
**ENERGIA SIERRA JUAREZ (ESJ)
U.S. TRANSMISSION GEN-TIE PROJECT
SAN DIEGO COUNTY MAJOR USE PERMIT APPLICATION
AMENDED PROJECT DESCRIPTION**

BACKGROUND

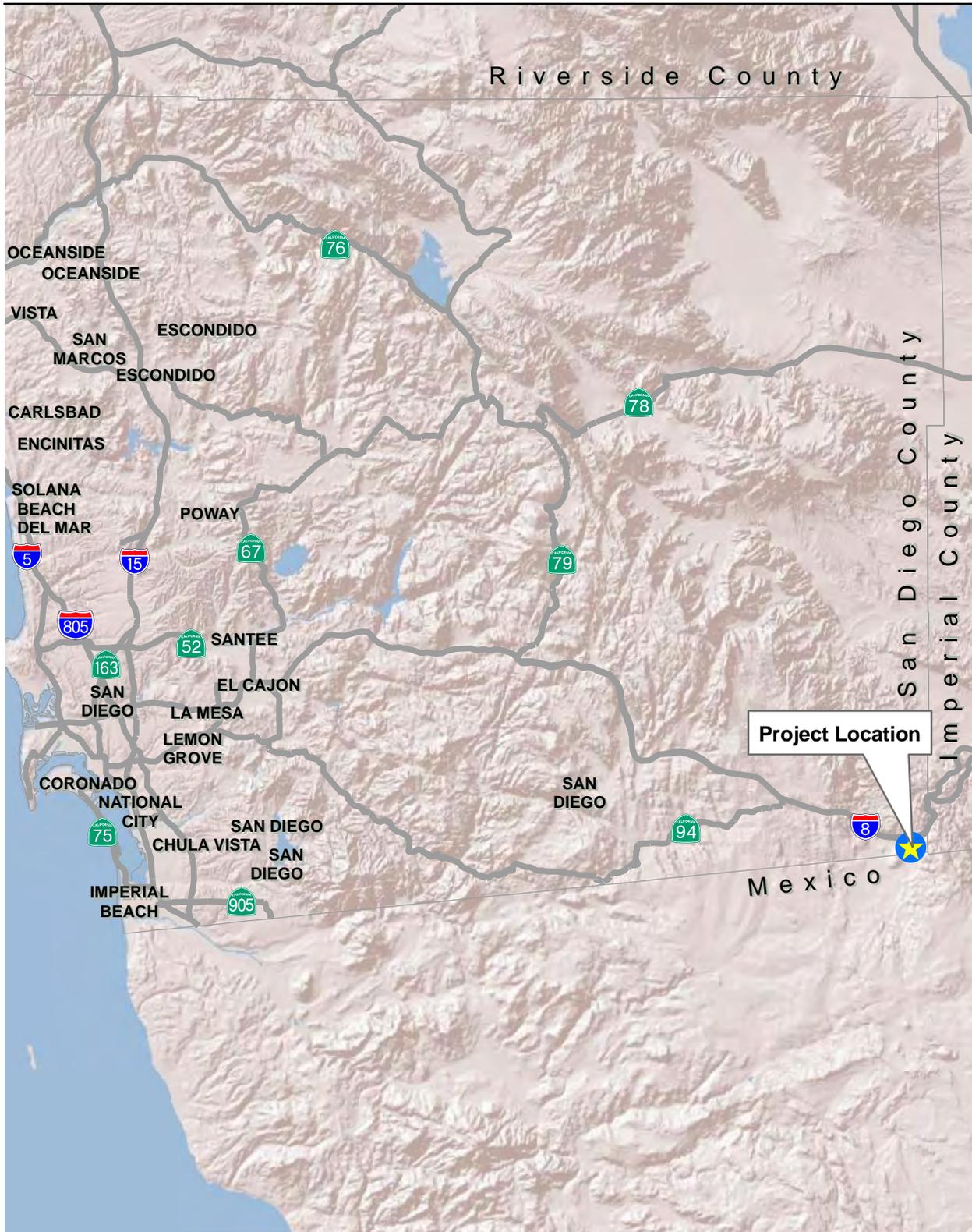
Energia Sierra Juarez U.S. Transmission, LLC (ESJ U.S.) proposes to interconnect new renewable wind power in Northern Baja Mexico into the existing Southwest Powerlink (SWPL) Transmission Line in the United States. ESJ U.S. requests a Major Use Permit (MUP) for the construction, operation, and maintenance of a less than one mile segment of an “electric generator-tieline” in Eastern San Diego County. The proposed generator-tieline (Gen-Tie) would have the capacity to import up to 1250 MW of renewable energy generated in Northern Baja California, Mexico. The proposed Gen-Tie would transmit only renewable energy.

