~~executed project. Additional projects would include additional contributions at $50/MW~~.

Would the project result in inadequate emergency access?

The Project includes fire access throughout the facility and is consistent with the Consolidated County Fire Code. Fire apparatus access to the habitable component of the project (O&M structure will be 20 feet wide and supportive of fire apparatus. All other site roads will be 12 feet wide, spaced 600 feet (300 foot hose pull distance to all site features) and will be passable by the anticipated Type VI and/or Type III engines that would be responding to the facility. Additional 20-foot perimeter access roads will be cleared for fire access. Fire access on the Project site will be improved from its current condition which provides only limited access on dirt/gravel roads. The on-site roadways are designed as looped access throughout the project and conformance with road surface, width, turning radius, and vertical clearance Code requirements for emergency access. Therefore, emergency access is considered adequate for this type of facility.

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance service ratios, response times or other performance objectives for fire protection?

The Project is projected to add an estimated fewer than 0.5 calls per year to the Whitestar and Boulevard Fire Stations. The addition of 0.5 calls/year to a rural fire station that currently responds to approximately 7 to 10 calls per week is considered insignificant and will not require the construction of additional Fire Station facilities based on that increase alone. However, the project will be part of a cumulative impact from several renewable energy projects in the area that combined could cause service level decline. As such, the Project will enter into a Fire and Emergency Protection Services Agreement with the San Diego County Fire Authority to make a fair share contribution to fund the provision of appropriate fire and emergency medical services~~, providing fair-share funding to be used to augment existing fire emergency response capabilities of the local Fire Response Resources and off-set cumulative impacts of the Project and other renewable energy projects that are expected to be built in the area. The funding will provide for apparatus and equipment as well as staffing enhancements, as selected by the area's fire authorities and as recommended by the area's Fire Resource Capability Report (Dudek & Hunt 2013)~~. The result is maintained or enhanced fire service ratios and response times to the existing condition.

Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

The project will be served by private well and sufficient water supplies will be available to serve the project from existing entitlements and resources. The Project will enhance existing wells and provide plumbing and on-site water storage tanks. The tanks will be placed strategically throughout the site and at the O&M building. The improved water situation on the site will provide enough water for O&M building functions, CPV tracker cleaning and maintenance and firefighting needs. Therefore, the Project does not require expanded entitlements.

The measures described in the responses to these significance questions are provided more detail in the following sections.

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3.0 ANTICIPATED FIRE BEHAVIOR

3.1 Fire Behavior Modeling

Following field data collection efforts and available data analysis, fire behavior modeling was conducted to document the type and intensity of fire that would be expected on this site given characteristic site features such as topography, vegetation, and weather. Results are provided below and a more detailed presentation of the modeling inputs and results are provided in Appendix E.

3.1.1 Fire Behavior Modeling Inputs

Fire behavior modeling conducted in support of this FPP utilized the guidelines and standards presented by the County of San Diego, Department of Planning and Land Use[2]. These guidelines identify acceptable fire weather inputs for extreme fire conditions during summer months and Santa Ana fire weather patterns. The County analyzed and processed fire weather from Remote Automated Weather Stations (RAWS) between April 15 to December 31 in order to represent the general limits of the fire season. Data provided by the County's analysis included temperature, relative humidity, and sustained wind speed and is categorized by weather zone, including Maritime, Coastal, Transitional, Interior, and Desert.

To evaluate potential fire behavior for the solar farm and Gen-tie transmission line, Dudek utilized the BehavePlus (v. 5.0.5) fire behavior modeling software package to determine fuel moisture values and expected fire behavior for the site. The temperature, relative humidity, and wind speed data for the Interior[3] weather zone were utilized for this FPP based on the project location. Reference fuel moistures were calculated in BehavePlus and were based on site-specific topographic data inputs. Fire behavior for the site was calculated using worst-case fuels, topography, and weather and included an assessment of potential fire burning uphill (5 to 10% slope) in mixed chaparral (Fuel Model SH7) and red shank (Fuel Model SH5) fuel beds with Santa Ana (24 mph) and Peak (56 mph) sustained wind speeds. Tables 2 and 3 summarize the fire behavior model inputs utilized for this FPP.

