

## E.1 Interstate 8 Alternative – Contents

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# E.1 Interstate 8 Alternative

The Interstate 8 freeway runs on an east-west path across the southern Imperial and San Diego Counties. An alternative that generally follows this freeway was developed in response to numerous public and agency comments requesting consideration of use of the existing linear corridor in which Interstate 8 (I-8) is located, rather than creating a new major linear transmission corridor in less developed areas (especially Anza-Borrego Desert State Park). The Interstate 8 (I-8) Alternative is the major alternative that has a component that follows this I-8 corridor, and it also follows about 36 miles of the right-of-way (ROW) of the existing Southwest Powerlink (SWPL) transmission line. The alternatives following this southern route are collectively “SWPL Alternatives.” There are three other SWPL alternatives that are addressed separately in this report:

- **BCD Alternative:** Replacement of MP I8-39.5 to MP 58 with the **BCD Alternative**, described in Section E.2.1 and impacts are analyzed in the remainder of Section E.2.
- **Route D Alternative:** Replacement of the Interstate 8 Substation and 230 kV segment with a 500 kV segment that would turn north at MP I8-71 and pass through the Boulder Creek area of the Cleveland National Forest, joining the Proposed Project route at MP 114 at the Central South Substation Alternative. This alternative is described in detail in Section E.3.1 and impacts are analyzed in the remainder of Section E.3.
- **Modified Route D Alternative:** Replacement of the Interstate 8 route from about MP 47 to MP 70. This alternative is described in detail in Section E.4.1 and impacts are analyzed in the remainder of Section E.4.

## E.1.1 Description of the Interstate 8 Alternative

The Interstate 8 Alternative has the following route options, which are described and analyzed in the sections defined below:

- Campo North Route Option (Draft EIR/EIS Section E.1)
- Buckman Springs Route Options (Draft EIR/EIS Section E.1)
- Chocolate Canyon Option including the SDG&E Chocolate Canyon/Peutz Valley Revision (Draft EIR/EIS Section E.1)
- SWPL Archaeological Site (Plaster City) Reroute (Draft EIR/EIS Section E.1)
- Jacumba SWPL Breakaway Point Reroute (Recirculated Draft EIR/Supplemental Draft EIS Section 3.3.1)
- High Meadows Reroute (Recirculated Draft EIR/Supplemental Draft EIS Section 3.3.3)
- Highway 67 Hansen Quarry Reroute (Recirculated Draft EIR/Supplemental Draft EIS Section 3.3.4)

The entire I-8 Alternative route is shown in Figure E.1.1-1 (at the end of this section), and detailed portions are illustrated from east to west in Figures E.1.1-2a through E.1.1-2d (also at the end of this section). This alternative would connect to the Proposed Project at MP 131, requiring use of the westernmost few miles of that route in order to be a complete route alternative.

**Interstate 8 Route Options:** Five short options are included in this description of the Interstate 8 Alternative: the Campo North Option, the Buckman Springs Underground Option, West Buckman Springs Option, the South Buckman Springs Option, and the Chocolate Canyon Option. These options are described after the description of the main I-8 Alternative route, below.

### E.1.1.1 Interstate 8 Alternative Route Description

The route of the I-8 Alternative would be located adjacent to the existing 500 kV SWPL, separated by an average of 400 feet between ROW centerlines, for the first 35.7 miles. This segment generally parallels I-8. The route would begin at the Imperial Valley Substation, paralleling the SWPL to a point about six miles west of the San Diego/Imperial County line. At that point, the 500 kV line would turn northwest, passing less than one mile southeast of the southwest corner of ABDSP and crossing I-8 freeway just west of the BLM Carrizo Gorge Wilderness Area and one mile east of the community of Boulevard.