PROPOSED PROJECT

Energia Sierra Juarez (ESJ) U.S. Transmission, LLC, proposes the construction, operation and maintenance of a less than one-mile electric generator-tie line from the Mexico border to a substation adjacent to the Southwest Powerlink (SWPL) 500 kV transmission line in Eastern San Diego County. This project, known as Energia Sierra Juarez U.S. Gen-Tie project (ESJ Gen-Tie Project) is proposed by ESJ U.S. The proposed ESJ Gen-Tie Project consists of a single circuit 500 kV line (Route A1) or double-circuit 230 kV line (Route A2) supported on three to five 150 foot steel lattice towers or up to 170-foot steel monopoles (Figure 3). The proposed Gen-Tie would have the capacity to interconnect up to 1250 MW of future renewable energy produced by generators located in Northern Baja California Mexico.

Either route would connect with the proposed East County Substation (ECO Substation) which is to be proposed, permitted, constructed, and operated by San Diego Gas and Electric (SDG&E) which in turn would interconnect to SWPL. The ECO Substation is located approximately 0.65 miles north of the U.S. Mexico border and approximately 3.75 miles east of Jacumba in the southeast corner of San Diego County near the Imperial County Line (see Figures 1 and 2).

The total length of the generator tie line would be approximately two miles, with approximately one mile in the United States (ESJ Gen-Tie Project) and approximately one mile from the international border to the first point of interconnection in Mexico, at the ESJ Jacume substation



