drive	City of Palm Desert	Construct seven (7) industrial buildings ranging from 5,000 – 50,000 sq ft totaling 143,942 sq ft.	Approved 04/06 Under construction	Approximately 0.4 mile from Alternative 5
87	Jewish Federation School	Conditional Use Permit, Precise Plan	36-333 Portola Avenue	City of Palm Desert	Construct a 18,166 sq ft K-6 school building in a PR-5 residential zone for the Jewish Federation of Palm Springs on a ten-acre property.	Approved 1/08	Approximately 0.4 mile from proposed reconfiguration at Portola Avenue and Gerald Ford Drive.
88	Summit	Zone Change, Subdivision	73-600 35TH Avenue	City of Palm Desert	Construct 247 residential condominium units on a 20-acre site, change of zone from SI to PR-13.	Approved 2/06 Under construction	Approximately 0.4 mile from Alternative 5
89	Caurro Homes	Subdivision	Shepherd Lane	City of Palm Desert	Subdivide 5 Acre site into 16 single-family lots	Under Construction	Approximately 0.5 mile from proposed reconfiguration at Portola Avenue and Gerald Ford Drive.
90	Portola Pointe	Subdivision	Shepherd Lane	City of Palm Desert	Subdivide 5 Acre site into 16 single-family lots.	Under Construction	Approximately 0.5 mile from proposed reconfiguration at Portola Avenue and Gerald Ford Drive.
91	Dolce Development	Subdivision	Gerald Ford Drive/Gateway Drive	City of Palm Desert	Subdivide 38.1 acre site into 159 single-family lots, 11 lots for common area, 2 lots for school district	Approved 10/04 Under Construction	Approximately 0.5 mile from proposed reconfiguration at Portola Avenue and Gerald Ford Drive.

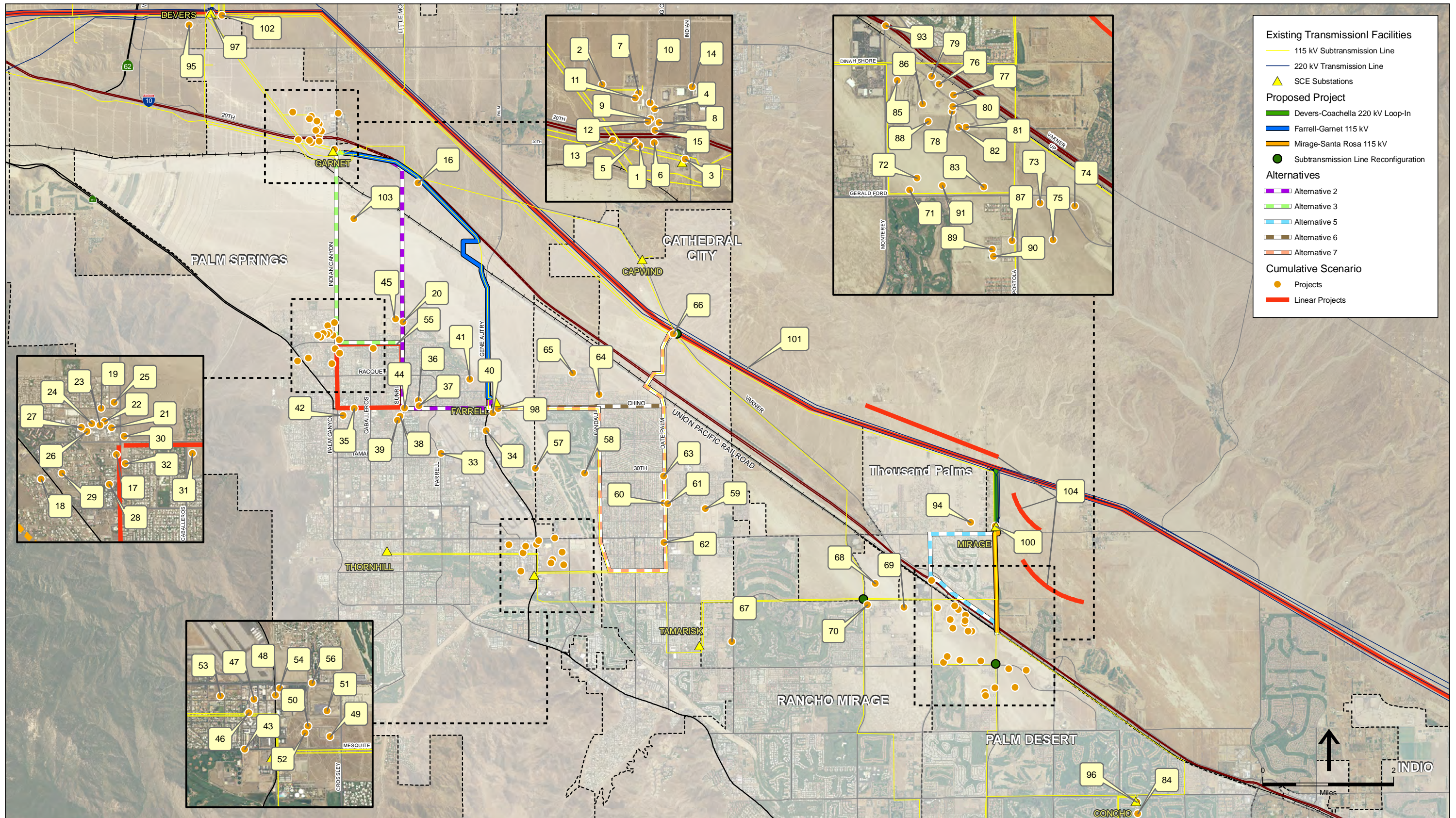
TABLE 3-7 (Continued)
CUMULATIVE SCENARIO – APPROVED AND PENDING PROJECTS