There are several locations at which an I-8 Alternative could join the I-8 corridor between the Imperial Valley (IV) Substation and the community of Boulevard. The route selected for this alternative was based on the following factors:

- While the existing SWPL crosses I-8 at two points between the Imperial Valley Substation and the San Diego/Imperial County line, following the existing SWPL through Imperial County would minimize disturbance because there are existing access roads. However, additional spur roads would still be required. Also, the visual impacts of two separate corridors would be greater than that of the two lines together.
- Another location for a new 500 kV line to join the I-8 corridor would be near the San Diego/Imperial County line because the I-8 and existing SWPL are in very close proximity at that point. However, moving to the I-8 corridor at this point would require that the new transmission line be installed within ABDSP for about one mile. This area was not included as part of the I-8 alternative because avoidance of ABDSP is one of the major reasons for considering southern alternatives.

Therefore, the I-8 Alternative diverges from the SWPL one mile due south of the southwestern ABDSP boundary and follows a northwesterly route.

After approaching the I-8 from the southeast, the alternative route would cross to the north side of I-8 about a mile east of Boulevard, then turn west following the freeway. The route would cross the freeway several times in order to avoid residential areas and a major wind farm. Following is a route description:

**MP I8-0 – 23 (Figure E.1.1-2a).** This alternative would follow the SWPL corridor for over 35 miles. It would follow the SWPL route beginning at the Imperial Valley Substation, located just west of the intersection of Mandrapa Road and Lyons Road in Imperial County, four miles southwest of El Centro. The route would head northwest for approximately 10 miles through BLM land with a very small number of private parcels interspersed, crossing Interstate 8 at MP I8-7 and crossing County Highway S80 (Evan Hewes Highway) and turning west at MP I8-10, one mile west of Plaster City. The route would follow the SWPL west on BLM land for approximately 3.5 miles, then west-southwest for approximately 5 miles. It would turn southwest for approximately 10 miles, passing through BLM and private land, and crossing County Route S2 at MP I8-20. The route would cross Interstate 8 at MP I8-22.8, passing adjacent to the Jacumba Federal Wilderness Area.

**MP I8-23 – 48 (Figure E.1.1-2b).** The route would be roughly parallel to and outside of the Jacumba Federal Wilderness boundary for approximately four miles, crossing I-8 again at MP I8-27. It would pass through privately held parcels through its turn due west to follow along the south side of I-8 at MP I8-28.5. The corridor would continue west on private land for another mile, pass through approximately 1.5 miles of BLM land, and re-enter private land for another approximately 3 miles before turning southwest for approximately 1.5 miles.

The I-8 Alternative would diverge northwest from the SWPL corridor at MP I8-35.7. At MP I8-40, the **BCD Alternative** diverges from the I-8 Alternative, and the alternative could turn north following this route (see description in Section 4.8.2). The I-8 Alternative itself would cross the I-8 and pass through private land for 4.3 miles, being located north of the freeway to avoid residential areas in the vicinity of Boulevard. Still north of the freeway at MP I8-43.8, the line would enter the Campo Indian Reservation, which occupies 15,336 acres both north and south of the I-8. The transmission line would cross to the south side of the freeway at MP I8-44.7 just east of the Kumeyaay Wind Energy Project because the nearest wind turbine is within a few hundred feet of the Caltrans ROW. This route would remain on the south side of the freeway for 1.2 miles. Note that an option is also considered in which the route would remain on the north side of the freeway (see discussion of route options at the end of this section).

The alternative would cross back to the north side of the freeway just east of the Crestwood freeway exit, the location of the Golden Acorn Casino, Truck Stop, and Travel Center (owned by the Campo Band), and would remain on the north (east) side of the freeway for approximately 15 miles. The route would continue northwest and parallel to I-8, and would pass through private land for 1.1 miles before passing through a BLM parcel for 0.71 miles. It would enter the La Posta Reservation at MP I8-48.9.