Source: SANGIS 2008, ESRI 2009

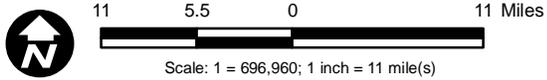
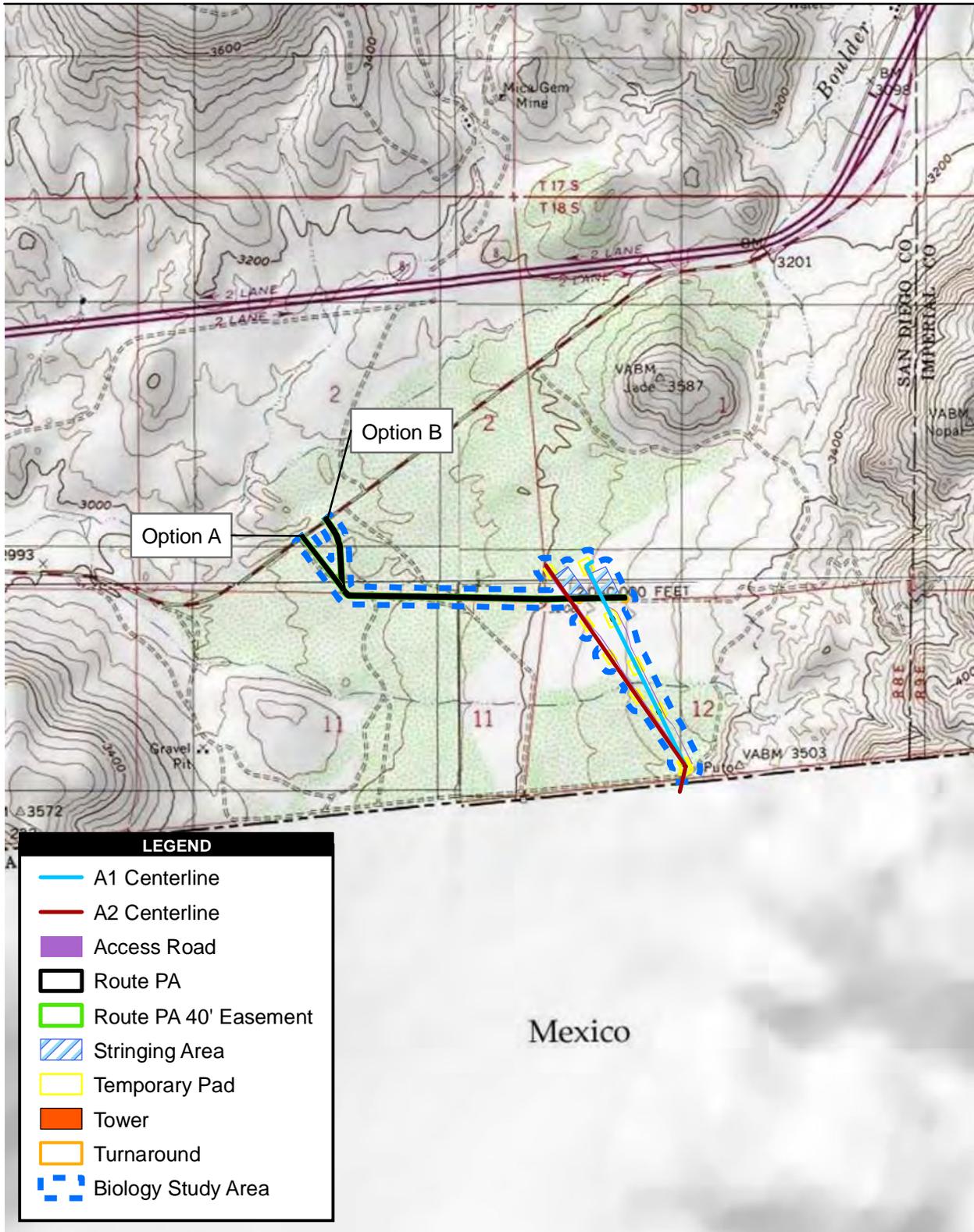


Figure 1
Regional Location Map

ESJ U.S. Gen-Tie Project Amended Project Description

Path: P:\2009\09080001 ESJ Gen-Tie\6.0 GIS\6.3 Layout\ProjDesc\Figure1_Regional_Location.mxd, 03/15/10, SorensenJ



Source: ESRI 2009, USGS Topographic Quadrangle In-Ko-Pah Gorge 1975, Jacumba 1975

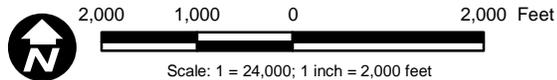


Figure 2
Project Vicinity

in Mexico. An additional overhead static ground wire running above the conductors would have a fiber optic core for communications between the ESJ Jacume Substation in Mexico and the proposed SDG&E ECO Substation.

