CHAPTER 1.0 PROJECT DESCRIPTION, LOCATION, AND ENVIRONMENTAL SETTING

1.1 Project Objectives

Tierra del Sol Solar Farm LLC, Rugged LLC, LanWest Solar Farm LLC, LanEast Solar Farm LLC, and Soitec Solar Development LLC (the applicants) propose to develop, finance, construct, and operate four renewable energy solar projects in southeastern San Diego County. For purposes of this Program Environmental Impact Report (EIR), the four solar projects are collectively referred to as the Proposed Project. Currently, the applicants are seeking project-level approvals for only the Tierra del Sol and Rugged solar farm projects, which are analyzed at a project-level of detail in this EIR. The LanEast and LanWest solar farms are analyzed at a programmatic level, because sufficient project-level data has not been developed at this time.

Specific objectives for the Proposed Project are as follows:

1. Assist in achieving the state's Renewable Portfolio Standard (RPS) and greenhouse gas emissions (GHG) reduction objectives by developing and constructing California RPS-qualified solar generation, approved under Senate Bill (SB) X1 2, which established renewable energy targets of 20% total electricity sold to retail customers by the end of 2013, 25% by the end of 2016, and 33% of total electricity sold to retail customers by 2020.
2. Create utility-scale solar energy in-basin to improve reliability for the San Diego region by providing a source of local generation.
3. Locate solar power plant facilities as near as possible to existing or planned electrical transmission facilities, including colocating with existing transmission facilities when feasible.
4. Site solar power plant facilities in areas within the County of San Diego (County) that have excellent solar attributes, including but not limited to high direct normal irradiance (DNI), in order to maximize productivity.
5. No net additional emission of GHGs, including GHG emissions from employee transportation, consistent with the methodology employed by the California Air Resources Board (CARB) pursuant to Division 25.5 (commencing with Section 38500) of the Health and Safety Code.
6. Invest a minimum of $100 million of economic development to support the local economy through the creation of high-wage, highly skilled construction and permanent jobs that pay prevailing and living wages.
7. Develop up to 168.5 MW of renewable solar energy systems that reduce consumption of non-renewable resources and reduce GHG and other long-term air pollutant emissions while minimizing impacts to natural resources.

1.2 Project Description

The Proposed Project encompasses a total of approximately 1,490 acres within the Mountain Empire Subregional Plan area in unincorporated San Diego County (see Figure 1-1, Regional Location Map). The four individual solar farms comprising the Proposed Project (Tierra del Sol, Rugged, LanEast, and LanWest, shown on Figure 1-2, Specific Location Map) would utilize concentrator photovoltaic (CPV) electric generation system technology to produce solar energy at the utility-scale. Together, these four solar farms comprise the whole of the action as defined by the California Environmental Quality Act (CEQA). The Proposed Project could produce up to 168.5 megawatts (MW) of solar energy and would be located on approximately 1,490 acres in southeastern San Diego County. Figure 1-3, Project Aerial Map, Figure 1-4, Project Environmental Setting – South of Interstate 8 (I-8), and Figures 1-5, Project Environmental Setting – North of I-8, show the location of the Proposed Project in the context of local geography, major landforms, and points of interest.

The following provides an overview of the Proposed Project. Following this overview, Section 1.2.1, Project's Component Parts, describes project components which would be similar for all four solar farm sites. Section 1.2.1 is broken down into three subsections: Section 1.2.1.1, Common Project Components and Activities, which describes the Proposed Project components, construction, operation, and decommissioning activities that all four solar farms share in common; Section 1.2.1.2, Solar Farm Specific Components and Activities, which describes specific details and features relative to each of the four solar farms individually; and Section 1.2.1.3, Project Design Features, which describes features incorporated into the design to reduce or avoid the potential for environmental effects.

Table 1-1, Overview of the Proposed Project, lists the four solar farms analyzed in this document. For each solar farm listed, the site acreage and approximate number of CPV trackers and estimated CPV electrical generation capacity is provided.

Table 1-1
Overview of the Proposed Project

Name	Acres[1]	CPV[3] trackers, Approximate Number	Estimated Electrical Generation Capacity (MW[4])
Tierra del Sol	420	2,657[5]	60
Rugged	765	3,588[6]	80
LanEast	233	900	22
LanWest	55	264	6.5
Tierra del Sol Gen-Tie	17[2]	N/A	N/A
Total	**1,490**	**7,409[5,6]**	**168.5**

Notes:

1 Acreage refers to the total project area under control of the project applicant. Actual areas of disturbance may be reduced due to avoidance of sensitive areas or other development constraints.

2 Includes access roads, pull sites, and staging areas anticipated to be required.

[3] CPV – Concentrator Photovoltaic (CPV) Electric Generation Systems
[4] MW – Megawatt
[5] Number of CPV trackers does not reflect removal of trackers for implementation of Mitigation Measure M-AE-PP-1 (i.e., installation of landscape screens) along Tierra Del Sol Road, which equates to 71 trackers.
[6] Number of CPV trackers does not reflect removal of trackers for implementation of Mitigation Measure M-AE-PP-1 west of McCain Valley Road, implementation of PDF-AE-1 (i.e., removal of trackers from topographical saddle occurring at the southeastern extent of the southern subarea) , and project refinements that occurred after the release of the DPEIR. This equates to a total of 120 trackers.

Tierra del Sol

The Tierra del Sol solar farm would produce up to 60 MW of alternating current (AC) generating capacity and would consist of approximately 2,657 CPV dual axis tracking systems ("trackers") located on 420 acres in the community of Tierra del Sol. In addition to the trackers and direct current (DC) to AC conversion equipment (i.e., inverter and transformer units), Tierra del Sol would include the following primary components, as shown in Figure 1-6, Tierra del Sol Site Plan, and Figures 1-7a-d, Tierra del Sol Gen-Tie Route:

- A 1,000-volt DC underground collection system and a 34.5-kilovolt (kV) overhead and underground collection system linking the trackers to the on-site project substation.
- A 4-acre operation and maintenance (O&M) site, including a 60-foot by 125-foot (7,500-square-foot) O&M building. The O&M building would be used for storage, employee operations, and maintenance of equipment.
- A 3-acre on-site private collector substation site encompassing a fenced pad area of approximately 7,500 square feet and a maximum height of 35 feet to house approximately 3,750 square feet of equipment, including 450 square feet of metal-clad switchgear.
- A dual circuit 138 kV overhead/underground transmission line (gen-tie) would connect the project substation to the Rebuilt Boulevard Substation.

The project would be constructed in two main phases as follows:

- Phase I is a 45 MW CPV electric generation project located on approximately 330 acres.
- Phase II is a 15 MW CPV electric generation project located on approximately 90 acres.

The Tierra del Sol substation and gen-tie, as well as San Diego Gas and Electric's (SDG&E's) interconnection facilities, would be sized to accommodate both Phase I and Phase II. The Tierra del Sol solar farm would be located entirely on private lands within unincorporated San Diego County; most of the gen-tie would be located on private lands except for an approximately 0.5-mile portion of the underground gen-tie that would be located within County right-of-way (ROW). Upon completion, Tierra del Sol would be monitored both on site at the 4-acre O&M

annex and off site through a supervisory control and data acquisition (SCADA) system. See Sections 1.2.1 and 1.2.2 for further details.

Primary access to the Tierra del Sol site would be provided via two points of ingress/egress along Tierra del Sol Road. The main entrance would be located where Tierra del Sol Road splits off along the northern boundary of the Tierra del Sol solar farm site, as shown on Figure 1-6. The secondary entrance would be located along the project site's western limits adjacent to Tierra del Sol Road (see Figure 1-6). Two additional points of emergency egress/ingress would be provided at the project's southwestern point and northeastern point to facilitate U.S. Customs and Border Patrol access and to provide an alternate fire access point, respectively.

Power from the on-site private substation would be delivered to the 138 kV bus at SDG&E's Rebuilt Boulevard Substation via an approximate 6-mile dual circuit 138 kV transmission line within a 125-foot private ROW when aboveground and a 60-foot easement when underground. The Tierra del Sol gen-tie line would consist of an approximately 1-mile underground alignment. The underground alignment would first lead northward from the on-site substation along the County ROW within the Tierra del Sol Road for approximately 0.5 mile. The underground alignment would then be routed to the east via a 90-degree turn that would consist of an approximately 0.3-mile segment. A transition pole would be constructed at this location where the gen-tie line would transition from an underground alignment to an overhead alignment that would extend northward for approximately 3.5 miles and end just east of Jewel Valley Road, where the gen-tie line would transition back to an underground alignment for the remaining 1.5 miles and end at the interconnection point at the Rebuilt Boulevard Substation; see Figures 1-7a through 1-7d.

Rugged

The Rugged solar farm would produce up to 80 MW of AC generating capacity and would consist of approximately 3,588 trackers on 765 acres[1] in the unincorporated community of Boulevard, California. Trackers on the Rugged solar farm are grouped into four different subareas on the project site: the northwest subarea, central subarea, southern subarea, and eastern subarea. In addition to the trackers and inverter transformer units, Rugged includes the following primary components, as shown in Figure 1-8, Rugged Site Plan:

- A collection system linking the trackers to the on-site project substation consisting of (1) 1,000-volt (V) DC underground conductors leading to (2) 34.5 kV underground and overhead AC conductors.

[1] The limits of disturbance on the Rugged solar farm site are approximately 515.7 acres; see Section 2.3, Biological Resources, for further details.

- A 60-foot by 125-foot (7,500-square-foot) O&M building. The O&M building would be used for storage, employee operations, and maintenance of equipment.
- A 2-acre on-site private collector substation site with a fenced pad area of approximately 6,000 square feet and maximum height of 35 feet. The on-site substation would include a 450-square-foot control house.
- A temporary 10-acre batch plant and rock crushing facility that would consist of a 10,000 square foot mixing plant, areas for sand and gravel stockpiles, an access road, and truck load out and truck turnaround areas.

Upon completion, Rugged would be monitored on site at the O&M annex and off site through a SCADA system. See Sections 1.2.1.1 and 1.2.1.2 for further details.

Primary access to the Rugged site would be from Ribbonwood Road and McCain Valley Road. One roadway would be constructed off site from McCain Valley Road leading to the central subarea if Rough Acres Ranch Road is not constructed per the Tule Wind Energy project Major Use Permit (MUP) 3300-09-019. Access to the northwest subarea would be provided via Ribbonwood Road. The central subarea would also include an access road leading south crossing Tule Creek to provide access to the southern subarea. The eastern subarea would be accessible via an access road leading from McCain Valley Road crossing beneath the Sunrise Powerlink.

Power from the on-site private substation would be delivered to the 69 kV bus at SDG&E's proposed Rebuilt Boulevard Substation via the Tule Wind Energy project (MUP 3300-09-019) gen-tie alignment (Tule gen-tie) as adopted by the Board of Supervisors on August 8, 2012. The 138 kV gen-tie for the Tule Wind Energy project includes a 69 kV undersling line, which will be used to service the Rugged solar farm. The Tule gen-tie will run south along the east side of McCain Valley Road and SDG&E's Sunrise Powerlink and across I-8, after which it will cross McCain Valley Road and run parallel to Old Highway 80 along the north side until it crosses Old Highway 80 at the proposed new SDG&E Boulevard East Substation. Both the Rebuilt Boulevard Substation and Tule gen-tie were subject to prior environmental analysis; construction of these facilities would be completed prior to operation of the Rugged solar farm (Iberdrola Renewables 2013). Rugged Solar LLC and Tule Wind LLC have a joint-use agreement in place for use of the gen-tie line, associated transmission towers, and access road. In addition, in the event that the Rugged Solar Farm is constructed prior to the Tule Wind Project, the joint-use agreement provides that portion of the Tule gen-tie on which the Rugged gen-tie will be co-located can be constructed first (Soitec Solar Inc. 2014).

LanEast and LanWest

For purposes of this EIR, the LanEast solar farm and LanWest solar farm are analyzed at a program level of environmental review because neither project has been fully developed to a

project-level of detail at this time. Although the specific details of LanEast and LanWest are not yet known, project facilities are assumed to be similar to those proposed for the Tierra del Sol and Rugged solar farms discussed above and in greater detail in Sections 1.2.1 and 1.2.2.

The proposed LanEast solar farm is anticipated to provide up to 22 MW of AC generating capacity and would consist of approximately 900 trackers. In addition to trackers, a collector substation, and an on-site O&M annex, and a gen-tie would be required to connect the on-site collector substation to SDG&E's Rebuilt Boulevard Substation located approximately 0.75 mile southwest of the project boundary. LanEast would interconnect with the Tule gen-tie 69 kV undersling line at the on-site collector substation.

The proposed LanWest solar farm is anticipated to provide up to 6.5 MW of AC generating capacity and would consist of approximately 264 trackers. In addition to the trackers and inverter transformer units, power generated at the LanWest site would be delivered to SDG&E's Rebuilt Boulevard Substation by means of a dedicated underground 12.5 kV distribution line. The Rebuilt Boulevard Substation is located approximately 1,000 feet from the southwest corner of the site, across Old Highway 80.

1.2.1 Project's Component Parts

1.2.1.1 Common Project Components and Activities

As indicated previously, the individual solar farms comprising the Proposed Project would utilize similar solar generation technologies and would include common project components at all sites. This section includes common project components, construction, operation, and decommissioning activities that would be similar at all four solar farm sites. The anticipated construction and operational water usage of the solar farms is also discussed in this section.

Common Project Components

CPV System (Tracker)

The CPV system uses a dual-axis tracking system (see Photo 1-1). The components of the dual-axis tracking system include modules, described below, that are placed on the tracking system, the tracker unit, and the tracker control unit. Generally and from this point forward throughout the EIR, the CPV system is referred to as "trackers." Two types of sensors are used to ensure that the focal point of the concentrated sunlight is exactly on the solar cells at every moment of the day: (1) astronomical positioning and (2) a solar sensor that seeks to position the trackers precisely perpendicular to the sun to ensure optimum system performance.

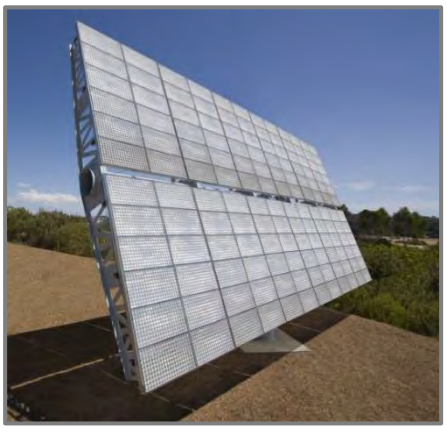

Photo 1-1: CPV dual-axis tracking system.

The entire trackers module assembly dimensions are approximately 48 feet across by 25 feet tall (see Figure 1-9, Tracker Schematic Drawing). Each tracker would be mounted on a 28-inch steel mast (steel pole), which, depending on wind loading and soil conditions at the site, would be installed by: (1) inserting the mast into a hole up to 20 feet deep and encasing it in concrete, (2) vibrating the mast into the ground up to 20 feet deep, or (3) attaching the mast to a concrete foundation sized to adequately support the trackers.

The ultimate height of each tracker in its most vertical position depends on how it is installed because installing the mast into a concrete foundation may increase the tracker height. In its most vertical position and assuming the use of a concrete foundation, however, the top of each tracker would not exceed 30 feet above grade, and the lower edge would not be less than 1 foot above ground level. In its horizontal "stow" mode (for high winds), each tracker would have a minimum ground clearance of 13 feet, 6 inches.

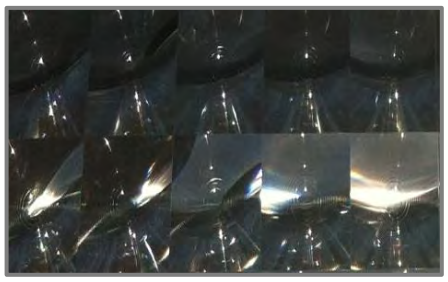

Photo 1-2: Fresnel lens.

The trackers use on-site sensors or a comparable system to maintain tracker orientation toward the sun. At night, the trackers would be positioned vertically to minimize dust collection. When winds are high, the trackers would be positioned horizontally in "stow" mode (see Figure 1-9, Tracker Schematic Drawing).

Module

Soitec's Concentrix modules, which are manufactured in San Diego County (Rancho Bernardo), are made up of a lens plate (Fresnel lens, see Photo 1-2) and a base plate on which high-performance solar cells are mounted. The Fresnel lens focuses sunlight concentrated by a factor of 500 on the solar cells beneath.

The solar cells are optimized multi-junction solar cells (GAInP/GaInAs/Ge) in which three different types of solar cells are stacked on top of one another. Each cell is designed to convert a certain range of the solar spectrum: short-wave radiation, medium-wave radiation, and infrared. For almost 20 years, multi-junction solar cells have been used in space applications.

The solar modules are lightweight and surrounded by airflow both inside and outside the module. As a result, heat dissipates quickly from a solar panel. The normal operating temperature for solar modules is 20 degrees Celsius (°C) above ambient temperature; therefore, on a typical summer day at 40°C (104°F), the panel temperature would be approximately 60°C (172°F). When accounting for irradiance (a measure of solar radiation energy received on a given surface area in a given time), wind, and module type, it is

expected that the peak module temperatures in the summer would be between 65°C and 70°C (149°F and 158°F), and the peak module temperatures in the winter would be between 35°C and 40°C (95°F and 104°F). Although the CPV panels would be hot to the touch as a result of solar energy absorption, CPV panels are designed to absorb light energy inwards towards the panel to produce electricity. As opposed to mirrors which redirect the sun, CPV modules use Fresnel lenses to concentrate sunlight inside the module to produce electricity, and therefore, they would not noticeably affect the temperature of the surrounding area; temperatures below the modules would be nearly the same as ambient temperatures in ordinary shade.

Inverter Stations

The purpose of each inverter station is to convert the DC power from the solar modules to AC power, which is compatible with the SDG&E system and is the type of power that is sold to residential and commercial customers. The electrical device that changes DC to AC is the solid-state inverter.