**MP I8-48 – 72 (Figure E.1.1-2c).** The alternative would cross a portion of the La Posta Reservation which occupies 3,471 acres primarily north of I-8, entering the Reservation at MP I8-48.9 and exiting after 2.0 miles, at MP I8-50.9. Note that the “South Buckman Springs Route Option” (described below) would turn south across the I-8 freeway east of the La Posta Reservation, avoiding direct effects on La Posta land.

Just west of the La Posta Reservation, the line would enter the Cleveland National Forest. It would remain north of the westbound side of I-8, crossing the Pacific Crest National Scenic Trail at about MP I8-55 and passing directly east of the Boulder Oaks Campground at MP I8-54. It would continue north, located east of the Buckman Springs Caltrans Rest Area and just east of the hang glider/paraglider landing area. Three route options are considered in this area (see “Buckman Springs Route Options” below). Three miles north of the Rest Area, the route would cross to the south (west) side of I-8 at MP I8-58.5. It would remain on this side of the freeway for about 4.5 miles, in order to avoid the community of Pine Valley. In this area, the route would pass immediately adjacent to and northeast of the Pine Creek Wilderness Area. The route would then cross to the north side of I-8 at a point just east of Pine Valley. The route would continue northwest, and into the Interstate 8 Alternative Substation at MP I8-65, then continuing west for approximately 6 miles.

West of Pine Valley, there are two options for the I-8 Alternative:

- The route could remain at 500 kV and follow the **Route D Alternative**, diverging to the north just west of MP I8-70 (see Section 4.7.3 for description of the Route D Alternative). This option would continue at 500 kV to the Central South Substation Alternative, located at MP 114 of the Proposed Project route, where the transmission line would convert to 230 kV and follow the proposed route to the west.

- The I-8 Alternative could continue west, converting to 230 kV. At about MP I8-65, a new 500/230 kV substation would be required in order to convert from 500 to 230 kV (see substation discussion, below). A double-circuit 230 kV transmission line would exit the substation and continue generally west along the north side of Interstate 8.

Assuming the 230 kV option, at MP I8-70.8 immediately east of the Viejas Reservation, an overhead transmission line can no longer follow the I-8 corridor because residential development along both north and south sides of the freeway becomes dense and continuous into the San Diego area. The I-8 Alternative could cross over to the south side of I-8 before converting to a 230 kV underground line through a double transition structure (see Figure B-18 for structure description). The route would transition underground to head west, south of the I-8 in Alpine Boulevard.

**MP I8-72 – 92.8 (Figure E.1.1-2d).** The alternative would be underground for 8.8 miles until MP I8-79.6, at which point the line would transition to overhead using two transition structures. At MP I8-79.6, this alternative would diverge from Interstate 8 heading north for one mile, passing through private land and San Diego County land for 0.1 miles. At MP I8-80.7, the route would turn northwest and pass within one mile of El Capitan Reservoir. At MP I8-82, it would cross roads identified by the CNF as “Forest Route 15S32” and then “Forest Route 13S10”, passing through one mile of Cleveland National Forest, 0.3 miles of City of San Diego land, and one mile of BLM land.

At MP I8-82.7 the route would turn west-northwest passing through private land, and at MP I8-84.1 it would turn west-southwest and pass through one mile of BLM land before turning west at MP I8-86.6 through private land. At MP I8-86.8 the route would cross Wildcat Canyon Road, and at MP I8-87.6 it would turn north-northwest through private land. At MP I8-89 it would turn west-northwest, crossing Moreno Avenue within one half mile and passing through 1.4 miles of City of San Diego land, 0.2 miles of San Diego County Water Authority land, and 0.3 miles of San Diego County land.

At MP I8-89.9 it would turn north-northwest, passing by San Vicente Reservoir for approximately two miles. At MP I8-91.3 the route would cross SR67, turning northwest at MP I8-91.6 to parallel SR67 on private land until joining the Proposed Project at its MP 131, just west of SR67.

The total length of the I-8 Alternative would be 92.8 miles, 38.2 miles shorter than the proposed route to the same point.