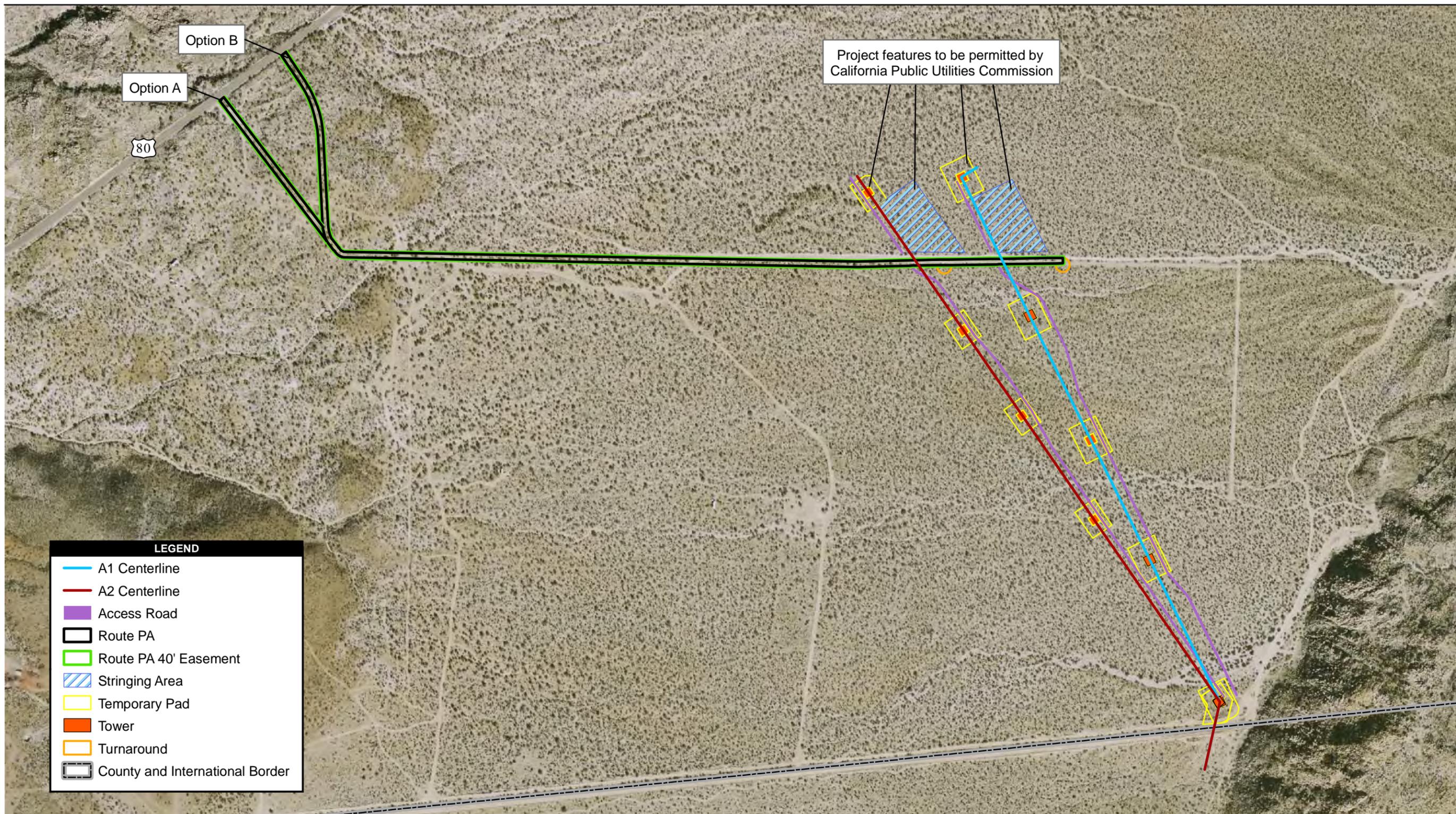
Access to the ESJ Gen-Tie Project area is provided by Old Highway 80. The proposed project has two options, Option A and B, for the property legal access road (PA). The locations and alignments for both options are shown in Figure 3. Both options would require construction of a new 28 foot wide road and turnaround within a 40foot wide easement, as required by the Rural Fire Protection District. It is possible that the entire 40 -foot easement could be impacted during construction of the access road. Disturbed areas within the 40-foot easement, but beyond the 28-foot wide access road, would be revegetated with a native seed mix.

A new Gen-Tie tower access road would be constructed that would parallel the proposed Gen-Tie. The Gen Tie tower access road and foundations for the lattice towers or monopoles would be located entirely within the permanent right-of-way. The Gen-tie tower access road would be an approximately 12-foot wide graded dirt road. Both the property legal access road and Gen-Tie tower access road would be maintained periodically. This maintenance would include periodic grading and minor repairs.

As noted above, the Gen-Tie would consist of either a single circuit 500 kV line or double circuit 230 kV line. The key features and impacts of each of these alternatives are summarized in Table 1.