[2] County of San Diego Report Format and Content Requirements – Wildland Fire and Fire Protection (August 31, 2010). On-line at http://www.sdcounty.ca.gov/dplu/docs/Fire-Report-Format.pdf

[3] http://mappingsandiego.com/viewMap.html

Table 2
BehavePlus Fine Dead Fuel Moisture Calculation

Variable	Value
Dry Bulb Temperature	90 -109 deg. F
Relative Humidity	5 - 9 %
Reference Fuel Moisture	1 %
Month	Feb Mar Apr Aug Sep Oct
Time of Day	16:00 - 17:59
Elevation Difference	Level (within 1,000 ft.)
Slope	0 - 30%
Aspect	East
Fuel Shading	Exposed (< 50% shading)
Fuel Moisture Correction	2 %
Fine Dead Fuel Moisture	3 %

Table 3
BehavePlus Fire Behavior Modeling Inputs

Variables	Solar Farm Values	Gen-tie Line
Fuel Model	SH7	SH5
1h Moisture	3%	3%
10h Moisture	4%	4%
100h Moisture	5%	5%
Live Herbaceous Moisture	30%	30%
Live Woody Moisture	60%	60%
20-foot Wind Speed (upslope)	24, 56*	24. 56*
Wind Adjustment Factor	0.5	0.5
Slope Steepness	5%	5-10%

* includes Santa Ana (24 mph) and peak (56 mph) sustained wind speeds

3.1.2 Fire Behavior Modeling Results

Three fire behavior variables were selected as outputs from the BehavePlus analysis conducted for the project site, and include flame length (feet), rate of spread (mph), and fireline intensity (BTU/feet/second). The aforementioned fire behavior variables are an important component in understanding fire risk and fire agency response capabilities. Flame length, the length of the flame of a spreading surface fire within the flaming front, is measured from midway in the active flaming combustion zone to the average tip of the flames (Andrews, Bevins, and Seli 2004). It is a somewhat subjective and non-scientific measure of fire behavior, is extremely important to

fireline personnel in evaluating fireline intensity and is worth considering as an important fire variable (Rothermel 1983). Fireline intensity is a measure of heat output from the flaming front, and also affects the potential for a surface fire to transition to a crown fire. Fire spread rate represents the speed at which the fire progresses through surface fuels and is another important variable in initial attack and fire suppression efforts. The results of fire behavior modeling efforts are presented in Tables 4 and 5. A graphical illustration is displayed in Figure 4.

Table 4
BehavePlus Fire Behavior Modeling Results for Solar Farm

Fire Behavior Variable	Santa Ana (24 mph Winds)	Peak (56 mph Winds)
Flame Length (feet)	27.4	43.1
Fireline Intensity (Btu/ft/s)	7,565	20,302
Surface Rate of Spread (mph)	2.0	5.4

