

CHAPTER 2.0

PROJECT DESCRIPTION

2.1 PROJECT DESCRIPTION

Information about the proposed project identified in this chapter is based on technical studies, mapping, figures, and the Conditional Use Permit (CUP) application provided by the Applicant, Campo Verde Solar, LLC. Information referring to land disturbance, equipment, schedule, mileage, and workforce is based on the most up-to-date engineering available from the Applicant and generally represent conservative estimates. The project configuration may change based on final engineering and permit requirements for the project components. The Applicant's information for the gen-tie on Bureau of Land Management (BLM) managed land appeared primarily in the *Right-of-Way Plan of Development (POD) for the Campo Verde Gen-Tie Project* submitted to the BLM in September, 2011 (CVS, 2011). The gen-tie portion on BLM land is undergoing separate environmental review to fulfill the requirements of the National Environmental Policy Act (NEPA). An Environmental Assessment is being prepared for the gen-tie by the BLM.

2.1.1 INTRODUCTION

This chapter of the Environmental Impact Report (EIR) describes the Campo Verde Solar Project (proposed project) proposed by Campo Verde Solar, LLC (the "Applicant" which includes First Solar and US Solar). The project is a proposal to build a 140-plus megawatt alternating current (MWAC) solar generation facility using photovoltaic (PV) technology.¹ The project consists of the solar generation facility on private land and associated 230-kilovolt (kV) transmission line (gen-tie). The proposed gen-tie crosses both private and public land, the latter under the jurisdiction of the BLM. The gen-tie will connect the solar generation facility to the Imperial Valley Substation. The public lands crossed by the proposed gen-tie are managed by the BLM and located wholly within an area designated by the BLM for utilities and infrastructure corridors. A Right-of-Way (ROW) approval from the BLM is required to construct the proposed gen-tie.

2.1.2 PROJECT BACKGROUND

The Applicant is proposing to build, operate, and maintain the solar generation facility on approximately 1,990 acres of private land in southern Imperial County. The proposed project consists of two primary components: 1) solar generation equipment and associated facilities on privately owned land (the "solar generation facility"); and, 2) 230-kilovolt (kV) aboveground, electric transmission line(s) and associated facilities (the "gen-tie") that will connect the generation facilities with the Imperial Valley Substation. The solar generation facility and gen-tie are collectively referred to as the "proposed project" or "project." The area encompassing the solar generation facility and the gen-tie is referred to as the "project area."

On March 24, 2011, the Applicant submitted an application for a CUP to the Imperial County Department of Planning and Development Services (ICPDS). The CUP application was submitted to allow construction and operation of a solar PV electric generation facility and associated transmission line in southern Imperial County near the Imperial Valley Substation.

On September 12, 2011, the Applicant submitted an Application for Transportation and Utility Systems and Facilities on Federal Lands (Standard Form 299, or "SF-299") to the BLM. The SF-299 application requested a linear ROW to construct and operate the gen-tie and associated facilities on land managed by the BLM.

¹ To deliver 140 MWAC of electricity at the point of interconnection, the solar generation facility needs to be overbuilt to address the electrical demands of the facility, AC system losses, step-up transformer losses and transmission line losses.

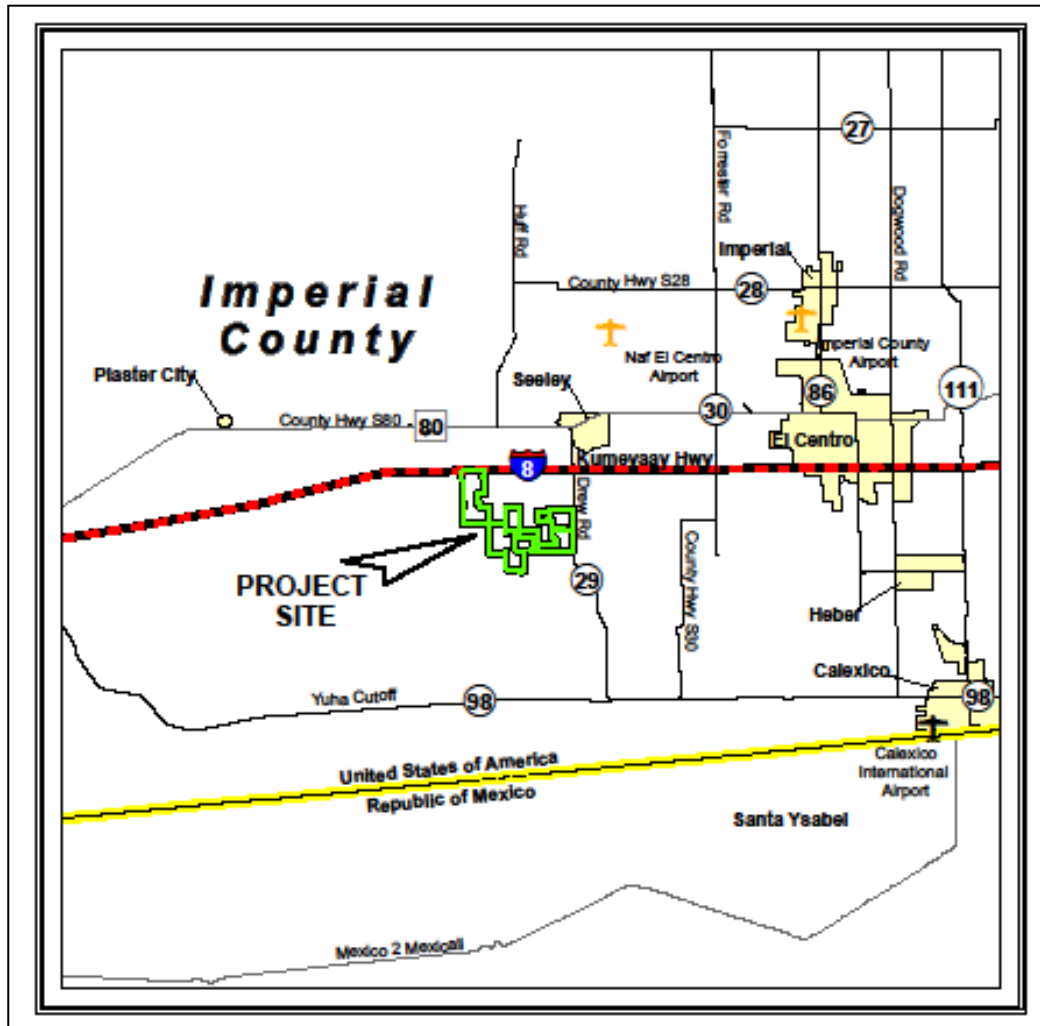
2.0 PROJECT DESCRIPTION

On February 7, 2012, the Applicant submitted a Variance Application to the ICPDS. The Variance Application was submitted to address gen-tie structures that may exceed the A-2 and A-3 zoning height limitation of 120 feet. The maximum height of the gen-tie line structures could be up to 145 feet. The proposed project was presented and discussed at the County's Airport Land Use Commission (ALUC) Meeting held on February 15, 2012. The ALUC reviewed the proposed application, including the variance for transmission tower height described in subsection 1.2, above. The Commission found the proposed project consistent with the 1996 Airport Land Use Compatibility Plan (ALUCP) with no conditions.

This EIR is being prepared to analyze the potential environmental impacts of the proposed Campo Verde Solar Project and fulfill the requirements of CEQA.

2.1.3 SITE LOCATION

The proposed project site is approximately 7 miles southwest of the community of El Centro, California. The project site is located generally south of Interstate I-8 (I-8), west of Drew Road, and north and east of the Westside Main Canal. **Figure 2.0-1** depicts the regional location of the property.



Source: kp environmental, 2012.

FIGURE 2.0-1
PROJECT LOCATION MAP

2.1.4 CAMPO VERDE SOLAR GENERATION FACILITY CHARACTERISTICS

A. Existing Uses and Features

The solar generation facility site is generally bounded by I-8 on the north, Drew Road on the east, and the Westside Main Canal on the west and south. The site boundaries follow parcel lines rather than roads or other physical features. **Figure 2.0-2** provides an aerial photograph of the project site and the immediate surrounding area including federal land managed by the BLM. **Figure 2.0-3** depicts the project parcels and adjacent parcels as well as the proposed gen-tie route. **Figure 2.0-4** shows the extension of the gen-tie through lands managed by the BLM to the Imperial Valley Substation.

The Applicant controls the solar generation facility site through options to purchase. **Table 2.0-1** identifies the assessor parcel numbers, acreages, and zoning of the parcels that comprise the solar generation facility site (there are no privately owned parcels crossed by the permanent gen-tie easement beyond those identified for the solar generation facility site) and correspond to the parcels depicted in **Figure 2.0-3**. A construction, an access easement and aerial easement could be required on one or more nearby private parcels.

All of the parcels that comprise the solar generation facility site are agricultural lands. Of the project site's 1,990 acres, approximately 1,852 acres of agricultural land would be converted to accommodate the proposed project. Of the 1,852 acres, approximately 1,822 acres (predominantly alfalfa hay) are important farmlands. The 1,852 acres represents agricultural fields within the solar generation facility site minus other land (i.e., the acreage of public roads, IID canals, ditches and maintenance roads currently on the site). The solar generation facility site includes a series of soil and concrete lined irrigation canals and ditches operated by the Imperial Irrigation District (IID). The topography of the property is relatively flat and ranges from 24 feet below mean sea level (msl) at the southern edge of the site to 40 feet below msl at the northern edge of the site.

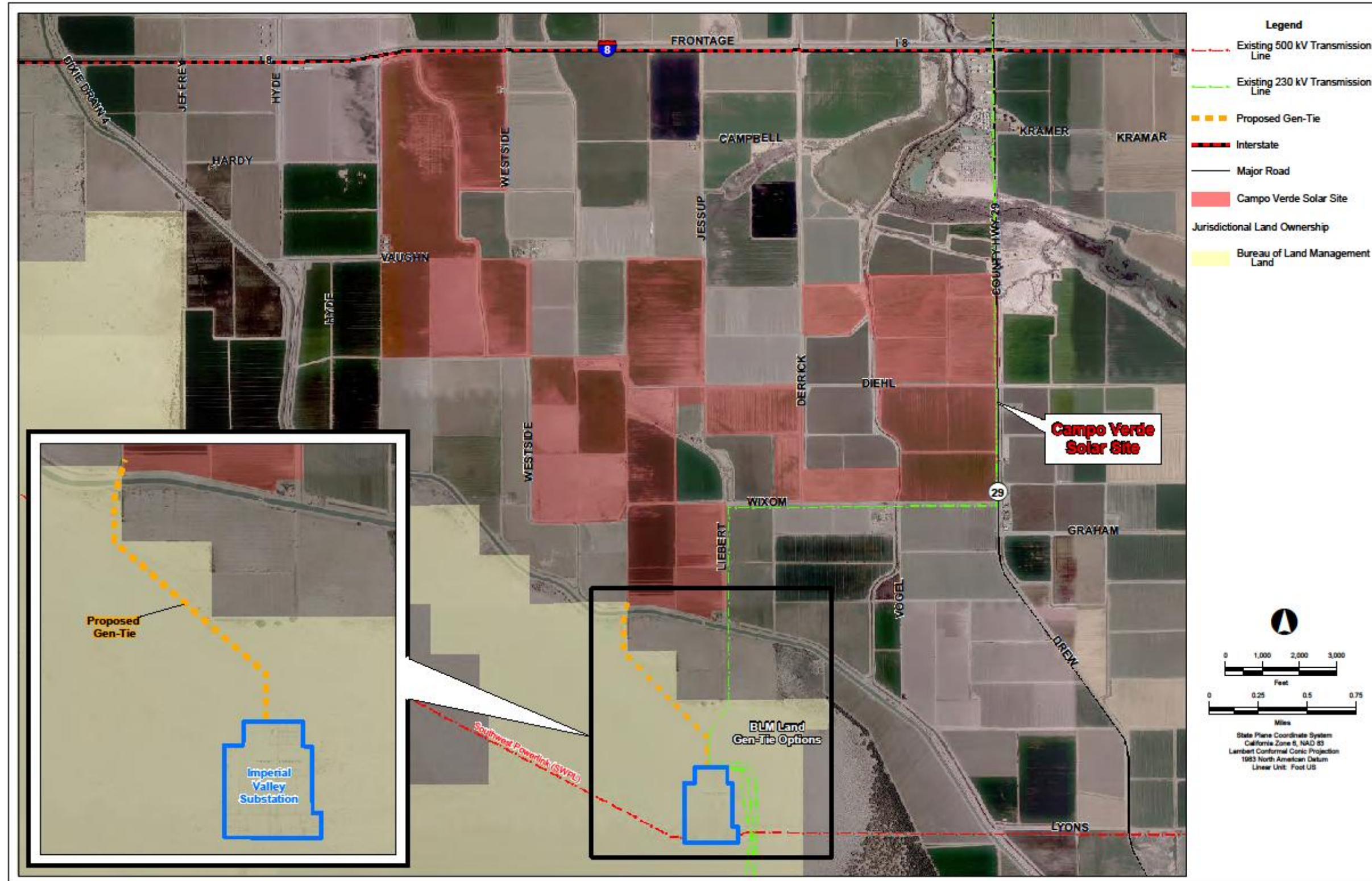
B. General Plan and Zoning Designations

The Imperial County Land Use Plan designates all of the private lands in the solar generation facility site as "Agriculture." Development of a solar generation facility would preclude agricultural crop production for the life of the project on the lands upon which it is located. However, the solar generation facility would be removed and the site returned to agricultural production at the end of the useful life of the project, expected to be up to 40 years.

Lands on which the solar generation facility is proposed are zoned A-2 - General Agriculture, A-2-R - General Agriculture, Rural Zone, and A-3 - Heavy Agriculture (refer to Figure 4.2-1 in Section 4.2, Land Use). Solar energy electrical generators, electrical power generating plants, substations, and facilities for the transmission of electrical energy are allowed as conditional uses in Agricultural zones (Land Use Ordinance, Title 9, Division 5, Sections 90508.02 and 90509.02 of the Land Use Ordinance). In keeping with the provisions of the zoning designations, the Applicant is seeking a CUP from the ICPDS.

2.0 PROJECT DESCRIPTION

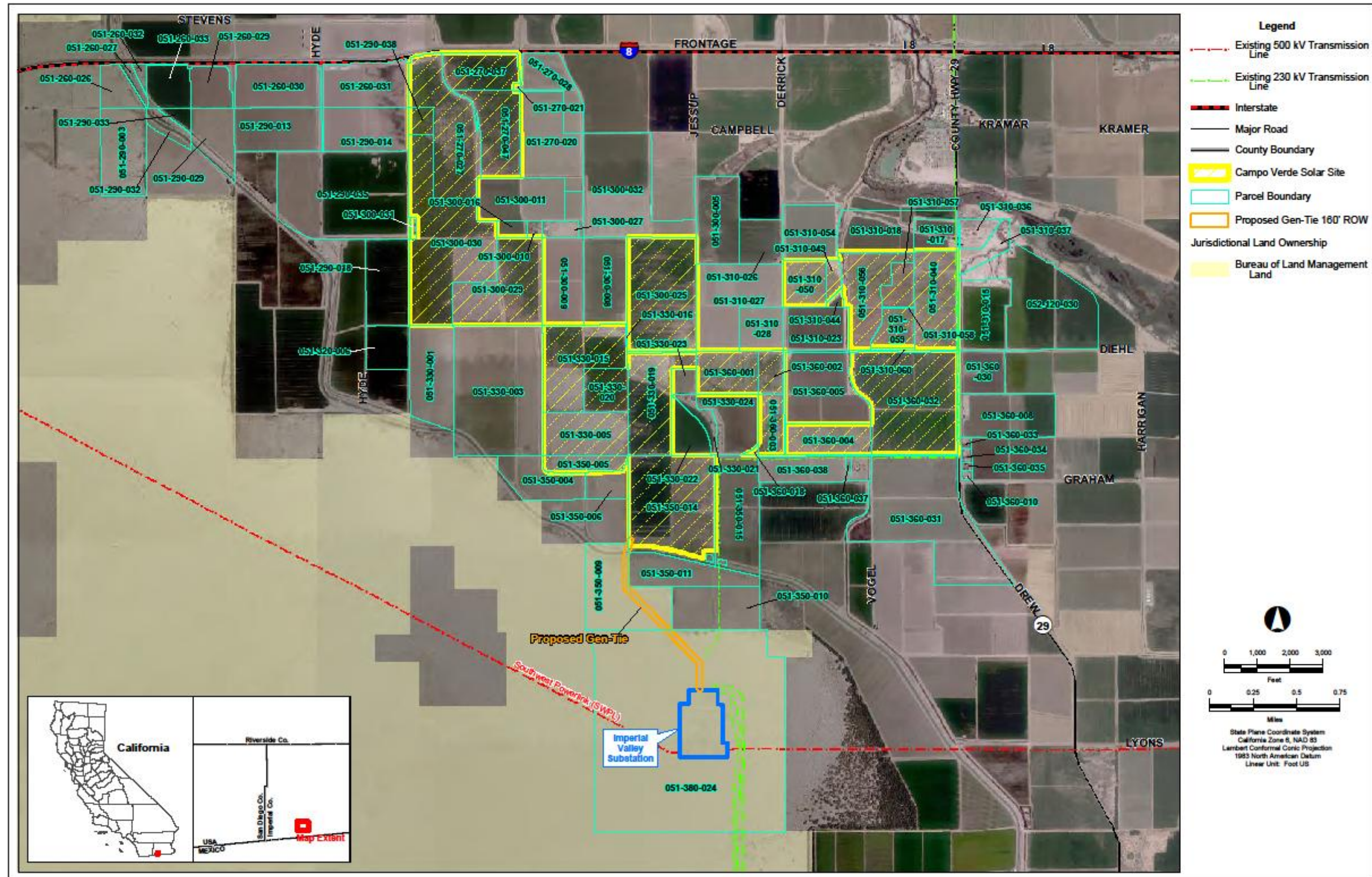
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Source: kp environmental, 2011.

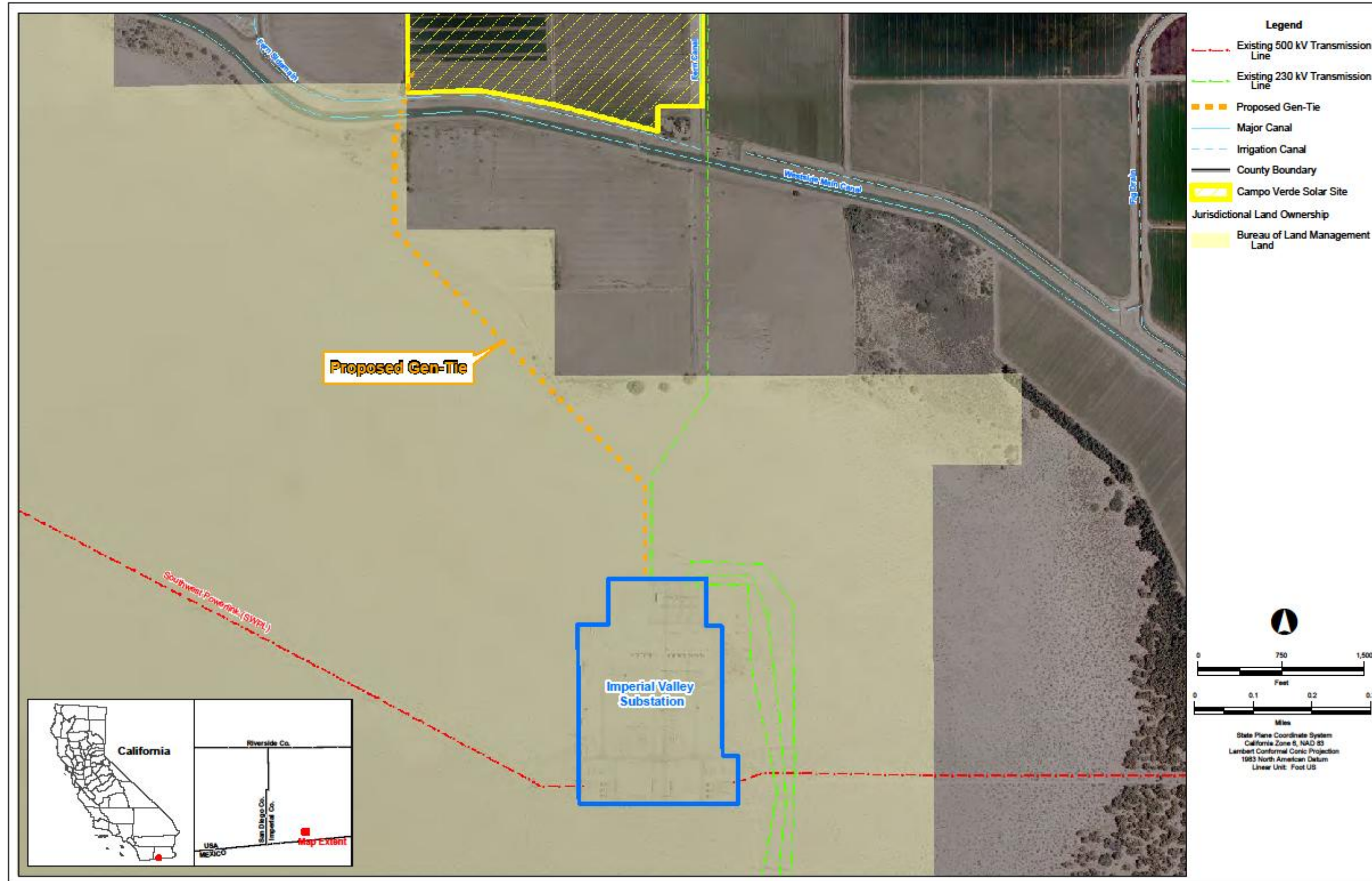
FIGURE 2.0-2
AERIAL PROJECT LOCATION MAP

2.0 PROJECT DESCRIPTION



Source: kp environmental, 2011.