### **Transmission Line Reroutes**

In comments on the Draft EIR/EIS, SDG&E requested the following mitigation reroutes be considered:

- **SWPL Archaeological Site (Plaster City) Reroute.** A 3.3 mile segment of the I-8 Alternative would diverge from the existing SWPL to the north, in order to avoid passing through an archaeological site (see Figure E.1.1-4e). No new impacts would be created. This reroute begins just west of Evan Hewes Highway (about 11 miles west of the Imperial Valley Substation), and at its widest point of diversion the reroute would be located about 700 feet north of the original route (so at this point, it would be about 1,100 feet north of the existing SWPL). This reroute would be incorporated into the Environmentally Superior Southern Alternative, as was shown on Figure 5-1 in the Recirculated Draft EIR/Supplemental Draft EIS.
- **Jacumba SWPL Breakaway Point Reroute.** This reroute was suggested by SDG&E, because it would eliminate the need for one large angle structure by spanning directly between two smaller angle structures without impacting additional parcels. The reroute would break away from the existing SWPL line and the Interstate 8 Alternative, which parallels the SWPL corridor, at a point

1,700 feet to the east of where the Interstate 8 Alternative would diverge from the existing SWPL corridor (see Figure 3-6 of the RDEIR/SDEIS). Specifically, at MP 35.2 the reroute would diverge from the alternative and head northwest for 1,700 feet. This would have the effect of shortening the Interstate 8 Alternative by cutting across a “V” in the original alternative’s alignment.

- **High Meadows Reroute.** The High Meadows Reroute was suggested by SDG&E to minimize land use and visual impacts to the High Meadows Ranch Subdivision. The reroute would diverge south from the Interstate 8 Alternative at MP I8-87.1 and would parallel the Interstate 8 Alternative to its south and then west (see Figure 3-8 of the RDEIR/SDEIS). The reroute would be separated from the original alternative alignment by approximately 500 feet and would be located down the hill slope. After a distance of approximately 2 miles, the High Meadows Reroute would rejoin the Interstate 8 Alternative at MP I8-89.3.
- **Highway 67 Hansen Quarry Reroute.** This reroute was suggested by SDG&E and EnviroMine, Inc. during the comment period to minimize impacts to aggregate mineral resources at an operational quarry along the Interstate 8 Alternative. The Highway 67 Hansen Quarry Reroute would continue from the northern end of the High Meadows Reroute at MP I8-89.3 (see Figure 3-9 of the RDEIR/SDEIS). It would diverge from the Interstate 8 Alternative on the east side, heading north and then northeast of the original route by a maximum of approximately 500 feet for a distance of about 1.5 miles before rejoining the Interstate 8 Alternative at MP I8-91.9. From that point to the end of the Interstate 8 Alternative at MP 92.7, there would be minor adjustments to structure locations

### E.1.1.2 Interstate 8 Alternative Substation

The Interstate 8 Alternative Substation includes conversion to 230 kV to allow the underground segment through Alpine. This substation and the transmission line route to and from the substation are illustrated in Figure E.1.1-3 (Interstate 8 Substation Detail). It would be located southwest of Descanso on private land adjacent to Cleveland National Forest land. The 500 kV line would enter the substation from the east, and a double-circuit 230 kV transmission line would exit the substation to the west after conversion from 500 to 230 kV.

### E.1.1.3 Interstate 8 Alternative Route Options

Five options have been developed for portions of the Interstate 8 Alternative. Each is described below.

#### Campo North Route Option

In response to a request from the Campo Tribe, an option is considered in which the route would remain north of the freeway in the vicinity of the wind farm, passing immediately adjacent to the southernmost wind turbine in the Kumeyaay Wind Energy Project (at about MP 45) and just north of the Caltrans ROW. This option would avoid two freeway crossings and shorten the route by about 0.5 miles. This option is illustrated in Figure E.1.1-4a (Interstate 8 Alternative: Campo North Route Option). In a comment letter (dated April 11, 2008), the Campo Tribe stated that it would no longer support a route that would cross tribal land.