Table 5
BehavePlus Fire Behavior Modeling Results for Gen-tie Line

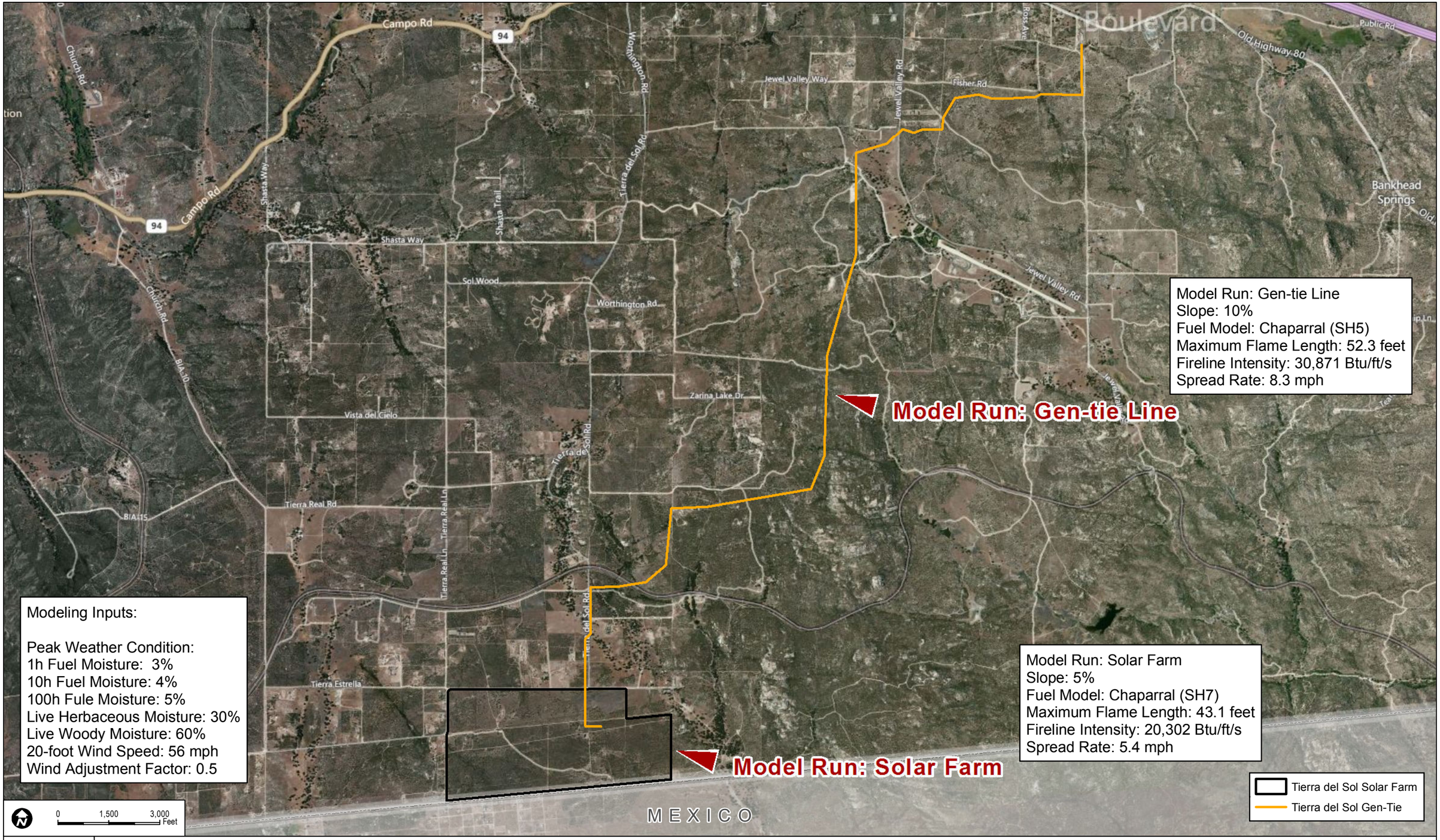
Fire Behavior Variable	Santa Ana (24 mph Winds)	Peak (56 mph Winds)
Flame Length (feet)	40.0	52.3
Fireline Intensity (Btu/ft/s)	17,809	30,871
Surface Rate of Spread (mph)	381.7	661.7

As presented, wildfire behavior in chaparral fuel beds on and adjacent the Project is expected to be of moderate to high intensity during extreme, Santa Ana weather conditions with maximum sustained wind speeds of 56 mph and low fuel moistures. Chaparral fuels are predominant on site and in the area immediately surrounding the project site, which would be the fuels affecting the constructed Project. Based on the observed fuel beds east and west of the project site, a relatively high-intensity fire can be expected during extreme weather conditions, with flame lengths reaching approximately 60 feet and peak intensity of over 30,000 Btu/ft/s.