**FIGURE 2.0-3
PROJECT OVERVIEW MAP**



Source: kp environmental, 2011.

FIGURE 2.0-4
 PROPOSED GEN-TIE ALIGNMENT

2.0 PROJECT DESCRIPTION

**TABLE 2.0-1
PRIVATELY OWNED PARCELS – SOLAR GENERATION FACILITY SITE**

| Assessor's Parcel Number | Acreage | Zoning |
|--------------------------|----------|------------|
| 051-270-037-000 | 57.19 | A-2-R |
| 051-270-047-000 | 81.16 | A-2-R |
| 051-290-038-000 | 13.88 | A-2-R |
| 051-270-027-000 | 120.86 | A-2-R |
| 051-300-030-000 | 221.88 | A-2-R |
| 051-300-029-000 | 119.91 | A-2-R, A-2 |
| 051-300-025-000 | 164.86 | A-2-R |
| 051-330-015-000 | 119.18 | A-2-R, A-3 |
| 051-330-020-000 | 40.0 | A-2-R |
| 051-330-005-000 | 80.0 | A-3 |
| 051-350-005-000 | 28.8 | A-3 |
| 051-330-019-000 | 101.90 | A-2-R, A-3 |
| 051-350-014-000 | 184.00 | A-3 |
| 051-360-018-000 | 1.80 | A-3 |
| 051-360-001-000 | 57.06 | A-2-R |
| 051-360-002-000 | 23.16 | A-2-R |
| 051-360-003-000 | 32.03 | A-2-R |
| 051-360-004-000 | 55.0 | A-2-R |
| 051-360-032-000 | 203.72 | A-2-R, A-2 |
| 051-310-060-000 | 0.82 | A-2-R |
| 051-310-040-000 | 92.23 | A-2 |
| 051-310-059-000 | 31.96 | A-2-R |
| 051-310-057-000 | 25.27 | A-2-R |
| 051-310-056-000 | 80.65 | A-2-R |
| 051-310-049-000 | 9.97 | A-2-R |
| 051-310-050-000 | 42.42 | A-2-R |
| 051-310-058-000 | 0.90 | A-2-R |
| | 1,990.61 | |

Source: Campo Verde Solar, LLC, 2011. Acreage values from CUP application.

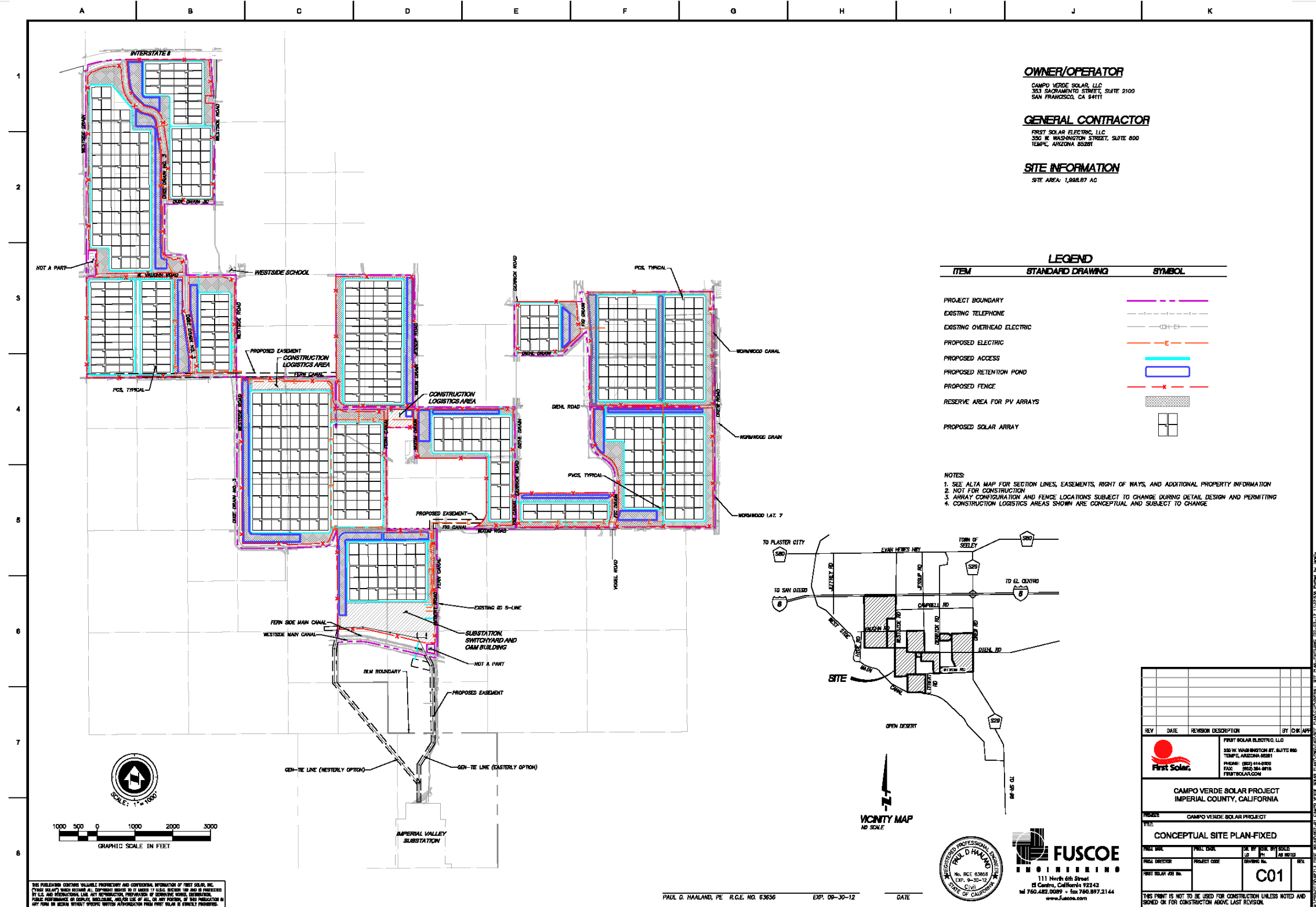
C. Solar Generation Facility Design

Site Layout

Figure 2.0-5 and Figure 2.0-6 show the current layouts of the two panel mounting configurations being considered for this project (fixed-tilt and horizontal trackers, each described in more detail below). As can be seen in these figures, solar arrays will be built within each of the parcels that make up the site to avoid impacts to the existing road, canal, and drainage network that serve this land and the surrounding area. The majority of each parcel will be covered with solar arrays that include the panels, inverters, transformers and other associated wiring and equipment. Also included within each area is an internal road network that provides access to the facilities for operations and maintenance.

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2.0 PROJECT DESCRIPTION



Source: Fuscoe Engineering, 2012

FIGURE 2.0-5
OVERALL SITE LAYOUT – FIXED TILT

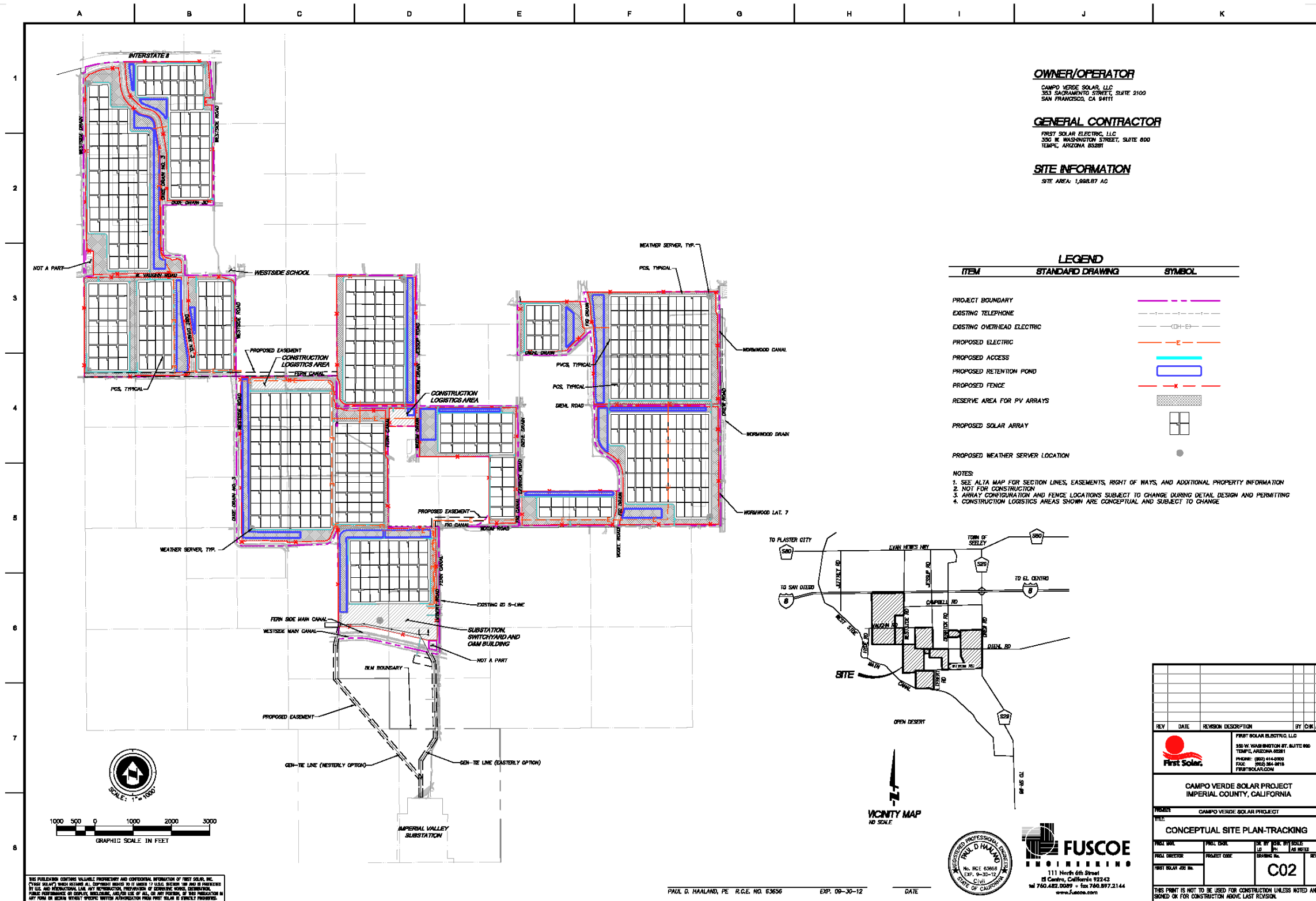


FIGURE 2.0-6
OVERALL SITE LAYOUT – HORIZONTAL TRACKER

2.0 PROJECT DESCRIPTION

At build-out, most of the solar generation facility site will be disturbed by construction activities, including areas to support the gen-tie pole structures. Temporary and permanent soil disturbance will be the same (approximately 1,990 acres) for the solar generation facility site. The design and construction of the buildings, solar arrays (PV solar panels, inverters, etc.) will be consistent with County building standards. The discussion below provides more detail on the various components of the project.

Solar Field and Generation System

The PV modules will generate power by converting sunlight directly into electricity. The major equipment in the solar field is summarized as follows:

- First Solar PV modules
- Arrays
- Fixed-tilt or horizontal (or single-axis) trackers supports
- Power Conversion Stations (PCS)
- 1,000 Volt (V) Direct Current (DC) collection system comprised of underground cabling and combiner boxes
- Medium voltage (12-kV and/or 34.5-kV) collection system
- Photovoltaic Combining Switchgear (PVCS)
- A project substation with medium voltage (12-kV and/or 34.5-kV) to high voltage (230-kV/220-kV) step-up transformer(s) and switchyard
- Meteorological stations (one at each solar array)
- O&M building with parking and other associated facilities
- Telecommunications equipment

Each of these components is described in more detail below.

PV Solar Modules

PV modules will produce all of the electricity generated by the project. PV panels are non-reflective and convert sunlight directly into DC electricity. The project will use First Solar's proprietary thin-film PV technology mounted on single-axis / horizontal tracker units or fixed-tilt supports.

First Solar began commercially producing its thin film PV technology in 2002, and since that time, the company has manufactured and sold over 5 gigawatts of modules that are in use throughout the world, including several locations in the southwestern United States. First Solar's manufacturing facilities are ISO 14001 and 9001 certified. First Solar PV modules conform to Underwriters Laboratories Inc. (UL) and International Electrotechnical Commission (IEC) test standards. First Solar does additional accelerated life-cycle testing of its PV modules to evaluate reliability and long-term performance characteristics. Based on the results of these tests and performance in the field, First Solar provides a 10-year workmanship warranty and a 25-year power output warranty. The company conducts routine monitoring of existing deployed panels to assess durability and longevity to meet its warranty obligations.

In 2005, First Solar established a pre-funded PV module collection and recycling program, through which any module may be returned to First Solar for recycling. The collection and recycling is at no cost to the end user. The anticipated recycling costs are pre-funded into a trust account that is managed by a third-party trustee. The program funds are independently managed as a trust to ensure that they will be available when they are needed, regardless of the financial status of First Solar. The PV module collection and recycling program enables all components of the modules, including the glass and the encapsulated semiconductor material to be processed into new modules or other products.

The principal materials incorporated into the PV modules include glass, steel, and various semiconductor metals. The PV modules absorb over 90 percent of the light received.

Typical Array

Arrays consist of rows of PV modules on fixed-tilt structures or single-axis / horizontal tracker structures and one Power Conversion System (PCS). The typical arrays for fixed-tilt are shown in **Figure 2.0-7**; tracker configurations are shown in **Figure 2.0-8**, respectively. As shown on these figures, the typical array would be sectioned into quadrants by two 20-foot-wide access corridors. One corridor would align north to south and the other east to west. Each array may produce 1.0 to 2.5 MWAC. Arrays are repeated to reach the full plant capacity.

The PV modules would be electrically connected by wiring harnesses extending along the bottom of each table to combiner boxes that collect power from several rows of modules. The combiner boxes would feed DC power from the modules to the PCS via underground cables.

The First Solar PV panels can be mounted on horizontal tracker supports or fixed-tilt system. The project may use one or both systems. Each of these technologies is described below.

Fixed-Tilt System

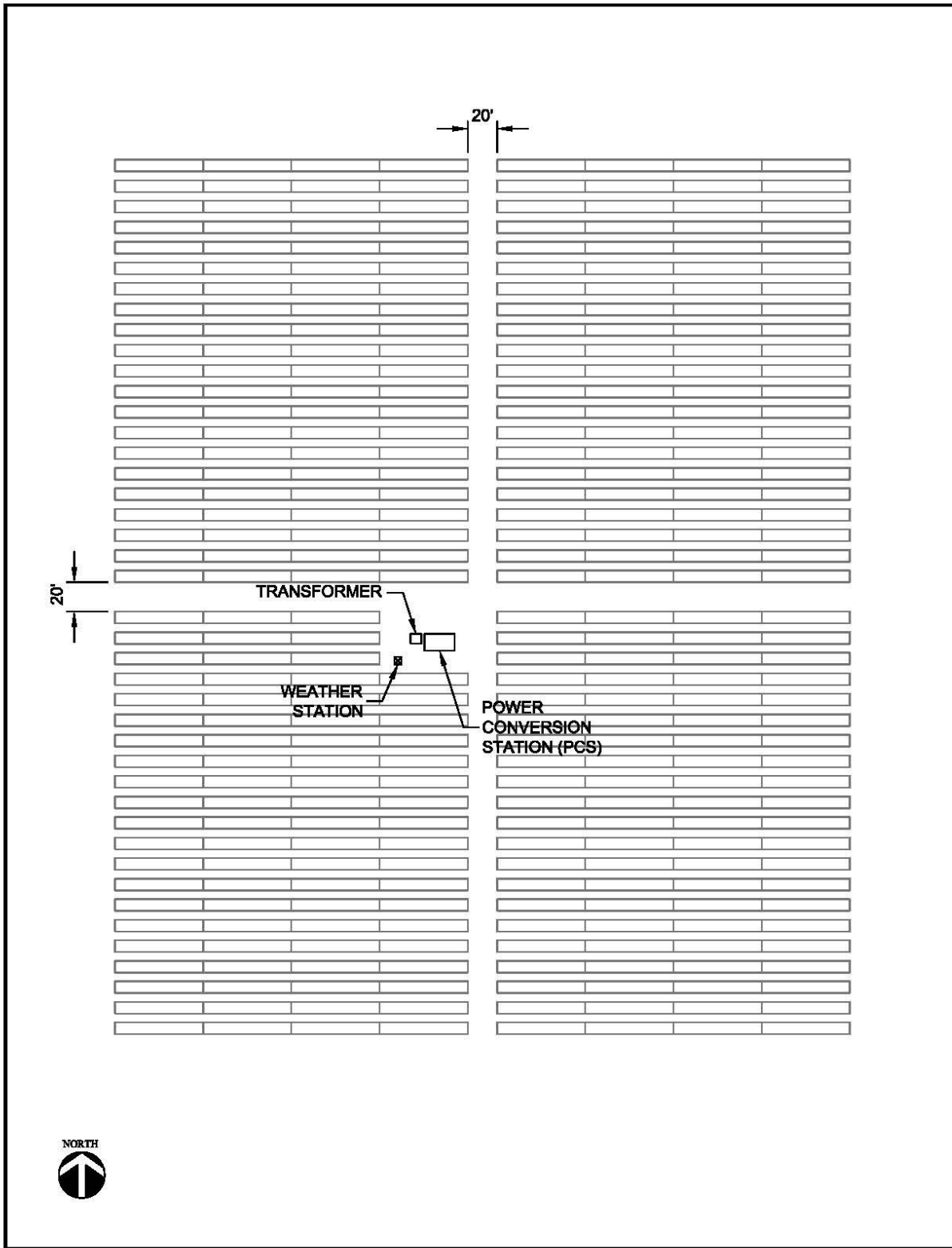
Fixed-tilt arrays would be constructed in east-west oriented rows. The modules would be positioned at a fixed angle to receive optimal solar energy. The approximate angle would be 25 degrees, which could change slightly during final design. The fixed tilt frame is supported by driven steel posts. A typical fixed tilt array layout is shown in **Figure 2.0-7**; the fixed tilt elevation is shown in **Figure 2.0-9**. The highest point of fixed tilt modules could be approximately 7 feet above the ground surface.

Horizontal (Single-Axis) Tracker Systems

Using horizontal or single-axis tracker systems, the PV modules are mounted horizontally and are not tilted to the south. The tracker units would be arranged in north-south oriented rows and drive motors would rotate the solar panels from east to west to follow the sun (on a single-axis) throughout the day. A typical horizontal tracker array layout is shown in **Figure 2.0-8**. An example horizontal tracker elevation is shown in **Figure 2.0-10**.