Power from the trackers would be delivered through a 1,000 V DC underground collection system to the inverters in the inverter station. The power plant has not been electrically designed, but the proposed inverters could be in any combination of output to equal the maximum power delivered to meet contract capacity. In addition to the inverters, each inverter station would be equipped with a step-up transformer to convert the power output from the inverters from 350–400 V AC on the "low side" to 34.5 kV on the "high side." The total number of inverter stations and the overall dimensions of each inverter station depend on the number and capacity of inverters included in each inverter station in the final design. The inverter stations would be constructed in an open configuration with a shade structure or placed within an enclosure. All inverter pads would accommodate up to three inverters and one transformer.

Table 1-2 specifies the approximate number of inverter stations per project.

Underground Collection System

The underground 34.5 kV collection system would be installed in a trench 2 to 4 feet wide and up to 4 feet deep running parallel to each row of trackers. An inert material such as sand may be used as insulation and heat dissipation for the direct buried cable within the collection system trenches. A small concrete footing would be installed to support each pair of inverters and accompanying transformer. Each 34.5 kV underground branch circuit would connect to an overhead trunk line for delivery to the substation. See Section 1.2.1.2, Solar Farm Specific Components and Activities, for a description of the overhead trunk line for each site.

Control System

Operation of the individual solar farms would require monitoring through a SCADA system. The SCADA system would be used to provide critical operating information (e.g., power production, equipment status and alarms, and meteorological information) to the power purchaser, project owners and investors, grid operator, and project operations teams, as well as to facilitate production forecasting and other reporting requirements for project stakeholders. The SCADA system would use on-site sensors, which would maintain tracker orientation toward the sun, and at night, the trackers would be positioned vertically to accommodate washing when needed, to minimize dust collection, and to be ready to begin generation soon after sunrise each morning. When winds are high, the trackers would be positioned horizontally in "stow" mode to reduce wind loading. The trackers and communication/monitoring system on site would require minimal usage of grid-provided electricity for operation.

Backup Power and Storm Positioning System

The backup power and storm positioning system has the function of bringing the trackers into the horizontal "stow" mode position (Storm Position) in case the electrical power is cut or if there is an approaching storm that could be damaging to the trackers. The backup power and storm positioning system must fulfill two functions:

- To adequately detect a damaging storm and to be able to communicate a Storm Position command to each tracker
- To have enough electrical capacity to power each tracker into the Storm Position in case of the loss of the primary power supply.

The backup power and storm positioning system would consist of one of the following options: (1) a 1.5 MW diesel-powered emergency generator or equivalent located at the substation, (2) an Uninterrupted Power Supply (UPS) battery storage system at each inverter station, or (3) a 20 kW propane generator at each inverter skid (Trojan 2013a, Trojan 2013b). The backup power systems would be appropriately sized to allow the trackers to be moved into the "stow" mode, as described. The UPS system would include approximately 20 8D-GEL batteries enclosed in a 7 foot by 6 foot metal enclosure. In the event of an electrical outage, the emergency or propane generators would be expected to operate no more than 20 minutes to bring all the trackers into the stow mode position.

Site Design

Security

The project sites would be fenced along the entire property boundary for security with fencing that meets National Electrical Safety Code (NESC) requirements for protective arrangements in

electric supply stations. Examples of acceptable fencing may include a 6-foot chain-link perimeter fence with three strands of barbed wire along the top with a 4-inch maximum clearance from the ground surface (see Figure 1-10, Security Fencing Exhibit). Signage in Spanish and English for electrical safety would be placed along the perimeter of the project site, warning the public of the high voltage and the need to keep out. Signage would also be placed within the project site where appropriate. Some localized security-related lighting, on-site security personnel, and/or remotely monitored alarm system may be required during construction and/or operation. Remote-monitored cameras and alarm system(s), and perimeter and safety lighting that would be used only on an as-needed basis for emergencies, protection against security breach, or unscheduled maintenance and trouble-shooting (such as may occasionally be required) would be installed.

Maintenance and Security Lighting

Lighting at each project site would be designed to provide security lighting and general nighttime lighting for O&M personnel, as may be required from time to time. Lighting would be shielded and directed downward to minimize any effects to surrounding properties, and would be used only on an as-needed basis. Lighting would be provided in the O&M area, entrance gates, and the project substation.

On-site private substations would include lighting inside the substations to allow for safety inspections or maintenance that may be required during the evening hours. Lighting would also be provided next to the entrance door to the control house and mounted at the entrance gates to allow for safe entry. Since maintenance activities are not anticipated to be completed during the evening hours, lights would only be turned on if needed.

All lighting for the solar farms would have bulbs that do not exceed 100 watts, and all lights would be shielded, directed downward, and would comply with the County of San Diego Light Pollution Code Section 59.101 et seq.

Internal and External Access Roads

There are three different types of roads for the Proposed Project that would be improved to different standards: primary access roads, fire access roads, and service roads. All road surfaces would be surfaced with disintegrated granite or other aggregate base material sufficient to support proposed loads. Primary project access would be provided off of local project area roadways (see project descriptions below for detail), and no improvements to the existing roadways are proposed at this time.

Primary Access Roads: The primary access roads would be constructed to a minimum width of 28 feet graded, with 24 feet being designed, constructed, and maintained to support the imposed loads of fire apparatus (not less than 50,000 pounds), and would consist of an approved surface

so as to provide all-weather driving capabilities. The purpose of the fire access roads is to allow for two-way access of fire apparatus for ingress and egress of the project site and to the on-site substation and O&M buildings.

Fire Access Roads (Internal): The fire access roads would be constructed to a minimum width of 24 feet graded, with 12 feet being designed, constructed, and maintained to support the imposed loads of fire apparatus (not less than 50,000 pounds), and would consist of an approved surface so as to provide all-weather driving capabilities. The purpose of the fire access roads is to allow for one-way access of fire apparatus throughout the project sites in order to reach all of the trackers and inverter stations.

The non-load-bearing surface material of the fire access roads would consist of an all-weather surface capable of supporting 50,000 pounds as required by County Fire Code. Fire access roads would be oriented in a north–south direction and would have east–west connections every 1,000 feet. Additionally, fire access roads would be constructed between every fourth row of north–south trackers to facilitate a maximum fire hose pull of 160 feet. An access-controlled gate would be installed at the substation driveways, which would be constructed off existing roadways with direct access to the project site(s).

Service Roads: Service roads may be constructed to a width of about 20 feet and would be compacted to support washing equipment loads of 15,000 pounds. Service roads would run in a north–south direction along the west side of a column of trackers except where there would be a fire access road that would facilitate access to trackers and inverter stations. The service roads would also be surfaced with disintegrated granite (DG) or other aggregate base material.

Fire Protection

There are several fire stations that are owned and staffed by San Diego County Fire Authority (SDCFA), California Department of Forestry and Fire Protection (CalFire), San Diego Rural Fire Protection District (SDRFPD), and U.S. Forest Service (USFS) within the Proposed Project area. The Boulevard area is serviced by the SDCFA's Boulevard Fire Station (Station 87) (see Figure 3.1.7-1).

Fire emergencies that may occur at the Proposed Project site would be primarily responded to by SDCFA's Boulevard Fire Station. CalFire's Whitestar Station, which is expected to be moved from its current location on Tierra del Sol Road to a co-located station with Boulevard Fire Department within 2 years, would be able to provide secondary response. Additional response would be from the SDRFPD's Lake Morena Fire Station, the Jacumba Volunteer Fire Station, and the CalFire Campo Station, as well as from mutual aid resources from throughout the County and state, when necessary. To comply with the fire code, clearing and grubbing, as necessary, in localized areas would be required for construction and access to the project sites. Additionally, Fire

Protection Plans (see Appendices 3.1.4-5 and 3.1.4-6), and an Emergency Service Capabilities Assessment report (see Appendix 3.1.7-1) have been prepared for the Proposed Project. Fire prevention measures include, but are not limited to:

- Constructing all on-site facilities of non-combustible or ignition-resistant materials in accordance with County Building Code
- Multiple water storage tanks with fire department connections would be available within each site
- Identifying roads and structures to comply with County Consolidated Fire Code, Section 505
- An illuminated sign at the project entrances that clearly indicates inverter and electrical grid layout, trackers "safe" mode switch location, and entire site de-energizing disconnect switch identification and location
- Clearing of all existing native vegetation to a height no taller than 6 inches and removal of all dead, dying, and dried (low fuel moisture) vegetation
- 24-hour surveillance at the facility
- A minimum 50-foot fuel treatment perimeter area and perimeter fire apparatus access road
- Ensuring safe and effective emergency response to the site should a fire occur.

Common Project Construction, Operation, and Decommissioning Activities

Construction Activities and Methods

The construction of the solar farms would consist of several phases, including site preparation (described below), development of staging areas and site access roads, solar trackers assembly and installation, and construction of electrical transmission facilities. After site preparation, initial project construction would include the development of the staging and assembly areas, and the grading of site access roads for initial tracker installation as follows.

Site Preparation and Grading

Clearing and Grading: Construction of the solar farms would begin by clearing existing vegetation, large rocks, and/or other debris from within the development footprint (i.e., clearing, grubbing and grinding). Facilities such as the collector substation and O&M building; and inverters would require varying degrees of mass grading (i.e., cut/fill) to create a level area and accommodate foundations and/or engineered fills. The ultimate volume of grading for these facilities depends on their size and the steepness of the pre-existing topography. Major

Grading Permits would be required, and would be obtained once grading quantities are finalized. The preliminary grading plans prepared for Rugged and Tierra del Sol estimate 29,834 cubic yards of cut and fill and 9,429 cubic yards of cut and fill, respectively. There would be no import or export of soils to or from the Proposed Project site because excavated soils are expected to be engineered onsite (i.e., compacted and hydrated to optimum moisture content) for use as fill.

Collection System Trenching: Trenching requirements for the DC electrical collection system and telecommunication lines would consist of a trench up to approximately 3 to 4 feet deep and 1 to 2 feet wide. The trenches may be filled with sand or another inert material to provide insulation and heat dissipation for the direct buried cable within the collection system. The topsoil from trench excavation would be set aside before the trench is backfilled and would ultimately comprise the uppermost layer of the trench. Excessive material from the foundation and trench excavations would be used for site leveling.

Foundations: Trackers would be installed on a 28-inch-diameter steel mast. One foundation design calls for the mast to be concrete-encased below grade and to extend to a depth of not more than approximately 20 feet. A preferred installation is to install the mast to the necessary depth using a vibration pile-driver. In some instances, ~~conventional pile-driving would be appropriate, and,~~ where rock is particularly hard or near the surface, a spread-foot foundation may be required. Foundations for the O&M building, inverters, electrical equipment and certain structures on the collector substation are expected to be concrete slab-on-grade foundations.

Soil Stabilization: In order to reduce fugitive dust and erosion, the disturbed areas on each site would either be treated in one of the following methods, or a combination of both:

- Treatment with a permeable nontoxic soil binding agent on all cleared areas around trackers and on other cleared areas.
- Placement of disintegrated granite (DG) or other aggregate base material on all graded internal access and fire roads or other graded pads.

Temporary Batch Plant and Rock Crushing Facility

In order to provide construction materials for the proposed solar facilities, a temporary batch plant (i.e., mixing plant) and rock crushing facility would be constructed on the Rugged solar farm site as shown on Figure 1-8. The temporary facility would be used for the construction of the Tierra del Sol and Rugged solar farms for preparing and mixing the concrete used for the foundations for the trackers, inverter stations, transformers at the substations, the O&M buildings, and other project facilities.

The 10-acre facility complex would consist of a mixing plant, areas for sand and gravel stockpiles, an access road, and truck load out and truck turnaround areas. The plant itself would consist of cement storage silos, water and mixture tanks, rock crushers, gravel hoppers, and conveyors to deliver different materials. The applicants would purchase the concrete batch plant source materials from a commercial source and/or crush existing aggregate materials obtained from within the development footprint. The facility complex would be constructed and operated in compliance with the General Industrial Stormwater Permit.

The facility is proposed to operate throughout the construction of the Proposed Project and would be decommissioned following installation of project facilities. However, the rock crusher specifically is not expected to operate for more than 20 working days throughout the construction period. Furthermore, the concrete mixing operations would not operate continuously, but intermittently, as needed, throughout the construction phase. The plant footprint following decommissioning is ultimately anticipated to consist of solar trackers. The facility would operate in accordance with the County of San Diego Noise Ordinance, which limits construction noise to the hours of 7 a.m. to 7 p.m., Monday through Saturday.

The following identifies the equipment characteristics associated with the proposed facility:

- The entire perimeter of the facility, which includes the project area, would be fenced with chain-link fencing 6 feet high.
- Minimal grading would be required, primarily to accommodate equipment and a driveway through the site.
- Initially, the surface would be as it currently exists, except in those areas where equipment would be located and also the interior driveways and parking areas, which would be gravel-surfaced.
- On-site heavy equipment would include front-end loaders, bottom dump trucks, rap bins, conveyor belts, collectors, scalping screen, feeders, and drum mixer.
- Stockpiles would be located throughout the site consisting of fine and course aggregate.
- Three to four persons would be employed full time to operate the plant.
- The tallest component of the plant would be approximately 40 feet high.
- Up to ten 12,000-gallon temporary water storage tanks may be installed to support water needs.
- Temporary lights may be used if the plant needs to operate at night within the allowable construction hours permitted by the County. Lamps and their location would be designed to reduce light pollution to off-site land uses.

Tracker Construction Overview

Construction staging and material lay-down areas would be distributed across the project site(s) evenly to allow for efficient distribution of components to different parts of the project. One staging and material lay-down area is typically set up for every 250 acres of a project site. These lay-down areas would be fenced and would cover approximately 1.5 acres each. Lay-down areas would be sited within the boundaries of the project site(s). These lay-down areas would be temporary and would have trackers installed in these areas as work is completed in the general area.

Project construction would then include several phases occurring simultaneously with the construction of: (1) tracker installation, including the assembly of trackers, the pile-driving of support masts, and the placement of trackers on support masts; (2) trenching and installation of the DC and AC collection system; (3) electrical transmission facilities, including the construction of a substation and a gen-tie; (4) an O&M building; and (5) the grading of access and service roads. Tracker assembly may require small gas-powered generators to power hand tools to assemble trackers and modules.

Tracker Assembly Areas. Trackers would be assembled in a tracker assembly area located within the project area. Recycling during construction would be in compliance with the County of San Diego Construction Demolition and Debris Management Plan (in accordance with County Ordinance 68.508–68.518).

Use of Helicopters. Helicopters may be used to deliver equipment, position poles and structures, string lines, and position aerial markers, as required by Federal Aviation Administration (FAA) regulations. The type of helicopter used for delivery of materials would be a utility or "lift" helicopter (such as the Kman Kmax brand). Helicopters would only be used during daytime hours due to safety reasons.

Construction Personnel, Traffic, and Equipment

It is assumed that all employees (see Table 1-3) would arrive within the morning Peak Hour and depart within the evening Peak Hour, and delivery truck trips would be distributed evenly throughout a 12-hour-shift day, between the hours of 7 a.m. and 7 p.m. Since the surrounding area is rural, traffic is very low on the local roads surrounding the project site(s). Implementation of the Proposed Project would result in a temporary increase in traffic along these roads, but not to the level of the road carrying capacity. No road closures are anticipated during project construction. As described in Table 1-10, project design feature **PDF-TR-1** would include the preparation of a Traffic Control Plan to ensure safe and efficient traffic flow in the area and on the project sites. The Traffic Control Plan would be prepared in consultation with the County of San Diego and would contain project-specific measures for noticing,

signage, policy guidelines, and the limitation of lane closures to off-peak hours (although it is noted that no requirement for lane closures has been identified).

During the peak of construction, a typical day would include the transportation of tracker parts, movement of heavy equipment, and transportation of materials. Table 1-4, Construction Equipment Associated with Solar Project Development, lists construction equipment commonly associated with the construction of solar facilities.

Operational Activities and Methods

The O&M building would provide suitable facilities for supporting full-time employees that would tend to the project(s) at various times. The applicable number of full-time employees anticipated at each of the individual solar farms is indicated in Table 1-5. Employees would include a facilities manager, engineers, technicians, mechanics, and security staff.

The project facilities would be monitored during operating (daylight) hours, even though the project facilities would be capable of automatic start-up, shutdown, self-diagnosis, and fault detection. Appropriate levels of security lighting would be installed at O&M buildings. The site would be secured 24 hours per day by on-site private security personnel and/or remote security services with motion-detection cameras.

Underground and Overhead Collection System. Overhead components at each project site would be regularly inspected for corrosion, equipment misalignment, loose fittings, and other mechanical problems and repaired as required. The underground portion of the cable systems would be inspected and repaired if and when problems occur.

Electrical Substation. During operation, O&M staff would visit project substations several times a week for switching and other operation activities. On a regular basis, construction and maintenance trucks would visit the substations to perform routine maintenance, including but not limited to tracker washing, equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventative maintenance.

Off-Site Transmission Facilities. Maintenance and repair activities for transmission facilities, as described in Section 1.2.2, would include both routine preventive maintenance and emergency procedures conducted to maintain system integrity, as well as vegetation clearing. Activities anticipated to occur are described in more detail below.

- ***Pole or Structure Brushing.*** Certain poles or structures would require the removal of vegetation to increase aerial patrol effectiveness or to reduce fire danger. Vegetation would be removed using mechanical equipment, such as chainsaws, weed trimmers, rakes, shovels, and brush hooks. A crew of three workers would typically conduct this

work. A 100-foot-diameter area around each transmission structure would be required. Poles are typically inspected on an annual basis to determine if vegetation removal around poles is required.

- ***Application of Herbicides.*** To prevent vegetation from recurring around structures, the applicants may use herbicides. The application of herbicides generally requires one person and takes only minutes to spray around the base of the pole within a radius of approximately 10 feet. The employee would either walk from the nearest access road to apply the herbicide or drive a pickup truck directly to each pole location as access permits.
- ***Equipment Repair and Replacement.*** Poles or structures support a variety of equipment, such as conductors, insulators, switches, transformers, lightning arrest devices, line junctions, and other electrical equipment. In order to maintain uniform, adequate, safe, and reliable service, electrical equipment may need to be added, repaired, or replaced during operation. An existing transmission structure may be removed and replaced with a larger/stronger structure at the same location or a nearby location due to damage or changes in conductor size. Equipment repair or replacement generally requires a crew to gain access to the location of the equipment to be repaired or replaced. The crew normally consists of four people with two to three trucks, including a boom or line truck, an aerial-lift truck, and an assist truck. If no vehicle access exists, the crew and material are flown in by helicopter.
- ***Insulator Washing.*** The transmission lines would use polymer insulators that do not require washing.
- ***Use of Helicopters.*** Each electric transmission line is inspected several times a year via helicopter. It is anticipated that a passenger-type helicopter would be used for the line inspection. Helicopters may also be used to deliver equipment, position poles and structures, string lines, and position aerial markers, as required by Federal Aviation Administration (FAA) regulations. The type of helicopter used for delivery of materials would be a utility or "lift" helicopter such as the Kman Kmax. Helicopters would only be used during daytime hours due to safety reasons. Also, for inspection and limited use for equipment replacement, the helicopter would not be in any one location for more than 3–5 minutes.