This type of fire would be relatively short-duration as vegetative fuels are consumed rapidly. As such, there would not be a sustained source of heat and or flame associated with site-adjacent wildland fuels. Further, the solar farm site's fuels would be converted and reduced to ground cover on most of the Project area. The vegetation on the Gen-tie line right-of-way will be cleared around steel poles and access roads, where not prohibited by environmental constraints. The post-project fuel modification areas would provide a significant reduction in the potential for fire ignition as well as the flame length, spread rate, and intensity of fires

should ignition occur. The solar farm site may be compared to a large fuel break once completed. Adjacent native and undisturbed fuels would readily carry fire, especially during portions of the year where vegetation moisture content falls and warm temperatures, low humidity and high winds become common. The site will be largely free of combustible vegetation with only a ground cover of maintained vegetation adjacent and beneath the solar trackers. Flying embers from off-site fire may inundate the Project area during wind-driven fire events. The modified fuel areas and construction type and materials for all project features will resist ignition from ember showers. Ignition of the ground cover could result in a fast moving, but lower intensity fire that burns in a patchy manner on the site due to the highly compartmentalized fuel modification areas beneath the CPV trackers.

Figure 4 BehavePlus Analysis Map



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SOURCE: SanGIS 2011; AECOM 2013; Soitec 2013; Bing Maps

FIGURE 4

BehavePlus Analysis Map

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4.0 ANALYSIS OF PROJECT EFFECTS

4.1 Adequate Emergency Services

4.1.1 Emergency Response

The project site is located within San Diego County Fire Authority jurisdiction and State Responsibility Area (SRA) lands provided wildland fire protection by CAL FIRE/SDCFA. The Boulevard Volunteer Fire Station, staffed 24/7 with volunteer (stipend) firefighters would provide initial response. The CALFIRE Whitestar Station (Station 28) is also nearby and would respond with additional resources. The Boulevard Station is 5.9 miles from the most remote areas of the project and travel time to these areas is approximately 10.65 minutes.

The White Star station is located at 1684 Tierra Del Sol Road in Boulevard and it is approximately 3.4 miles from the Project's proposed entrance. It is a full-time station staffed 24/7 by career firefighters and paid volunteers, through an Amador contract (staffing continues through the "off season" with the County under which, the County funds CAL FIRE presence during this period. The primary responsibility of the White Star station is wildfire protection. This is compliant with the required Consolidated Fire Code and General Plan response time and distance requirements for rural land use zoning. A Fire Service Facility Availability Form is provided in Appendix F.

The San Diego County Fire Authority is initiating the process to construct a new fire station near the existing Boulevard station and co-locate at that station with CAL FIRE. It is not known when that station will be operational, but it will provide additional firefighting resources within a short distance to the Project. In addition to these responding fire stations, there are additional resources available through automatic or mutual aid agreements. The region's fire resources are discussed further in the following sections.

Within the unincorporated region's emergency services system, fire and emergency medical services are provided by Fire Protection Districts (FPD), County Service Areas (CSA) and CAL FIRE. Collectively, there are over 2,800 firefighters responsible for protecting the San Diego region from fire. Generally, each agency is responsible for structural fire protection and wildland fire protection within their area of responsibility. However, mutual and automatic aid agreements enable non-lead fire agencies to respond to fire emergencies outside their district boundaries. Interdependencies that exist among the region's fire protection agencies are primarily voluntary as no local governmental agency can exert authority over another.