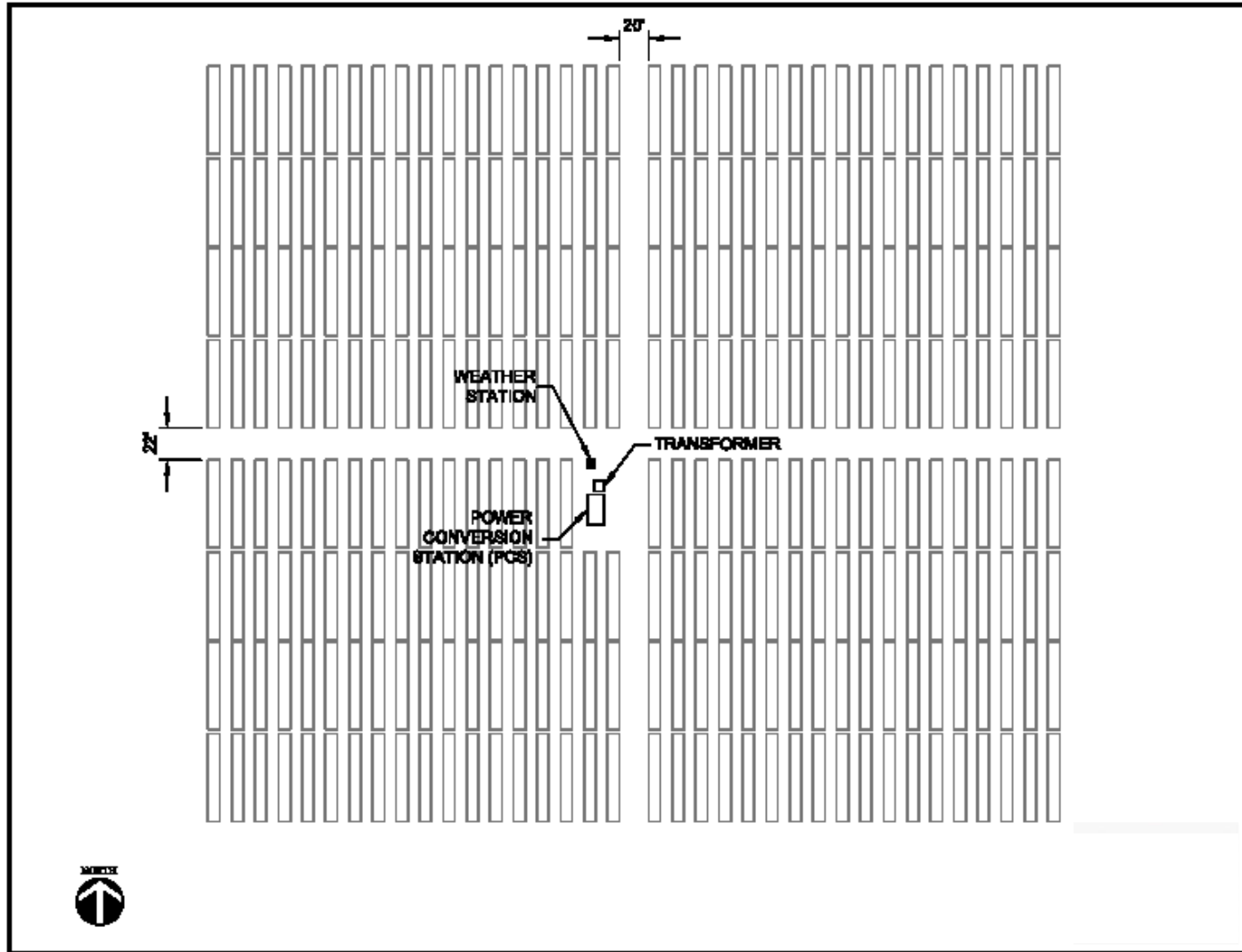
The tracker frame will be supported by driven steel posts. The highest point for a tracker is achieved during the morning and evening hours when the trackers are tilted at their maximum angle. When solar modules are roughly parallel to the ground, the overall height of the tracker is a maximum of 11 feet above the ground surface. Each tracker unit is approximately 60 feet long and powered by a low voltage, approximately 0.5 horsepower electric drive motor. The motors and actuator are mounted to one of the driven posts and do not require separate foundations for mounting. Hydraulic drive systems will not be used. The motors operate during daylight conditions to move the panels. The sound from the tracker motors is less than 65 dBA at 3 feet.

2.0 PROJECT DESCRIPTION



Source: First Solar, 2012.

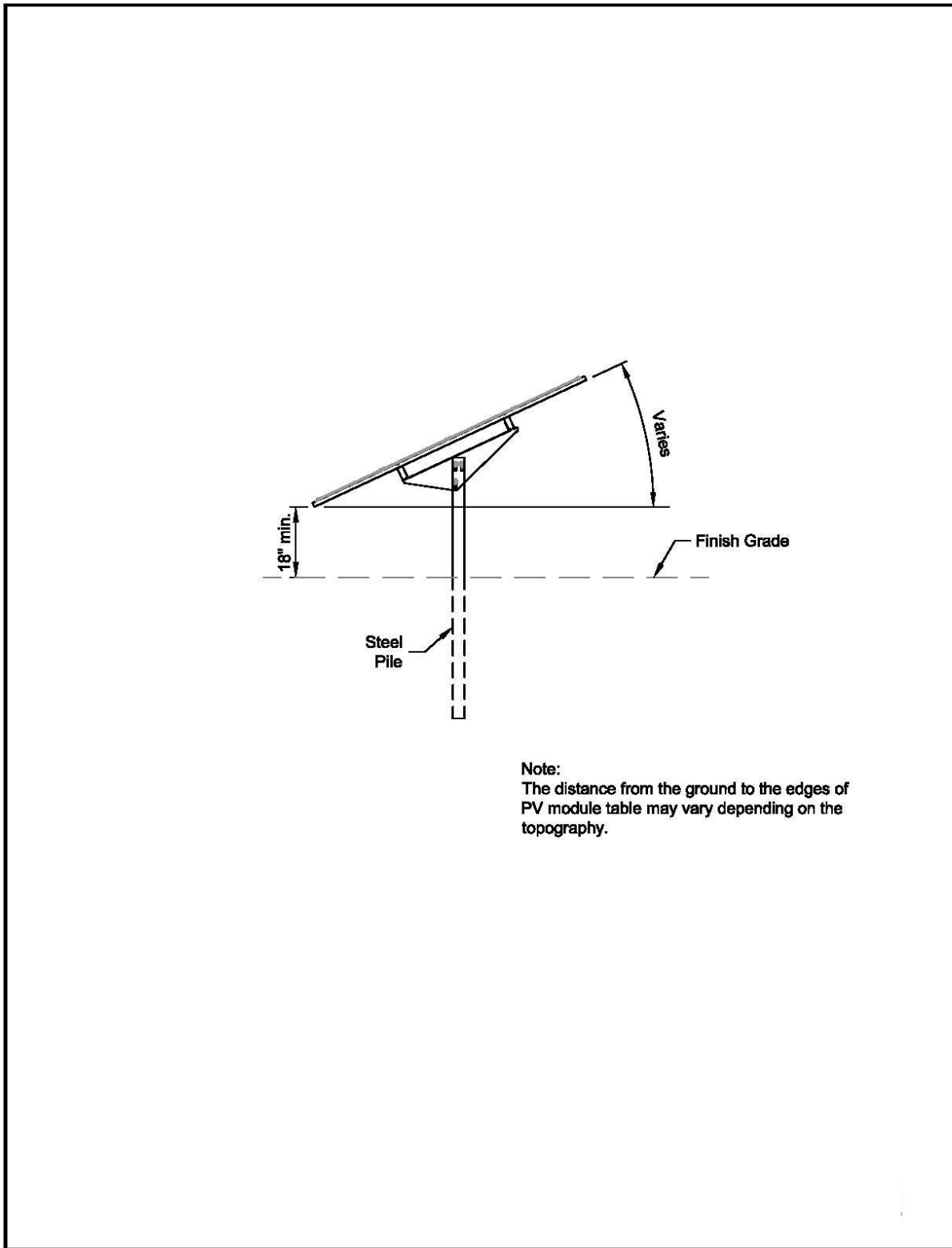
FIGURE 2.0-7
TYPICAL FIXED-TILT ARRAY



Source: kp environmental, 2012.

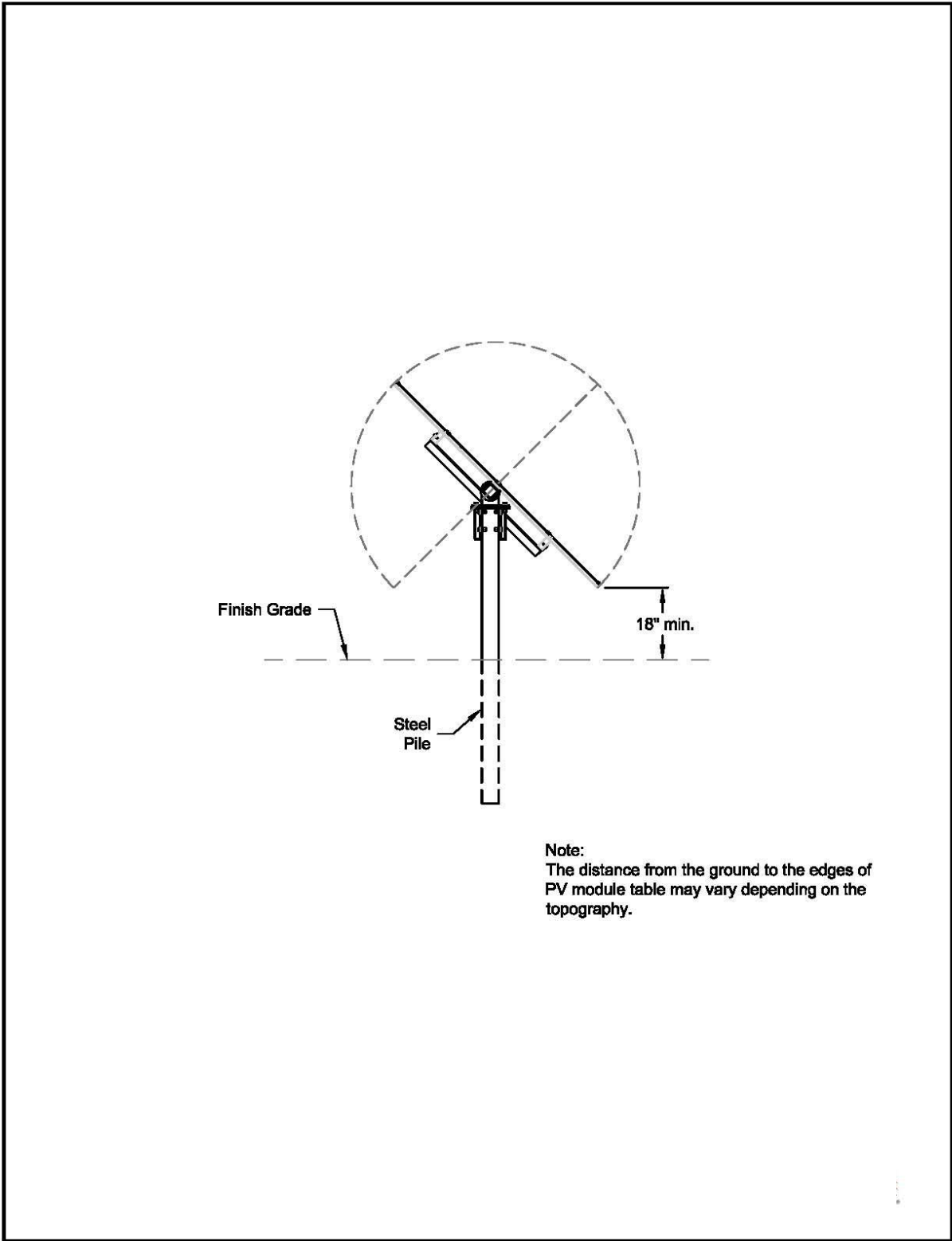
FIGURE 2.0-8
TYPICAL HORIZONTAL TRACKER ARRAY

2.0 PROJECT DESCRIPTION



Source: Campo Verde Solar, LLC, 2012.

FIGURE 2.0-9
TYPICAL DETAIL FIXED-TILT STRUCTURE



Source: Campo Verde Solar, LLC, 2012.

FIGURE 2.0-10
TYPICAL DETAIL HORIZONTAL TRACKER STRUCTURE

2.0 PROJECT DESCRIPTION

A tracker weather server may be centrally mounted in each tracker array or along perimeter of arrays to monitor wind speed and communicate with the tracker units. The weather server tower would have steel lattice construction. Each tower requires a small concrete foundation approximately 3 feet by 3 feet.

Power Conversion Stations (PCS)

The PV modules are electrically connected by wire harnesses and combiner boxes that collect power from several rows of modules via underground DC cables. These DC cables then fed to a Power Conversion Station (PCS), comprised of DC to alternating current (AC) inverters and a medium voltage transformer. In each array, one to four inverters and other electrical and communication equipment will be located in a pre-fabricated protective electrical equipment enclosure or shelter with adjacent transformer to step up to medium voltage (12.5-kV or 34.5-kV). Each array will have one PCS.

Each enclosure or shelter will be approximately 12 feet wide and 10 to 12 feet in height and will be a neutral color to blend into the surrounding environment. Each PCS will be connected to one or two transformers to support each array. The enclosure/shelter may be air-conditioned. The enclosure/shelter and transformer will be shipped to the site on skids that will be installed on precast concrete foundations. The inverter and transformer sizes will be selected based on the cost and market availability of these units. The enclosure or shelter may have an exterior light with motion sensor and a fire alarm. It may also include data acquisition and communication equipment, step-down transformers to 120 V/480 V for tracker motor, laptop or other equipment, and uninterruptible power supply (UPS) batteries. Equipment may be outside, within exterior rated cabinets, or within a structure. A representative drawing of a PCS enclosure/shelter is shown in **Figure 2.0-11**. Final design will vary based on products and manufacturer selected.

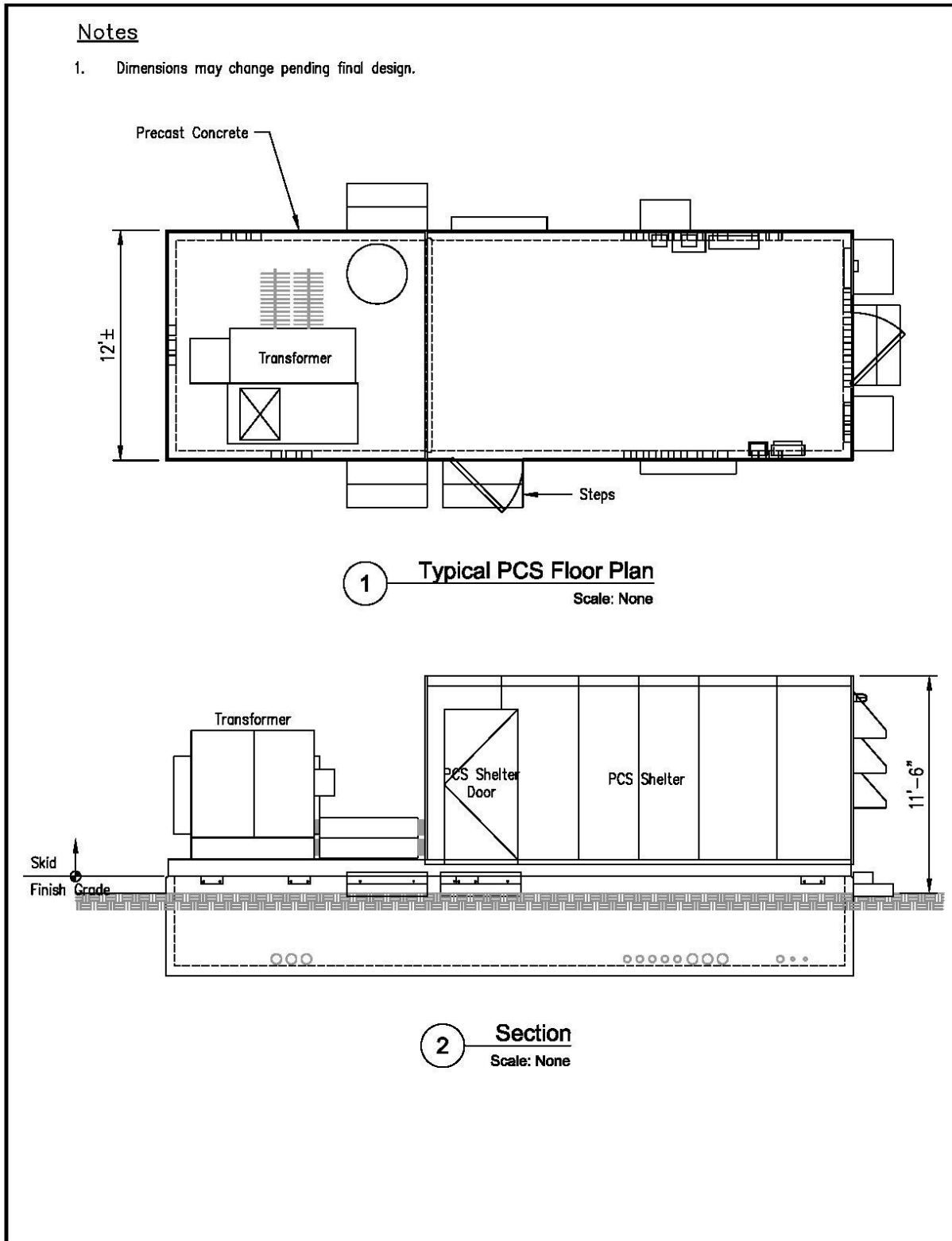
Each PCS enclosure or shelter is equipped with communication equipment to wirelessly communicate with the tracker units to control operation and detect anomalous conditions. The PCS enclosure/shelter is also equipped with emergency backup power required to rotate the tracker units if there is a loss of the primary electrical connection from the transmission system. The emergency backup power system may include batteries or a backup generator.

Electrical Collection System

The DC output of multiple rows of PV modules is collected through one or more combiner boxes, and associated electrical wiring which would deliver 1,000 volts of DC power along an underground trench (approximately 3-feet deep and 3-feet wide) to a PCS.

Each PCS will be connected by overhead and/or underground lines to Photovoltaic Combining Switchgear (PVCS). Each PVCS will collect and combine the medium voltage power and communication from multiple PCSs for transmission to the project substation. The medium-voltage collection system (12.5-kV or 34.5-kV) transmitting power and communication from each PCS to the PCVS may be buried underground and/or connected on overhead lines. The PVCS enclosures will be supported by pre-cast concrete vaults and would be located in pre-fabricated protective electrical equipment enclosures, each approximately 12 feet in height, dispersed among the arrays.

Preliminary locations of the electrical collection system are shown on the site plan. This system from PCS to PVCS and PVCS to substation would include multiple overhead and underground crossings of County right-of-way and IID facilities which will require encroachment permits.



Source: Campo Verde Solar, LLC, 2012.

FIGURE 2.0-11
TYPICAL POWER CONVERSION STRUCTURE

2.0 PROJECT DESCRIPTION

Underground crossings may include directional drilling or other construction method as approved by County or IID. The collection system may be constructed on adjacent private properties within private easements.

Substation and Switchyard

An onsite substation with medium voltage (12.5-kV or 34.5-kV) to high voltage (230-kV/220-kV) step-up transformer(s) with mineral oil, breakers, buswork, protective relaying, supervisory control and data acquisition (SCADA), and associated substation equipment is proposed on the south side of the site. **Figure 2.0-12** shows a conceptual layout of the substation / switchyard. The substation will be fenced for safety per codes. One or more structures may be outside the fence for meters and control equipment. The communication system may include above or below ground fiber optic cable or microwave tower. The project will be interconnected to the regional transmission system from this on-site substation/switchyard via the gen-tie interconnections described in subsection 2.1.5.

Operations and Maintenance Building

An Operations and Maintenance (O&M) building may contain administrative offices, parts storage, a maintenance shop, plant security systems, and plant monitoring equipment. The O&M building will likely consist of one or more single story buildings set on a concrete slab-on-grade. The maximum building height will be approximately 18 feet and up to 3,000 square feet in area. The plan will be submitted and approved by County Building Department. The building will have exterior lighting on motion sensors and will have fire and security alarms. The building would be located on a graded area with adjacent worker parking. A septic system and leach field adjacent to the building will serve the project's sanitary wastewater treatment needs. An above ground or below ground water storage tank may be installed along with a water treatment system.

Project Support Systems

The following systems control, protect, and support the project and its operation. These include a distributed control system, communications, and lighting as described below.

Control System

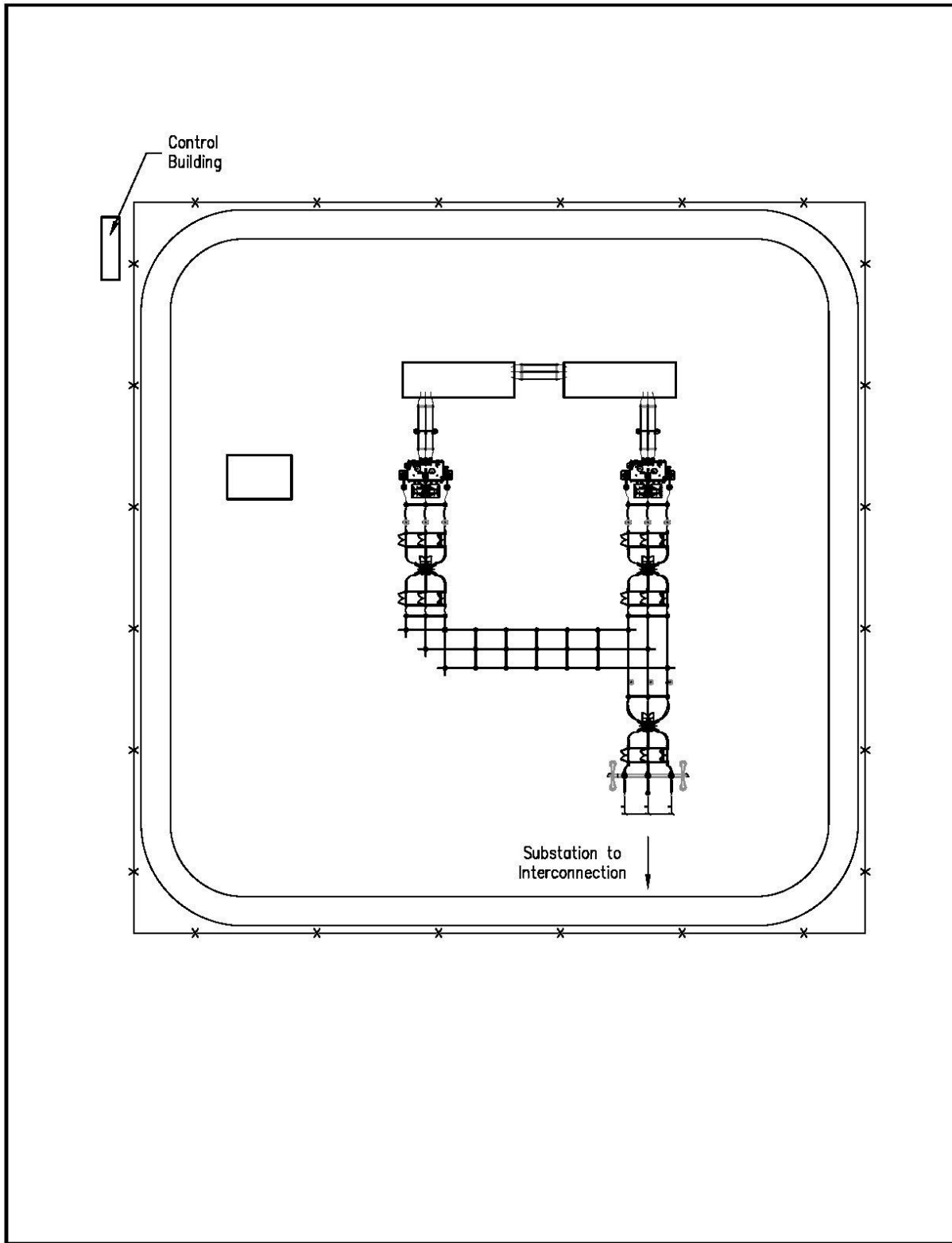
A microprocessor-based site communication center (SCC) will provide control, monitoring, alarm, and data storage functions for plant systems as well as communication with the solar field SCADA system. Redundant capability will be provided for critical components so that no single component failure will cause a facility outage. All field instruments and controls will be hard-wired to local electrical panels. Local panels will be hard-wired to the system. Wireless technology will be reviewed as a potential alternative during final project design.