#### Buckman Springs Route Options

In the area of Buckman Springs, three route options are considered in order to preserve hang gliding and paragliding opportunities in Horse Canyon. The I-8 Alternative as defined would result in a 500 kV

overhead transmission line located between the Horse Canyon take off and landing points, presenting a safety risk to glider pilots. These three route options are illustrated in Figure E.1.1-4b (Interstate 8 Alternative: Buckman Springs Options).

### ***Buckman Springs Option 1 – Buckman Springs Underground Option***

This option would require construction of two overhead/underground transition stations for the 500 kV line, and installation of an underground route segment for approximately 1.9 miles. The route would continue north/east of I-8, and then transition to an underground 500 kV line at a transition station located at MP I8-55. The underground route would parallel I-8 just east of the Buckman Springs Caltrans Rest Area, then transition back to a 500 kV overhead line at MP I8 57.

There are several technologies available for construction of a 500 kV underground transmission line, though none have been installed in the United States for many years. The technology that SDG&E has stated would be its preference is “Self-Contained Fluid Filled (SCFF)” technology in which the high voltage conductors would be carried inside a pipe that filled with a dielectric insulating cooling fluid to keep the conductor from overheating, which is utilized to increase the dielectric properties of the paper insulation. In the event of a breach of the protective jacket, the positive pressure from the fluid pressurization system will keep impurities out of the cable and the fluid flow will maintain physical integrity of the majority of the cable system minimizing the section required to be replaced.

The solid dielectric (or cross-linked polyethylene, XLPE) technology is also available, and involves the conductor being insulated by a solid polymer coating so no cooling fluid is required. According to SDG&E, the 500 kV XLPE cable system would require a cooling system consisting of a minimum of a tunnel system with forced cooling fans and controls. Depending on the ratings of the XLPE cable, the heat transfer available with ambient air-forced cooling may not be sufficient to maintain cable ratings without utilizing an air-conditioning system to chill outside air for circulation in the tunnel system. The XLPE technology would be used if technical concerns are demonstrated with the SCFF system.

**Design.** The Buckman Springs Underground Option is approximately 2 miles long and is located just east of Interstate 8 off Buckman Springs Road exit. The following are major components of the SCFF underground design. SDG&E states that an XLPE system would require a tunnel system with auxiliary forced cooling equipment and an auxiliary power system:

- Underground 500 kV cable system would consist of three cables per phase (total of nine cables) in order to match the capacity of the overhead transmission line.
- Each set of three phase cables would be installed in a separate duct bank package, resulting in three duct banks. There will be four conduits in each duct bank (three occupied with cable and one spare conduit that could be used in the event of conductor failure).
- Concrete encased duct bank packages would be covered with up to 8 feet of thermal backfill (note that it may be possible to install the duct banks at less depth).
- A permanent access road (approximately 14 feet in width) would be graded along the path of the duct bank packages.
- Total construction impact width of the underground duct bank packages with the access road is estimated to be approximately 80 feet in width for the length of the route.

- Splicing of the cable will be required approximately every 1,200 to 1,600 feet. Splicing will be performed inside buried concrete vault structures. Vault dimensions will be approximately 12 feet wide by 40 feet long by 9 feet deep dependent upon the cable manufacturer design requirements.
- Vaults will be covered with 8 feet (or less) of thermal backfill.
- An underground-to-overhead transition station would be required at each end of the underground transmission line segment. Each transition station would be located on a 2- to 3-acre area and would require oil storage tanks, pressurization pumps, and auxiliary power housed in structures approximately 80 feet in height.