Trackers. Trackers would be inspected and repaired as required. Additionally, it is anticipated that in-place tracker washing would occur every 6 to 8 weeks during evening or nighttime hours, between sunset and sunrise, when all tracker assemblies are aligned in a vertical easterly facing direction (i.e., overnight storage position).

Decommissioning Activities and Methods

The solar farms would operate, at a minimum, for the life of its long-term Power Purchasing Agreement (PPA). The lifespan of the solar facility is estimated to be 30 to 40 years or longer. Due to the establishment of the project infrastructure (both physical and contractual), the continued operation of the solar farms beyond the PPA term is very likely. At the end of the useful life of the solar farms, two alternative scenarios are possible: (1) re-tool the technology and contract to sell energy to a utility; (2) if no other buyer of the energy emerges, the solar plant can be decommissioned and dismantled.

Decommissioning and Recycling

Decommissioning would first involve removing the panels for sale into a secondary solar panel market. The solar farms' module component materials do not have toxic metals such as mercury, lead, and cadmium telluride. However, the solar cells do contain a trace amount of gallium arsenide (less than 2.5% of the entire cell), which can be safely removed and properly disposed of off site when the panels are recycled.

The majority of the components of the solar installation are made of materials that can be readily recycled because the panels' components can be broken down to remove the small solar cell that contains the isolated trace amount of gallium arsenide in its solid state. If the panels can no longer be used in a solar array, the aluminum can be resold, and the glass can be recycled. Other components of the solar installation, such as the tracker structures and mechanical assemblies, can be recycled as they are made from galvanized steel. Equipment such as drive controllers, inverters, transformers, and switchgear can be either reused or their components recycled. The equipment pads are made from concrete that can be crushed and recycled.

Dismantling

Dismantling the solar farms would entail disassembly of the solar facilities and substantive restoration of the site. Impacts associated with closure and decommissioning of the project sites would be temporary and would span three basic activities: (1) disassembly and removal of all detachable aboveground elements of the installation; (2) removal of tracker masts and any other structural elements, including those that penetrate the ground; and (3) reuse of the land consistent with the Zoning Ordinance, which could include ground surface restoration to surrounding grade and reseeding with appropriate native vegetation. The following are the steps needed to dismantle the project sites and return them back to a conforming use:

1. The aboveground (detachable) equipment and structures would be disassembled and removed from the site. Detachable elements include all trackers, inverters, transformers, and associated controllers and transformers. Removal of the aboveground conductors on the transmission line would also be implemented. Most of these materials can be recycled or

reclaimed. Remaining materials would be limited and would be contained and disposed of off site, consistent with the County of San Diego Construction Demolition and Debris Management Plan (County Ordinance 68.508-68.518).

2. Removal of tracker masts would entail vibration extraction in the case of vibration or conventional pile-driven installation. For tracker masts supported by concrete encasements, removal would be implemented. Any spread-foot foundations, along with foundation pads for inverters, transformers, and the switch station, would be removed. Recycling of tracker masts is anticipated; concrete would be disposed of or recycled off site.

3. The use of the land would have to return to a use that is consistent with the County of San Diego Zoning Ordinance at the time of dismantling. The current zoning for the site is General Rural (S92), which allows for the following use types that are permitted pursuant to Section 2922 and 2923 of the County Zoning Ordinance: Residential, Family Residential, Essential Services, Fire and Law Enforcement Services, Agricultural Uses, Animal Sales and Services, Recycling Collection Facility, and Green Recycling.

4. If a new use is not proposed, the decommissioning would include removal of all ground-level components and preparing the site with a soil stabilization agent, such as a nontoxic permeable soil binding agent, or reseeded with native species. Substantive restoration of the site would be accomplished through removal of structures on the surface and exposed concrete foundations, which will be mechanically broken up and recycled. The perimeter fence, as well as underground conduits and wires would be left in place, which means earth moving activities would be limited to minor localized smoothing of terrain, and decompaction of access and fire roads. Over the operational life of the project, the applicants will allow vegetation to naturally recolonize the site, mowing as needed to maintain vegetation to less than 6 inches in height and to avoid conflicting with facilities or fire protection requirements. Following dismantling and removal of structures, soil binders or a native seed mix will be applied to areas that remain exposed or unvegetated (e.g., access/fire roads and freshly removed concrete pads). Decommissioning will not involve installation or use of an irrigation system. These activities would be consistent with current zoning General Rural (S92) or future applicable zoning.

Removal Surety

The final decommissioning plan(s) that would be provided prior to issuance of the building permits for the project would comply with Section 6952.b.3 (d) of the County of San Diego Zoning Ordinance (County of San Diego 2012) for removal surety as follows:

> The operator shall provide a security in the form and amount determined by the Director to ensure removal of the Solar Energy System (security would be

> required for each of the constructed projects). The security shall be provided to the County prior to building permit issuance. Once the Solar Energy System has been removed from the property pursuant to a demolition permit to the satisfaction of the Director, the security may be released to the operator of the Solar Energy System.

Financial responsibility for decommissioning would be an obligation of the owner of the individual solar farms. There are several options to consider, but the preferred method would be for a specific amount of funding (the "Decommissioning Fund") to be set aside by the end of year 25 in an amount equal to the estimated cost of decommissioning (the "Decommissioning Cost"), less the salvage value for equipment to be decommissioned and the proceeds from sale of the property once decommissioning is complete. Ideally, the cost of decommissioning should equal the amount of money gained from the scrap value and land value of the individual solar farms. If additional funds are needed, they would be provided by the owner(s) of the solar farms and deposited into a dedicated account. Funds would be provided in an amount that would enable the sum of the Decommissioning Fund, salvage value, and land sale proceeds to cover the cost of decommissioning.

Water Usage

The following discussion includes an estimate of the amount of water that would be needed for the Proposed Project during the construction and site preparation, ongoing panel washing, potable water usage for the O&M facilities, and the decommissioning and dismantling. The solar farms would use groundwater from existing wells located on site as limited by the County Groundwater Geologist; however, additional water sources that have been identified at this time include the following: Jacumba Service District (Brackish Water Not Distributed by District), Pine Valley Mutual Water Company, and Padre Dam Municipal Water District (Reclaimed Water Not Distributed by District); see Section 3.1.5 for further details.

Construction and Application of Soil Binding Agents

It is anticipated that construction of the Proposed Project would require approximately 182 acre-feet of water—about 83 acre-feet for the Rugged Solar Farm, 68 acre-feet for the Tierra del Sol Solar Farm, and 31 acre-feet for the LanEast and LanWest Solar Farms. Each of the water using activities necessary for construction are listed in Table 1-6 and additional details regarding these estimates are available in Section 2.5 of Appendices 3.1.5-5 and 3.1.5-6. Water-using activities during construction consist of the following elements:

- *Dust Control*: The vast majority of the Project's construction-related water demand would be for the purpose of dust control. The initial clearing, grubbing and grinding of each site would require the most intensive use of water. During this phase of

construction, which is expected to occur in the first two to three months following mobilization, heavy equipment (e.g., tractors/loaders/backhoes, scrapers, skid steer loaders, graders, and dumpers/tenders) would be clearing woody vegetation, rocks and other debris/vegetation over large contiguous areas of each site, requiring relatively large volumes of water to control dust. Watering for dust control would continue to occur throughout the construction period, but would be geographically limited (to active work areas), and less intense in nature as tracker installation and assembly proceeds. This is because a permeable nontoxic soil binding agent would be applied to any bare inactive areas following initial site clearing. Construction-related water demand estimates for dust control have accounted for the entire development footprint and construction duration of each project, and has included a contingency for high wind days. It has also accounted for dust control required for operation of the temporary rock crusher on the Rugged site.

- *Mass Grading*: Various levels of cut/fill are required to level sites and properly prepare foundations, including the compaction and watering necessary to achieve engineered specifications. Water requirements associated with hydration of fills are limited to surfaced roads, parking lots and facility foundation pads (e.g., O&M building, the collector substation, and inverters), and are usually dependent on the difference between the "optimum" and actual soil moisture content on the construction site. The lowest value of soil moisture observed during geotechnical exploration of each site and the total volume of earthwork anticipated was used to estimate water demands for mass grading. In addition, all water estimates for mass grading were increased by 67% over and above the calculated values to account for evaporation losses.
- *Soil Stabilization*: Following initial clearing, grubbing and grinding of each site, a permeable nontoxic soil binding agent would be applied to the prepared surfaces of the site to stabilize soils. Because active operational areas, and fire, access, and service roads would be surfaced with disintegrated granite, application of soil binders would be limited to bare surfaces not being actively used for construction.
- *Concrete Mixing*: A batch plant (collocated with the rock crusher on the Rugged site) would be used to mix concrete necessary for tracker foundations as well as other facility foundations (such as the O&M building, portions of the collector substation, and the inverters). This facility would require water to pre-mix concrete, which will then be delivered to active construction areas as needed. The water estimates for concrete mixing are based on an estimate of 20% water in concrete and the anticipated volume of concrete required for facility foundations.
- *Fire Protection*: The Tierra del Sol Solar Farm would provide up to two 10,000 gallon tanks at the O&M building and up to three additional 10,000 gallon tanks strategically

placed throughout the Project site. The Rugged Solar Farm would provide up to two 20,000 gallon tanks at the O&M building and up to three additional 10,000 gallon tanks strategically placed throughout the Project site. These would be dedicated tanks put in place at the start of construction and would be labeled "fire water" using reflective paint. These tanks would either be elevated or equipped with a pump and would not suffer appreciable evaporation losses because they would be enclosed and water-tight.

- *Noxious Weed Mitigation*: The weed control plan for the each solar farm may require weed control treatments, which could include manual and/or mechanical methods. Such treatments may require installation and use of weed washing stations, which would consist of 1,000 gallon water buffalos equipped with a portable hydro washer.

Ultimately, the exact amount of water required during construction activities will be a function of many factors such as soil and vegetation conditions, the weather, final design details, and the exact timing and distribution of clearing/grading activities (among other factors). Although water demands are subject to change, these estimates are based on preliminary grading plans, geotechnical testing, past experience, and reasonable assumptions.

Operation and Maintenance Potable Usage

An on-site O&M facility, serving as the center for personnel and equipment, would be constructed on each of the sites. The number of full-time employees associated with each project is identified in Table 1-5. As stated previously, each O&M annex building would include a groundwater well and/or water storage via tanks located on site to provide potable water for employee use. Table 1-7 summarizes the operational water usage for the individual solar farms. Additional details regarding these estimates are available in Section 2.5 of Appendices 3.1.5-5 and 3.1.5-6.

Ongoing Tracker Washing and Soil Stabilization

Water would be used for washing the solar modules and for reapplication of the nontoxic permeable soils stabilizers as follows.

Soil Binding Agent Application. It is anticipated that the soil stabilizer chosen for the Proposed Project would need to be reapplied annually. The Proposed Project would utilize a soil binding stabilization agent that is nontoxic and permeable. The purpose of the soil stabilizer is to prevent erosion and to reduce fugitive dust. To reapply the soil stabilizer agent would require approximately 3,300 gallons of water per acre and would be applied to bare soil areas around tracker masts, in between service roads, and other areas not otherwise surfaced by pavement, disintegrated granite, or other aggregate material.

Solar Module Washing. It is anticipated that in-place tracker washing would occur every 6 to 8 weeks during evening or nighttime hours, between sunset and sunrise, when all tracker assemblies are aligned in a westerly facing direction (i.e., overnight storage position). Washing of the tracker panels would be undertaken using an IPC Eagle Wash Station which would be towed by a pick-up, ATV or Cushman electric cart. The IPC Eagle Wash Station includes a Pure Water Cleaning System which includes a 4-stage filtration system, including a reverse osmosis (RO) and deionization process, to produce mineral free water. It is anticipated that the system will have an approximately 90% recovery rate, resulting in the generation of approximately 10% of water as wastewater. Wastewater would either be trucked to the City of San Diego Wastewater Pumping Station No. 1 or No.2 on East Harbor Drive or North Harbor Drive, or would be disposed of by another means approved by the RWQCB. Water storage tanks may be installed at each project site to facilitate washing beyond those required in the Fire Protection Plans. As a conservative (i.e., high) estimate, approximately 24 gallons of water would be required to wash each set of tracker modules, including the water discharged during the RO process. Table 1-7 summarizes the operational water usage for the solar farms.

Decommissioning and Dismantling

It is estimated that the amount of water necessary to decommission and dismantle the Proposed Project would be the same or less than that required for operation and maintenance, as listed in Table 1-7, because there would be no need to use water for concrete mixing, panel washing, or construction site preparation. Decommissioning will not involve installation or use of an irrigation system. Water storage tanks installed for the operational phase of the Proposed Project would remain on site through the decommissioning and dismantling phase. Water stored in these tanks would be used as necessary for decommissioning and dismantling activities.

1.2.1.2 Solar Farm Specific Components and Activities

Tierra del Sol

Tracker Configuration

The Tierra del Sol solar farm would be developed with approximately 2,657 trackers; see Figure 1-6, Tierra del Sol Site Plan. Trackers would be installed and arranged into building blocks, or groups, with each building block consisting of a DC to AC inverter. Trackers would be installed in parallel rows, oriented north–south with an estimated spacing of 21 meters north south and 25 meters east–west. This spacing may change depending upon the ultimate power plant optimization and final electrical engineering. Trackers would be set back a minimum of 130 feet from the eastern and western property boundaries. Refer to

Section 1.2.1.1, Common Project Components and Activities, for more details regarding the trackers. Each inverter station would be pre-wired and mounted on a skid for easy installation (see Figure 1-6 for inverter station locations).

Overhead Collection System

The project would require two on-site overhead conductor trunk lines that would be installed on opposite sides of the same pole structures, which would run adjacent to the south side of the Southwest Powerlink (SWPL) ROW. These trunk lines would be approximately 1.2 miles long and deliver a total of 60 MW. The overhead trunk line structures would be steel poles and would be approximately 50 to 75 feet high and spaced about 300 to 500 feet apart. The minimum ground clearance of the overhead 34.5 kV lines would be 30 feet. The approximate maximum hole dimensions would be 24 inches in diameter and approximately 20 feet deep. Each 34.5 kV underground branch circuit would connect into an underground trunk line that would continue to connect to the on-site private collector substation. See Section 1.2.1.1, Common Project Components and Activities, for details regarding the underground collection system and construction standards for the DC and AC underground trenching.

Private Collector Substation

Tierra del Sol would require the use of a private on-site collector substation with a total fenced area of approximately 7,500 square feet. The substation and control room would be located on a 3.0-acre site within the central portion of the site, north of the SWPL ROW. The substation site would be located adjacent to the O&M building on the Tierra del Sol site.

The purpose of the substation is to collect the power received from the overhead and underground collector trunk lines and step up the voltage from 34.5 kV to 138 kV, as well as to be able to isolate equipment (1) in the event of an electrical short circuit or (2) for maintenance.

The major components of the on-site substation are as follows:

- One 50-megavolt amperes (MVA) rated step-up transformer for Phase I (Collector Circuits 1 and 2), including secondary concrete curb containment area as required by the National Electrical Code (NEC), local and state regulations.
- One 17.5 MVA rated step-up transformer for Phase II (Collector Circuit 3), including secondary concrete curb containment area as required by the NEC, state, and local regulations.
- Two 138 kV circuit breakers used to protect equipment from an electrical short circuit on the gen-tie. Includes disconnect switches, wire, cables, and aluminum bus work used to connect and isolate the major pieces of equipment.

- One 450-square-foot metal-clad switchgear that contains three 34.5 kV circuit breakers used to protect equipment from an electrical short circuit on the collection system, disconnects, and bus work to connect and isolate the collector circuits, relays used to detect short circuits, equipment controls, telemetering equipment used to provide SCADA, voice communication, and the meters used to measure electrical power generated from the project.

Operation and Maintenance Annex

An O&M area would be constructed on a 4-acre portion of the site adjacent to the on-site private substation. The O&M building would be used for storage, employee operations, and maintenance of equipment. The O&M facility would consist of an approximate 125-foot by 60-foot pre-manufactured single-story building (7,500 square feet) (see Figure 1-11, Operations and Maintenance Facility). The building would include administrative and operational offices, warehouse storage area for material and equipment, and lavatory facilities served by a private on-site septic system and groundwater well. The system would include a septic field with approximately 300 feet of septic leach line, an equal size reserve area, and a 1,000-gallon septic tank. The O&M building would include an improved parking area and parking spaces. The building and parking areas would include security lighting designed to minimize light pollution.

Off-Site Transmission Facilities (Gen-Tie Line)

Power from the on-site private substation would be delivered to the 138 kV bus at SDG&E's Rebuilt Boulevard Substation via an approximate 6-mile dual circuit 138 kV gen-tie line within a 125-foot private ROW when aboveground and a 60-foot easement when underground (see Figures 1-7a through 1-7d, Tierra del Sol Gen-Tie Route). As previously described in Section 1.2, the dual circuit 138 kV gen-tie line would travel roughly in a northeasterly direction from the on-site private substation to SDG&E's Rebuilt Boulevard Substation. The underground alignment of the gen-tie would start at the on-site substation and head northward to Tierra del Sol Road where it would be on the east side of the road in the County ROW for approximately 0.5 mile, then it would turn directly east for approximately 0.3 mile. A transition pole would be constructed at this point, where the gen-tie would transition from an underground line to an overhead line. The overhead alignment would extend approximately 3.5 miles, before returning underground for the final 1.5 miles to the Rebuilt Boulevard Substation.