Communication System

The project will use telephone and internet services that will be provided via overhead or underground lines, or via cellular system or microwave service by a local service provider. The local service provider may need to improve their system to provide necessary services. During construction, a temporary microwave dish may be installed on a 50-foot pole to provide construction logistical communications. This pole and system would be temporary and removed after construction.

Lighting System

The project's lighting system will provide operation and maintenance personnel with illumination for both normal and emergency conditions near the main entrance, parking lots, and the project substation. Lighting will be designed to provide the minimum illumination needed to achieve safety and security



Source: Campo Verde Solar, LLC, 2012.

FIGURE 2.0-12
CONCEPTUAL SUBSTATION AND SWITCHYARD

2.0 PROJECT DESCRIPTION

objectives. Lighting will be pointed downward and shielded to focus illumination on the desired areas only. Permanent lighting will be provided at the O&M building, substation, and entrances. The PCS enclosures/shelters will have exterior lights on motion sensors. If lighting at individual solar panels or other equipment is needed for night construction or maintenance, portable lighting will be used.

Electric Service

Permanent electric service may be obtained for the O&M building. Service would be provided by IID. Temporary electric service will be obtained for the main construction logistics area. Existing agricultural electric services will be terminated if not needed. Applications for temporary and permanent electric service from IID will be submitted. IID may need to improve its distribution system to provide service to the site. Generator power may also be used for construction and for commissioning. If so, the generators would comply with applicable regulations.

Security

The solar generation facility site will be surrounded with a 7-foot high chain-link security fence (approximately 6 feet high with one-foot consisting of three strands of barbed-wire on the top). The substation/switchyard will be fenced separately per safety codes. Site security may be provided with small guard stations provided at the gated access points. These stations may be manned 24-hours per day 7-days per week. Security cameras may be deployed throughout the site and monitored at the guard station and remotely by a security service at night. Hooded lights, triggered by motion sensors, may be installed at each entry gate and at each PCS enclosure/shelter.

Signage will be installed at intervals along the perimeter fence and will include language required for the trespass laws in California. Warnings will also be posted in both English and Spanish stating: "Danger, Keep Out!" and "Hazardous Voltage Inside."

Fire System

As a PV solar energy project, the Campo Verde Solar Project will pose a very low fire risk as all vegetation will be maintained and no flammable materials are proposed as part of the solar generation facility. The PCS enclosures/shelters will be constructed of either metal or concrete and are designed for outdoor use.

A Fire Management Plan will be prepared and the final site plan would be designed in accordance with Fire Department requirements for access so as not to interfere with emergency service providers' ability to access to the site. Access to all nearby properties would remain in place.

D. Construction Process for the Solar Generation Facility

Construction

The 140 MWAC+ solar generation facility will be constructed in one continuous build cycle over a period of up to 24 months. Construction is estimated to begin in mid-2012. However, the actual start of construction will be determined based on the receipt of all pre-construction permits and approvals and securing financing for the project.

The PV solar arrays will be constructed in a similar sequence within the boundaries of each parcel identified on the site plan with several parcels undergoing construction in various stages simultaneously. Generally, the construction process will include the following steps:

- Conduct required pre-construction surveys and mitigation measures

- Development of construction staging and parking areas to facilitate the arrival of workers and equipment on site
- Fencing of parcels (Erected during construction and will remain permanent feature).
- Site preparation including installation of stormwater management features, grading, and compaction
- Installation of posts for the PV racks and PCS/PVCS pads
- Development of site substation/switchyard
- Installation of gen-tie and collection system structures and wiring
- Installation of PV racks, PCS, PVCS, trenching for wiring
- Installation of PV panels and wiring
- Completion of Connections
- Commissioning and Testing
- Site Clean-up and demobilization

Temporary Construction Facilities/Staging Areas

During construction, temporary facilities will be developed on-site to facilitate the construction process. These facilities may include construction trailers, a temporary septic system or holding tank, above-ground water storage tanks, water treatment system, portable toilets, parking areas, material receiving/storage areas, water storage ponds, construction power service, recycling/waste handling areas, above-ground diesel storage tanks, communications equipment, temporary lighting, and others. These facilities are proposed to be located on Diehl Road, Derrick Road and/or Wixom Road and are preliminary designated construction logistics areas on the site plans. Additional temporary construction lay down, mobile construction trailers and smaller parking areas will be located within the solar generation facility site parcels. Due to the size of the site, the solar field lay down areas will be relocated periodically as the solar field is built out.

Construction Access

Primary access to the project site will be via I-8 to Drew Road as well as other public roads in the area. Access to components of the solar energy field will be controlled through security gates at the main entrances to each field. The preliminary location of each access point is shown on the site plans. Access points would be used during construction and operation. Secondary access would be provided if needed.

Currently, there is minimal traffic on any of the local roads bordering or in the immediate vicinity of the project. The use on these roads is associated with accessing the surrounding agricultural areas and school, and providing access to the small number of residences in the area. There are no traffic signals in the area because of the low traffic volumes.

2.0 PROJECT DESCRIPTION

Construction Workforce

The number of workers on the site is expected to vary over the construction period. The average number of construction workers on site would be expected to average up to approximately 250 each day with a peak of 500.

Typical daily construction work hours will vary seasonally. In the summer construction hours may be from 6:00 a.m. to 4:00 p.m. and in the winter months from 8:00 a.m. to 6:00 p.m. Two shifts could potentially be used when needed: from 6:00 a.m. to 6:00 p.m. and 6:00 p.m. to 6:00 a.m. Additional hours including weekends may be necessary to make up schedule deficiencies or to complete critical construction activities. Any night work would be conducted on focused areas of the site.

Construction Parking

All project related parking will be onsite during construction. Some parking may also occur on public roads between project parcels as needed.

Deliveries

Deliveries of equipment and supplies to the site would vary over the construction period but are expected to peak at approximately 50 trips daily.

Site Preparation

Site preparation will involve preparation of land areas for the installation of arrays, related infrastructure, project access driveways, temporary construction staging areas, and stormwater management improvements. The site will be prepared by using conventional grading techniques and where possible, disk and roll with micro-grading to minimize ground disturbance.

Prior to the initial construction mobilization, preconstruction surveys would be performed and then sediment and erosion controls will be installed in accordance with the approved Storm Water Pollution Prevention Plan (SWPPP). Stabilized construction entrance/exit(s) will be installed at the driveways to reduce tracking of sediment onto adjacent public roadways

All existing trees, existing dense vegetation and any existing debris will be removed from the site and disposed appropriately.

A network of private irrigation delivery ditches exists throughout the area. Some or all of these existing private concrete or earth ditches will be demolished and backfilled. Existing wooden shade structures will be removed and an existing memorial marker will be moved.

The project site and substation will be fenced with a chain-link security fence topped with three strands of barbed wire. The fencing will remain for the life of the project. Temporary fencing will be installed around the construction logistics area and will remain throughout the duration of project construction.

The construction staging areas will be set up to facilitate the site preparation and construction of the solar arrays and associated infrastructure. Preparation work will include grading for the trailers and parking areas at the main logistics area. Smaller staging areas may be set up on other blocks of land throughout the project site. Water connections will be established from IID canals for dust suppression. Elevated water tanks may be set up to facilitate filling of water trucks.

Conventional grading will be performed throughout the project site to smooth the grade changes to provide safe working conditions and meet structural tolerances. These areas include, but are not limited

to, the onsite detention basins that will be excavated, and areas where fill dirt will be placed to facilitate proper site drainage. Conventional grading will result in a balanced cut and fill and will typically include the use of larger equipment to excavate, transport, place, and re-compact soil. Earthwork scrapers, paddlewheels, haul vehicles and graders may all be used during this process. Water trucks will be used to wet the site during grading operations to keep dust levels within jurisdictional limits.

Where possible, the project will employ disk and roll grading. The intent of the disk and roll technique is not to change the macro-level topography and existing drainage patterns, but rather to contour the land consistent with the existing topography. The results of disk and roll activities yield a surface that maintains the same general slopes and general topography.

The disk and roll approach involves conventional farming equipment. With this approach, rubber-tired farming tractors towing disking equipment will disk the top inches of soil and existing vegetation. Similar to conventional grading, a water truck will remain in close proximity to the tractor to moisten the soil to minimize dust. The tractor may make several passes to fully disk the surface to meet engineering requirements for construction.

After disking, the resulting elevations will be surveyed and evaluated by an engineer. Areas where localized undulation does not meet engineering construction standards, micro-grading will be required. Micro-grading (limited conventional grading) will require GPS guided (or equivalent) grading equipment to displace the soil in high areas and then spread to fill in low areas. This may include a box scraper being pulled behind a tractor or conventional grading equipment. The micro-grading technique to be employed will not significantly change existing site drainage.

Finally, a smooth steel drum roller and/or other land-leveling equipment may be used to even the surface of the land and compact top inches of soil to a value as recommended by a geotechnical engineer for structural support. Private perimeter and PCS access roads may be additionally compacted to 90 percent or greater, as required to support emergency vehicles and construction vehicle traffic.

Additional grading and excavation requirements are described for each of the primary project components below:

- Trenching will be required for placement of underground electrical, communications, water lines and sewer/septic lines within the construction logistics area, solar fields, O&M building, and substation. Trenching activities may include the use of trenchers, backhoes, excavators, haul vehicles, compaction equipment and water trucks. Soils removed will be spread across the project site.
- Modification of existing water connections as required by IID or new connections may require trenching or excavation.
- After the site preparation, the pads for structures, equipment enclosures and equipment vaults will be prepared per geotechnical engineer recommendations. Organic matter will be removed and cut or fill will be performed to meet engineered pad elevations.
- The substation and switchyard require a relatively flat graded surface for proper operation. The substation interior will be covered with aggregate surfacing for safe operation.
- Collection and transmission structures will require drilling for foundation. Soils removed will be spread across the project or near the transmission structure.

2.0 PROJECT DESCRIPTION

- The O&M area will be graded to positively drain away from the structure. The remaining area will be graded and appropriately surfaced for parking, roads, and material storage.
- Final engineering design will strive to minimize the amount of grading and earthwork necessary to construct and operate the project.

Drainage

The property currently drains to IID drains by surface flow and underground tile drain systems. A Conceptual Drainage Report has been prepared which demonstrates the project will meet County drainage requirements. Modifications to existing IID storm water connections and installation of new connections may be required as determined by final design and IID requirements.

Air Quality & Dust Suppression

The project will adhere to the applicable rules of the Imperial County Air Pollution Control District (ICAPCD) and will develop and implement a plan to minimize fugitive dust emissions. During construction, roads and work areas will be watered and/or dust palliatives will be applied as need to suppress dust. When earth moving activities are completed in an area, all exposed soil would be coated with a permeable dust suppressant. The roadways within and around the solar field will be compacted native soil and would also be treated with a dust suppressant.

Hazardous Materials

Limited quantities of hazardous materials would be stored or used on site. These include diesel, gasoline, motor oil, hydraulic fluids, lube oils for vehicles and equipment, paint, and mineral oil for transformers. Appropriate spill containment and clean-up kits will be kept on site during construction and maintained during the operation of the project.

First Solar PV modules are not hazardous materials subject to California or Federal hazardous material management regulations. Any modules damaged or broken during construction will be returned to First Solar's manufacturing facility in Ohio for recycling consistent with California and Federal requirements.

Water

The project will use water during construction primarily to assist with compaction and for dust suppression. Drinking water will be provided in the form of bottled water or trucked in bulk by an approved provider. An on-site water treatment system may be installed to provide potable, non-drinking water for sanitary needs. Approximately 1,500 acre-feet of water is expected to be used for the solar generation facility and the gen-tie during the construction period. The source of construction water for the project will be from the Imperial Irrigation District (IID). Water will be extracted at multiple points from the IID canals and/or delivery ditches located adjacent to and throughout the site and trucked throughout the site as needed. IID may require modification of facilities to serve this project. Private deliveries may be modified and new private delivery (open channel or piped) may be added as determined in final design.

The Applicant is in discussions with IID regarding a Water Supply Agreement. There will likely be several separate or related agreements depending upon the type of water use. Several permits may be required including water draw permits; construction water encroachment permit for dust control and grading; temporary service pipe connection encroachment permit for the construction trailer water; permanent service pipe connection for O&M building; and the Water Supply Agreement. Approval of the Water Supply Agreement is a discretionary decision requiring IID to make CEQA findings.

Stormwater

Construction of the project would be covered under General Permit for Discharges of Storm Water Associated with Construction Activity (NPDES No. CAS000002) (Construction General Permit Order 2010-2014-DWQ, effective February 14, 2011). A detailed Stormwater Pollution Prevention Plan (SWPPP) will be prepared for the entire site that will identify the locations and implementation procedures for the best management practices (BMPs) required by the General Permit. The SWPPP will be developed by a Qualified SWPPP Developer (QSD) and will be implemented by Qualified SWPPP Practitioner (QSP).

Waste Disposal

During construction, typical construction wastes such as wood, concrete, and miscellaneous packaging materials as well as some broken PV modules would be generated. Construction wastes will be disposed of in accordance with local, State and federal regulations, and recycling will be used to the greatest extent possible.

Any PV modules damaged or broken during construction will be returned to First Solar's manufacturing facility in Ohio where they will be recycled into new modules or for use in other new products. At end-of-life, First Solar PV modules would be classified as California-only hazardous waste but can still be collected and recycled under First Solar's Module Collection and Recycling Program, which implements applicable California and Federal hazardous waste requirements.

Sanitation

During construction, temporary septic systems or holding tanks will be provided for the construction trailers. Portable toilets will be used throughout the construction area to provide sanitary facilities for workers on site.

E. Operations and Maintenance of Solar Generation Facility

The Campo Verde Solar Project will operate 365 days a year and would generate power during daylight hours.

Workforce

Approximately 4 to 12 full-time workers would be employed during operation of the project. These personnel would perform maintenance and security functions.

Water Treatment and Storage

The source of fire protection and operational water for the project will be IID canals located adjacent to the site. Water may be trucked in as needed. The Imperial County Fire Department has indicated that a 10,000 gallon permanent non-potable water storage tank that is dedicated for Fire Department use should be constructed near the O&M building and the temporary construction offices. The tank will be installed prior to delivery of any combustible construction materials to the site as required by the ICFD. The final O&M building specifications will be determined based on detailed design and will meet all applicable Fire Department and Code requirements.

An on-site water treatment system (e.g., a package unit), or a water storage tank for potable water deliveries may be installed to meet the project operational potable water needs. Bottled drinking water may also be delivered to the site.

2.0 PROJECT DESCRIPTION

Water truck delivery trips to the site (to clean the panels, if necessary) may occur up to once or twice a year. Deliveries of supplies or equipment to support operations and maintenance could also occur. Such trips are anticipated to result in a daily maximum of 40 or 50 trips (during washing events) and more commonly 20 trips or less during routine operation of the project.

Stormwater

Most of the solar generation facility site will be drained by sheet flow to on-site retention basins designed to retain peak runoff from storms per County-designated criteria. Each developed parcel will include a retention basin to hold stormwater flows from most storm events. In addition, the site may be designed to also have stormwater be retained under the solar panels. Local containment would be provided around the high-voltage transformers within the project substation to prevent any of the mineral oil contained within the transformers from leaving the site in the event of a leak.

Detention over the project site includes a combination of basins (typically less than 3.5 feet deep) located outside the solar arrays and in shallow ponded areas (less than 12-inches deep) under the arrays. Runoff from arrays would typically be directed to detention basins located downstream of arrays. Final limits of detention basins, 100-year ponding, and shallow ponding to satisfy County storage requirements would be determined at the time of final engineering.

Sanitation

During the operational phase of the project, the O&M building would include a septic system. The sanitary system would collect wastewater from sanitary facilities such as sinks and toilets. This waste stream would be sent to an onsite leach field. The site soils are capable of supporting septic systems. The waste water system will be designed to meet County requirements.

Water and Panel Washing

The project would use relatively small amounts of water during operation. The Applicant anticipates that rainfall would be sufficient to keep the panels clean. However, as a contingency, the Applicant is permitting for 20 acre-feet per year from the IID in the event additional panel washing is required. Water would be extracted from the IID canals located adjacent to the project and trucked in as needed. As noted above, water truck delivery trips to the site (to clean the panels, if necessary) may occur up to once or twice a year. Truck trips were accounted for in the traffic analysis to account for a worst-case scenario.

Other Maintenance Activities

Other maintenance activities that would be conducted on the site would include periodic testing of equipment, inspection and repair of project components, and maintenance of onsite roads and drainage systems.

Noise

During operation, the primary sources of noise would be the inverters and transformers distributed throughout the solar generation facility site. The inverters would be located within PCS enclosures/shelters with the transformers located adjacent to, but outside of, the enclosure/shelter. If trackers are used, sound emitted from the tracker motors is expected to be less than 65 dB(A) at 3 feet.

Vehicle traffic associated with operations and maintenance would also generate some noise onsite and on local roads.

Air Quality

Normal operations of the project would not result in any direct air emissions from the electricity production process as the PV solar panels convert sunlight directly into DC electricity. No fossil fuels are consumed in the process and no pollutants are emitted during operations. Daily air pollutant emission sources are anticipated to be limited to vehicular traffic associated with project maintenance and operation activities.

Weed and Vegetation Management

Invasive / weedy species would be controlled and any non-invasive vegetation that re-establishes on site would be maintained to a height of less than 18 inches within the solar field. Herbicides would be used to control weedy species when necessary.

Waste Management

All waste, including trash and litter, garbage, and other solid waste would be removed to a disposal facility authorized to accept such materials. Commercial garbage collection and hauling would be contracted to remove waste and recyclable materials.

Hazardous Material Handling and Storage

Limited amounts of hazardous materials would be stored or used on site. These include diesel fuel, gasoline and motor oil for vehicles and mineral oil for transformers. Appropriate spill containment and clean-up kits would be maintained during the operation of the project.

The project would generate minimal wastes during operation. Electrical generating activities would not produce hazardous or other industrial waste. Small amounts of universal waste (paper and other common wastes) and recycled batteries are expected to be stored on site during operations.

First Solar PV modules and other products used during operation of the project are not hazardous materials subject to regulation.

Abandonment of Roads

The Applicant is coordinating with the Imperial County Public Works Department regarding abandoning remnant County rights-of-ways or easements. The Applicant may seek approval for vacation of these rights-of-way from the Imperial County Board of Supervisors.

F. Decommissioning Plan

The project is expected to operate for up to 40 years. However, it is likely that project equipment and facilities site would continue to be upgraded and used to generate solar energy beyond the term of the initial PPA (20 years). Therefore, it is possible that the site would remain in solar energy production for a significant period of time assuming that all approvals needed to do so are acquired.

When the project is decommissioned, the modules would be collected and recycled under First Solar's pre-funded recycling program. The support structures, electrical equipment, and other materials/equipment would be removed and the site would be returned to agriculture.

Agricultural Reclamation Plan

At the end of the useful life of the project, the Applicant plans to remove and/or properly abandon facilities and equipment associated with the project and restore the solar generation facility site back to

2.0 PROJECT DESCRIPTION

irrigated agricultural production. The reclamation plan would include de-compaction, slight grading to restore the site grade and drainage as needed to facilitate irrigation, the re-establishment of the subsurface tile drain system, and soil amendments as needed. Restoration would also involve de-compaction over the entire site with additional work required in locations of demolished buildings, parking lots, and roads. De-compaction in these areas would be conducted by chisel-plowing, disking or similar method.

During decommissioning-related restoration efforts, noxious weed control would be conducted as necessary, consistent with County approved methods. Additional measures would be implemented, as necessary, to affect agricultural re-establishment.