Due to the remote location of the project area, fire services generally consist of volunteer departments that operate on a seasonal staffing basis. Additional departments and agencies providing fire services in the project area are as follows:

- **Boulevard Volunteer Fire and Rescue Department**. Located at 39223 Highway 94 in Boulevard, the Boulevard Volunteer Fire and Rescue Department is an all-volunteer fire department that protects an approximately 99-square-mile area in eastern San Diego County. The Department has approximately 27 volunteers consisting of fire fighters, officers, and probationary employees. The Department provides services including firefighting, hazardous material response, advanced life support medical service, vehicle extrication, and search and rescue (Boulevard Volunteer Fire and Rescue Department 2012). The Department's operations are now financed by SDCFA CSA 135 (CSA 111 that formally included this area has been formally dissolved)
- **San Diego Rural Fire Protection District**. With 14 stations and a service area of 720 miles, the San Diego Rural Fire Protection District (SDRFPD) also maintains a presence in eastern San Diego. Two SDRFPD stations are located in the vicinity of the proposed project: the Jacumba Station (1255 Jacumba Street), located approximately 8 miles east of the proposed project, and the Lake Morena Station (29690 Oak Drive), located approximately 12 miles northwest of the proposed project. The Jacumba station is an all-volunteer fire station, while the Lake Morena station is staffed 24 hours a day, 7 days a week, with paid firefighters (SDRFPD 2009).
- **California Department of Forestry and Fire Protection (CAL FIRE).** The unincorporated area of San Diego County has a Cooperative Fire Protection Agreement with CAL FIRE for the provision of fire and emergency services in the San Diego Rural Fire Protection District. CAL FIRE responds to wildland fires, structure fires, floods, hazardous material spills, swift water rescues, civil disturbances, earthquakes, and medical emergencies. CAL FIRE operates the CAL FIRE Whitestar Facility at 1684 Tierra Del Sol Road, located approximately two and three quarter's miles north of the proposed project (CAL FIRE 2012a). CAL FIRE, in association with the California Department of Corrections and Rehabilitation, also jointly manages McCain Valley Camp (a prison camp) and provides inmates with a limited level of training in fire safety and suppression techniques. Crew levels at the camp fluctuate and the response is typically for wildland fire, flood control, and community projects. McCain Valley Camp is located at 2550 McCain Valley Road, approximately 6 miles north of the proposed project (CAL FIRE 2012b).

4.1.1.1 Emergency Service Level

Using San Diego County fire agencies' estimate of 82 annual calls per 1,000 population, the project's estimated 5 on-site personnel (there will be some variation throughout the year with a higher number of persons during the construction phases), would generate up to 0.41 calls per year (less than 0.03 call per month), most of which would be expected to be medical-related calls. These estimates are likely overly conservative due to the fact that there will not be staff on-site during nighttime hours and County statistics represent calls from dense urban areas where medical related calls are much higher than would be anticipated from the Project.

Service level requirements are not expected to be significantly impacted with the increase of less than 0.5 calls per year for a station (Boulevard Fire Station) that currently responds to fewer than 2 calls per day in its primary service area. For reference, a station that responds to 5 calls per day in an urban setting is considered average and 10 calls per day is considered busy. Therefore, the project is not expected to cause a decline in the emergency response times.

Response to the project from nearby fire stations will be within the acceptable time frame as designated in the County General Plan. The Project site is within the Boulevard Subregional Planning Area, Mountain Empire Subregional Plan of San Diego County's General Plan; the land use category Rural Lands (RL-80) Development Area. Based on this category, maximum travel time is greater than 20 minutes,. Response from Boulevard Fire Department is calculated at less than 11 minutes. Therefore, the project complies with the General Plan for response travel time. The Project would construct a facility that is very different from the residential units that could be constructed on the site. The intent of the 20 minute travel time is that very-low rural densities mitigates the risk associated with wildfires by reducing the number of people potentially exposed to wildfire hazard. The Project would include roughly five persons, roughly the same as two dwelling unit populations, on the entire 420 acre site. Therefore, the Project meets the intent of the RL80 land use category, even though it has a more aggressive footprint than would the allowable rural land use designation.