Underground Conductor. The first 0.5 mile of the underground portion of the dual circuit 138 kV gen-tie line would be installed within the County ROW along Tierra del Sol Road in a concrete duct bank per County and SDG&E standards. The approximately 36-inch-wide, 60-inch-tall duct bank would contain six 6-inch diameter conduits. The remaining underground portions of the dual circuit 138kV gen-tie line would be located on private property and would be directly buried with conductor rated for direct burial.

Gen-Tie Alignment Structures. The overhead portion of the gen-tie alignment would require the setting of new steel transmission poles and conductors installed along the poles to deliver power from the project site to the Rebuilt Boulevard Substation. The span lengths between poles would be dependent on terrain. The cable span lengths would generally range from 500 to 1,400 feet. Given the overhead portion of the gen-tie alignment is approximately 3.5 miles, it is anticipated that the gen-tie would require construction of approximately 20–25 steel poles with a height of 125 to 150 feet. The exact amount would depend on final engineering design.

Operation and Maintenance. Maintenance and repair activities for transmission facilities would include both routine preventive maintenance and emergency procedures conducted to maintain system integrity, as well as vegetation clearing. Activities anticipated to occur are described in more detail in Section 1.2.1 (Off-Site Transmission Facilities).

Security, Fire Protection, and Maintenance and Security Lighting

Department of Homeland Security Project Components

The applicants contacted the Department of Homeland Security as required by Board Policy I-111. Numerous correspondences were sent to the Department of Homeland Security offering the 90-foot setback for purchase as required by Board Policy I-111. Additional site design security and access measures were also offered. The site in its current state contains extensive chaparral vegetation, which limits the ability for the Department of Homeland Security to effectively patrol the site. The Department of Homeland Security did not respond in the time frame allotted in accordance with Board Policy I-111.

Eastern Access Road. An eastern access road would be constructed to provide unobstructed travel from north to south starting about 100 feet from the westerly turn-off from Tierra del Sol Road and commencing due south to the U.S. government 60-foot easement at the international border (see Figure 1-6).

Western Access Road. A western access road would provide unobstructed travel from the westerly turn off of Tierra del Sol Road and commencing due south to the U.S. government 60-foot easement (see Figure 1-6).

Security Gates. All roads would have a keypad security system and electric gate would be provided at no cost to the Department of Homeland Security. The gates would also provide access to the fire department for emergency situations.

Construction

Table 1-8, Tierra del Sol Construction Schedule, provides the proposed schedule for Tierra del Sol. Construction of the Tierra del Sol solar farm is anticipated to commence in August 2015 with the gen-tie line and would require approximately 14 months to complete. While the schedule may be modified due to the date of County project approval as well other project approval/permits (see Table 1-11 for list of anticipated approvals/permits), this table illustrates the approximate duration of major project activities. Construction activities would occur between the hours of 7 a.m. and 7 p.m., Monday through Saturday.

Off-Site Transmission Facilities (Gen-Tie Line) Construction

The gen-tie alignment would require the setting of new steel transmission poles and conductors installed along the poles to deliver power from the project site to the Rebuilt Boulevard Substation. Several of the pole site locations are accessible from existing dirt access roads; however, where pole site locations are not accessible from existing access roads, materials would be transported to the pole site by helicopter, off-road all-terrain vehicle equipment, and/or foot. Holes for the transmission poles would be dug by hand, and the poles would be flown in and placed.

Once access has been established, temporary work area measuring 80 feet by 80 feet around each steel pole location would be cleared of vegetation in order to assist in pole installation. Each transmission line pole would have a maximum height of 125 to 150 feet depending upon location and span width needed to clear drainages and obstructions. Blasting activities may be required to facilitate excavation in areas where competent bedrock occurs at depths which interfere with transmission pole installation. The steel poles would be installed into the excavation which is likely to be around 10 to 20 feet deep, depending on the soils and height of the pole. Holes would be formed via use of a truck-mounted auger, or by hand, and would require excavation of between 8 cubic yards to 12 cubic yards of soil. The excavated soils would be primarily placed back in the hole around the pole and the remaining soil would be spread out amongst the pole pad. The poles would then be delivered to the site via a flat-bed truck and lifted into place with a crane where the pole site is accessible from existing dirt access roads. Otherwise, pole would be delivered and placed by helicopter. The gap between the excavation and steel pole would then be backfilled with concrete. The span lengths between poles would be dependent on terrain. As described previously, the cable span lengths would generally range from 500 to 1,400 feet. Given the overhead portion of the gen-tie alignment is approximately 3.5 miles, it is anticipated that the gen-tie would require construction of approximately 20–25 steel poles.

Conductor wire stringing would be completed following pole installation. The work would be primarily completed from bucket trucks and pull sites located along the County ROW, or by

helicopter. Rollers would be temporarily attached to the lower end of the insulators to allow the conductor to be pulled along the line. A rope would then be pulled onto the rollers from structure to structure. Once the rope is in place, it would be attached to a steel cable and pulled back through the sheaves. The conductor would then be attached and pulled back through the sheaves and into place using conventional tractor-trailer pulling equipment located at pull-and-tension sites along the line. The pulling through each structure would be done under a controlled tension to keep it elevated and away from obstacles.

Underground within Tierra del Sol ROW

The underground portion of the gen-tie within the County ROW of Tierra del Sol would be installed in a duct bank composed of nine 6-inch-diameter polyvinylchloride (PVC) conduits placed in concrete. The duct bank trench would be excavated using a backhoe, and the depth of the trench would be determined by localized topography and potential conflicts, but is expected to be approximately 2.5 feet wide and 6 feet deep. Once installed, the depth from grade to the top of the concrete duct package would be approximately 2.5 feet deep and the depth from grade to the top of the conduit in the duct package would be approximately 3 feet. The trench alignment would proceed to the riser pole that provides the necessary structure to mechanically terminate the overhead conductors and support the underground cable terminators required for the underground cable. This process would be used for areas within the County ROW.

The trench for the duct bank would be approximately 0.5 mile long. Installation of the underground duct bank would require an approximately 450-foot by 50-foot (0.52-acre) temporary workspace area. No engineered backfill is anticipated to be required.

Once trenching activities for the underground dual circuit 138 kV duct bank have been completed, the PVC cable conduits would be installed and concrete would be poured around the conduits to form the duct banks. Upon completion of the duct bank, cables would be installed by being pulled into the duct bank and terminating at the riser pole where the line converts to an overhead configuration. After the conductor has been installed, the ground surface would be treated with a nontoxic soil binder in order to preserve the area for erosion control purposes.

Tierra del Sol Solar LLC ~~has requested to enter into a Franchise Agreement with~~ will seek an encroachment permit from the County to use the Tierra del Sol Road ROW for the purposes of construction, operating, and maintaining an 0.5-mile underground segment of the gen-tie. Activities within the ROW will be limited to necessary actions to construct, operate, and maintain the gen-tie, and all activities would be coordinated with the County and all other utility providers with infrastructure currently located within the aforementioned ROW.

Underground on Private Property

The remaining portions of the line that is underground would be directly buried with conductor rated for direct burial that meets industry standards. The trench sizes and construction methods would be similar as stated above for the duct bank lines in the ROW. The only exception is that the direct buried lines would be encased in 1 foot of sand material and would not require encasing with a slurry or concrete.

Construction Personnel, Traffic, and Equipment

Construction would employ approximately 120 workers per day during the peak construction period. The project would be constructed over a period of up to approximately 14 months. Trip generation for employees and delivery trucks would vary depending on the phase of construction. It is estimated that approximately 21,196 total trips would be made during the 14-month construction period. Thus, on average approximately 58 trips per day would be generated during project construction; and during the clearing and grubbing phase, construction trips would peak at approximately 163 trips per day for two months; see Section 3.1.8 for further details.

Rugged

Tracker Configuration

The Rugged solar farm project includes total installation of approximately 3,588 trackers installed in groups or building blocks, with any of the following inverter combinations: two 630 kW inverters, and either two 680 kW inverters or three 680 kW inverters, and either a 1.5 MVA or 2.0 MVA transformer (refer to Figure 1-8, Rugged Site Plan). Trackers would be installed in parallel rows, oriented north–south with an estimated spacing of 21 meters north south and 25 meters east–west, This spacing may change depending upon the ultimate power plant optimization and final electrical engineering. Trackers on the site are grouped into approximately 59 building blocks. Refer to Section 1.2.1.1, Common Project Components and Activities, for more details regarding the trackers.

Overhead Collection System

The project would require an overhead collector cable system to deliver power from the subareas of the Rugged solar farm to the private on-site collector substation. See Figure 1-8 for depiction of the overhead collector cable system. These trunk lines would be approximately 2.75 miles long in total and deliver a total of 80 MW. The overhead trunk line structures would be steel poles and would be approximately 50 to 75 feet high. The spacing between steel poles, minimum ground clearance of 34.5 kV lines and maximum hole dimensions of steel poles would be similar

as previously discussed for the Tierra del Sol solar farm. See Section 1.2.1.1, Common Project Components and Activities, for details regarding the underground collection system and construction standards for the DC and AC underground trenching.

Inverter Station

Power within each building block would be delivered through a 1,000 V DC underground collection system from the trackers to the inverter stations. Each set of inverters would be equipped with a step-up transformer to convert the power from 350 V AC on the "low side" to 34,500 V (34.5 kV) on the "high side." An alternative inverter and transformer configuration may be used, with negligible difference in appearance. It is uncertain if a two 680 kV inverter configuration or a three 680 kV inverter configuration would be utilized. Therefore, the project has been sized to accommodate the larger of the two configurations, which is 10 feet by 40 feet (400 square feet), with an approximate height of 12 feet (including inverter enclosure). The smaller option is 10 feet by 25 feet (250 square feet). The inverter stations would include a 7-foot by 7-foot UPS cabinet.

Private Collector Substation

The Rugged solar farm would include the construction of a 60-foot by 100-foot (6,000-square-foot) private on-site collector substation area that would be located within the central portion of the Rugged site. The substation site would be located approximately 0.5 mile west of the O&M building on the site. The purpose of the substation is to collect the energy received from the overhead and underground collector system and increase the voltage from 34.5 kV to 69 kV. Once the voltage is stepped up to 69 kV, the power would be conveyed through a 35-foot-high dead-end structure (a fully self-supporting steel tower) that connects the on-site collector substation with the Tule gen-tie.

The major components of the on-site substation are as follows:

- One 52.8/70.4/88 MVA rated step-up transformer. The cooling system for the transformer is as follows: Oil Assist/Fan Assist/Fan Assist (OA/FA/FA), respectively.
- One circuit breaker used to protect equipment from an electrical short circuit.
- One disconnect switch.
- Wire, cables, and aluminum bus work used to connect and isolate the major pieces of equipment.
- One 15-foot by 30-foot (450-square-foot) control house that would contain relays used to detect short circuits, equipment controls, communication equipment used to monitor system performance remotely, and the meters used to measure electrical power generated from the project.

- The tallest structure within the substation boundaries would be the 69 kV dead-end structure that would have a maximum height of 35 feet.

Operations and Maintenance Annex

An O&M area is located at the north-central portion of the Rugged site approximately 0.5 mile east of the on-site private substation. The O&M building would be used for storage, employee operations, and maintenance of equipment. The O&M facility would consist of a 7,500-square-foot building (see Figure 1-11, Operations and Maintenance Facility). The building would include administrative and operational offices and meeting facilities, along with material storage and equipment warehouse and lavatory facilities served by a private on-site septic system and groundwater well. The building would be surrounded by a disintegrated granite improved parking area and parking spaces. The building and parking areas would include security lighting designed to minimize light pollution and preserve dark skies, while enhancing safety, security, and functionality.

Off-Site Private Transmission Facilities

Power from the Rugged facility's private on-site substation would be delivered to the 69 kV bus at SDG&E's proposed Rebuilt Boulevard Substation via the Tule gen-tie, as adopted by the Board of Supervisors on August 8, 2012. The 138 kV gen-tie for the Tule Wind Energy project includes a 69 kV undersling line, which will be used to service the Rugged solar farm (County of San Diego 2013). The Tule gen-tie will run south along the east side of McCain Valley Road and SDG&E's Sunrise Powerlink and across I-8, after which it will cross McCain Valley Road and run parallel to Old Highway 80 along the north side until it crosses Old Highway 80 at the proposed new SDG&E Boulevard East County Substation. Both the Rebuilt Boulevard Substation and Tule gen-tie were subject to prior environmental analysis (CPUC and BLM 2011).

Construction

Construction of the Rugged solar farm is anticipated to commence in August 2015 and would require approximately 12 months for completion. Table 1-9, Rugged Construction Schedule, provides the proposed schedule for Rugged. While the schedule may be modified due to the date of County project approval as well other project approvals/permits (see Table 1-11 for list of anticipated approvals/permits), this table illustrates the approximate duration of major project activities. Construction activities would occur between the hours of 7 a.m. and 7 p.m., Monday through Saturday.

Construction Personnel, Traffic, and Equipment

Construction would employ approximately 146 workers per day during the peak construction period. Depending on the specific stage of construction, an average daily workforce of 60 to 70 workers would be present at the construction site. During the peak of construction, a typical day would include the transportation of trackers, movement of heavy equipment, and transportation of materials. Trip generation for employees and delivery trucks would vary depending on the phase of construction. It is estimated that approximately 49,773 total trips would be made during the 12-month construction period. Thus, on average approximately 160 trips per day would be generated during project construction, and during the clearing and grubbing phase, construction trips would peak at approximately 392 trips per day for two months; see Section 3.1.8 for further details.

LanEast and LanWest

The project specific components for the LanEast and LanWest solar farms are unknown at this time as site-specific engineering has not been completed to date. It is anticipated the LanEast and LanWest solar farms would have similar components to those described above for Tierra del Sol and Rugged; however, the specific details of trackers, the on-site O&M annex, substation configuration, and gen-tie configuration are not known at this time. At the time further engineering is completed for the specific components of these solar farms, the County of San Diego would determine whether this EIR adequately evaluated the environmental effects of the project components and associated environmental effects in accordance with CEQA requirements.

1.2.1.3 Project Design Features

The applicants have incorporated project design features (PDFs) into the Proposed Project to reduce or avoid the potential for environmental effects. Construction would be performed by qualified contractors, and contract documents, plans, and specifications would incorporate stipulations regarding standard legal requirements and acceptable construction practices, including, but not limited to, traffic control during construction activities, noise, geologic conditions, drainage and water quality improvements, water quality protection and erosion and sedimentation control, construction-related solid waste, and water supply. The Proposed Project would be designed in accordance with the State of California Building Code and Municipal Code requirements. The PDFs are included in Table 1-10, Summary of Project Design Features, and are referenced throughout the impact discussions in Chapter 2.0, Environmental Effects of the Proposed Project and Section 3.1, Effects Found Not Significant as Part of the EIR Process, of this EIR. These PDFs would be made conditions of the Proposed Project to ensure these features are incorporated into the project design.

1.2.2 Technical, Economic and Environmental Characteristics

The following provides a discussion of the Proposed Project's technical, economic, and environmental characteristics.

1.2.2.1 Technical Considerations

The Proposed Project's CPV technology employs Fresnel lenses to concentrate direct sunlight onto the solar cells and convert sunlight into electricity. The dual-axis trackers follow the sun's trajectory throughout the day, which increases energy generation and efficiency by 30% or more as compared to conventional single-axis photovoltaic (PV) panels (Soitec 2013). The combination of high efficiency and dual-axis tracking ensures high energy yields throughout the day. In fact, CPV technology is best suited for hot and sunny regions with high DNI.

Under normal operating conditions, the Proposed Project's trackers would be engaged in one of three operational cycles: wake procedure, tracking mode, and sleep procedure. During wake procedure, the trackers would rotate into an east-facing position prior to sunrise. Once the sun reaches an elevation of five degrees above the horizon, the trackers would track the sun along its arc until it reaches a vertical position facing west five degrees above the horizon (Appendix 2.1-3). Throughout the tracking procedure, the position of the tracker would be directly perpendicular to the sun's rays and in a perfect scenario reflections would bounce directly back to the sun. Once the trackers reach a near-vertical position facing west, the evening sleep procedure would commence. During the sleep procedure trackers would assume a fixed, near-vertical position and would remain in this position until just before sunrise when the wake procedure commences (Appendix 2.1-3). Trackers would also remain in a near-vertical position when the modules undergo cleaning or maintenance.

As depicted in Figure 1-9, Tracker Schematic Drawing, the Proposed Project's tracker dimensions are approximately 48 feet across by 25 feet tall. Each tracker would be mounted on a 28-inch diameter steel pole. In its most vertical position and depending on foundation design, the top of each tracker would not exceed 30 feet above grade. In its horizontal "stow" mode (for high winds), each tracker would have a minimum ground clearance of 13 feet, 6 inches. Because the Proposed Project's trackers are taller than conventional PV technology (which often range between 8 to 10 feet high), they may be perceived as having a greater visual impact. However, it should be noted that with respect to glare, CPV technology is designed specifically to increase transmittance of solar energy with reflection levels even lower than standard PV panels. A typical PV panel is designed to absorb approximately 70% (averaged throughout the day) of solar energy, resulting in reflectance levels much lower than that of other common reflective surfaces. The Proposed Project's CPV Concentrix system is designed to absorb approximately 90% of solar energy thereby resulting in even lower reflectance levels (Appendix 2.1-3). CPV technology has approximately 10% reflectivity, as compared to approximately 20% reflectivity for PV solar panels, approximately 30% reflectivity for

windshield glass or metal, and approximately 55% reflectivity for water (Appendix 2.1-3). In addition, the CPV technology has large breaks between trackers and does not have a uniform, flat design like PV technology, thereby reducing the potential to create a reflection that mimics water (also known as a "lake effect").

1.2.2.2 Economic Considerations

The Proposed Project would help facilitate the development of a local renewable energy supply, thereby improving the reliability of electrical energy production in the San Diego region. The Proposed Project would also assist in achieving the state's RPS and GHG reduction objectives by developing and constructing California RPS-qualified solar generation, approved under SB X1 2, which established a renewable energy target of 33% of total electricity sold to retail customers by 2020.