2.1.5 GEN-TIE CHARACTERISTICS

A. Existing Uses and Features

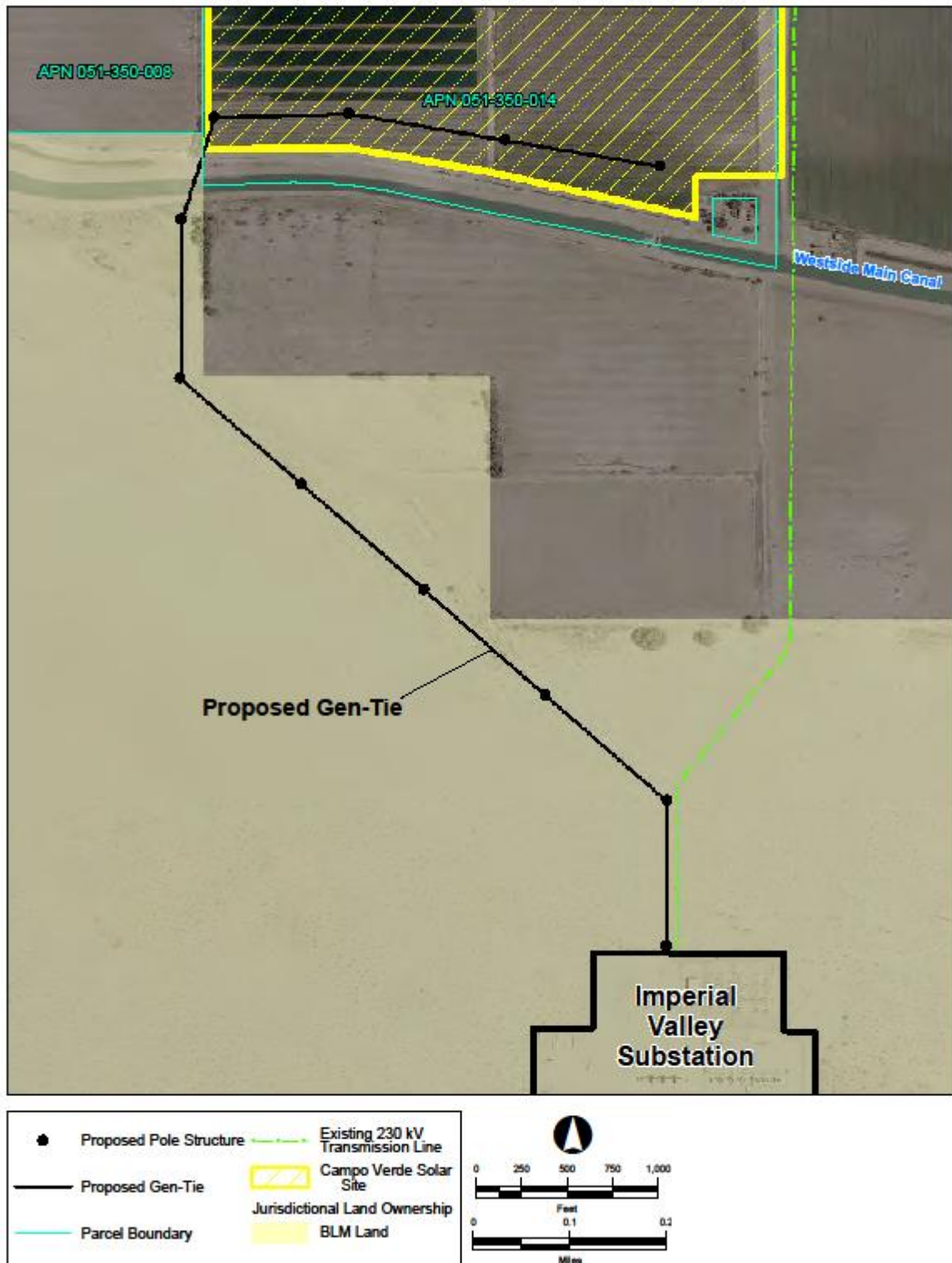
The proposed approximately 1.4 mile gen-tie would exit the southwest corner of the solar generation facility site (privately owned land), cross the Westside Main Canal, and enter BLM land (refer to **Figure 2.0-4**). The private parcel crossed by the gen-tie is agricultural land. The elevations on this parcel range from 24 to 25 feet below mean sea level. This segment of the gen-tie would extend south from the solar generation facility site and cross over the Westside Main Canal. The Applicant controls the portion of the solar generation facility site impacted by the gen-tie through a purchase agreement. The crossing of the Westside Main Canal would require approval from IID. Additional easements may be obtained from adjacent private landowners.

Table 2.0-2 identifies the one solar generation facility site parcel and the other private parcel that may be affected by the gen-tie (refer to **Figure 2.0-13**). The width of the permanent easement on private land may be 100 feet with an additional 60-foot wide temporary easement or as determined by private agreement available for construction. An easement will be needed for temporary pulling equipment

**TABLE 2.0-2
PRIVATELY OWNED PARCELS – GEN-TIE**

| Assessor's Parcel Number | Acreage | Nearest Cross Street/Intersection |
|--------------------------|--|-----------------------------------|
| APN 051-350-014 | Part of solar project site | Liebert and Mandrapa Roads |
| APN- 051-350-012 | Temporary construction or aerial easement | Liebert and Mandrapa Roads |
| APN 051-350-008 | Temporary construction easement and/or aerial easement | Liebert and Mandrapa Roads |

Source: Imperial County Zoning Maps.



Source: kp environmental, 2012.

FIGURE 2.0-13
PROPOSED GEN-TIE –AFFECTED APNS

2.0 PROJECT DESCRIPTION

In addition, the Applicant has submitted a ROW application to the BLM for the gen-tie segment extending approximately 0.9 mile south through BLM land to the Imperial Valley Substation.

The proposed permanent BLM ROW width is 160 feet. As shown in **Table 2.0-2**, the corner of one or more privately owned parcels that are not part of the solar generation facility site would require a temporary construction easement. Lands managed by the BLM through which the gen-tie would extend are generally flat, native Sonoran Desert vegetation within the Yuha Basin. There are no existing transmission facilities near this proposed alignment.

B. General Plan and Zoning Designations

The Imperial County Land Use Plan designates all of the private lands crossed by the gen-tie as "Agriculture." Agricultural crop production would not continue in areas under the gen-tie.

The one private parcel on the solar site proposed to be crossed by the gen-tie is zoned A-3. Facilities for the transmission of electrical energy are allowed as conditional uses in Agricultural zones. In keeping with the provisions of the zoning designations, the Applicant is seeking a CUP from ICPDS.

For the portion on BLM land, the gen-tie is entirely within California Desert Conservation Area (CDCA) Plan Corridor N (or Utility Corridor N) which extends north from the International Boundary (**Figure 2.0-14**). Additionally, a portion of the gen-tie on BLM land is within the West-wide Energy Corridor Segment 115-238, which is designated as a multi-modal transmission corridor (DOI/BLM, 2009). The proposed gen-tie would have approximately 8 structures on BLM land. Additional structures may be necessary in order to accommodate crossing of other planned transmission lines.

C. Gen-Tie Design

Transmission Interconnection

The project would be interconnected to the regional transmission system via a new line constructed to the Imperial Valley Substation. The proposed gen-tie would originate at the project substation/switchyard at the southern end of the project site and would cross BLM land south to the Imperial Valley Substation. The gen-tie would be designed as a double-circuit 230-kV line (to accommodate a future second line if necessary for a separate project) and parallel existing roads. The gen-tie would cross approximately 0.9 miles of BLM land.

In addition to the proposed gen-tie, an interim electrical interconnection may be implemented that would involve connecting to IID's S Line that crosses the solar project site (refer to **Figure 2.0-15**). This would only require an aerial connection looping one of the upgraded S Line circuits into the proposed on-site substation/substation. If the S Line is used, it would provide temporary interconnection to the electrical grid and would be replaced by a permanent interconnection into the Imperial Valley Substation when completed. No ground disturbance beyond what has already been evaluated in the approval of the S line upgrade on BLM- managed land and what is being evaluated as part of this project would be associated with this interconnection.

Structures

The proposed gen-tie would be designed for two 230-kV circuits with three conductors per circuit. **Figure 2.0-16** depicts a proposed tangent structure and **Figure 2.0-17** shows a dead-end structure. The gen-tie would have two shield wires: one wire could be composed of extra high strength (EHS) steel wire. Alternatively, one or both of the shield wires would include an OPGW (Optical Ground Wire) constructed of aluminum and steel core which may carry glass fibers within its core for communications.

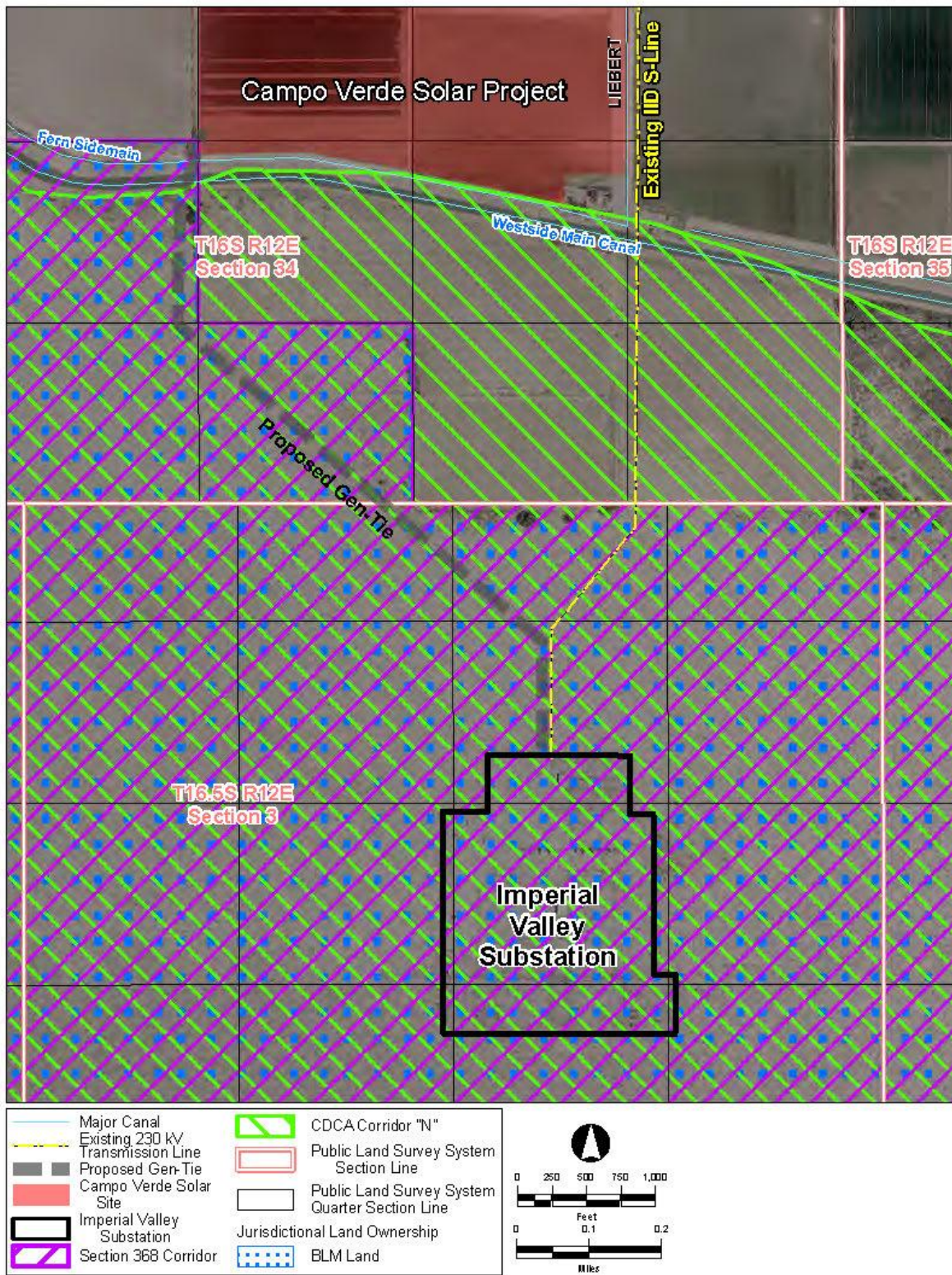
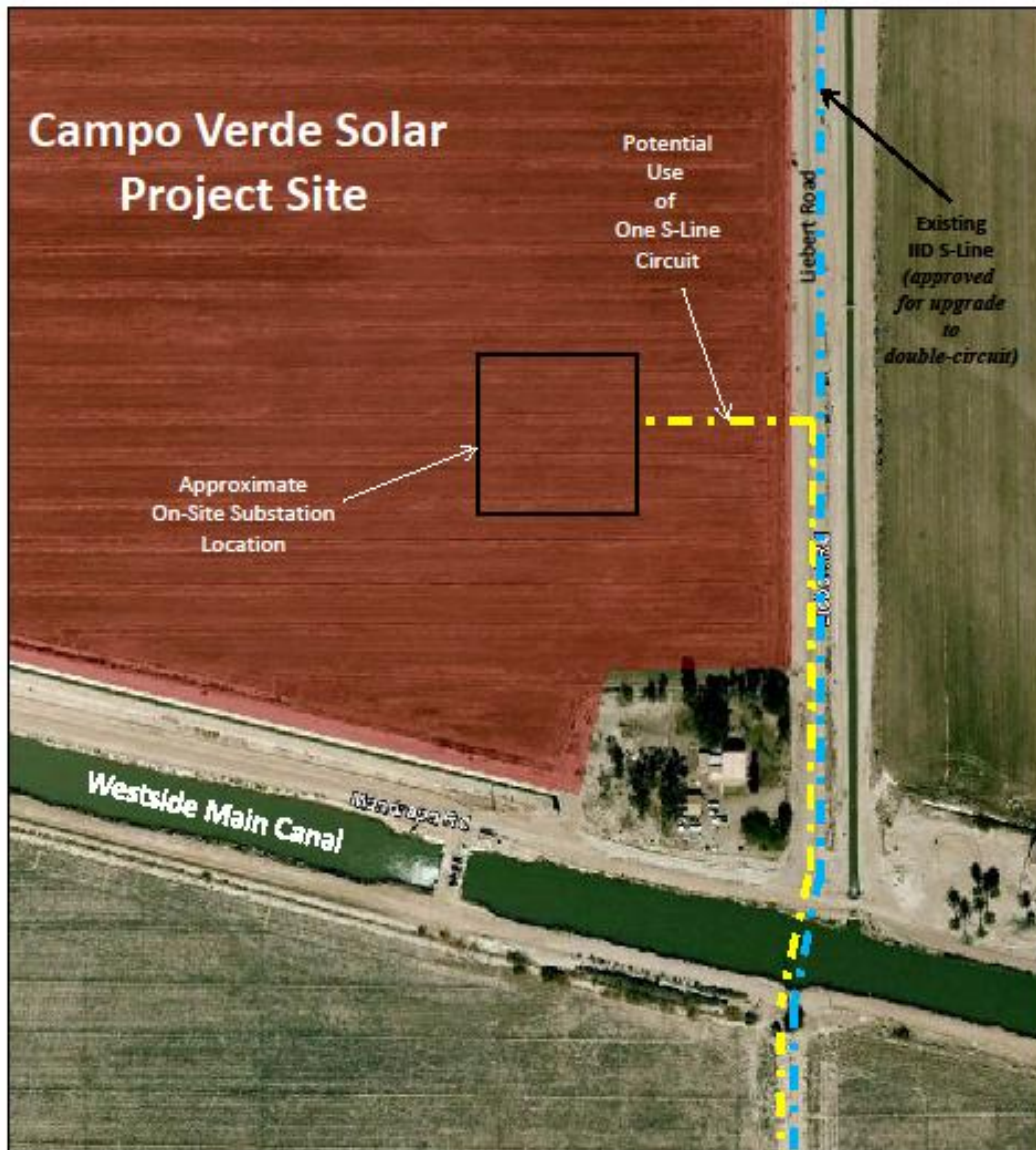


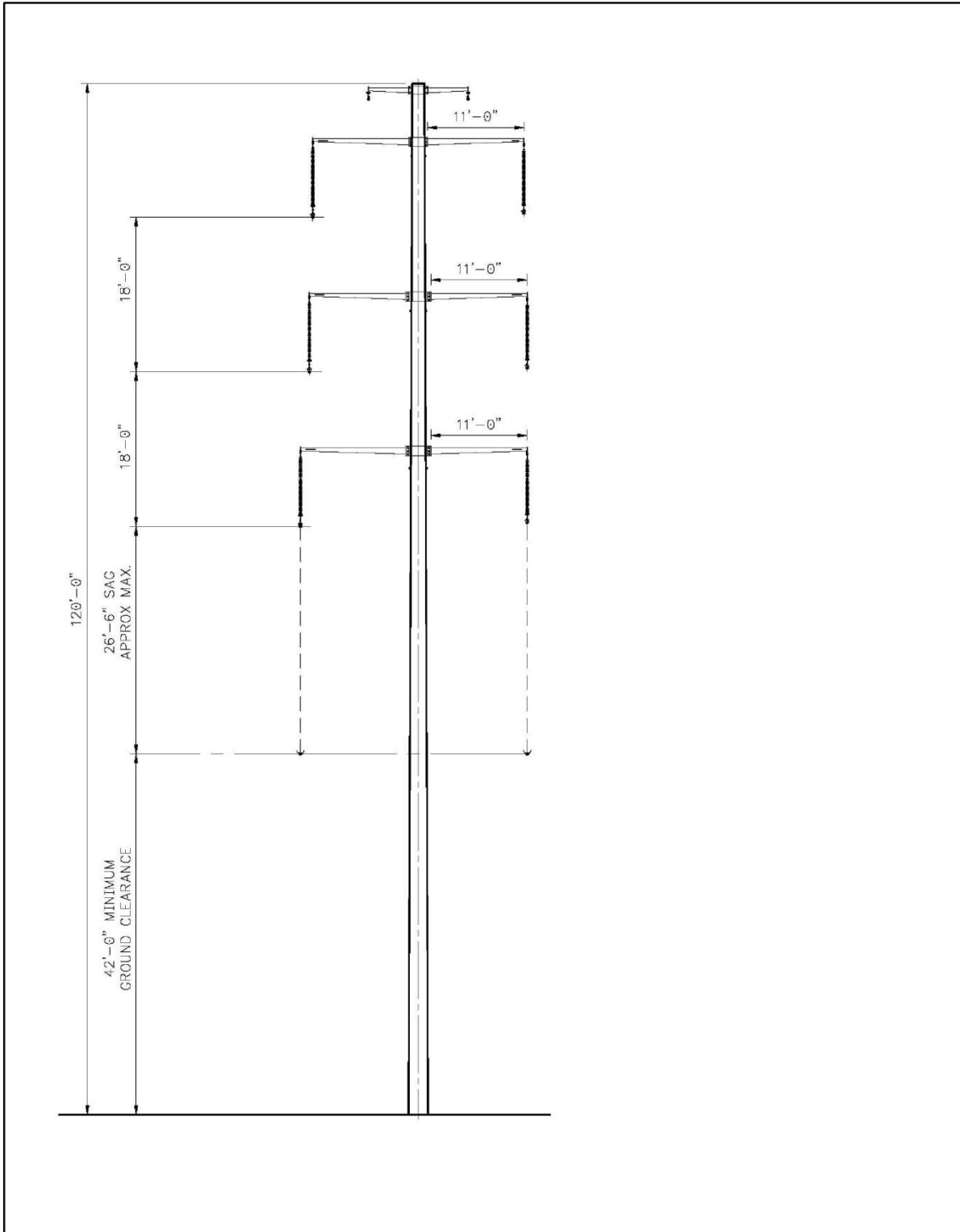
FIGURE 2.0-14
SECTION 368/CDCA CORRIDOR N

2.0 PROJECT DESCRIPTION



Source: kp environmental, 2012.