Route A1 (the 500 kV Gen-tie) would be constructed within a 214-foot wide permanent right-of-way. Route A2 (the 230 kV Gen-tie) would be constructed within a 130-foot permanent right-of-way. A 100-foot and 70 foot wide temporary construction easement along the right-of-way was originally proposed for Route A1 and A2, respectively. The temporary easement has been eliminated to minimize disturbed areas.

In lieu of these 100-foot wide (7.72 acres) or 70-foot wide (5.64 acres) temporary easements, the wire stringing site proposed at the north end of the project site immediately adjacent to the property legal access road, and which was originally identified as having a disturbance of 0.69 acres, would instead be used as a wire stringing site and as a construction laydown and parking area. This consolidated construction laydown/parking/stringing disturbance area would be 1.88 acres for Route A1 and 1.98 acres for Route A2, which is a reduction in impacts in comparison to the 100-foot and 70-foot easements.



LEGEND	
	A1 Centerline
	A2 Centerline
	Access Road
	Route PA
	Route PA 40' Easement
	Stringing Area
	Temporary Pad
	Tower
	Turnaround
	County and International Border

Source: DigitalGlobe 2008, Sempra Energy 2009, SANGIS 2008

500 250 0 500 Feet

Scale: 1 = 6,000; 1 inch = 500 feet

Figure 3
Proposed Project Plan

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The monopoles or lattice towers would be located no more than 1,500 feet apart. The precise locations may be adjusted based on final design and, if necessary, to avoid sensitive cultural resources. There would be no poles placed within 150 feet of the international border. This type of Gen-Tie rarely causes interference to radio and television signals and there are no adjacent or nearby land uses where this could possibly be an issue.

Table 1. 500 kV and 230 kV Parameters

Parameter	500 kV (Route A1) Interconnection	230 kV (Route A2) Interconnection
Maximum Capacity	1250 MW	1250 MW
Number of Circuits	Single Circuit	Double Circuit
Minimum Ground Clearance	39 ft	34 ft
Permanent Right-of-Way	214 ft	130 ft
Number of Structures	3 to 5	3 to 5
Maximum Spacing Between Structures	1500 ft	1500 ft
Permanent Impacts at each structure	150 ft x 200 ft (0.69 acre)	120 ft x 160 ft (0.44 acre)
Permanent Impacts for all structures	3.45 acres (assuming 5 structures)	2.20 acres (assuming 5 structures)
Maximum Height of Lattice Towers	150 ft	150 ft
Maximum Base of Lattice Towers	34 ft x 34 ft	29 ft x 29 ft
Foundation of Lattice Tower at each corner	3-6 ft diameter	3-6 ft diameter
Maximum Height of Steel Monopoles	170 ft	150 ft
Foundation of Steel Monopoles	7-9 ft diameter	6-9 ft diameter

Construction impacts would include:

- Clearing, grading, and grubbing;
- Access road and pad construction;
- Digging and drilling for tower foundations;
- Pouring concrete foundations for towers;
- Overhead electrical power system construction; and
- Final grading and site clean-up

Vegetation would be cleared and grubbed along the proposed access roads. Vegetation debris would be removed offsite and disposed of consistent with applicable requirements. Limited grading would be required for the tower/pole pads and the construction laydown/parking/stringing site (construction staging and wire stringing site). Top soil removed during the grading of the tower areas and construction staging area would be stockpiled in the construction

staging and wire stringing site, if necessary. This topsoil would be utilized during final grading of the road and tower areas. Based on preliminary engineering design, grading would require the export of soil. Vegetation debris would be removed offsite and disposed of properly.

Gen-Tie towers/poles would be supported on excavated, reinforced concrete foundations. The foundations would be excavated using a backhoe or similar excavation equipment. The maximum area of disturbance at each tower site would be approximately 150 feet by 200 feet, or 0.69 acre at each site, for a total of 3.45 acres of impacts if five structures are installed. This disturbed acreage is based on the 500 kV Route A1; impacts associated with the 230 kV Route A2 would be less. Table 2 quantifies the amount of land disturbance for all project components associated with Routes A1 and A2.