In addition, the Tierra del Sol solar farm and Rugged solar farm components of the Proposed Project were certified as a California Environmental Leadership Development Project by Governor Brown and the state legislature, under Assembly Bill 900 (AB 900), the Jobs and Economic Improvement Through Environmental Leadership Act of 2011 on May 31, 2013. Designation as an "environmental leadership" project under AB 900 is limited to a narrow class of projects. The Tierra del Sol solar farm and Rugged solar farm are only the third such project statewide to receive this prestigious designation. The economic benefits the Proposed Project will bring to San Diego associated with this designation include:

- A minimum capital investment of $100,000,000 in California upon completion of construction.
- Creation of high-wage, highly skilled jobs that pay prevailing wages[2] and living wages[3] and provide construction jobs and permanent jobs for Californians.
- Agreement to comply with the California Rules of Court established for litigation challenging an EIR for an Environmental Leadership Project, including payment of judicial costs for hearing and deciding the case on an expedited basis.

[2] A prevailing wage is defined as the hourly wage, usual benefits and overtime, paid to the majority of workers, laborers, and mechanics within a particular area. The Proposed Project will incorporate the latest Department of Industrial Relations wage determinations at the time that contracts go out for bid for construction of the Proposed Project.

[3] A living wage is defined as the minimum income necessary for a worker to meet basic needs for an extended period of time or for a lifetime. San Diego County has not adopted a living wage. However, should the County adopt a living wage going forward, the Proposed Project applicants commit to complying with any wage requirements contained therein.

- Agreement to pay the costs of preparing the administrative record for the project concurrent with review and consideration of the project, in a form and manner specified by the lead agency.

1.2.2.3 Environmental Considerations

Solar energy provides a number of environmental benefits, such as reductions in air pollution, GHG emissions, water pollution, and water usage as compared to other sources of energy. However, solar technology, like other energy technologies, has environmental impacts.

Potential fire risks during construction and decommissioning of the Proposed Project may stem from ignition sources such as chain saws, wood chippers, grinders, torches, earth-moving equipment, and other vehicles that could create sparks, be a source of heat, or leak flammable materials, as well as dynamite and blasting materials, compost piles, and other human activities and waste that would increase the possibility of fire. Once construction is complete, the Proposed Project would introduce potential ignition sources that do not currently exist on the site, such as transformers, capacitors, electric transmission lines, substations, vehicles, and gas or electric powered small hand tools. While the inverters, solar panels, and trackers represent potential ignition sources that are considered to have low likelihood of causing fires, all of this equipment represents a risk of sparking or igniting nearby fuels, particularly where within close proximity to off-site flammable vegetation. A number of fire protection measures, focusing on accessibility to and within the Proposed Project sites, as well as fuel modification providing defensible space, are provided; refer to Section 3.1.4, Hazards and Hazardous Materials for further information.

Impacts associated with visual character or quality are often a factor with solar energy projects due to the contrast with existing visual elements of a neighborhood or community, such as size, massing, coverage, and scale. The Boulevard community has been known as a rural area that primarily consists of single-family homes scattered among the mountainous landscape. However, recent developments have resulted in a variable physical setting that includes both rural and major infrastructure elements. The character of the community is evolving with the growing presence of major infrastructure features that interrupt the natural landscape, such as the 500 kV Sunrise Powerlink, the Energia Sierra Juarez U.S. Transmission Line project, and the Tule Wind Energy project, which includes a 138 kV and 69 kV transmission line. While the Proposed Project would add major infrastructure features to the area resulting in significant and unmitigable visual impacts, several aesthetic design measures and one mitigation measure would be implemented to address viewer sensitivity for both residents and motorists. For example, portions of the Tierra del Sol gen-tie line (along Tierra del Sol Road and near the Boulevard Substation) would be installed underground, reducing potential visual impacts in these areas. In addition, the Proposed Project applicants have worked extensively with County staff to develop a conceptual landscape plan that would provide a minimal level of vegetative

screening that also considers the issue of fire safety. Please refer to Section 2.1, Aesthetics for further details.

Although solar energy generally reduces air pollution as compared to other sources of energy, construction activities and traffic trips still result in air pollutant and GHG emissions. As previously described under Economic Considerations, the Tierra del Sol solar farm and Rugged solar farm components of the Proposed Project have each been designated as an "environmental leadership" project under AB 900. This includes the commitment to offset all GHG emissions resulting from the Proposed Project. The Proposed Project also includes a number of measures aimed at reducing air pollutants. Please refer to Sections 2.2, Air Quality, and 3.1.3, Greenhouse Gas Emissions, for further details.

1.3 Project Location

The Proposed Project encompasses a total of approximately 1,490 acres within the Mountain Empire Subregional Plan area in unincorporated San Diego County (see Figure 1-1, Regional Location Map, and Table 1-1, Overview of the Proposed Project). The Mountain Empire Subregional Plan area contains five subregional group areas. The Proposed Project site is located in the Boulevard Subregional Plan area. Figure 1-2, Specific Location Map, shows the individual projects that comprise the Proposed Project and identifies their relationship to the communities of Tierra del Sol and Boulevard. Figure 1-3, Project Aerial Map, shows the location of the Proposed Project in the context of local geography, including roadways. The following describes the locations of each solar farm project in greater detail.

Tierra del Sol

The 420-acre Tierra del Sol solar farm site is located south of I-8 within private lands located adjacent to the U.S.–Mexico border in eastern San Diego County. As depicted in Figure 1-3, Tierra del Sol is situated south of Tierra del Sol Road and immediately north of the U.S.–Mexico border. The approximately 6-mile, dual circuit 138 kV gen-tie line would travel from the Tierra del Sol site to the SDG&E Rebuilt Boulevard Substation; see Section 1.2 for further details. The site includes the following Assessor's Parcel Numbers (APNs): 658-090-31-00, 658-090-54-00, 658-090-55-00, 658-120-03-00, and 658-120-02-00.

Rugged

The 765-acre Rugged solar farm site is located north of I-8 to the east of Ribbonwood Road and primarily west of McCain Valley Road and includes the following APNs: 611-060-04, 611-090-02, 611-090-04, 611-091-03, 611-091-07 (portion), 611-100-07, 612-030-01, and 612-030-19, and a property (APN 611-110-01) located adjacent to and east of McCain Valley Road. As depicted in Figure 1-2, the Rugged solar farm includes two separate sites. A majority of the site

is located west of McCain Valley Road and includes the central, northwest, and southern subareas. A smaller portion of the site is east of McCain Valley Road and comprises the eastern subarea. As depicted in Figure 1-2, the Rugged solar farm would tie into the Tule Wind Energy project gen-tie line, which connects the site to the Rebuilt Boulevard Substation; see Section 1.4 for further details.

LanEast

The 233-acre LanEast solar farm site is bordered by I-8 to the north and Old Highway 80 to the south. McCain Valley Road intersects the site. The LanEast site includes the following APNs: 613-030-37 and 612-091-18 (portion).

LanWest

The LanWest solar farm site is approximately 55 acres and is located immediately south of I-8 and north of Old Highway 80. The LanWest site includes the following APN: 612-091-18 (portion).

1.4 Environmental Setting

The entire Proposed Project area is generally a semi-arid environment that supports a wide range of habitats and biological communities. These habitats and communities include scrub, chaparral, and woodland. Additionally, these habitats and communities vary greatly depending on the ecoregion, soils and substrate, elevation, and topography. Topography within the Proposed Project area varies from flat to steeply sloping terrain. Regional access to the Proposed Project area is provided by I-8 running east and west through the Proposed Project area.

The surrounding Boulevard Subregional Plan area, which includes the communities of Boulevard and Tierra del Sol can be characterized as a predominantly rural landscape featuring large-lot ranches and single-family homes with a mixture of small-scale agriculture, recreational opportunities, and undeveloped lands. The Boulevard community has been known as a rural area that primarily consists of single-family homes scattered amongst the mountainous landscape; however, recent developments have resulted in a variable physical setting that includes both rural and major infrastructure elements, including the Kumeyaay Wind Farm and Sunrise Powerlink. The Tierra del Sol community is generally characterized by a diversity of land uses consisting of ranching operations, single-family homes, energy infrastructure, telecommunications equipment, and the U.S.–Mexico international border.

South of I-8, major infrastructure elements of the landscape include the Sunrise Powerlink, which consists of a 500 kV electric transmission line supported by 150-foot-tall steel lattice structures and the Southwest Powerlink, which also consists of a 500 kV electric

transmission line supported by 150-foot-tall steel lattice structures (four of which are located on the Tierra del Sol site), as well as several large, vertical, and metallic communication towers located at the White Star Communication Facility, and the linear rust-colored U.S.–Mexico international border fence (located immediately south of the Tierra del Sol site), as depicted in Figure 1-4, Project Environmental Setting – South of I-8. In addition, the Golden Acorn Casino and Travel Center is located south of I-8 near the Tecate Divide on reservation lands of the Campo Kumeyaay Nation, and the existing Boulevard Border Patrol Station and the adjacent Lux Motel are located south of the interstate near the Ribbonwood Road exit.

North of I-8, the setting consists of a mixture of large-lot rural residences and undeveloped lands with mountainous terrain consisting of steep slopes, prominent ridgelines, and rock outcroppings within County, state park, tribal, and Bureau of Land Management (BLM) lands. As depicted in Figures 1-11a and 1-11b, prominent components that contribute to the physical setting north of I-8 within the vicinity of the Proposed Project include scattered single-family residential development, the McCain Valley Conservation Camp, and the Sunrise Powerlink, which consists of a 500 kV electric transmission line supported by 150-foot tall steel lattice structures, as well as open grassland and mature oaks.

Other prominent man-made features include the 25-wind turbine Kumeyaay Wind Farm located atop the Tecate Divide. The recently constructed, 29,000-square-foot Boulevard Border Patrol Station also contributes to the built environment within the Proposed Project area.

The Notice of Preparation (NOP) for the Proposed Project was published on December 6, 2012. While the baseline for the project is normally established by the physical condition that exists when the NOP is published, the CEQA Guidelines and applicable case law recognize that the lead agency has the discretion to determine how the existing physical conditions without the project can most realistically be measured and can depart from using existing physical conditions on the date of NOP. Where physical environmental conditions vary over time or are expected to change, the use of environmental baselines that differ from the date of the NOP may be appropriate when conducting the environmental analysis. For example, the California Supreme Court recently noted that "an existing conditions analysis may take account of environmental conditions that will exist when the project begins operations; the agency is not strictly limited to those prevailing during the period of EIR preparation. An agency may, where appropriate, adjust its existing conditions baseline to account for a major change in environmental conditions that is expected to occur before project implementation. In so adjusting its existing conditions baseline, an agency exercises its discretion on how best to define such a baseline under the circumstance of rapidly changing environmental conditions." (Neighbors for *Smart Rail v. Exposition Metro Line Construction Authority* (2013) 57 Cal.4th 439, 452.)

The Proposed Project area is experiencing major changes in environmental conditions that are expected to occur before, or shortly thereafter, implementation of the Proposed Project. All relevant discretionary approvals and environmental review has been completed for the SDG&E East County Substation Project (ECO Substation), which includes the Rebuilt Boulevard Substation and the 138 kV ECO Transmission Line between the ECO Substation and the Rebuilt Boulevard Substation. In addition, all relevant discretionary approvals and environmental review have been completed for the Tule Wind project, which includes 67 wind turbines that will produce up to 186 MW of electricity, a collector substation/O&M facility on Rough Acres Ranch, and a 3.8-mile-long 138 kV gen-tie (Tule gen-tie) that would connect the on-site collector substation to the Rebuilt Boulevard Substation (Department of Interior 2013). The ECO Transmission Line, Rebuilt Boulevard Substation, and Tule Wind project, including the Tule gen-tie, are all anticipated to be fully constructed before any portion of the Proposed Project commences operation. In fact, the Proposed Project cannot begin operation until after the ECO Transmission Line and Rebuilt Boulevard Substation are operational, and the Rugged solar farm cannot begin operation until the Tule gen-tie is constructed. Accordingly, these projects as approved are included in the baseline used to analyze the impacts associated with the operation of the Proposed Project, along with existing physical conditions in existence as of December 6, 2012.

On November 19, 2014, Tule Wind LLC filed a request with the BLM to extend the deadline to obtain a Notice to Proceed (NTP) from December 31, 2014 to December 31, 2016, and proposed a new construction schedule that would start construction on the Tule Wind Project after January 1, 2017, instead of prior to December 31, 2014 (Tule Wind LLC 2014). On December 18, 2014, BLM granted Tule Wind LLC a one-year extension (BLM 2014). ~~If Tule's request is granted, then the~~Therefore, the Tule Wind project may be completed after the Rugged solar farm and Tierra del Sol Solar project become operational. As described above, however, that portion of the Tule gen-tie on which the Rugged gen-tie will be co-located will be completed prior to the Rugged Solar project coming into operation. Accordingly, where appropriate, the PEIR also analyzes a baseline where the Tule Wind Project is not operational when the Rugged solar farm becomes operational (see Chapters 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1.4, 3.1.5, 3.1.7, 3.1.8, and 3.1.9).

The environmental setting for each environmental issue is further explained in the beginning of each section of Chapter 2.0 and Section 3.1.

1.5 Intended Uses of the EIR

This EIR is an informational document that will inform public agency decision makers and the public generally about the significant environmental effects of the Proposed Project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the

Proposed Project. This EIR has been prepared in accordance with the requirements of the *County of San Diego Environmental Impact Report Format and General Content Requirements* (County of San Diego 2006), the statute and guidelines of CEQA (California Public Resources Code, Section 21000 et seq., and California Code of Regulations (CCR), 14 CCR 15000 et seq., respectively). The NOP released for public review on December 6, 2012, and associated comment letters received during the public review period are included as Appendix 1.0-1 to this EIR. The Initial Study prepared for the Proposed Project is included as Appendix 1.0-2 This EIR addresses issues identified in the Initial Study and comments received regarding the NOP.

This EIR will be made available for review by members of the public and public agencies for 45 days to provide comments "on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated" as stated in CEQA Guidelines, Section 15204 (14 CCR 15000 et seq.).

As the designated lead agency, the County is responsible for preparing this document. The decision to approve the Proposed Project is within the purview of the County Board of Supervisors. When deciding whether to approve the project, the County will use the information included in this EIR to consider potential impacts on the physical environment associated with the project.

The County will consider written comments received on the EIR in making its decision to certify the EIR as complete and in compliance with CEQA, and also whether to approve or deny the project. Environmental considerations and economic and social factors will be weighed to determine the most appropriate course of action. Subsequent to certification of the EIR, agencies with permitting authority over all or portions of the project may use the EIR as the basis for their evaluation of environmental effects of the project and approval or denial of applicable permits.

1.5.1 Project Approvals/Permits

Table 1-11 includes all discretionary approvals/permits that are expected to be obtained during the decision-making process. The table is organized by agency/jurisdiction. In the case where multiple discretionary approvals/permits are necessary from a single agency, the approvals are listed in the order they are believed to occur. As indicated in Table 1-11, footnote 2, the LanEast and LanWest solar farms are analyzed at a programmatic level and no permits for these projects are currently being sought.

Major land use actions that would be required to implement the Proposed Project include a major use permits, building permits, grading permits, County ROW permits, landscape plans, and various administrative permits.

Major Use Permits. Each project would require a MUP. Each application for a MUP would be evaluated for neighborhood compatibility, General Plan consistency, and environmental impacts, as required in the Zoning Ordinance, and conditions could be added to address any site-specific concerns.

Building and Demolition Permits. The building of structures would require a building permit. Although this is a ministerial permit, the applicant must adhere to all applicable regulations. Exact requirements for building or demolition permits are dependent upon the type of structure proposed.

Grading Permits. The County Grading, Clearing, and Watercourses Ordinance (Grading Ordinance) is contained in Title 8, Division 7, of the Code of Regulatory Ordinances. The projects involve grading, clearing, and removal of natural vegetation and therefore, require a grading permit. Proposed grading activities must meet requirements of the Grading Ordinance.

1.5.2 Related Environmental Review and Consultation Requirements

Pursuant to the CEQA Guidelines (Section 15365), the County prepared a NOP for this EIR. The NOP was publicly circulated for 30 days beginning December 6, 2012. The County held a public scoping meeting on December 18, 2012, at the Boulevard Fire Station to provide responsible agencies and members of the public with information about the CEQA process and to provide further opportunities to identify environmental issues and alternatives for consideration in the EIR. Public comments received during the NOP scoping process are provided in Appendix 1.0-1.

1.6 Project Inconsistencies with Applicable Regional and General Plans

Planning documents reviewed for the Proposed Project include the County's General Plan, Mountain Empire Subregional Plan, and Boulevard Subregional Plan area document. Other planning documents reviewed for the Proposed Project include the Regional Air Quality Strategy for the San Diego County Air Pollution Control District, the California Regional Water Quality Control Board (Region 9, San Diego and Region 7, Colorado River) Basin plans, and the County of San Diego Multiple Species Conservation Program (MSCP). In addition, the County has reviewed the Draft Conservation Strategy for the future East County MSCP. Project inconsistencies are discussed and analyzed in Section 2.5, Land Use, of this EIR.

1.7 List of Past, Present, and Reasonably Anticipated Future Projects in the Project Area

CEQA Guidelines Section 15355 defines cumulative effects as two or more individual effects, which, when considered together, are considerable or which compound or increase other environmental impacts. The CEQA Guidelines further state that individual effects may include changes resulting from a single project or a number of separate projects, or the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. CEQA Guidelines Section 15130 allows for the use of two alternative methods to determine the scope of projects to analyze cumulative impacts.

List Method: A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency.

General Plan Projection Method: A summary of projects contained in an adopted general plan or related planning document, or in a prior environmental document, that have been adopted or certified, which describe or evaluate regional or area-wide conditions contributing to the cumulative impact.

The cumulative analysis conducted for this EIR is based on both the list method and summary of projections method. Each environmental issue area within this EIR includes a discussion of potential cumulative impacts based on these methods. Table 1-12 lists projects that serve as the foundation on which the cumulative analysis approach has been based. These projects are also illustrated in Figure 1-12, Cumulative Projects Map.

1.8 Growth-Inducing Impacts

CEQA requires a discussion of the ways in which a Proposed Project could induce growth. Growth-inducing impacts are those that foster economic or population growth, or the construction of new development, either directly or indirectly, in the surrounding environment. In addition, the potential for characteristics of the project to encourage or facilitate additional growth that could significantly affect the environment, either individually or cumulatively, must be considered.