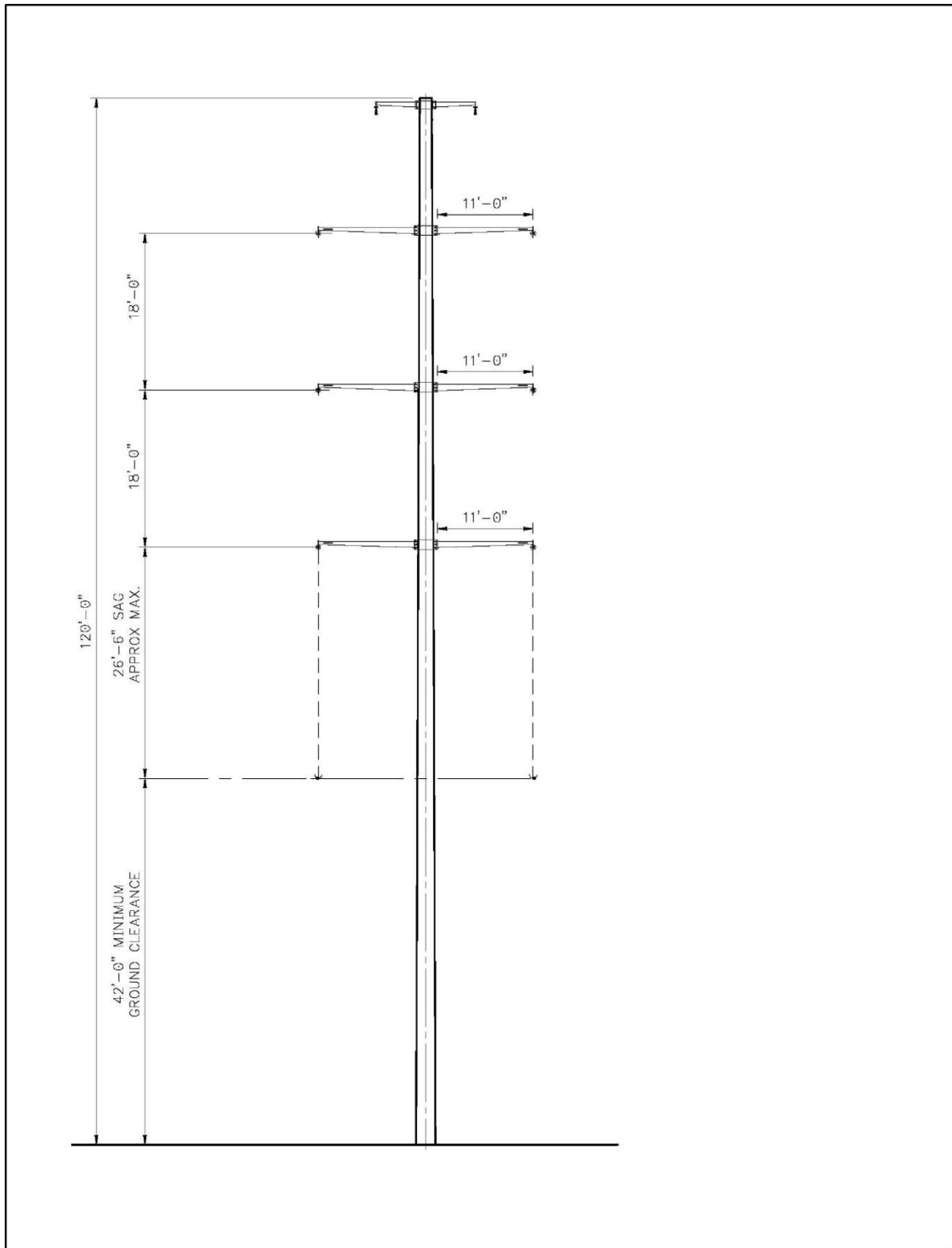
FIGURE 2.0-15
LOCATION OF POTENTIAL SHORT-TERM INTERCONNECTION TO IID S-LINE



Source: Campo Verde, LLC, 2012.

FIGURE 2.0-16
PRELIMINARY TANGENT STRUCTURE DESIGN

2.0 PROJECT DESCRIPTION



Source: Campo Verde Solar, LLC, 2012.

FIGURE 2.0-17
PRELIMINARY DEAD-END STRUCTURE DESIGN

Per SDG&E requirement, the OPGW would be installed underground from the southern structure into Imperial Valley Substation. Single steel pole structures with the span length between structures ranging from 400 to 800 feet would be used. Assemblies of insulators would be used to position and support each of the conductor bundles while maintaining electrical design clearances between the conductors and the towers.

The project would use self-supporting single steel poles made of self-weathering or galvanized steel to better blend into the surrounding environment. Structure heights would vary from approximately 100 to 130 feet depending on terrain and would not exceed 145 feet. Span lengths would range from approximately 400 to 800 feet. Each pole would be installed on drilled pier with anchor bolts or direct embedded foundations, which would be typically 15 to 45 feet deep and 6 to 15 feet in diameter. Final foundation design would be based on a site-specific geotechnical study.

D. Imperial Valley Substation Modifications

The gen-tie would terminate at the Imperial Valley Substation. SDG&E would conduct limited work within the existing fenced boundary of the Imperial Valley Substation to facilitate the interconnection of the project. SDG&E may also do minor work as needed on other existing facilities elsewhere within the system if identified by SDG&E through the interconnection study process.

Access

Access to the gen-tie during construction and operation for BLM land and private land is as follows:

BLM Land

Access to the portions of the gen-tie on BLM land would be provided during both construction and operation primarily by using existing unpaved roads via Westside Main Canal vehicular crossing pending IID approval or other existing route to BLM land. From these existing roads, rubber-tired equipment would be driven overland from the nearest existing road both during construction and operation to access each structure location. No new roads are proposed to be constructed on BLM land. The construction contractor selected to build this project would be required to submit a specific Access Plan to BLM. The Plan would address use of the existing road network to transport workers, materials, and heavy equipment to the staging areas and to each structure location.

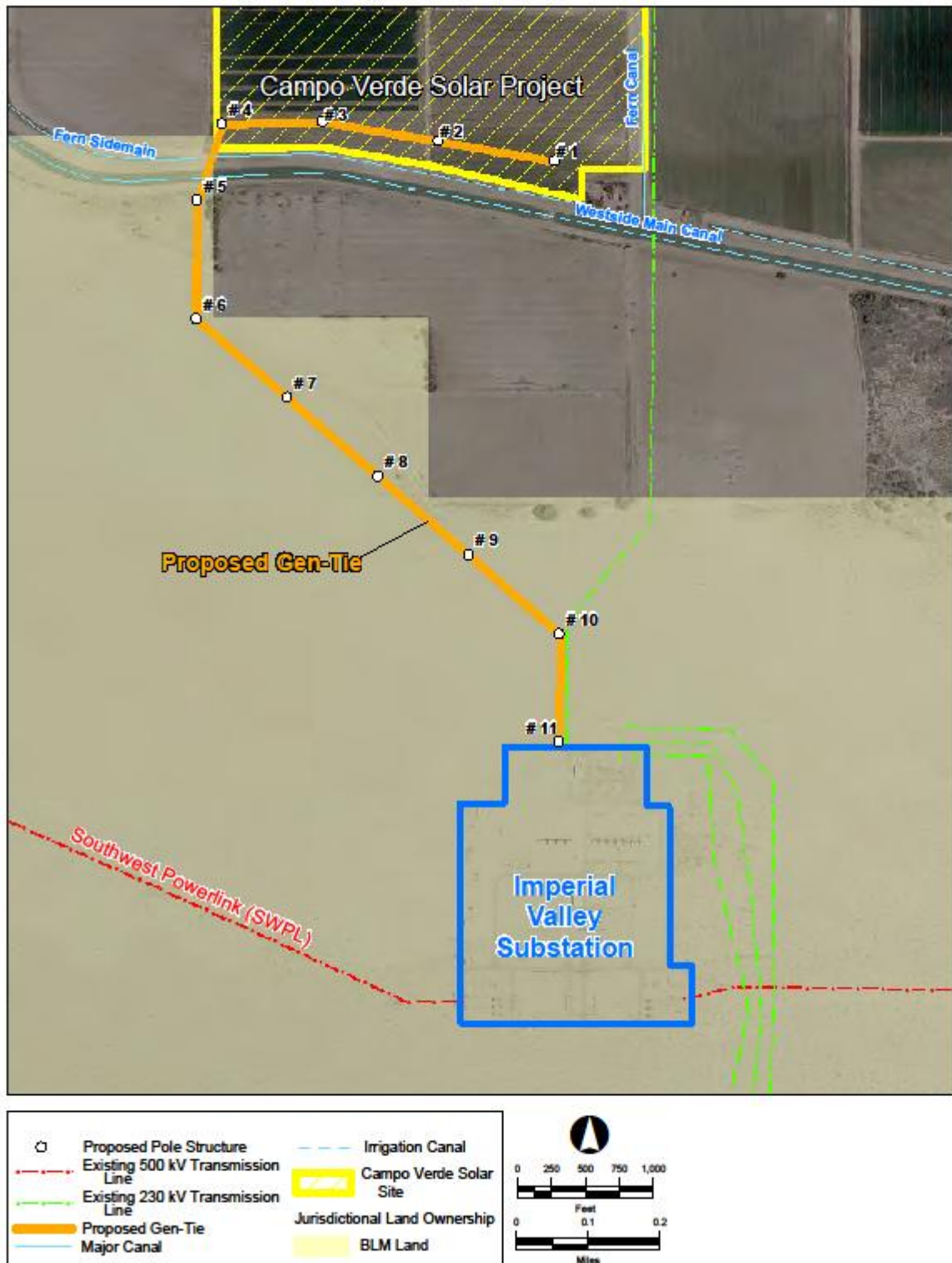
Private Land

The portions of the proposed gen-tie on private land are within project boundary and will be within the area of disturbance described below. Access to the portions of the gen-tie line on BLM-managed land and on private land would be provided during both construction and operation by using existing unpaved roads on the parcels being crossed, if possible. The existing Westside Main Canal vehicular crossing near Liebert Road may be modified to provide safe construction transport. This also may include extending piping of the Fern Side Main Canal. Temporary construction area may be on existing private agricultural land south of Westside Main Canal per private easement.

E. Disturbance Area

A 100-foot by 150-foot (15,000 square foot) area around each structure on BLM land would be cleared of obstructions to ensure safety for construction. These areas would be temporarily disturbed during construction. The permanent disturbance area associated with each structure is estimated to be approximately a 20-foot diameter (approximately 300 square foot) area. Additional area may be cleared on private land. The tentative locations of structure sites are shown in **Figure 2.0-18**. Final structure

2.0 PROJECT DESCRIPTION



Source: kp environmental, 2012.

FIGURE 2.0-18
PROPOSED GEN-TIE STRUCTURE LOCATIONS

locations would be determined by topography, environmental constraints, and best engineering practice.

In addition, temporary disturbance would occur at pull sites where equipment would pull the conductor into place after the structures are constructed. Each pull site on BLM land would be approximately 100 feet by 400 feet (or approximately 40,000 square feet). Additional pull sites will be within the project site and on adjacent parcels in private easements.

F. Construction Process for Gen-Tie

As shown in **Table 2.0-3**, construction of the gen-tie on BLM land would result in approximately 7.40 acres of temporary ground disturbance and approximately 0.05 acres of permanent ground disturbance. Surface disturbances on BLM land during construction of the gen-tie would be limited to the areas shown in **Figures 2.0-19A, 2.0-19B and 2.0-19C**.

Construction Access

Access to the structure sites for construction of the transmission line would be provided via overland travel from the closest existing road to each location. No new access roads or access spur roads are planned to be constructed.

**TABLE 2.0-3
GEN-TIE DISTURBANCE ACREAGE DETAILS (BLM LAND)**

| Structure/Feature | Proposed Project | |
|--|------------------|-------------|
| | Temp | Perm |
| Tower Structures (8) | 2.75 | 0.05 |
| Construction Areas (4) | 4.65 | 0 |
| Grand Total | 7.40 | 0.05 |
| Grand Total Plus 5% Contingency | 7.77 | 0.05 |

Source: Campo Verde Solar, LLC, 2012.

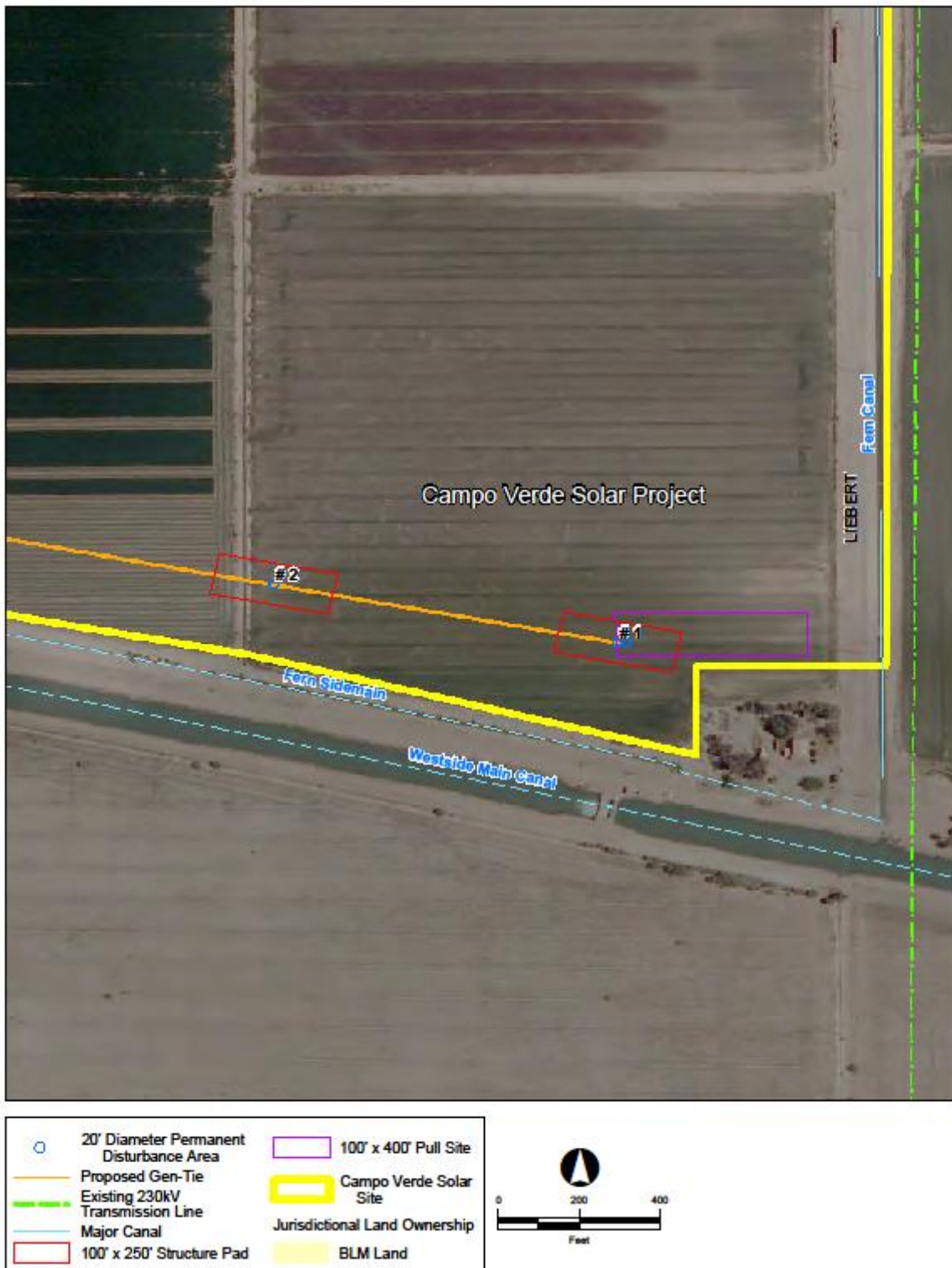
Staging Areas

Staging areas and equipment storage areas would be needed for storing materials, construction equipment, and vehicles during construction of the line. Any needed staging areas/construction material storage areas needed for the gen-tie would be located on the solar generation facility site and/or on adjacent private land with private temporary construction easement.

Vegetation Clearing

A temporary workspace approximately 100-foot by 150-foot on BLM lands would be cleared of any obstructions (such as large rocks and large vegetation) that could create safety risks for construction. Vegetation in this temporary work area would be disturbed, but the area would not be completely graded. Because of the flat topography of the site, grading for the construction pads is not expected to be needed at most structure locations and would only be done when needed to create safe work areas.

2.0 PROJECT DESCRIPTION



Source: kp environmental, 2012.

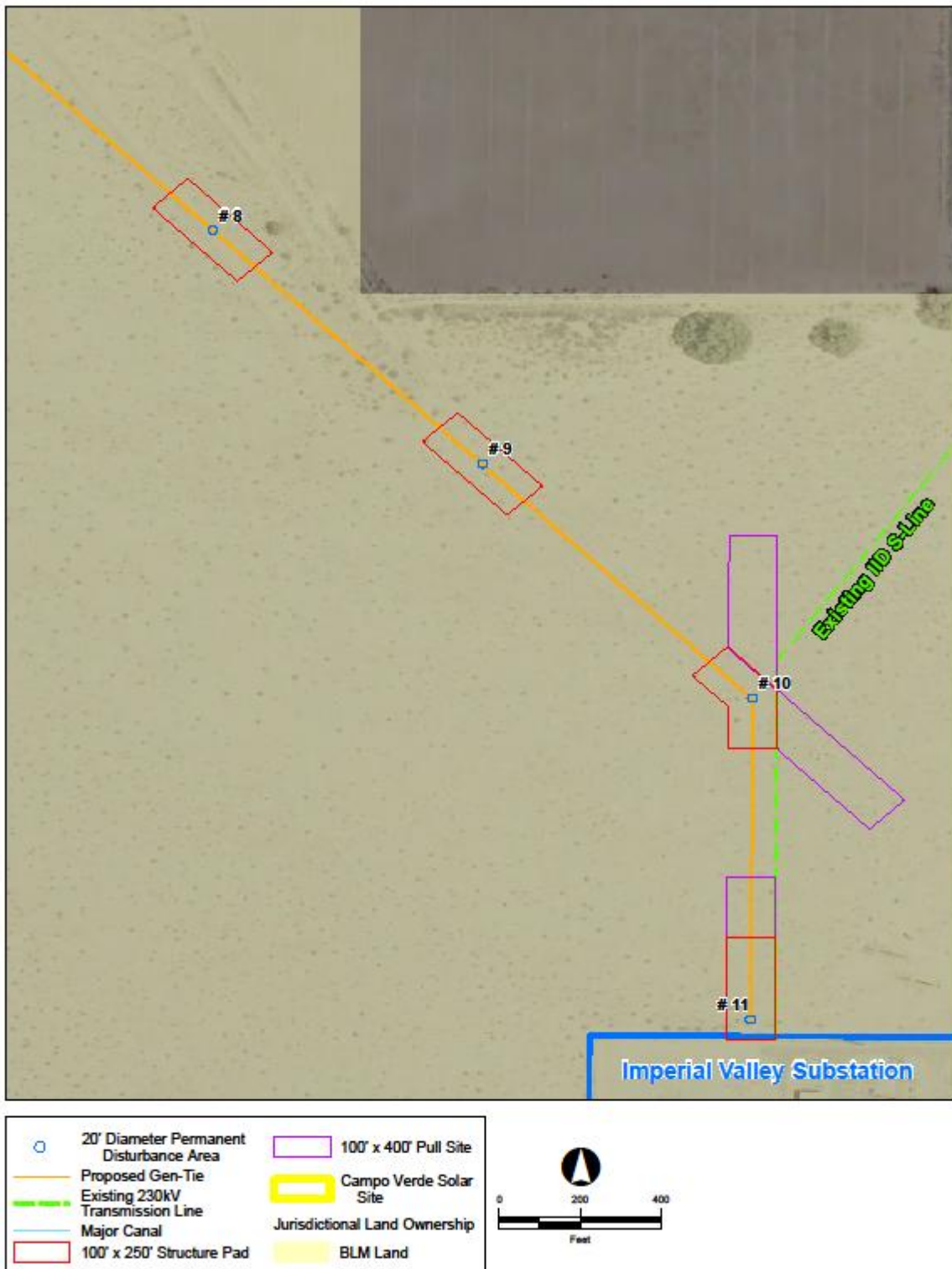
FIGURE 2.0-19A
PROPOSED GEN-TIE PERMANENT AND TEMPORARY DISTURBANCE AREAS
POLES 1 & 2



Source: kp environmental, 2012.

FIGURE 2.0-19B
PROPOSED GEN-TIE PERMANENT AND TEMPORARY DISTURBANCE AREAS
POLES 3 - 7

2.0 PROJECT DESCRIPTION



Source: kp environmental, 2012.

FIGURE 2.0-19C
PROPOSED GEN-TIE PERMANENT AND TEMPORARY DISTURBANCE AREAS
POLES 8 - 11

Excavations

Foundation excavations would be made using mechanized equipment, with each structure site requiring one 6 to 15 foot diameter hole drilled and excavated from 15 to 45 feet deep. This would generate between 400 and 8,000 cubic feet of material that would be distributed on BLM land, or hauled offsite at the direction of the landowner or BLM. A site grading permit is required for the earthmoving activities associated with the project. The site earthmoving activity that is proposed does not require a stockpile permit. Material may be spread on project property. Excavations would be made with power drilling equipment using a vehicle-mounted power auger or backhoe. Dewatering could be needed at some locations.

Foundations would be installed by placing reinforced steel and transmission structure steel components into each foundation hole, positioning the steel components, and encasing them in concrete. The foundation excavation and installation activities would require access to the site by a power auger or drill, a crane, material trucks, and concrete trucks.

Foundation holes left open or unguarded temporarily would be covered to protect public and wildlife. If excess soil needed to be moved from one of the sites (instead of distributed locally), it would be transported by trucks present at the gen-tie pole structure sites and taken to the nearby construction staging area. From a staging area, the soil could be used on the solar generation facility site

Construction Workforce

Construction of the gen-tie is expected to require 20 to 30 people for the duration of the construction period which could last up to 24 months. These workers are included in the estimate for the overall project.

Water Use

Water would be used during construction for dust suppression and for mixing the concrete for the foundations. The amount of water needed for these purposes is accounted for in the estimate of construction water use for the entire project, which is 1,500 acre-feet.

Assembling and Erecting Structures with Temporary and Permanent Pad Sites

Structural steel components and associated hardware would be delivered to each structure site where they would be fastened together to form a complete structure and hoisted into place by a crane.