**Terrain and Ground Disturbance.** Construction of this proposed alternative will require an approx. 80-foot-wide area be cleared of all vegetation and graded for the length of the route (approximately 2 miles). Transition stations on each end of the route will require a cleared and graded pad (approximately 2 to 3 acres.) Table E.1.1-1 is an estimate of the ground disturbance associated with installation of this underground option, if the deepest burial depth (8 feet of cover) is assumed.

**Table E.1.1-1. Ground Disturbance Summary – 500 kV Underground Transmission Line**

	Grading	Underground Infrastructure
Cut/Excavation (CY)	70,000	43,000
Fill (CY)	69,000	10,000
Net Cut/Excavation (CY)	1,000	33,000

A typical layout of the 500 kV concrete encased duct bank system is assumed to be 3 trenches of 4 conduits each in a 2 x 2 configuration with 20 feet of separation between trenches. The trenches would be approximately centered within the approximately 80-foot-wide construction impact area. Vault layout areas will require larger permanent impact area while the temporary impact area (for construction and repair/maintenance) is estimated. SCFF technology would require additional vaults for pumping and storage equipment for the insulating agent. Additional duct bank conduits and a path to the SDG&E SCADA system would also be required to monitor the high/low pressure fluid levels and cable temperature. Permanent impact area will be the access road approximately 14 feet wide along the entire length of the route and the area around the vault manholes. Vegetation on the access roads and around the vault manholes would be cleared annually in order to maintain clear access.

Basic maintenance of the transition stations would occur on ~~annual~~ a monthly basis, lasting approximately two days each. Operation of the hydraulic systems for pressurization of the cooling fluids within the cable will require more frequent monitoring and maintenance. Leaking of the cooling fluids is a possibility with the SCCF technology, but the XLPE cable is solid so no fluids could leak. However, SDG&E states that XLPE systems may require an air conditioning system to cool the forced air, which would have the potential for refrigerant leaks, and the system fans would increase operational noise.

***Buckman Springs Option 2 – West Buckman Springs Option***

This option would minimize hang gliding and paragliding impacts by moving the transmission line to a location west of Buckman Springs Valley, rather than east where the route is currently proposed. At MP I8-54, the route would cross to the south side of the interstate heading west and crossing the Pacific Crest National Scenic Trail to follow the west side of Buckman Springs Road north for approximately 4 miles, passing just west of the Boulder Oaks Campground and within two miles northeast of the Morena Reservoir.

### ***Buckman Springs Option 3 – South Buckman Springs Option***

This option would avoid passing through Backcountry Non-motorized land use zones within the CNF that occur north and east of Interstate 8. The route would follow the Modified Route D Alternative route for its first 4 miles (see Section E.4). It would follow the southern boundary of the Cleveland National Forest, then continue due west at the point where the Modified Route D Alternative would turn southwest at MP MD-4.5. This option would continue 2 miles to the west and southwest, turn northwest along Buckman Springs Road, and join the West Buckman Springs Option at about MP BSW-1.7. This route option is shown in detail in Figure E.1.1-4c and regionally in Figure E.1.1-1.

### **Chocolate Canyon Option**

Under the Chocolate Canyon Option, the crossing of the Interstate 8 freeway would be relocated to reduce the visual impact of the underground-overhead transition towers, and the route of the 230 kV overhead transmission line in the first 3 miles north of the freeway would be modified to a location lower on the slope of Chocolate Canyon. This option would reduce visual impacts to residences on the western edge of the Canyon as well as the length of new access roads required by using an existing road for much of the segment's construction.

The option would extend the underground portion about 0.1 miles further north along Alpine Boulevard, then turn west to an open area adjacent to Alpine Boulevard where the transition towers would be constructed. From this point, the route would cross the freeway overhead, and remain overhead following the route illustrated in Figure E.1.1-4d.