As discussed in Section 3.2.3, Population and Housing, during construction, the Proposed Project would employ approximately 326 workers (see Table 1-3 below). These workers are not anticipated to relocate to the area with their families and are not expected to induce substantial population growth in the Mountain Empire and Boulevard area. Once construction is complete, the project would add a combined total of up to 33 operation personnel and their families to the local area. The workers and their families would likely reside across the large rural area between Campo and Jacumba. The additional workers and their families are not anticipated to result in a substantial increase in population in the area that would result in growth-inducing impacts.

Additionally, the limited scale of solar farm construction and operation would have little effect on base employment within the San Diego region as a whole.

Additionally, the development of solar energy projects would not induce substantial population growth. The Proposed Project would not propose any physical or regulatory changes that would remove a restriction to or encourage population growth in an area, including, but not limited to, the following: large-scale residential development; accelerated conversion of homes to commercial or multifamily use; regulatory changes including General Plan Amendments encouraging population growth, specific plan amendments, zone reclassifications, or sewer or water annexations; or Local Agency Formation Commission annexation actions. As previously discussed in Section 1.1, Project Objectives, the Proposed Project is intended to create utility-scale solar energy in-basin to improve reliability for the San Diego region by providing a source of local generation. The Proposed Project would supplement the region's in-basin energy supply and would not encourage housing growth in the County.

Table 1-2
Inverter Stations

Project	Maximum Number	Maximum Dimensions
Tierra del Sol	45	10 feet wide by 40 feet long by 12 feet high
Rugged	59	
LanEast	32	
LanWest	4	

Table 1-3
Construction Employees by Project

Project	Approximate Number of Construction Employees
Tierra del Sol	120
Rugged	146
LanEast	30
LanWest	30
Total (Proposed Project)	**326**

Table 1-4
Construction Equipment Associated with Solar Project Development

Equipment	
Aerial lifts	Rollers
Bore/drill rigs	Rough-terrain forklifts (propane)
Cement and mortar mixers	Rubber-tired loaders
Cranes	Scrapers
Crawler tractors	Signal boards

Table 1-4
Construction Equipment Associated with Solar Project Development

Equipment	
Crushing/processing equipment	Skid steer loaders
Dumpers/tenders	Steel-tracked dozers
Excavators	Surfacing equipment
Forklifts (propane)	Sweepers/scrubbers
Generator sets/load banks	Tractors/loaders/backhoes
Graders	Tractor lift beam
Off-highway tractors	Trailers
Off-highway trucks	Trenchers
Service trucks	Water trucks
Main tube supporters	Washing vehicles
Mini-mast fixtures	Welders
Module suction lifters (electric)	
Personnel transport vehicles	
Plate compactors	
Pressure washers	
Pumps	

Table 1-5
Full-Time Employees By Project

Project	Approximate Number of Full-Time Employees
Tierra del Sol	7
Rugged	20
LanEast	3
LanWest	3
Total (Proposed Project)	**33**

Table 1-6
Construction Water Demand By Project

Activity	Total Estimated Water Demand (gallons) [1]	Total Estimated Water Demand (acre-feet)[1]
Tierra del Sol		
Dust Control (during initial clearing, grubbing, and grinding)	13,686,288	42.0
Mass Grading	475,641	1.5
Application of Soil Binding Agent	603,900	1.9
General Daily Dust Control[2]	5,355,990	16.4
Concrete Mixing (concrete batch plant)	691,190	2.1

Table 1-6
Construction Water Demand By Project

Activity	Total Estimated Water Demand (gallons) [1]	Total Estimated Water Demand (acre-feet)[1]
Tierra del Sol gen-tie line	808,000	2.5
Fire Protection	50,000	0.2
Noxious Weed Mitigation (pressure washers)	249,000	0.8
Total Tierra del Sol Construction Water	**21,920,009**	**68**
Rugged		
Dust Control (during initial clearing, grubbing, and grinding)	16,488,506	50.6
Mass Grading	1,713,399	5.3
Application of Soil Binding Agent	838,200	2.6
General Daily Dust Control[2]	6,453,000	19.8
Concrete Mixing (concrete batch plant)	917,794	2.8
Rock Crusher (additional dust control)	262,080	0.8
Fire Protection	70,000	0.2
Noxious Weed Mitigation (pressure washers)	300,000	0.9
Total Rugged Construction Water	**27,042,978**	**83**
LanEast and LanWest[3]		
Total LanEast and LanWest Construction Water	**10,103,926**	**31**

Notes:

1 One (1) acre-foot equals 325,851 gallons. Gallons are rounded to the nearest whole number and acreages are rounded to the nearest tenth. Total estimated water demand does not reflect removal of CPV trackers for implementation of Mitigation Measure M-AE-PP-1 at the Rugged and Tierra del Sol solar farms or implementation of PDF-AE-1 at the Rugged solar farm; see Table 1-1 footnotes 5 and 6 for details about tracker reductions.

2 "General" Daily Dust Control is in *addition* to the water use for dust control during site clearing and grubbing, and consists of watering access roads, service roads, active work areas and staging areas as necessary during and following initial site clearing/grubbing. It was assumed that three 6,000 gallon (or six 3,000 gallon) water trucks per day would be required for this purpose (increasing to an additional 54,000 gallons per day during high wind days).

3 Because the LanEast and LanWest solar farms are at a programmatic level, detailed information on schedule, site preparation, grading and dust control are unavailable. Water use was estimated by scaling to the Rugged site by size, due to similar soils and project type.

Table 1-7
Total Estimated Water Use for Operation of Solar Projects

Activity	Rate of Water Usage	Variable	Total Estimated Water Demand (gallons/year) [3]	Total Estimated Water Demand (acre-feet/year)[3]
Tierra del Sol				
Application of soil binder (if required)	3,300 gallons/acre/year[1]	183 acres[2]	603,900	1.85
Tracker Washing	24 gallons/tracker/wash	2,657 trackers 9 washes/year	573,912	1.76
Potable Water Needs	10,472 gallons/month[4]	12 months	125,664	0.38
Landscape Vegetative Screen			508,328	1.56
Total Water Use / Year	**—**	**—**	**1,811,804**	5.5

Table 1-7
Total Estimated Water Use for Operation of Solar Projects

Activity	Rate of Water Usage	Variable	Total Estimated Water Demand (gallons/year) [3]	Total Estimated Water Demand (acre-feet/year)[3]
Rugged				
Application of soil binder (if required)	3,300 gallons/acre/year	254 acres[2]	838,200	2.57
Tracker Washing	24 gallons/tracker/wash	3,588 trackers 9 washes/year	775,008	2.38
Potable Water Needs	10,472 gallons/month	12 months	125,664	0.38
Landscape Vegetative Screen			508,328	1.56
Contingency			587,704	1.8
Total Water Use / Year	**—**	**—**	**2,834,904**	**8.7**
LanEast and LanWest [5]				
Total Water Use / Year	**—**	**—**	1,077,263	**3.3**

Notes:

1 Based on application of nontoxic permeable soil binding agent 3,300 gallons per acre annually.

2 Based on constructed degraded granite surfaces within the project site consisting of O&M building areas, substation, and fire and service roads.

3 One acre-foot = 325,851 gallons. Gallons are rounded to the nearest whole number and acreages are rounded to the nearest tenth. Total estimated water demand does not reflect removal of CPV trackers for implementation of Mitigation Measure M-AE-PP-1 at the Rugged and Tierra del Sol solar farms or implementation of PDF-AE-1 at the Rugged solar farm; see Table 1-1 footnotes 5 and 6 for details about tracker reductions.

4 Average monthly water usage is 10,472 gallons, according to the City of San Diego (2012).

5 Because the LanEast and LanWest solar farms are at a programmatic level, detailed information on constructed degraded granite surfaces is unavailable. Water use was estimated by scaling to the Rugged site by size, due to similar soils and project type/configuration.

Table 1-8
Tierra del Sol Construction Schedule

Project Activity	Working Days[1]	Start	End
Mobilization	5	~~10/24/2015~~ 6/24/2016	~~11/3/2015~~ 6/30/2016
Clear and Grub/Grading/Roads	60	~~11/4/2015~~ 7/5/2016	~~1/12/2016~~ 9/13/2016
Gen-Tie	60	~~8/10/2015~~ 4/9/2016	~~10/17/2015~~ 6/18/2016
Substation	25	~~11/10/2015~~ 7/11/2016	~~12/7/2015~~ 8/9/2016
Underground Electrical	100	~~12/1/2015~~ 8/1/2016	~~3/25/2016~~ 11/25/2016
O&M Building	80	~~5/22/2016~~ 1/19/2017	~~8/23/2016~~ 4/22/2017
Total Months	*10*		
30 MW			
Tracker Installation	120	~~12/8/2015~~ 8/8/2016	~~4/27/2016~~ 12/26/2016
Phase 1 (10 MW)	40	~~12/8/2015~~ 8/8/2016	~~1/24/2015~~ 9/23/2016
Phase 2 (10 MW)	40	~~1/25/2015~~ 9/24/2016	~~3/9/2016~~ 11/10/2016
Phase 3 (10 MW)	40	~~3/10/2016~~ 11/8/2016	~~4/27/2016~~ 12/24/2016
Punch List and Cleanup	20	~~4/28/2016~~ 12/26/2016	~~5/20/2016~~ 1/18/2017
Total Months (30 MW)	*7*		

Table 1-8
Tierra del Sol Construction Schedule

Project Activity	Working Days[1]	Start	End
15 MW			
Tracker Installation	40	~~8/27/2016~~ 4/26/2017	~~10/20/2016~~ 6/12/2017
Total Months (15 MW)	*2*		
15 MW			
Tracker Installation	40	~~11/12/2016~~ 7/12/2017	~~12/26/2016~~ 8/28/2017
Total Months (15 MW)	*2*		
Total Months (60 MW + Gen-Tie)	**16**		

Note: Working days during construction period = 6 days/week.

Table 1-9
Rugged Construction Schedule

Project Activity	Working Days[1]	Start	End
80 MW			
Mobilization	7	~~8/1/2015~~ 4/1/2016	~~8/8/2015~~ 4/9/2016
Clear & Grub/Grading/Roads	70	~~8/10/2015~~ 4/9/2016	~~10/29/2015~~ 6/30/2016
Underground Electric	100	~~11/2/2015~~ 7/1/2016	~~2/26/2016~~ 10/26/2016
Substation	35	~~9/17/2015~~ 4/18/2016	~~10/26/2015~~ 5/28/2016
O&M Building	60	~~12/28/2015~~ 7/28/2016	~~3/5/2016~~ 10/6/2016
Tracker Installation	200	~~9/27/2015~~ 4/28/2016	~~5/16/2016~~ 12/17/2016
Phase 1 (24 MW)	60	~~9/27/2015~~ 4/28/2016	~~12/4/2015~~ 7/7/2016
Phase 2 (16 MW)	40	~~12/5/2015~~ 7/8/2016	~~1/20/2015~~ 8/24/2016
Phase 3 (24 MW)	60	~~1/22/2015~~ 8/25/2016	~~3/28/2016~~ 11/3/2016
Phase 4 (16 MW)	40	~~4/2/2016~~ 11/4/2016	~~5/16/2016~~ 12/21/2016
Punch List and Cleanup	60	~~5/22/2016~~ 12/22/2016	~~7/30/2016~~ 3/2/2017
Total Months (80 MW)	**12**		

Note: Working days during construction period = 6 days per week

Table 1-10
Summary of Project Design Features

Subject Area	Design Feature or Construction Measure	
Aesthetics	**PDF-AE-1**	In the southernmost parcel of the Rugged site, pull back project grading and remove trackers from the natural saddle that occurs on the southern parcel and would likely be visible to westbound Interstate 8 motorists. In-place existing natural vegetation shall be protected to act as a low screen and provide topographic and vegetative continuity across the saddle area while complying with the Fire Protection Plan. Additional shrub plantings (fire resistant and a maximum height 6 feet) shall also be included in the area to reinforce vegetation line across the saddle.
	PDF-AE-2	Staging material and equipment storage areas, including storage sites for excavated materials, visible from nearby roads, residences and recreational areas shall be visually screened using temporary screening fencing. Fencing shall be of an appropriate design and color for the Proposed Project location.

Table 1-10
Summary of Project Design Features

Subject Area	Design Feature or Construction Measure	
	PDF-AE-3	The O&M building shall be painted/finished with muted-earth toned colors. Materials, coatings, or paints having little or no reflectivity shall be used whenever possible. New overhead conductors shall be non-specular in design to reduce conductor visibility, glare, and visual contrast**.**
	PDF-AE-4	Weathered or cor-ten steel shall be used for gen-tie monopoles to reduce the potential for color contrast between structures and existing vegetation and terrain.
	PDF-AE-5	Outdoor lighting at each solar farm site shall conform to County of San Diego Light Pollution Code Zone A standards for lamp type and shielding requirements. More specifically, Zone A standards shall be applicable for all Class I (i.e., lighting for assembly areas where color rendition is important) and Class II (i.e., lighting for general illumination and security) lighting at the solar farm site and all outdoor lighting fixtures shall be fully shielded and directed downward. Further, fully shielded motion sensor lighting shall be installed at the on-site private substation yard, next to the entrance door to the substation control house, and mounted atop entrance gates and shall be turned off when no one is on site. When possible, tracker washing shall occur during evening and morning hours to reduce occurrences of dark sky illumination. Regarding operation of security measures, motion sensor infrared cameras shall be installed at the project site to avoid illumination of the site and surrounding area during nighttime hours.
	PDF-AE-6	A Glare Study utilizing project-level information shall be prepared for the LanEast and LanWest solar farms and approved by the County Department of Planning and Development Services (PDS). The glare study shall consider potential effects to sensitive receptors in the area including residents, recreationists, and motorists on Interstate 8, Old Highway 80, and McCain Valley Road. If potential visual resource impacts associated with project-generated glare are identified, then measures such as landscape screening and/or increased setbacks shall be required to reduce impacts.
Air Quality	**PDF-AQ-1**	The following measures will be applied to the Proposed Project to minimize fugitive dust (PM_{10}) and to comply with County Code Section 87.428 (Grading Ordinance), the following will be implemented: • The applicants will apply water three times per day or as necessary depending on weather conditions to suppress fugitive dust during grubbing, clearing, grading, trenching, and soil compaction and/or apply a nontoxic soil binding agent to help with soil stabilization during construction. These measures will be applied to all active construction areas, unpaved access roads, parking areas, and staging areas as necessary. • Sweepers and water trucks will be used to control dust and debris at public street access points. • Internal fire access roadways will be stabilized by paving, application of an aggregate base material (such as disintegrated granite), or chip sealing after rough grading. • Exposed stockpiles (e.g., dirt, sand) will be covered and/or watered or stabilized with nontoxic soil binders, tarps, fencing or other suppression methods as needed to control emissions. • Traffic speeds on unpaved roads will be limited to 15 miles per hour (mph). • All haul and dump trucks entering or leaving the site with soil or fill material will maintain at least 2 feet of freeboard, or cover loads of all haul and dump trucks securely. • Disturbed areas will be covered with a nontoxic soil binding agent (Such as EP&A's Envirotac II and Rhinosnot Dust Control, Erosion Control and Soil Stabilization).

Table 1-10
Summary of Project Design Features

Subject Area	Design Feature or Construction Measure
	PDF-GE-1 Prior to the approval of any building plan and the issuance of any building permit, a geotechnical study must be prepared by a Registered Civil or Geotechnical Engineer, and submitted for approval by the PDS, Building Division. The report must specify foundation designs, which are adequate to preclude substantial damage to the proposed structures due to liquefaction. The applicant must prepare the report and submit it along with the submittal for the building plans. The PDS, Building Division shall review the geotechnical study for compliance with all applicable building codes and engineering standards, and shall ensure that liquefaction evaluation is adequate and that any recommendations to minimize effects of liquefaction, if any, are incorporated into the project design.
	o **PDF-GHG -1** Prepare Site-Specific GHG Report for the LanEast and LanWest solar farms. Prior to issuance of Major Use Permits for the solar farm, a site-specific greenhouse gas technical report will be prepared in accordance with the most current version of the *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements: Greenhouse Gas Analyses and Reporting* and approved by the County. The site-specific technical report will be completed and approved by the County prior to certification of the project-level CEQA document.
Geology and Soils	**PDF-HZ-1** The project shall be designed to ensure that surface soils within the railroad ROW and on APN 658-051-07-00 where burn ash was observed will not be disturbed during construction of the gen-tie.
Greenhouse Gas Emissions	**PDF-HZ-2** Pursuant to the San Diego County Consolidated Fire Code Section 4903 and OSHA Regulation 1926.24, Fire Protection and Prevention, the Proposed Project applicants shall prepare a Construction Fire Prevention Plan (CFPP), and have the CFPP reviewed and approved by SDCFA and CalFire a minimum of 45 days prior to issuance of the first construction permit, such as a grading permit. The CFPP will identify potential sources of ignition and fuel during construction and decommissioning, and will detail the specific fire-prevention measures that will be employed during construction and decommissioning. Appendix 3.1.4-7 provides a conceptual outline for preparation of the CFPP.
Hazards and Hazardous Materials	**PDF-HZ-3** Prior to approval of a Major Use Permit, a site-specific fire protection plan shall be prepared and approved by the SDCFA. The plan shall be prepared in accordance with San Diego County Consolidated Fire Code Section 4903 and the most current version of the County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Wildland Fire and Fire Protection, and shall address Code requirements for access, fencing/gates/signs, defensible space, adequate water supply and emergency response.
	PDF-N-1 To ensure noise from tracker washing activities will comply with the County Noise Ordinance, the following operational procedures and equipment will be implemented as part of the project design: Wash Station Gasoline Engine Enclosure: The proposed IPC Eagle Wash Station has a reference noise level of 99 dBA, at 9 feet from the engine. The wash station incorporates a new generation Honda GX-160 gasoline powered engine. In the factory configuration, this engine is mounted to an open frame on the wash station. A number of manufacturers produce acoustic panels suitable for exterior use, fabricated with steel casing and foam insulation, which have a sound transmission