Stringing Conductors and Ground Wires

After the structures are erected, insulators, hardware, and stringing sheaves would be delivered to each structure site. The structures would be rigged with insulator strings and stringing sheaves at each ground wire and conductor position.

Pilot lines would be pulled (strung) from structure to structure and threaded through the stringing sheaves at each structure. Following pilot lines, a larger diameter, stronger line would be attached to conductors to pull them onto structures. This process would be repeated until the ground wire or conductor is pulled through all sheaves.

The shield wire (and/or optical ground wire [OPGW]) and conductors would be strung using powered pulling equipment at one end and powered braking or equipment tensioning at the other end of each conductor stringing segment. Sites for tensioning equipment and pulling equipment would be planned at each turning structure. Up to four pull sites are expected to be needed.

2.0 PROJECT DESCRIPTION

Each tensioning site would be approximately 100 feet by 400 feet (approximately 40,000 square feet). Tensioners, line trucks, wire trailers, and tractors needed for stringing and anchoring the ground wire or conductor would be necessary at each tensioning site. The pulling site would require approximately half the area of the tension site. At each pulling site, a puller, line trucks, and tractors would be used to pull and anchor the lines in place. There will be no blading at pull sites because the terrain is sufficiently level. Final pull site locations would be determined during final design.

Cleanup and Restoration of Temporarily Disturbed Areas

Construction sites would be kept in an orderly condition throughout the construction period by using approved enclosed refuse containers. Refuse and trash would be removed from the sites and disposed of in an approved manner. No open burning of construction trash would occur.

Restoration activities would be conducted on temporarily disturbed construction areas including structure pad location, and stringing/tensioning sites. The following prescriptions would be implemented after final construction activities have been completed.

- To the maximum extent possible, all shrubs and cacti within non-graded impact areas on BLM land would be identified and flagged prior to initiation of construction for protection against trampling or removal. In all other areas, larger vegetation would be avoided by overland travel.
- No mulch would be applied in order to eliminate any barriers to seed deposition from wind dispersal and possible introduction of alien and noxious plant species.
- Suitable cacti and shrubs in areas that would be graded or significantly disturbed would be salvaged and replanted at the end of construction.
- Following construction, disturbed areas would be restored to the original pre-construction topographic contours.
- Hydrologic features and/or banks will not be disturbed.
- New seed would be broadcast or planted as directed by the BLM or landowner.
- If vegetation has been cleared from a construction area, it would be re-spread within the reclaimed area to increase soil moisture and provide a catchment for wind dispersed seeds.
- If vegetation is unsalvageable, it will be removed based on approved BLM methods.

The prevention of weedy and exotic species invasion would be addressed throughout the construction process. All heavy equipment used during construction will be washed prior to entering the work area. This will ensure that weed seed from a different region is not transported into the ROW. Monitoring will be conducted post-construction to control weeds and ensure the re-establishment of native species useful to the flat-tailed horned lizard (FTHL).

G. Construction Schedule for the Gen-Tie

The gen-tie would be constructed during the same timeframe as the solar generation facility to allow connection of the arrays when completed. The total timeframe expected for construction of the gen-tie component of the proposed project is 2 to 6 months.

H. Operations and Maintenance of Gen-Tie

The design of the Gen-Tie line would minimize operation and maintenance requirements. Typical operation and maintenance tasks will include periodic inspections of the equipment and access roads, with repairs made as necessary. Removing natural vegetation is not expected but could be required to maintain clearances for electrical safety, long-term maintenance, and reliability of the line. As necessary, vegetation would be selectively removed under or near the conductors within or adjacent to the right-of-way to provide adequate electrical clearance as required by regulations. Any trees that have the potential to encroach within safe distance to the conductor as a result of bending, growing, swinging, or falling toward the conductor, will be removed. Selective clearing of vegetation benefits public safety by minimizing the potential for contact between vegetation and high-voltage electrical current, which could start fires or otherwise endanger human health.

Noise

The only substantial source of noise during operation of the gen-tie would be from the vehicles occasionally used to access the line for operations and maintenance. In addition, some audible noise would be generated from the line due to the Corona Affect – a hissing or crackling sound caused by the ionization of the air resulting from the high electrical fields near the surface of the conductor. The relatively low level of noise associated with this phenomenon is discussed in more detail in Section 4.8, Noise.

Fire

All applicable fire laws and regulations will be observed during the gen-tie operation and maintenance period. All personnel would be advised of their responsibilities under the applicable fire laws and regulations, including taking practical measures to report and suppress fires.

BLM fire safety standards will be followed on BLM lands. Requirements for fire tool availability, spark arresters/mufflers on equipment, and communication during extreme fire conditions will be coordinated with BLM representatives. When extreme fire conditions occur, BLM representatives will be contacted for direction.

Air Quality

Operations of the gen-tie would result in no air emissions. Emissions from vehicles and power equipment would occur during infrequent inspection and maintenance activities that could occur up to once a year.

Weed and Vegetation Management

Vegetation management during operation is expected to be limited. Work areas will be maintained adjacent to transmission structures for vehicle and equipment access necessary for operations, maintenance and repair.

The project will prepare and implement a comprehensive, adaptive Weed Control Plan for pre-construction and long-term invasive weed abatement on BLM land. The Weed Control Plan would include specific weed abatement methods, practices and treatment timing developed in consultation with the Imperial County Farm Bureau and the California Invasive Plant Council (Cal-IPC). On the ROW easement lands administered by the BLM, the Weed Control Plan would incorporate and comply with all appropriate agency-stipulated regulations and policies. The Weed Control Plan would be submitted to the BLM for final authorization of weed control methods, practices, and timing prior to implementation.

2.0 PROJECT DESCRIPTION

ROW easements located on private lands will include adaptive provisions for the implementation of the Weed Control Plan. Prior to implementation, the Applicant will work with the BLM and any other landowners to obtain authorization of the weed control treatment that is required.

Waste Management

All waste, including trash and litter, garbage, and other solid waste would be removed to a disposal facility authorized to accept such materials. Commercial garbage collection and hauling will be contracted to remove waste and recyclable materials.

Hazardous Material Handling and Storage

No hazardous materials would be used or stored on the gen-tie line during operations. If any such materials are needed during maintenance activities, they will be used in accordance with required practices.

I. Decommissioning and Restoration of Gen-Tie

This section outlines the measures that will be taken at such time in the future when the ROW has expired, is not renewed, and the project is decommissioned. At this time, these actions are anticipated to include:

- Removal of structures
- Re-contouring of tower pads(if needed)
- Stabilization and re-vegetation of disturbed areas

Structures would be removed and structure sites would be cleared and graded only to the extent necessary. Clearing activities to reestablish or improve access would be performed in a manner agreed to by the BLM. Restoration activities would be similar to those described for post-construction.

In construction areas (e.g., structure sites, pull sites, access roads) where ground disturbance is significant or where re-contouring is required, surface restoration will occur as required by the BLM. The method of restoration would typically consist of returning disturbed areas to their natural contour and re-vegetating with native species providing habitat for the FTHL.

In general, all construction and subsequent maintenance activities would be conducted in a manner that will minimize disturbance to soil and vegetation. In addition, all previously existing roads would be left in a condition equal to pre-construction of the transmission lines. Fences, gates, and cattle guards will be replaced if damaged or removed during termination and restoration.

Methods of restoration when the ROW has expired and the project is terminated would adhere to generally accepted standard procedures. Any damage to existing facilities and structures during decommissioning activities would be restored to a condition equal to or better than their pre-construction condition.

Prior to restoration, all necessary surveys would be conducted in accordance with accepted standards and procedures. During the course of any necessary restoration activities, education similar to that given to construction crews would be provided to workers regarding environmentally sensitive areas including: protection and avoidance of cultural, paleontological, and biological resources, minimizing impact on special status species and containment and disposal of any hazardous materials. In addition, environmental monitors will be used at any areas deemed necessary.

All restoration activities will be conducted in a manner that minimizes impacts. In addition, restoration will be implemented to reuse/recycle materials to the maximum extent applicable.

Standard safety procedures associated with restoration activities will be implemented. This will include properly marking towers and wires for visibility. If any special construction techniques are needed for decommissioning and restoration, safety procedures will be outlined and implemented prior to beginning activities.

J. Design Features and Best Management Practices

Campo Verde Solar, LLC, has incorporated several design features and measures into proposed project. **Table 2.0-4** identifies measures specific to the solar generation facility site.

**TABLE 2.0-4
APPLICANT PROPOSED MEASURES INCLUDED AS PART OF PROPOSED SOLAR GENERATION FACILITY**

| BIOLOGICAL RESOURCES |
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| <p><i>Vegetation</i></p> <p>The applicant will provide a noxious weed control plan for the project to the County of Imperial Agricultural Commissioner prior to construction. Prior to construction and during construction, a weed survey would be conducted to identify any areas of weed infestation requiring treatment. Weeds would be controlled through acceptable mechanical (e.g., topsoil excavation and removal) or herbicide applications.</p> |
| <p><i>Wildlife</i></p> <p>Formal worker education training will be established for all employees and subcontractors to provide instruction on sensitive species identification; measures to avoid contact, disturbance, and injury to sensitive species; and procedures in the case of dead and/or injured wildlife species.</p> <p>Construction activities and vehicle operation would be conducted to minimize potential disturbance of wildlife.</p> <p>Construction and maintenance employees would be trained to exercise caution when commuting to and from the Project area to reduce road wildlife mortality.</p> <p>Firearms shall be prohibited in all project areas except for those used by security personnel.</p> <p>Preconstruction clearance surveys for burrowing owl would be conducted within 30 days prior to construction. If active burrows are present within the project area, approved methods including passive relocation will be implemented.</p> <p>Compensation for burrowing owl habitat modifications will be made per coordination with responsible resource agencies.</p> <p>Project personnel will not be allowed to bring pets to any project area in order to minimize harassment or killing of wildlife and to prevent the introduction of diseases to native wildlife populations.</p> <p>A biological monitor will be present in each area of initial active surface disturbance. All steep-walled trenches or excavations used during construction shall be inspected twice daily (early morning and evening) to protect against wildlife entrapment. If wildlife is located in the trench or excavation, the on-site biological resource monitor shall be called immediately to remove them if they cannot escape unimpeded.</p> |

2.0 PROJECT DESCRIPTION

**TABLE 2.0-4
APPLICANT PROPOSED MEASURES INCLUDED AS PART OF PROPOSED SOLAR GENERATION FACILITY**

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| <p>A <i>Raven Control Plan</i> will be prepared and implemented that details specific measures for storage and disposal of all litter and trash produced by the solar facility and its employees. This plan is designed to discourage scavengers that may also prey on wildlife in the vicinity.</p> |
| <p>CULTURAL RESOURCES</p> |
| <p>A Treatment Plan for avoiding and mitigating unavoidable direct adverse effects on cultural resources eligible for National Register listing will be prepared and implemented.</p> <p>Treatment of cultural resources will follow the procedures established by the ACHP for compliance with CEQA.</p> <p>An Unanticipated Discovery Plan would be developed to outline procedures to be undertaken if unexpected resources are encountered during the course of construction.</p> <p>A cultural resources monitor will be on-site during ground-disturbing activities and would be available at all times to respond to cultural resource issues that arise during construction.</p> |
| <p>AIR QUALITY</p> |
| <p>Construction equipment will be equipped with EPA Tier 2 or better engine designation to reduce NOx impacts during construction.</p> <p>Minimize construction equipment idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum to reduce NOx impacts.</p> <p>All vehicles on site will be well-maintained to prevent leaks and minimize emissions during construction.</p> <p>The project will comply with ICAPCD Rule 800 (Fugitive Dust Requirement for Control of Fine Particulate Matter [PM₁₀]). A Dust Control Plan for construction activities will be filed with the ICAPCD</p> <p>Water or chemical dust suppressants will be applied to unstabilized disturbed areas and/or unpaved roadways in sufficient quantity and frequency to reduce fugitive dust emissions (including PM₁₀).</p> <p>Water or water-based chemical additives will be used in such quantities to control dust on areas with extensive traffic including unpaved access roads.</p> <p>Vehicle speeds on unpaved roadways will be restricted to 15 mph.</p> <p>Vehicles hauling dirt will be covered with tarp or other means.</p> |
| <p>WATER RESOURCES</p> |
| <p>A stormwater pollution prevention plan (SWPPP) would be prepared as required by the State General Construction Activity Storm Water Permit. The SWPPP will include identification of all temporary or permanent erosion and sediment control measures and a proposed schedule for the implementation of erosion control measures.</p> <p>Construction activities will not be carried out within 100 feet of surface water resources without using appropriate BMPs.</p> <p>The use or storage of hazardous material near a canal or other surface water resource will be prohibited. Additionally, special precautions will be implemented to prevent spills of hazardous materials, discharges of foreign materials, and sedimentation discharges near these resources.</p> |

**TABLE 2.0-4
APPLICANT PROPOSED MEASURES INCLUDED AS PART OF PROPOSED SOLAR GENERATION FACILITY**

| GEOLOGY AND SOILS |
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| <p>The project will be designed and constructed according to appropriate seismic standards.</p> <p>A geotechnical engineering investigation consistent with California geologic and engineering standards will be conducted for the proposed project by a licensed geotechnical engineer.</p> <p>Construction, operation, and maintenance activities will be restricted when the soil is too wet to adequately support construction or maintenance equipment.</p> <p>Any areas of expansive soils would be mitigated to minimize damage from shrink / swell actions on equipment foundations.</p> <p>Use drainage control structures, where necessary, to direct surface drainage away from disturbance areas and to minimize runoff and sediment deposition downslope from all disturbed areas. These structures include culverts, ditches, water bars (berms and cross ditches), and sediment traps.</p> |
| TRANSPORTATION AND CIRCULATION |
| <p>Traffic control crews would be used as needed to ensure that people are aware of the presence of crossing or slow-moving construction vehicles.</p> <p>Following construction, or during construction as necessary to maintain safe driving conditions, any damage to existing roadways caused by construction vehicles would be repaired.</p> |
| PUBLIC HEALTH AND SAFETY |
| <p>Detailed information about the use, storage and disposal of hazardous materials would be provided in the Health and Safety Plan that would be developed by the construction contractor.</p> <p>A Fire Prevention and Response Plan (FPRP) will be developed and implemented during construction, operation, and maintenance of the Project.</p> |

Table 2.0-5 identifies draft Applicant proposed measures from the Environmental Assessment (EA) that would be incorporated into the proposed gen-tie on BLM land to avoid or reduce resource impacts. Final measures approved by BLM will be incorporated into the final EA and ROW Grant. Some of these measures would be applied to specific areas where needed (where a specific type of resource exists). In such cases, the locations where these geographically-specific measures would be applied will be shown on the detailed drawings prepared prior to construction.

**TABLE 2.0-5
APPLICANT PROPOSED MEASURES INCLUDED AS PART OF PROPOSED PROJECT ON BLM-MANAGED LAND**

| BIOLOGICAL RESOURCES |
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| <p><i>Vegetation</i></p> <p>Adverse effects on vegetation disturbance during construction would be minimized as follows:</p> <ul style="list-style-type: none"> • Prohibit vehicle operation off BLM designated routes by construction workers, including construction work and employee access, except where access is authorized by the BLM in the ROW grant. • Existing access roads would be used to the maximum extent allowable and development of overland travel routes would be minimized. |

2.0 PROJECT DESCRIPTION

**TABLE 2.0-5
APPLICANT PROPOSED MEASURES INCLUDED AS PART OF PROPOSED PROJECT ON BLM-MANAGED LAND**

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| <ul style="list-style-type: none"> Vegetation disturbance including its removal would be minimized wherever possible. Access road construction activities shall implement drive and crush to minimize impacts to the roots of desert shrubs rather than grading, where possible. To the extent possible, grading and grubbing of vegetative cover will be avoided on all tower pad locations and all vehicular traffic will travel only on access routes authorized in the ROW grant. |
| <p>The following prescriptions would prevent the spread of invasive weeds into previously un-infested areas in the designated construction right-of-way:</p> <ul style="list-style-type: none"> In advance of construction activities, all construction equipment arriving on site would have the tires, axles, frame, running boards, under-carriages, and any equipment parts designed to hold soil or rock shall be washed and cleaned at a documented location to prevent transport of invasive weed species transport into project areas. A qualified weed specialist, vegetation ecologist, or desert botanist would survey the tower pad locations, stringing and tensioning sites, existing access roads that require improvements, and construction material staging areas prior to construction to identify any infestations of invasive plant. Before beginning construction activities, these infestations would be controlled through acceptable mechanical (e.g., topsoil excavation and removal/disposal), hand pulling, or herbicide applications. If direct control methods or removal of invasive weed infestations in construction disturbance areas is not feasible, the invasive plants may be cut and disposed of or otherwise destroyed in a manner that the BLM specifies. The lead environmental construction monitor would instruct construction personnel about invasive weed identification and the legal requirement for controlling and preventing the spread of invasive weed infestations. |
| <p>Wildlife</p> |
| <p>Compensation for habitat modifications per coordination with responsible resource agencies.</p> |
| <ul style="list-style-type: none"> Project habitat compensation for both streambed alteration agreements and special-status species may be satisfied by the Applicant independently, or by depositing compensation funds into the Renewable Energy Action Team (REAT) Account established with the National Fish and Wildlife Foundation (NFWF). |
| <p>Construction activities and vehicle operation would be conducted to minimize potential impacts or disturbance of wildlife.</p> |
| <ul style="list-style-type: none"> Speed limits along the right-of-way and access roads will be limited to 15 mph. In addition, construction and maintenance employees would exercise caution when traveling to and from the project site on designated routes on BLM lands to reduce the potential for wildlife mortality. Prohibit vehicle operation off BLM designated routes by all project personnel except where authorized by the BLM. Equipment stockpiles and vehicle parking will occur only on designated wire tensioning (pull) sites or on private lands. On BLM lands, the minimum number and types of vehicles and equipment would be limited to those necessary for project construction. |

**TABLE 2.0-5
 APPLICANT PROPOSED MEASURES INCLUDED AS PART OF PROPOSED PROJECT ON BLM-MANAGED LAND**

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| <ul style="list-style-type: none"> • Implement the “List of Standard Mitigation Measures for Flat-tailed Horned Lizard”, as outlined in the Flat-tailed horned lizard Rangewide Management Strategy (2003) • Develop and implement a Bird and Bat Conservation Strategy (BBCS) - formerly known as an Avian and Bat Protection Plan (ABPP). |
| <p>Design would minimize electrocution and collision potential for raptors.</p> |
| <ul style="list-style-type: none"> • Design would space conductors and ground wires sufficiently apart so that raptors cannot contact two conductors or one conductor and a ground wire to cause electrocution as outlined in Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006 (APLIC 2006). |
| <p>Conduct pre-construction surveys prior to project initiation:</p> <ul style="list-style-type: none"> • Preconstruction clearance surveys will be conducted by qualified biologists for sensitive wildlife including, but not limited to, burrowing owl, kit fox, and American badger. FTHL surveys will be conducted pursuant to the methods outlined in the FTHL Rangewide Management Strategy, 2003. • For the protection of migratory birds during the breeding season (January 15 through August 15), prior to any project related activities, an approved biologist with a minimum of three years of experience conducting migratory bird surveys and implementing the requirements of the Migratory Bird Treaty Act (MBTA) shall conduct a preconstruction migratory bird nesting survey in the project area. If any active nest is located, the nest area shall be flagged or otherwise marked for avoidance, and a 200-foot buffer zone shall be flagged, a 300-foot buffer shall be established for nests of federally listed birds and a 500-foot buffer will be established for all nesting raptor species. No work activity shall occur within these avoidance buffer areas until an approved biologist determines that the fledglings are independent of the nest or has verified nest failure. If the biologist or a construction worker discovers an occupied burrowing owl burrow, the construction contractor will halt construction activities and notify the California Department of Fish and Game, in Ontario at (909) 484-0167, MCRodriguez@dfg.ca.gov and the BLM, El Centro, Resources Section, (760) 337-4400 immediately. Construction would be avoided during the passerine and raptor nesting season (e.g., April 1 to August 31), if possible. |
| <p><i>Special Status Species</i></p> |
| <p>Survey and avoid and/or salvage special-status plant species in areas to be disturbed by project activities.</p> |
| <ul style="list-style-type: none"> • Comprehensive focused surveys conducted during the appropriate season and designed with appropriate agency consultation would be conducted prior to any project-related ground disturbing activities to identify any special-status plant populations on proposed tower pads, pulling and splicing sites, staging areas, or any other construction sites that would be temporarily or permanently disturbed. • If special-status plant(s) are identified during the pre-construction surveys, plant locations would be delineated on aerial photography and incorporated into the construction plan as areas to be avoided. In addition, identified populations would be marked in the field with stakes and flagging. Realignment would be implemented to avoid those populations within the designated tower pad and access routes, unless the BLM approves making no realignment. • Where avoidance is infeasible, a Plant Salvage Plan would be developed by the Applicant and |

2.0 PROJECT DESCRIPTION

**TABLE 2.0-5
APPLICANT PROPOSED MEASURES INCLUDED AS PART OF PROPOSED PROJECT ON BLM-MANAGED LAND**

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| submitted for approval from the appropriate responsible agencies. |
| Implement conservation measures to decrease the likelihood of take of special status wildlife species and impacts to critical habitat. |
| <ul style="list-style-type: none"> • Flag or otherwise mark the outer boundaries of the project construction areas where necessary to define the limit of work activities. • Minimize habitat degradation by limiting travel to existing roads and surface disturbance to previously disturbed areas. • Implement WEAP training for all project personnel. • Employ BLM-approved biologists to monitor construction activities within the right-of-way. These monitors will have the authority to halt construction activities when wildlife would be adversely affected. The biological monitors will alert take appropriate actions to ensure impacts to wildlife are avoided within the right-of-way. Pulling, staging, and equipment storage sites where construction activities would be intense and extended overtime, may be temporarily fenced to keep wildlife from entering these zones. • Conduct passive exclusion according to CDFG guidelines if kit fox and/or American badger burrows are located where ground disturbing activities are authorized. |
| <i>Waters of the U.S.</i> |
| <p>The following actions would be implemented to minimize impacts to waters of the U.S.:</p> <ul style="list-style-type: none"> • A survey of “waters of the U.S.” was completed and submitted to the ACOE. In addition, a delineation and drainage report was submitted to the CDFG and an investigation of the project site by the CDFG was conducted to determine if the project may impact fish or wildlife resources. On BLM lands, an overhead crossing of the Westside Main Canal by the gen-tie is expected, although no construction activities are expected to result in the placement of fill material or divert, obstruct, or change the natural flow of the bed or channel. • The Project would have a design consistent with ACOE and CDFG guidance to minimize impacts to floodplains and jurisdictional waters of the U.S., and construction of the transmission line would incorporate best management practices (BMPs), include erosion control measures, and comply with all ACOE, CDFG, and State water quality permit terms and conditions to protect water quality in the Project area. • Placement of towers in washes will be avoided to the extent possible through project engineering design. Washes will be flagged prior to ground-disturbing activities by a qualified resource specialist. All construction activities would take place outside the flagged areas to ensure minimum habitat disturbance. • Any direct or indirect impacts to Waters of the U.S. and streambeds would be mitigated by restoring the impact area to a state that encourages native vegetation to reestablish to its pre-construction condition and reduces the effects of erosion on the drainage system. • Additional compensatory, restoration, or avoidance mitigation measures identified by regulatory agencies (e.g., ACOE, CDFG) as part of the permitting process would be implemented. |
| CULTURAL RESOURCES |
| Preparation of a Treatment Plan for avoiding and mitigating unavoidable direct adverse effects on resources eligible for listing in the National Register of Historic Places would be prepared and |

**TABLE 2.0-5
 APPLICANT PROPOSED MEASURES INCLUDED AS PART OF PROPOSED PROJECT ON BLM-MANAGED LAND**

implemented.