Table 2. Land Disturbance

Project Components	500 kV (Route A1) Interconnection	230 kV (Route A2) Interconnection
Construction lay-down/ parking/ stringing area	1.9 acres	2.0 acres
28-foot Property Legal Access Road and Turn Around ¹	4.5 acres ²	4.5 acres ²
Gen-Tie Tower Access Road	0.8 acres	0.9 acres
Permanent Impacts (5 towers and 30-foot fire clearing) ³	3.45 acres	2.2 acres
Totals	10.77 acres ⁴	9.72 acres ⁴

¹ The 28' Property Legal Access Road is located within a 40' easement. The entire 40' easement could be impacted during construction. Therefore impacts to the entire 40' easement have been assumed for this calculation.

² Impacts associated with the Property Legal Access Road include Option B in order to provide show the greatest amount of impact.

³ Depending on final design 3-5 towers would be installed. Values are approximate.

⁴ The total amount of land disturbance shown in this row is larger than the sum of the rows above due to rounding. Detailed land disturbance calculations are shown by vegetation community and cover type in Tables 3 and 4.

In addition to the permanent impact associated with each tower pad, fire protection guidelines require a defensible space of 30 feet on all sides of each tower, and recommend that no revegetation occur within, or 30 feet adjacent to, the right-of-way (ROW) (Hunt Research Corporation 2009). Therefore, for purposes of this technical report, the entire project ground disturbance is considered a permanent impact.

The proposed Project would include a Stormwater Pollution Prevention Plan (SWPPP) as required by the Clean Water Act (CWA) and the San Diego Regional Water Quality Control Board (RWQCB). The SWPPP would include options for standard sediment control devices such

as silt fences, straw wattles, straw bales, netting, soil stabilizers, and check dams to minimize soil erosion during and after construction.

All waste material generated during project construction would be deposited in dumpsters or covered bins that would be removed from the Project site by a licensed waste hauler for proper disposal. Portable toilets would also be provided for use by the construction workers. These facilities would be installed and removed from the site by a licensed portable sanitation company and the waste material would be disposed of at an approved facility. Onsite construction workers would remove litter at the end of each day. A final site cleanup and inspection would be conducted at the completion of construction.

Project construction would require approximately 20 to 25 workers per day for up to six months. The bulk of the work would be completed in late 2011. There would be approximately 5 to 15 construction vehicles operating on-site during construction, with approximately 10 to 20 worker vehicles entering or leaving the site each day. An estimate of the vehicles and usage for various construction activities, as well as air emissions estimates including GHG emissions, has been prepared and provided under separate cover.

During operation of the facility, minimal personnel (1 or 2) would be required to patrol and visually inspect the Gen-Tie on a periodic basis. Operations and maintenance related traffic would consist of approximately two vehicles entering and leaving the site weekly.

Project construction would require approximately 780,000 gallons of water (assumes use of 2 – 2,500 gallon water trucks per day and a six day work week), for watering of roads and minimizing dust generated from traffic and excavation activities and for aid in soil compaction. It is anticipated that water would be trucked onto the site in tank trucks, although a temporary groundwater well could be drilled for use during construction. Temporary on-site storage of water may be possible. Very little water would be needed when the facilities are in operation, and would mainly consist of the occasional pressure washing of the insulators to remove dirt accumulation to minimize arcing.

Road maintenance activities are anticipated to occur no more than twice per year on average, but would be performed on an as-needed basis. No fencing is proposed. The Gen-Tie towers would be equipped with warning signs in English and Spanish that would alert the public to the electrical hazard. No lighting on the towers/poles is proposed, based on the Federal Aviation Administration (FAA) determination of no hazard to air navigation.

No fencing is proposed. However, the Gen-Tie towers would be equipped with devices to

prevent climbing on the towers. Warning signs in English and Spanish would alert the public to the electrical hazard.