Table 1-10
Summary of Project Design Features

Subject Area	Design Feature or Construction Measure	
		class (STC) rating up to 40. Acoustic-rated louvers are also available to permit air circulation while dampening sound propagation; such louvers can achieve an STC rating up to approximately 25. A cubic enclosure constructed with solid panels on 5 sides, and an acoustic louver on the remaining face, would achieve a composite STC of 32. Such an enclosure would reduce the operational sound level of the wash station to 67 dBA at 9 feet. As a design feature, the applicant is proposing to employ a sound enclosure for the wash station engine to achieve a sound level of not greater than 67 dBA at 9 feet; as along as this maximum noise level is respected, other equipment may be substituted. North/South Panel Washing Operations: Because of the orientation of the trackers (long axis north–south), tracker washing would take place in a north–south direction, using the service roads oriented in this direction. Along the northern and southern property lines, washing of the closest tracker to the property line would require 10 minutes, after which the adjacent tracker (at the end of the next row over) would be washed for another 10 minutes, and then equipment would be moved down the row, away from the property line. The maximum amount of time within a critical 130 foot distance from the property line would therefore be 20 minutes in an hour. Wash Station Operations Setback Distance: Using simple distance attenuation formulas, it was determined that continuous operation of the wash station within 130 feet of a property line with adjacent residential use would exceed the applicable portion of the San Diego County Noise ordinance (Section 36.404 Sound Level Limits). For eastern and western property lines, the distance from tracker washing activity would remain constant, as the equipment moves parallel to the property line; therefore a design feature is to place the IPC Eagle Wash Station a minimum of 130 feet from the eastern and western property lines. This would equate to following the center-line of the service road on the interior side of the solar tracker row closest to the east and west property lines. The noise produced by the water spray nozzle itself was not calculated because the noise level is anticipated to be at least 10 dBA less than the enclosed engine, which would not affect the composite noise level from the wash station.
Noise	**PDF-N-2**	As part of the project design and to ensure noise from pile driving activities will comply with the County Noise Ordinance, the project's construction schedule shall be phased so that geologic testing and any pre-drilling for tracker mast installation will be completed before any pile driving to install tracker masts occurs. This will be added as a condition to the MUP.
	PDF-PS-1	As a condition to providing service and pursuant to the Safety Element of the General Plan, the applicant(s) shall enter into a fire and emergency protection services agreement with the San Diego County Fire Authority prior to approval of a Major Use Permit to make a fair share contribution to fund the provision of appropriate fire and emergency medical services, which includes but is not limited to: • An initial Paramedic staff and startup equipment kit, total cost of $60,000; and • Annual funding for one Paramedic staff firefighter, total annual cost of $73,000, with an annual 5% escalator.
	PDF-TR-1	**Prepare Traffic Control Plan.** Pursuant to the County of San Diego Code of Regulatory Ordinances, Sections 71.602, 71.603 and 71.605, the project applicant or construction contractor shall obtain a traffic control permit and prepare a traffic control

Table 1-10
Summary of Project Design Features

Subject Area	Design Feature or Construction Measure
	plan for each project to ensure safe and efficient traffic flow in the area and on the project sites during construction activities. The traffic control plan shall specifically address construction traffic within the County's public rights-of-way satisfactory to the Department of Public Works at least forty-five days prior to construction. The traffic control plan shall contain project-specific measures to be implemented during construction for noticing, signage, policy guidelines, and the limitation of lane closures to off-peak hours (although it is noted that no requirement for roadway or lane closures has been identified). The traffic control plan shall include provisions for construction times, and control plans for allowance of bicyclists, pedestrians, and bus access throughout construction. The traffic control plan shall also include provisions to ensure emergency vehicle passage at all times. The traffic control plan shall include a construction notification plan, which shall identify the procedures that would be used to inform property owners of the location and duration of construction, identify approvals that would be needed prior to posting or publication of construction notices, and include text of proposed public notices and advertisements. The construction notification plan would address at a minimum the two of the following components: • **Public notice mailer**. A public notice mailer would be prepared and mailed no fewer than 15 days prior to construction. The notice would identify construction activities that would restrict, block, remove parking, or require a detour to access existing residential properties, and would provide alternative access, if required. The notice would state the type of construction activities that would be conducted and the location and duration of construction, including all helicopter activities. The project applicant or construction contractor would mail the notice to all residents or property owners within 1,000 feet of project components. If construction delays of more than 7 days occur, an additional notice would be prepared and distributed. • **Public liaison person and toll-free information hotline**. The project applicant or construction contractor would identify and provide a public liaison person before and during construction to respond to concerns of neighboring property owners about noise, dust, and other construction disturbance. Procedures for reaching the public liaison officer via telephone or in person would be included in notices distributed to the public. The project applicants would also establish a toll-free telephone number for receiving questions or complaints during construction and shall develop procedures for responding to callers. Procedures for handling and responding to calls would be addressed in the construction notification plan. To facilitate access to properties that might be obstructed by construction activities, the project applicant or construction contractor would notify property owners and tenants at least 24 hours in advance of construction activities and would provide alternative access if required.
Public Services	—
Transportation and Traffic	—

Table 1-11
Approvals/Permits Expected to be Obtained

Government Agency	Action/Permit[1,2]
County of San Diego	• Major Use Permit for compliance with Sections 1350, 2705, and 2926 of the County Zoning Ordinance • Rezone to remove Special Area Designator "A" Zoning Ordinance Section 5100 et seq. and for compliance with the County's Zoning Ordinance [Tierra del Sol solar farm only] • Agricultural Preserve Cancellation for compliance with the County's Zoning Ordinance Section 5100 et seq. [Tierra del Sol solar farm only] • County Right-of-Way Permits (Construction Permit, Excavation Permit, Traffic Control Permit and Encroachment Permit) • ~~Franchise Agreement (Tierra del Sol solar farm only)~~ • Grading Permit for compliance with County's Grading Ordinance • Improvement Plans • Landscape Plans • Exploratory Borings, Direct-push Samplers, and Cone Penetrometers Permits • Groundwater Wells and Exploratory or Test Borings Permit • Septic Tank Permit • Water Well Permit • Waiver pursuant to Zoning Ordinance Section 7060.d to reduce 90-foot setback along U.S.–Mexico border • Certification of the Final EIR – Compliance with CEQA. • General Plan Amendment to amend the Boulevard Community Plan if the Wind Energy Ordinance Plan of Development (POD) 10-007 General Plan Amendment (GPA) 12-003 is overturned by current litigation[2]. • GPA to amend the County of San Diego General Plan (LanEast and LanWest solar farms only)[2]
Regional Water Quality Control Board (RWQCB)	• Clean Water Act Section 401 – Water Quality Certification • General Construction Stormwater Permit • Conditional Waiver No. 7 (Tierra del Sol only) • Waste Discharge Requirements Permit (Rugged only) • Industrial General Stormwater Permit (Rugged: rock crushing/batch plant).
State of California Department of Fish and Wildlife (CDFW)	• 1602 Streambed Alteration Agreement
State of California Water Resources Control Board (SWRCB)	N/A
U.S. Department of Homeland Security, U.S. Border Patrol	• Consistency with U.S. Border Patrol safety and access policies [Tierra del Sol only].
U.S. Army Corps of Engineers (ACOE)	• Clean Water Act Section 404 Permit – Dredge and Fill.
U.S. Fish and Wildlife Service (USFWS)	• Section 7 – Consultation or Section 10a Permit – Incidental Take.
Air Pollution Control District (APCD)	• Air Quality Permit to construct.
San Diego County Fire Authority (SDCFA)	• Fire District Approval; Fire Service Agreement for County Service Area (CSA) 135.

Table 1-11
Approvals/Permits Expected to be Obtained

Government Agency	Action/Permit[1,2]
California Public Utilities Commission (CPUC)	• Section 851 Advice Letter
California Department of Transportation (Caltrans)	• Encroachment Permit • Transportation Permit

1 A judgment denying the 2013 appeal of the Board of Supervisor's approval of the POD and GPA was issued in the San Diego County Superior Court on May 6, 2014. Plaintiffs subsequently appealed the County Supreme Court judgment on June 6, 2014.

2 The LanEast and LanWest solar farms are analyzed at a programmatic level and no permits for these projects are currently being sought.

Table 1-12
Cumulative Projects List

Project	Project No.	Project Type	Project Location	Status	Map ID
Wind Energy Projects					
ENERGIA SIERRA JUAREZ WIND PROJECT I: Development of 400 MW of wind generation. Phase I (just north of the town of La Rumorosa) is proposed to generate approximately 100 MW of energy with 45 to 52 turbines. Point of interconnection proposed with the ECO Substation.	N/A	Public Facilities and Utilities (Wind)	Northern Baja California, Mexico, in the Sierra Juárez mountains north of the town of La Rumorosa	Final Interconnection Study completed. Draft Interconnection Agreement (IA) provided for review. (Queue No. 159a). The project would be built in multiple phases. Construction anticipated to be completed in 2014.	1
ENERGIA SIERRA JUAREZ WIND PROJECT II: Development of 300 MW of wind generation. Point of interconnection proposed with the ECO Substation.	N/A	Public Facilities and Utilities (Wind)	Northern Baja California, Mexico, in the Sierra Juárez mountains	Project schedule unknown.	—
ENERGIA SIERRA JUAREZ WIND PROJECT III: Development of 420 MW of wind generation. Point of interconnection proposed with the ECO Substation.	N/A	Public Facilities and Utilities (Wind)	Northern Baja California, Mexico, in the Sierra Juárez mountains	Project schedule unknown.	—
TULE WIND FARM, GENERAL PLAN AMENDMENT, 11-001: 12,239 acres of public lands, 186 MW; 67 wind turbines. The project would deliver power through the project substation by a 138 kV transmission line to run south to an interconnection with the proposed SDG&E Rebuilt Boulevard Substation.	3300-09-019	Public Facilities and Utilities (Wind)	Mountain Empire; North of I-8, Hwy 94, and Old Hwy 80	BLM approved December 19, 2011; County Board of Supervisors approved August 8, 2012. BLM Geotechnical Investigation notice to proceed issued September 17, 2012.	2

Table 1-12
Cumulative Projects List

Project	Project No.	Project Type	Project Location	Status	Map ID
NATIONAL QUARRIES, CACA 050635: Wind testing site. 4,435 acres.	N/A	Public Facilities and Utilities (Wind)	North of I-8, east of Sunrise Highway in southeastern San Diego County	Memorandum of Understanding signed. Application complete April 22, 2009, Wind testing stage (Type II).	3
OCOTILLO EXPRESS LLC, CACA 051552: Development of 562 MW on 14,691 acres in two phases.	N/A	Public Facilities and Utilities (Wind)	North and south of I-8 in southwestern Imperial County	A Plan of Development (POD) prepared in September 2009. The project is currently in the wind testing stage (Type II) under CACA 047518 and CACA 050916 (MAP ID items 9 and 10). Notice to Proceed June 27, 2012. Phase I completed and constructed in 2012.	4
RENEWERGY LLC, CACA 048004: Wind testing site; 3,912 acres.	N/A	Public Facilities and Utilities (Wind)	North of I-8 in southwestern Imperial County	MET Tower Environmental Assessment nearing completion. Pending Native American consultation. Cultural literature started. Wind testing stage (Type II).	5
WIND MEASUREMENT TOWERS: The Descanso Ranger District proposes to authorize temporary wind measurement towers. The towers would be approximately 160 feet high and testing would be 3 years or less in duration.	N/A	Public Facilities and Utilities (Wind Measurement Testing)	Cleveland National Forest. Descanso Ranger District. San Diego County. North side of I-8, LEGAL - T 16 S, R 5 E, Sections 1, 2, and 13.	USFS issued a permit in February 2010 for three towers in the area of La Posta Valley and Fred Canyon Road.	6
A. BRUCCI LLC ADMINISTRATIVE PERMIT AG CLEARING, AD 10-035	3000-10-023	Agricultural clearing for MET Tower	3055 La Posta Circle, Pine Valley	Approved November 16, 2010.	7
Transmission and Other Energy Projects					
ENERGIA SIERRA JUAREZ U.S. TRANSMISSION, MUP: Power lines leading to SDG&E ECO Substation near the Mexican border.	3300-09-008	Transmission Line	Near SDG&E ECO Substation	Approved by County Board of Supervisors August 8, 2012.	8
ECO SUBSTATION: ECO Substation, Rebuilt Boulevard Substation, and 13.3-mile 138 kV line between Rebuilt Boulevard Substation and ECO Substation.	N/A	Substation and Transmission Lines		Notice to proceed for geotechnical activities and construction issued February 1, 2013.	9
SDG&E MASTER SPECIAL USE PERMIT: SDG&E is proposing to combine over 70 existing special use permits for	N/A	Public Facilities and Utilities	Cleveland National Forest	In Progress.	10

Table 1-12
Cumulative Projects List

Project	Project No.	Project Type	Project Location	Status	Map ID
SDG&E electric facilities into one Master Special Use Permit to be issued by the USFS.					
Solar Energy Projects					
IMPERIAL VALLEY SOLAR - SOLAR TWO, CACA 047740: Development of up to 750 MW of energy on 6,140 acres of BLM-administered public lands and on 360 acres of private lands.	N/A	Public Facilities and Utilities (Solar)	North of I-8 in southwestern Imperial County	Application for Certification filed with California Energy Commission June 30, 2008. Application for Certification/POD determined adequate under minimal criteria. Notice of Intent published October 17, 2008. The Final EIS published July 2010.	11
JACUMBA SOLAR FARM, MAJOR PRE-APP 11-023	3992-11-023	Public Facilities and Utilities (Solar)	661-041-02,-03; 661-080-01,-04,-08	Pre-application meeting was held on January 12, 2012.	12
CHAPMAN RANCH SOLAR PROJECT: Approximately 2.9 MW photovoltaic solar project on an approximately 133-acre site. The disturbance footprint would be limited to approximately 25 acres.	N/A	Public Facilities and Utilities (Solar)	APN 612-030-15; off of McCain Valley Road and Rocky Knoll Road north of I-8	Initial consultation meeting held with County.	13
CAMERON SOLAR PROJECT: Approximately 2.5 MW photovoltaic solar project on an approximately 25-35 acres. In addition to the PV Modules and DC to AC conversion equipment (i.e., inverter and transformer units), the Project would include a co-located above-ground fiber optic line and transmission interconnection line that would tie into an existing SDG&E 12.5kV distribution line that runs east-west, north of the project. Other project features would include a perimeter security fence, internal access roads, and a detention basin		Public Facilities and Utilities (Solar)	APN 607-100-29; south of Lake Morena	Major Pre-application meeting held with County September 2014.	14

Table 1-12
Cumulative Projects List

Project	Project No.	Project Type	Project Location	Status	Map ID
Development Projects (Federal)					
GOLDEN ACORN CASINO AND TRAVEL CENTER, SCH No. 2007071097: 33-acre expansion consisting of 150-room hotel, 900-space parking garage, surface parking, RV park, casino expansion, bowling alley, arcade, offices, retail, restaurants/food service, wind turbines, and water and wastewater improvements in three phases.	N/A	Commercial	South of I-8 at Crestwood	Draft off-reservation Environmental Evaluation complete. Public review ended August 2007. No commencement of work to date. Project schedule unknown.	15
CAMPO LANDFILL PROJECT: 493-acre landfill facility and a 657-acre buffer area surround landfill.	N/A	Public Facilities and Utilities	Southeast corner of Campo Reservation	On May 27, 2010, the Campo General Council voted to rescind applicable lease agreements in order to terminate the Campo Sanitary Landfill Project. The vote occurred at a special General Council meeting resulting from a petition signed by the required number of tribal members (Campo Kumeyaay Nation 2010).	16
BOULEVARD BORDER PATROL STATION: 32-acre site proposed for an administrative and training/educational facility, operated 24 hours a day, 7 days a week. At least 250 personnel, over three shifts, would occupy the site throughout the week.	N/A	Public Facilities and Utilities	North of I-8, on the east side of Ribbonwood Road	Final Environmental Assessment and Finding of No Significant Impact issued February 2010. Closed and Constructed.	17
LA POSTA MOUNTAIN WARFARE TRAINING FACILITY: Construction of a special warfare operation and training facility on approximately 2,250 acres.	N/A	Public Facilities and Utilities	La Posta Road, south of I-8, Campo	Final Environmental Assessment dated June 2007.	18
BORDER PATROL FENCE PROJECT: As of March 2009, the 18-foot-tall, 3-foot-deep fence has been completed in eastern San Diego County.	N/A	Public Facilities and Utilities	Along U.S.–Mexico border in eastern San Diego County	Constructed in eastern San Diego County between July 2008 to March 2009.	19
Residential Development Projects (County)					
STAR RANCH, Tentative Map (TM) 5459: Subdivide 2,160.1 acres into 460 single-family residential lots, commercial uses, equestrian facility, helipad, water treatment facility, and wastewater treatment facility.	3300-13-004	Residential	South of Big Potrero and west of Buckman Springs Road	Final Draft EIR submitted March 27, 2013.	20
VAUGHN, TM 5417: 14-lot TM with a 15th non-buildable lot for the roads and water system. The proposed lots range from 5.00	3100-5417	Residential	30069 Canvasback Drive, Campo,	Idle as of February 26, 2010.	21