- Treatment of cultural resources will follow the procedures established by the ACHP for compliance with Section 106 of the National Historic Preservation Act (NHPA) and also for compliance with CEQA.
- A Class III intensive pedestrian inventory will be undertaken for all portions of the Project that have not been previously surveyed or have been identified by the BLM as requiring an inventory to identify properties that are eligible for listing in the National Register of Historic Places (NRHP).
- A Treatment Plan will be prepared to identify methods of avoiding or mitigating effects. A cultural resources evaluation report will be submitted to the BLM for review, and for consultation purposes, as part of the development of the Treatment Plan.
- Adverse effects to cultural resources will be avoided to the extent possible. Final design of the Project (e.g., tower placement and work areas) will include measures to avoid NRHP eligible sites. The final list of sites to be avoided during construction will be specified in the Treatment Plan. The Treatment Plan will also include detailed measures to ensure this avoidance is implemented during construction.
- An Unanticipated Discovery Plan would be developed to outline procedures to be undertaken if unexpected resources are encountered during the course of construction.
- A cultural resources monitor will be available to respond to the BLM within 48 hours to cultural resource issues that arise during construction.
- Consultation will be conducted at the direction of BLM with concerned Native American groups to determine if the archaeological sites have additional sensitivities (i.e., Traditional Cultural Properties [TCPs]).

AIR QUALITY

The following mitigation measures would be implemented during the construction of the Proposed Project to reduce the exhaust emissions of CO, NO_x, VOC, SO_x, and PM₁₀:

- Heavy duty off road diesel engines over 50 horsepower will meet Tier I ARB/EPA standards for off-road equipment and will be properly tuned and maintained to manufacturers' specifications to ensure minimum emissions under normal operations;
- Construction vehicles will have 1996 and newer model engines;
- Visible emissions from all heavy duty off road diesel equipment will not exceed 20 percent opacity for more than three minutes in any hour of operation;
- A comprehensive inventory (i.e., make, model, year, emission rating) of all heavy-duty off-road equipment (50 horsepower or greater) that will be used an aggregate of 40 hours per week or more during the duration of the construction project will be submitted to the Imperial County Air Pollution Control District, if needed.

The following mitigation measures would be implemented for the Proposed Project to reduce fugitive dust emissions (including PM₁₀):

- Water or chemical dust suppressants approved by the BLM will be applied to unstabilized surfaces of disturbed areas and/or unpaved roadways in sufficient quantity and frequency to maintain a stabilized surface.
- Water or water-based chemical additives will be used in such quantities to control dust on areas with extensive traffic including unpaved access roads. Water, organic polymers, lignin

2.0 PROJECT DESCRIPTION

**TABLE 2.0-5
APPLICANT PROPOSED MEASURES INCLUDED AS PART OF PROPOSED PROJECT ON BLM-MANAGED LAND**

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| <p>compounds, or conifer resin compounds will be used depending on availability, cost, and soil type.</p> <ul style="list-style-type: none"> • Vehicle speeds on unpaved roadways will be restricted to 15 mph. • Vehicles hauling dirt will be covered with securely-fastened tarp or other means approved by the BLM. |
| <p>WATER RESOURCES</p> |
| <p>A stormwater pollution prevention plan (SWPPP) would be prepared as required by the State General Construction Activity Storm Water Permit. The SWPPP will include:</p> <ul style="list-style-type: none"> • An outline of the areas of vegetative soil cover or native vegetation onsite that will remain undisturbed during the construction project. • An outline of all areas of soil disturbance including cut or fill areas which will be stabilized during the rainy season by temporary or permanent erosion control measures, such as seeding, mulch, or blankets, etc. • An outline of the areas of soil disturbance, cut, or fill which will be left exposed during any part of the rainy season, representing areas of potential soil erosion where sediment control BMPs are required to be used during construction. • A proposed schedule for the implementation of erosion control measures. • The SWPPP will include a description of the BMPs and control practices to be used for both temporary and permanent erosion control measures. |
| <p>Surface waters, wells and springs adjacent to construction areas would be protected.</p> |
| <ul style="list-style-type: none"> • Surface waters (canals), springs, and wells within 1,000 feet of construction activities will be identified. Construction activities will be limited in the following manner: (1) construction activities will not be carried out within 100 feet of these resources without using BMPs; (2) blasting will be prohibited within 500 feet of a well; and (3) only size limited blasting will be authorized within 1,000 feet of a well. If damage occurs to a well or spring, the affected area will be repaired by the contractor. • The use or storage of hazardous material near a canal, well, or spring will be prohibited. Additionally, special precautions will be implemented to prevent spills of hazardous materials, discharges of foreign materials, and sedimentation discharges near a canal, well or spring. • Dewatering activities for tower footings or other deep excavations will be planned to minimize the effect on wells and springs. |

**TABLE 2.0-5
 APPLICANT PROPOSED MEASURES INCLUDED AS PART OF PROPOSED PROJECT ON BLM-MANAGED LAND**

| GEOLOGY AND SOILS |
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| <p>The project would be designed to prevent damage resulting from seismic activity in the project area.</p> <ul style="list-style-type: none"> • Measures will be taken to the extent possible to avoid sites for transmission towers that are located within known fault zones. • A geotechnical engineering investigation consistent with California geologic and engineering standards will be conducted for the Proposed Project by a licensed geotechnical engineer. • All practicable precautions will be taken to design and construction of transmission towers and new substations, substation facility improvements, and equipment to withstand the projected ground shaking in the area. |
| <p>Construction, operation, and maintenance activities will be restricted when the soil is too wet to adequately support construction or maintenance equipment (i.e., when heavy equipment creates ruts in excess of 4 inches deep over a distance of 100 feet or more in wet or saturated soils). Where the soil is deemed too wet, one or more of the following measures will apply:</p> <ul style="list-style-type: none"> • Construction and maintenance vehicles will be rerouted around wet areas onto existing roads that do not cross sensitive resource areas. • If wet areas cannot be avoided, implement BMPs for use in these areas during construction and access road improvement, and during subsequent reclamation of these areas. BMPs may include use of wide-track or balloon-tire vehicles and equipment use of geotextile cushions, pre-fabricated equipment pads, and other materials to minimize damage to the substrate where determined necessary by resource specialists and in consultation with appropriate resource agencies. If BMPs cannot be successfully applied to wet or saturated soil areas, construction or routine maintenance activities would not be allowed in these areas until the Project environmental monitor(s) determine it is acceptable to proceed. |
| <p>Areas of expansive soils would be mitigated to minimize damage from shrink/swell actions on equipment foundations.</p> <ul style="list-style-type: none"> • Prior to construction, soils will be evaluated by a geotechnical engineer to determine if they are expansive and if they may have potential effects on the proposed facilities. Where they represent a potential hazard, solutions recommended by the proposed project’s geotechnical engineer, such as excavation and replacement of the expansive soils with compacted backfill, will require BLM approval. If imported backfill material is used, it will be certified to be from a non-agricultural area and to be free of invasive weeds and propagules (i.e., seeds and root/stem/rhizome fragments), and the soil material will be a match with the native soil in the project area. |
| <p>Monitoring of the erosion control measures will continue until reclamation efforts are considered complete and successful. Measures to be implemented during the proposed project construction and reclamation are listed below.</p> <p>These measures will minimize the effects of grading, excavation, soil compaction, and other surface disturbances in all project areas. Schedules and specifications for these features would be part of the final construction plan.</p> |
| <ul style="list-style-type: none"> • Confine all vehicular traffic associated with construction to areas designated in the construction, operation, and maintenance (COM) Plan. • Limit disturbance and removal of soils and vegetation to the minimum area necessary for access |

2.0 PROJECT DESCRIPTION

TABLE 2.0-5
APPLICANT PROPOSED MEASURES INCLUDED AS PART OF PROPOSED PROJECT ON BLM-MANAGED LAND

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| <p>and construction.</p> <ul style="list-style-type: none">• Where vegetation removal is necessary, use cutting/mowing methods instead of blading, wherever possible. Fire will not be used to remove vegetation.• Adhere to a construction methodology that mitigates impacts in sensitive areas during severe weather events.• Inform all construction personnel before they are allowed to work on the Proposed Project of the environmental concerns, pertinent laws and regulations, and elements of the erosion control plan. A multi-hour environmental training would be provided for project management, foremen, and construction personnel.• Minimize grading to the extent possible. When required, grading will be conducted away from washes and artificial waterways to reduce the potential of material entering watercourses.• Slope and berm graded material, where possible, to reduce surface water flows over unit area across the graded area.• Replace excavated materials in disturbed areas and minimize the time between excavation and backfilling.• Direct the dewatering of excavations onto stable surfaces to avoid soil erosion.• Use detention basins, certified weed-free straw bales/rolls, or silt fences, where appropriate.• Use drainage control structures, where necessary, to direct surface drainage away from disturbance areas and to minimize runoff and sediment deposition downslope from all disturbed areas. Control structures include culverts, ditches, water bars (berms and cross ditches), and sediment traps.• Implement other applicable BMPs to minimize erosion-related impacts during construction, to improve access roads, and to facilitate their subsequent reclamation. |
| VISUAL RESOURCES |
| <p>The following mitigation measures will be implemented to minimize visual impacts:</p> <ul style="list-style-type: none">• Non-specular materials will be used for conductor and structure materials to minimize reflections and glare.• After Project construction is complete, ground surfaces within the transmission line right-of-way and areas outside the right-of-way that are disturbed during project construction would be restored to their original condition and grade, as outlined in the Reclamation Plan.• Staging areas would be revegetated as necessary, according to the Vegetation Restoration Plan.• Existing rock formations and vegetation would be retained whenever possible. |
| TRAFFIC AND TRANSPORTATION |
| <p>The following measures would be implemented to minimize impacts to traffic and roads.</p> <p>Traffic controls shall include ensuring that:</p> <ul style="list-style-type: none">• The locations of intersections of existing access roads are highly visible by placing signage and traffic control crews to ensure that people are aware of the presence of crossing or slow-moving construction vehicles.• Following construction, or during construction as necessary to maintain safe driving conditions, any damage to existing roadways caused by construction vehicles would be repaired. |

**TABLE 2.0-5
 APPLICANT PROPOSED MEASURES INCLUDED AS PART OF PROPOSED PROJECT ON BLM-MANAGED LAND**

| PUBLIC HEALTH AND SAFETY |
|---|
| Detailed information about the use, storage and disposal of hazardous materials would be provided in the Health and Safety Plan that would be developed by the construction contractor and with the approval of the BLM. |
| A Fire Prevention and Response Plan (FPRP) will be developed and implemented after approval by the BLM during construction, operation, and maintenance of the proposed transmission line. |
| During Project construction, on -going training would be provided by the Applicant to the US Border Patrol agents who work in the area for the duration of the Project about any safety issues related to BP access to the gen-tie ROWs or the solar energy generation facilities. At least two training sessions for the Border Patrol will be conducted at their convenience at the beginning of construction and at the beginning of operations (generally one for a day shift and one for a night shift) to explain the development process, hazards to the agents and their vehicles during construction and operations, depth of holes (as potential hiding places for undocumented persons), dangers of collapse of earthen excavations, any risks from electrical/shock, and staffing during the construction phase. The Project Applicant will provide access for Border Patrol agents to no-electrified secured areas if they need to pursue individuals. |

2.2 ALTERNATIVES

This EIR considered three alternatives in addition to the proposed project:

- **Alternative 1 - Alternative Gen-Tie Across BLM Land** - This alternative includes the same approximate 1,990 acre solar generation facility site as the proposed project and proposes a gen-tie that would follow the existing IID S-line and associated access road. A 0.9 mile Gen-tie is proposed including a 0.1 mile segment on the solar generation facility site. The gen-tie would also cross approximately 0.4 miles of BLM land and 0.4 miles of private land.
- **Alternative 2 - Private Land Gen-Tie Alternative** - This alternative includes the same approximate 1,990 acre solar generation facility site as the proposed project and proposes a 1.85 mile gen-tie that would originate from the western side of the solar generation facility site (0.1 mile segment) and cross approximately 1.75 miles of private lands to the west. The gen-tie would follow existing field roads and ditches to the Imperial Solar Energy Center West site. From this point, the proposed project would use available capacity on Imperial Solar Energy Center West’s gen-tie line that has an approved right-of-way to the Imperial Valley Substation.
- **Alternative 3 - No Action Alternative** – This alternative would result in continued use of the project site for agricultural production. The proposed Campo Verde Solar Project would not be developed.

These are discussed in greater detail in Chapter 6.0, Alternatives.

Regardless of whether the proposed gen-tie or Alternative 1 or 2 is selected, a short-term solution may be implemented that would involve an electrical interconnection to IID’s S-Line that crosses the solar generation facility site. If this option is selected, it would provide a temporary interconnection to the

2.0 PROJECT DESCRIPTION

grid and would be replaced by the permanent interconnection into the Imperial Valley Substation when completed.

2.3 INTENDED USES OF THE EIR/AUTHORIZING ACTIONS

Due to the project's encroachment into federal lands, two agencies have jurisdiction over the Campo Verde Solar Project. Imperial County is the lead agency with regard to the solar generation facility site as well as portions of the gen-tie not located on BLM land. The County will serve as the Lead Agency regarding the California Environmental Quality Act (CEQA) and the Applicant's request for a CUP and other required County and state approvals. The BLM will serve as the cooperating agency to fulfill the requirements of the National Environmental Policy Act (NEPA). The BLM is conducting a separate environmental review (an Environmental Assessment) for the segment of the gen-tie on BLM land.

2.3.1 DISCRETIONARY ACTIONS AND APPROVALS

A. County of Imperial

In conformance with Sections 15050 and 15367 of the CEQA Guidelines, the County of Imperial has been designated the "lead agency," defined as, "the public agency which has the principal responsibility for carrying out or approving a project." Discretionary actions and approvals by the Imperial County Planning Commission and/or Board of Supervisors for the proposed project or its alternatives may include, but are not limited to:

Certification of the Final EIR

After the required public review for the Draft EIR, Imperial County will respond to written comments, edit the document, and produce a Final EIR to be considered for certification by the Planning Commission and/or Board of Supervisors prior to making a decision on the project.

Mitigation Monitoring and Reporting Program

A Mitigation Monitoring and Reporting Program will be adopted as required by CEQA Guidelines Section 15097 to ensure that mitigation measures identified in the EIR are implemented as appropriate.

Conditional Use Permit (CUP11-0007)

The proposed project will require approval of a CUP by Imperial County to allow construction and operation of the proposed project.

Development Agreement/Public Benefits Agreement

Execution of a Development Agreement or Public Benefits Agreement requires approval by the Board of Supervisors.

Lot tie Covenant

The project will require approval of a deed covenant allowing adjacent parcels within the project to be treated as a single parcel for purposes of setback requirements during the duration of the CUP.

Abandonment of Rights-of-Way

The Applicant's request to vacate certain rights-of-ways for use by this project will require Board of Supervisors approval.

Subdivision Map Approvals

The project may require a lot line adjustment and/or public lot conveyance for purposes of project financing or facilitating arrangements with public agencies.

Public Water System Permit

If the project treats water onsite for drinking water purposes, will be required to obtain a permit from the Imperial County Public Health Department to operate a public water system.

Private Sewage Disposal Permit

The project shall obtain a permit from the Imperial County Public Health Department to construct and operate a septic system and leach field adjacent to the O&M building, if proposed for the project.

Site Plan

Site Plan and Architectural Review is required for all non-residential projects and will be conducted for the proposed project.

Variance (V12-0008)

A variance is required for project site in order to exceed the height limit for the gen-tie structures. The existing zoning allows for a maximum height limit of 120 feet. However, one or more transmission structures may exceed 120 feet with a maximum height of 145 feet.

B. Imperial Irrigation District (IID)

Various approvals may be required from IID in conjunction with implementation of the project. These include but are not limited to:

- Power Distribution
- Abandonment of Easements
- Land Sale Agreements
- Mineral Rights Agreements
- Water Supply Agreements for construction and permanent water (IID will be making CEQA findings specifically related to the water supply agreements so we need to make sure the discussion of water supply by IID is adequate within the EIR).
- Drainage Encroachment
- Electrical crossings over Westside Main Canal and other easements.

C. Bureau of Land Management

BLM Grant of Right-of-Way (BLM Right-of-Way Application Serial No. CACA 053151)

The segment of the gen-tie on federal land will require ROW approval by the BLM to allow construction operation and decommissioning of the proposed gen-tie, any required improvements to existing unpaved access roads, and, if necessary, construction of new unpaved access roads within lands managed by the BLM.

2.0 PROJECT DESCRIPTION

2.3.2 SUBSEQUENT/CONCURRENT ENTITLEMENTS TO IMPLEMENT THE PROPOSED PROJECT

A variety of entitlement actions and permits will be required from Imperial County to implement the components of the proposed project:

- Grading Plan for the project site
- Construction Traffic Control Plan
- Building Permits
- Encroachment Permits from the Imperial County Public Works Department for access to the lot(s) and for any proposed road crossings
- Occupancy Permit
- Septic System Permit
- In order to permit construction of the solar facility as one discrete development, the Applicant or parcel owner will execute a covenant to be recorded on all project parcels that waives Code-required setbacks from interior property lines and exterior boundaries. This covenant would be imposed through the Conditions of Approval adopted by the CUP.

2.3.3 DISCRETIONARY ACTIONS AND APPROVALS BY OTHER AGENCIES

Responsible Agencies are those agencies that have discretionary approval over one or more actions involved with development of the proposed project site. Trustee Agencies are state agencies that have discretionary approval or jurisdiction by law over natural resources affected by a project. These agencies may include, but are not limited to the following:

- U.S. Fish and Wildlife Service - Endangered Species Act informal consultation
- California Department of Fish and Game (CDFG) (Trustee Agency) consultation regarding State Endangered Species Act compliance, Streambed Alteration Agreement (Section 1603 of the California Fish and Game Code), California Native Plant Protection Act (mitigation for rare plants)
- California Regional Water Quality Control Board (RWQCB), Colorado River Basin, Region 7 – Section 401 Water Quality Certification (if required in conjunction with any federal permit requirements), General Construction Activity Storm Water Permit
- Bureau of Land Management Compliance with Section 106 of the National Historic Preservation Act for gen-tie route on BLM land
- California State Historic Preservation Office consultation
- Imperial County Air Pollution Control District - Rule 801 compliance; permit to operate if a generator with 50+ horsepower is utilized on-site for more than 12 months
- Imperial County Fire Department - approval of final design of the proposed fire system
- California Department of Toxic Substances Control - depending on the volume of hazardous materials stored on-site, the Applicant may need to submit a Hazardous Materials Business Plan

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