### **Transmission Line Reroutes**

In comments on the Draft EIR/EIS, SDG&E requested the following mitigation reroute be considered:

- **SDG&E Chocolate Canyon/Peutz Valley Revision.** This revision would be a reroute for the Interstate 8 Alternative at the west end of the underground segment in Alpine Boulevard (see Figure E.1.1-2d). The revised route would minimize visual impacts by keeping the transmission line underground, below the I-8 Freeway, until the north side of the freeway. Therefore, the Chocolate Canyon/Peutz Valley Revision has been incorporated into the Interstate 8 Alternative as a reroute, as well as into the Final Environmentally Superior Southern Route Alternative.

### **E.1.1.4 Forest Service Land Use Zones**

Figure E.1.1-5 illustrates the Land Use Zones through which the Interstate 8 Alternative passes. These zones include: Back Country, Back Country Non-Motorized, Back Country Motorized Use Restricted, and Developed Area Interface. This alternative would not pass through any Roadless Areas or Critical Biological areas.

### **E.1.1.5 Future Transmission System Expansion**

For the Proposed Project and route alternatives along the Proposed Project route, Section B.2.7 identifies Future Transmission System Expansion routes for both 230 kV and 500 kV future transmission lines. These routes are identified, and impacts are analyzed in Section D of this EIR/EIS, because SDG&E has indicated that transmission system expansion is foreseeable, possibly within the next 10 years. For the SWPL alternatives, 500 kV and 230 kV expansions would also be possible. The potential expansion routes are described in the following paragraphs.

## 230 and 500 kV Future Transmission System Expansion

The first and only complete SWPL alternative is the Interstate 8 Alternative, which would begin at the Imperial Valley Substation and end where it joins the Proposed Project at MP 131 (the Interstate 8 Alternative). The Interstate 8 Alternative would convert to 230 kV at a new substation located southeast of the community of Descanso, the Interstate 8 Alternative Substation, so 230 kV expansion would be required west of that substation. The Interstate 8 Alternative Substation would accommodate up to six 230 kV circuits and a 500 kV circuit. Only two 230 kV circuits are proposed at this time, but construction of additional 230 kV circuits and a 500 kV circuit out of the Interstate 8 Alternative Substation may be required in the future. There are three routes that are most likely for these future lines; each is described below. Figure E.1.1-6 illustrates the potential routes of the future transmission lines.

- Two additional 230 kV circuits could be installed underground within Alpine Boulevard, with appropriate compact duct banks and engineering to avoid, or possibly relocate, existing utilities. This route would follow the Interstate 8 Alternative route from the Interstate 8 Alternative Substation until MP I8-70.8 where it would transition underground until MP I8-79 where it would transition overhead again. The future transmission line route would continue to follow the Interstate 8 Alternative's overhead 230 kV route to the point where it meets the Proposed Project at MP 131. The future transmission route would then join the proposed route corridor to the west, continuing past the Sycamore Canyon Substation to the Chicarita Substation. It could then follow the Proposed Project's 230 kV Future Transmission Expansion route (see description in Section B.2.7) from Chicarita to the Escondido Substation shown in Figure B-12a.
- Additional 230 and/or 500 kV circuits could follow the Route D Alternative corridor (see description in Section E.3.1) to the north of Descanso, after following the Interstate 8 Alternative 230 kV route from the Interstate 8 Substation to MP I8-70.3. The Route D corridor would connect with the Proposed Project corridor at MP 114.5, and could then follow either: (1) the Proposed Project southwest to the Chicarita Substation and then follow the Proposed Project's 230 kV Future Transmission Expansion route (see description in Section B.2.7) from Chicarita to the Escondido Substation; or (2) the Proposed Project northeast to the Proposed Central East Substation and then follow the Proposed Project's 500 kV Future Transmission Expansion route shown in Figure B-12b (see description in Section B.2.7).
- The third option would be to construct additional 230 kV circuits or an additional 500 kV line exiting west out of the Interstate 8 Substation Alternative, and then follow the Modified Route D Alternative corridor (within the 368 Corridor identified by the Department of Energy's Draft West-wide Corridor Programmatic EIS) to the south for 11 miles to the south to MP MD-26 (see description of the Modified Route D Alternative in Section E.4.1). At this point, future lines would turn west and connect with the northernmost segment of the West of Forest Alternative<sup>1</sup> route. The route for this future transmission expansion would originate at MP MD-26 and head due west for approximately 0.4 miles, then meander northwest for approximately 3.6 miles, paralleling Lyons Valley Road for the first 0.5 miles, then following Skyline Truck Trail for approximately 1.7 miles through primarily open space and grazing fields, crossing Wisecarver Truck Trail and Hilary Drive, passing a number of rural residences. After crossing Hilary Drive, the route would follow this road for the remaining 1.4 miles until approximately 0.25 miles before the intersection of Hilary Drive and Mark Trail.