Figure ID	APN or Project Name	Description	Address / Location	Agency / Organization	Details	Status / Timeline	Distance from Proposed Project/ Alternatives
92	Cardiff Limousine	Precise Plan	75-25 Sheryl Avenue	City of Palm Desert	Construct a parking lot for buses and employees, a fuel dispensing island with above-ground fuel tanks and future (Phase II) construction of a 3,322 sq ft building with 3 bays for cleaning and washing vehicles.	Approved 07/05 Under construction	Approximately 0.5 mile from Indian Wells Substation
93	Monterey Avenue I-10 Interchange Improvements	Transportation	Monterey Avenue and I-10, Portola Ave., north of Gerald Ford Drive.	City of Palm Desert	Add new westbound loop on-ramp and realign existing westbound off ramp to Varner Road.	Construction estimated to begin 7/2010 and end 8/2011	Adjacent to Alternative 5
94	TR30199	Subdivision	East of Desert Moon Drive, north of Ramon Road, West of Vista Del Sol	Riverside County	Subdivide into 144 residential and commercial lots with 7200 square foot minimum.	N/A	Approximately 0.2 mile from Alternative 5
95	CPV Sentinel Standby Energy Project	Utilities	Adjacent to Devers Substation, north of I-10, east of HWY 62	Riverside County	Competitive Power Ventures proposal for an 850- MW, gas fired. Peaking power plant.	Under CEC review.	Approximately 0.4 mile from Devers Substation
96	SCE Concho 115/12 kV Substation	Substation upgrade	Concho Substation	CPUC	SCE will add one 12 kV circuit. The new circuit will likely head west and north of the substation.	Construction expected to start on 6/1/2010.	Within the Concho Substation
97	SCE Devers 115/12 kV Substation	New Substation	Devers Substation	CPUC	SCE will construct a new substation within the current Devers Substation property with one 28 MVA transformer and two 12 kV circuits. The substation work will take place inside the existing Devers substation.	Construction expected to start on 6/1/2010.	Within the Devers Substation
98	SCE Farrell 115/12 kV Substation	Substation upgrade	Farrell Substation	CPUC	SCE will add one 28 MVA transformer and two 12 kV circuits. This bank increase will take place inside Farrell Substation. One circuit will likely head south and one circuit will likely head west.	Construction expected to be complete by the end of 2009.	Within the Farrell Substation
99	SCE Indian Wells 115/12 kV Substation	Substation upgrade	Indian Wells Substation	CPUC	SCE will add one 12 kV circuit. The new circuit will likely head west and north of the substation.	Construction expected to start on 6/1/2010.	Within the Indian Wells Substation
100	SCE Mirage 115/12 kV Substation	Substation upgrade	Mirage Substation	CPUC	SCE will construct a new substation within the Mirage Substation property with one 28 MVA transformer, two 12 kV circuits, and 4.8 MVAR of capacitors.	Construction expected to start on 6/1/2011.	Within the Mirage Substation

TABLE 3-7 (Continued)
CUMULATIVE SCENARIO – APPROVED AND PENDING PROJECTS

Figure ID	APN or Project Name	Description	Address / Location	Agency / Organization	Details	Status / Timeline	Distance from Proposed Project/ Alternatives
101	Devers-Palo Verde No. 2 (DPV2)	500 kV Transmission Line	From Harquahala Substation (in Arizona, near the Palo Verde nuclear power plant) to SCE's Devers Substation (in North Palm Springs, California).	CPUC/BLM	The CPUC is the CEQA lead agency and the U.S. Bureau of Land Management (BLM) is the lead agency under the National Environmental Policy Act (NEPA). The DPV2 Project as proposed by SCE includes a new 230-mile 500 kV line.	CPUC approved the project in January 2007; BLM has yet to issue a Notice of Approval for the project.	Adjacent to the Devers Substation, the proposed Varner Road and Date Palm Drive reconfiguration; and the north end of the proposed Devers-Coachella Valley 220 kV Loop-In.
102	Green Path North Transmission Project (GPN)	500 kV Transmission Line	GPN is a proposed 500 kV electrical transmission system from Riverside County to the Los Angeles area designed to access potential geothermal, solar, and wind projects in the Imperial Valley.	City of Los Angeles Department of Water and Power	The proposed transmission system would connect a new electrical substation near the existing Lugo Substation in Hesperia with a new substation to be built near the existing Devers Substation, tentatively called Devers II, near Palm Springs. The proposed alignment has not yet been determined.	Under review	A new substation associated with GPN may be located adjacent to the Devers Substation
103	Garnet Mine Site	Reclamation	East of Indian Canyon, south of the So. Pacific Railroad.	Coachella Valley Water District	Reclamation work including the removal of soil stockpiles and scattered concrete debris.	N/A	Approximately 0.3 mile from Alternative 3
104	USACE Whitewater River Basin Thousand Palms Flood Control Project	Flood control project	Thousand Palms area	USACE	Removal of 2,800 acres of land and over 9,600 residents from an alluvial floodplain in the Thousand Palms area to protect against flooding and to preserve a long-term sand supply for the Coachella Valley Fringe-toed Lizard.	Approved	Within 1 mile of the proposed 220 kV Devers-Coachella Valley Loop-In, the proposed Mirage-Santa Rosa Alignment, and Mirage Substation

SOURCES: Cathedral City, 2009; Palm Desert, 2009a, 2009b and 2009c; Palm Springs, 2009a and 2009b; City of Rancho Mirage, 2009; CVWD, 2008; Riverside County, 2008; and SCE, 2008.



SOURCE: SCE, 2008; NAIP, 2005

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Figure 3-6
Cumulative Projects

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