Table 1-12
Cumulative Projects List

Project	Project No.	Project Type	Project Location	Status	Map ID
net acres to 6.85 net acres. The project site is 81.24 acres.			just west of Buckman Springs Road		
McCLINTOCK, Tentative Parcel Map (TPM) 20755: Minor subdivision of 10.0 gross acres into two residential parcels of 4.15 acres and 4.56 acres net.	3200-20755	Residential	Basso Road in the Campo/Lake Morena Community	Project was approved on July 6, 2005.	22
BARTLETT, TPM 20754: Subdivide 164 acres into four single-family residential lots.	3200-20686	Residential	1850 Lake Moreno Drive	Project was approved on June 17, 2003.	23
TIBBOT TPM 20686: Subdivide 35 acres into four single-family residential lots.	3200-20686	Residential	20774 Bee Valley Road	Notice of Determination filed with County Clerk on October 17, 2006. Project was approved October 12, 2006.	24
DART TPM 20675: 33.46-acre subdivision into 3 lots. Two lots for single-family residential and one for general commercial uses.	3200-20675	Residential	Ribbonwood Road and Roadrunner Lane	Project was approved November 27, 2006.	25
GRIZZLE: TPM 20719: Subdivision of one lot into four parcels with a remainder parcel for single-family residential development.	3200-20719	Residential	McCain Valley Road and I-8	Notice of Determination filed with County Clerk on Jun 29 2006. Project was approved on July 13, 2006.	26
ARELLANO: TPM 20756: Subdivide a 17.27-acre parcel into three parcels.	3200-20756	Residential	Hauser Creek Road west of Lake Morena Drive	Project was approved on January 26, 2009.	27
PIJNENBURG: TPM 20778: 5-lot subdivision on a 76-acre site.	3200-20778	Residential	Barrett Smith Road, North of Hwy 94	Approved on August 6, 2009.	28
HEALD, TPM 21014: 4-lot subdivision (5 net acres each) with a remainder lot (15 net acres) on a 36-acre site.	3200-21014	Residential	Southern terminus of Sunfish Way	Project is on idle status as of February 2, 2010.	29
Other County Development Projects					
RIBBONWOOD ROAD SIGHTLINE IMPROVEMENT: Approximately 270-foot improvement to sightline on a horizontal curve.	N/A	Public Facilities and Utilities	North of I-8 along Ribbonwood Road, approximately 0.25 mile south of Opalocka Road, near Boulevard	Estimated completion date Spring 2013.	30
ROUGH ACRES FOUNDATION CAMPGROUND FACILITY	3300-12-021	Conference/ retreat and wellness	2750 McCain Valley Road, Boulevard; north	Second major pre-app meeting held December 12, 2011; under review.	31

Table 1-12
Cumulative Projects List

Project	Project No.	Project Type	Project Location	Status	Map ID
		center and campground facility	of I-8 and Hwy 94		
ROUGH ACRES FOUNDATION	3300-12-020	Rock crushing facility	2750 McCain Valley Road, Boulevard; north of I-8 and Hwy 94	Under review	32
BOULEVARD FIRE STATION: Project would replace existing fire station along Highway 94. The fire station would likely consist of a single-story structure between 5,000 square feet and 6,000 square feet in size, would include an apparatus bay, and would have a total footprint of disturbance of approximately 30,000 square feet of the 17.5-acre parcel. The site would include water tank facilities that would be filled infrequently as well as roadway improvements along its northern boundary and roadway access improvements to Manzanita Dulce. The project would use an on-site well and an on-site septic system.		Fire Station	Ribbonwood Road and Mazanita Dulce 612-020-47-00	Mitigated Negative Declaration received December 6, 2011.	33

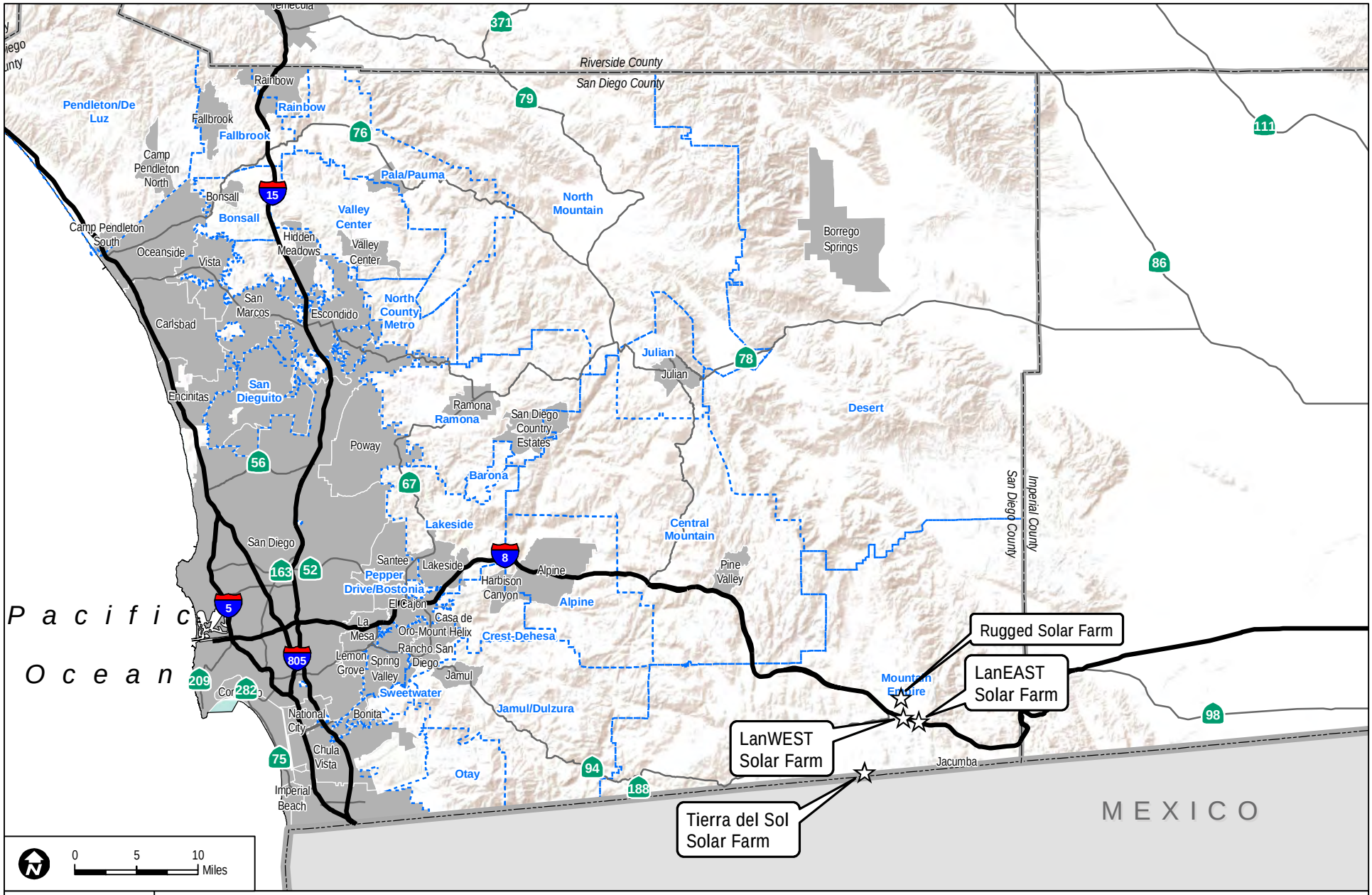

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FIGURE 1-1

Regional Location Map

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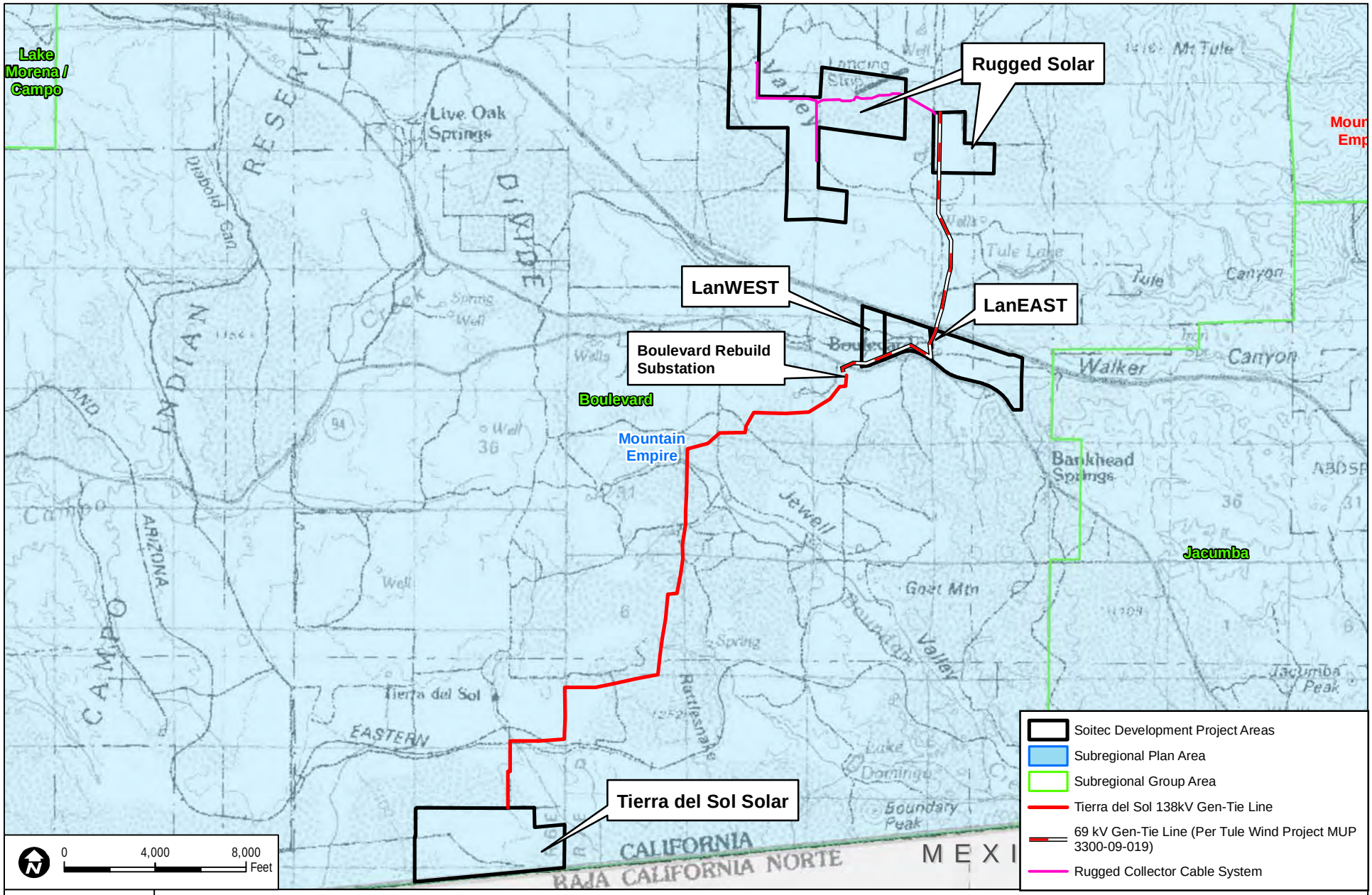

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SOURCE: USGS 7.5-Minute Series Jacumba, Live Oak Springs, Tierra Del Sol Quadrangles.

FIGURE 1-2

Specific Location Map

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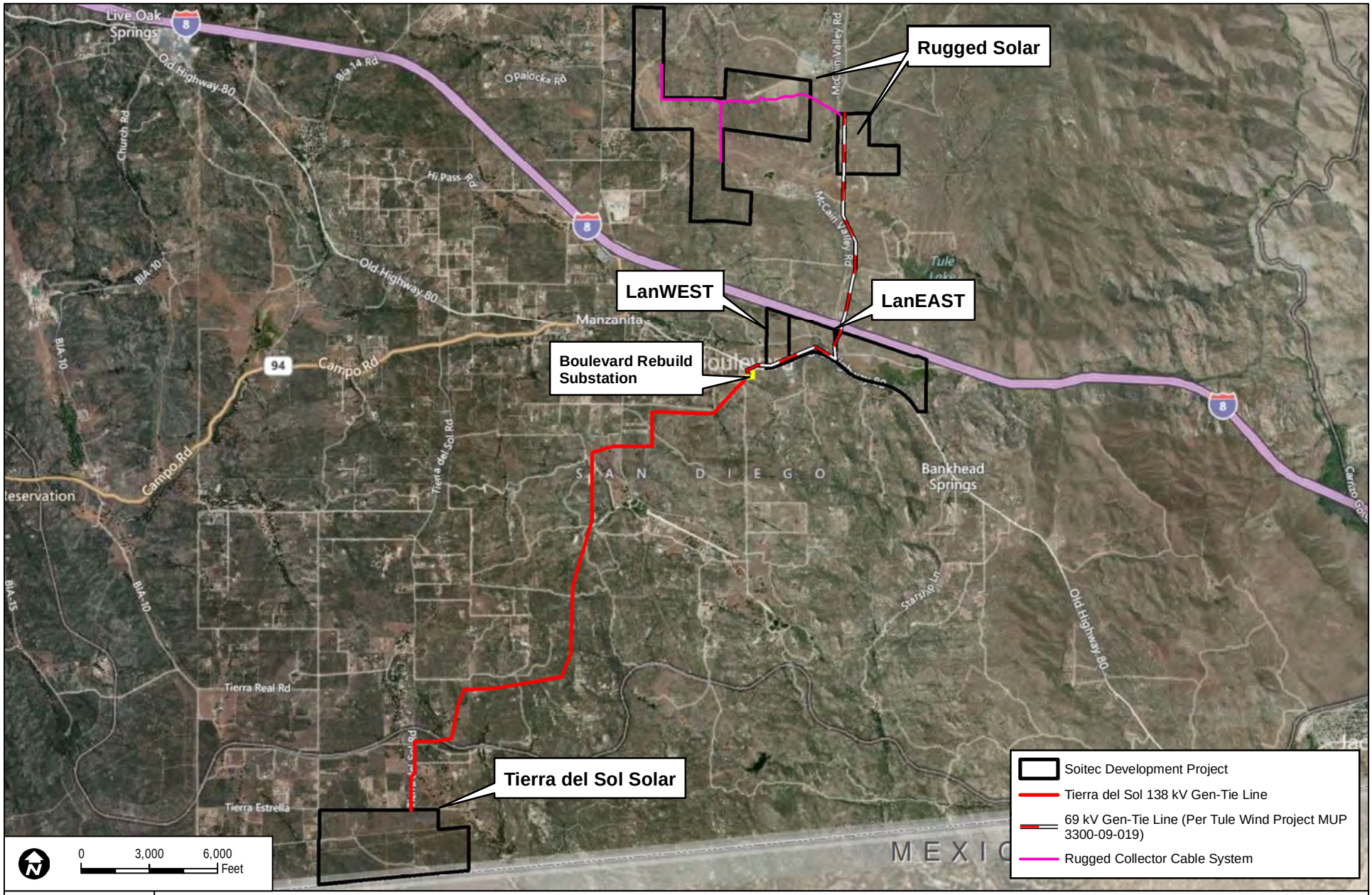

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SOURCE: Bing Maps

FIGURE 1-3

Project Aerial Map

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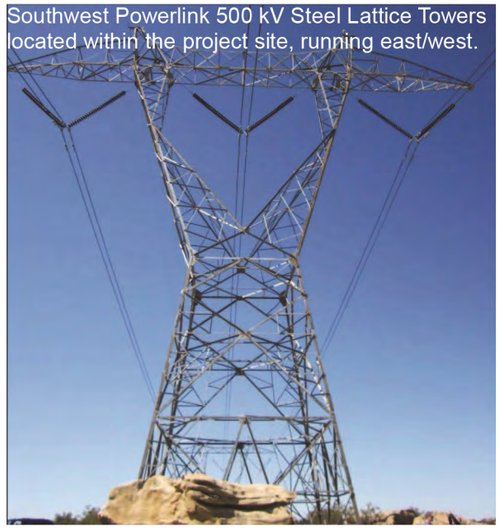

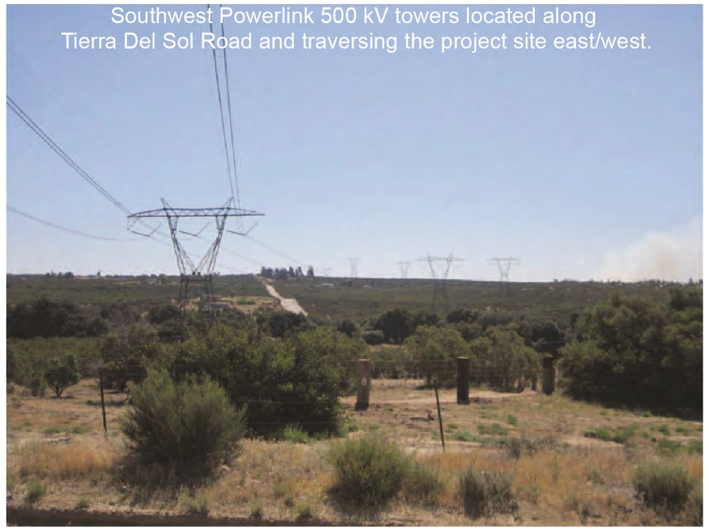

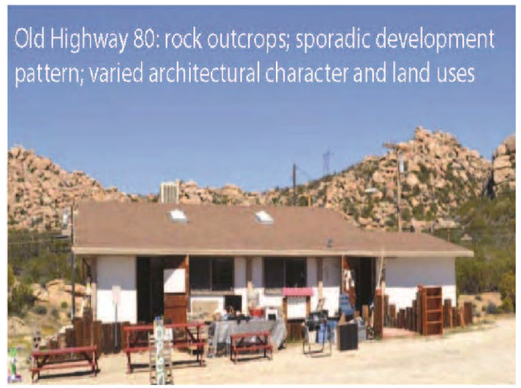

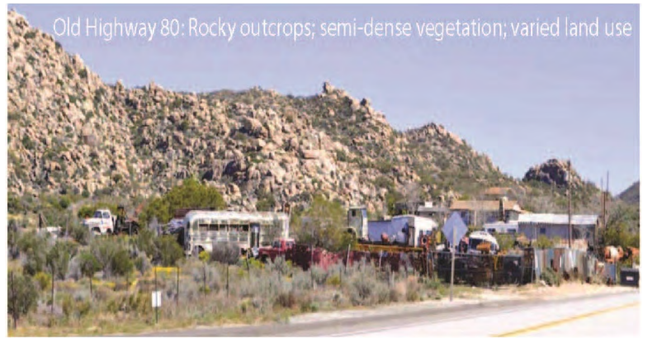

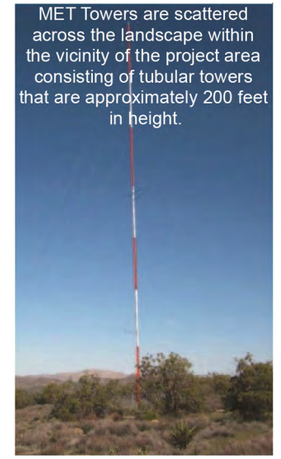

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SOURCE: DUDEK 2013

FIGURE 1-4

Project Environmental Setting - South of I-8

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