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<sup>1</sup> The West of Forest Alternative was considered in this EIR/EIS but was not retained for detailed analysis; see Section 4.8.9.

Just south of the intersection of Hilary Drive and Mark Trail, the route would turn due west for approximately 0.6 miles, crossing Mark Trail. At this point, the route would head north for approximately 1.2 miles, crossing Lawson Valley Road. The future expansion route would be near a number of rural residences along this portion of the route. The route would turn northwest for approximately 1 mile through open space, then would turn northeast for 0.65 miles until reaching Forest Route 16SD1.

After crossing Forest Route 16SD1, the transmission line would go north for 0.65 miles, passing approximately 650 feet west of the Loveland Reservoir dam. The future transmission route would turn northwest for approximately 0.5 miles crossing the Sycuan Truck Trail at which point the route would turn north again for 1 mile crossing Dehesa Road. The route would be within 1000 feet of residences near the Dehesa Road crossing. After Dehesa Road, the route would turn northwest for 0.4 miles crossing from the Alpine community into the Harbison Canyon community and then turn west for 0.85 miles. The route would jog southwest, then west for 1.1 miles, crossing Harbison Canyon Road. The route would turn north northeast for 1 mile until reaching Mountain View Road. At Mountain View Road, the route would turn north for 0.7 miles, then turn northeast for approximately 2 miles to meet up with the I8 Alternative at approximately MP I8-79. It would pass just north of an unnamed reservoir approximately 0.8 miles before meeting up with Interstate 8. The route would cross the Interstate 8 Freeway at the west end of Alpine Boulevard. The future transmission line route would continue to follow the I8 Alternative's overhead 230 kV route to the point where it meets the Proposed Project at MP 131. The future transmission route would then join the proposed route corridor to the west, continuing past the Sycamore Canyon Substation to the Chicarita Substation. It could then follow the Proposed Project's 230 kV Future Transmission Expansion route (see description in Section B.2.7) from Chicarita to the Escondido Substation.

Figure E.1.1-1. SWPL Alternatives Overview

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Figure E.1.1-2a. Interstate 8 Alternative (MPs I8-0 to 23)

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Figure E.1.1-2b. Interstate 8 Alternative (MPs I8-23 to 48)

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Figure E.1.1-2c. Interstate 8 Alternative (MPs I8-48 to 72)

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Figure E.1.1-2d. Interstate 8 Alternative (MPs I8-72 to 92.7)

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Figure E.1.1-3. Interstate 8 Alternative Substation Detail

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Figure E.1.1-4a. Interstate 8 Alternative: Campo North Route Option

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Figure E.1.1-4b. Interstate 8 Alternative: Buckman Springs Options

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Figure E.1.1-4c. Interstate 8 Alternative: South Buckman Springs Option

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Figure E.1.1-4d. Interstate 8 Alternative: Chocolate Canyon Option

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Figure E.1.1-4e. Interstate 8 Alternative: SWPL Archaeological Site Reroute

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Figure E.1.1-5. Interstate 8 Alternative: Cleveland National Forest Land Use Zones

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Figure E.1.1-6. SWPL Alternatives 500 kV Future Expansion

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