4.1.1.2 Response Personnel Training

Studies (Grant 2010 and others) indicate that solar facility fire data is lacking, but it is clear that electrical fires occur relatively regularly and solar component fires can and do occur, although at much lower levels and typically related to roof-top solar arrays, at least to date. The same studies evaluated what measures provide the best results for improving response capabilities and firefighter safety. Among the types of measures that provide the most benefit are firefighter training, proper labeling, firefighter familiarizing, and extreme

caution during fire response. To that end, this FPP requires the Project to implement the following measures:

- Conduct training sessions with local fire station personnel
- Create a customized video training CD with SDCFA and CAL FIRE input that will be provided to local fire agencies for refresher training and training new firefighters who may rotate into potentially responding stations
- Create consistent and clear labeling and placarding warnings on all electrical equipment
- Provide system technical contact information for reliably available key personnel who can assist responding firefighters with technical aspects of the Project

4.2 Fire Access

4.2.1 Fire and Maintenance Access Roads for Solar Facility

Primary access would be from Tierra del Sol Road and would be controlled by a 26-foot wide security gate. Tierra Del Sol Road is a 24-feet wide, paved roadway that intersects Campo Road (94) to the north of the Project and eventually Campo Road intersects with Old Highway 80. There is no dedicated secondary access leading to/from the project site in a remote location from the primary access, but there are four total vehicular access gates leading into the project. . Secondary access is required for development projects that include an increase in the number of people beyond a threshold that could impact the ability to evacuate those people while providing suitable ingress for emergency personnel. This project will include fewer than 10 people on site at any given time and will include no overnight accommodations, so no staff will be sleeping at the site. Access gates will be provided from Tierra del Sol Road to the west, and access from the border road to the south and southwest.

There are two different types of roads for the project that will be improved to different standards: fire access roads and driveways. All roads designated for fire access, including the driveways, will include design to support imposed loads of 50,000 pounds and all other drivable surfaces will be treated with a permeable nontoxic soil binding agent in order to reduce fugitive dust and to reduce erosion. Figure 3 provides detailed road locations.

Fire Access Roads (Fire): The Fire Access Roads would be constructed to a minimum width of 20 feet improved designed, constructed, and maintained to support the imposed loads of fire apparatus (not less than 50,000 lbs.) and would be provided with an approved surface so as to provide all-weather driving capabilities. An access controlled gate would be

installed at the substation driveway which would be constructed off an improved existing roadway with direct access to Tierra Del Sol Road.

These roads traverse the perimeter of the Project and provide access from the north and south to the Operations & Maintenance structure. (Figure 3).

North-south Driveways: Driveways will include 12 feet wide improved surfaces designed, constructed, and maintained to support the imposed load of fire apparatus (not less than 50,000 lbs.). Driveways will be provided such that all site appliances (tracker panels, inverters, and other non-habitable features) are within 300 feet of a driveway. This results in a 600 foot spacing interval for most driveways on the Tierra del Sol project site.

Service Roads: Graded dirt service roads will occur throughout the site along the west side of the rows of trackers except where there would be an access road or driveway that would facilitate access to trackers and inverters. Service roads will be capable of supporting typical maintenance vehicles and some types of fire apparatus (such as Type VI engines). These roads will be treated with a soil binding agent designed to minimize degradation of surface over time. Service roads would be clearly marked to indicate that they will not support imposed loads of 50,0000 pounds, as appropriate.

Deadends

Road distance thresholds specified under Section 503.1.3 of the Consolidated Fire Code restrict maximum dead end road lengths for varying parcel size. The project is zoned RL80 with a minimum allowable parcel size of 80 acres. Parcels of this size are allowed a maximum dead-end road length of 5,280 feet according to Section 503.1.3. The distance from the site entrance where there exists the opportunity to egress in two separate directions, to the most remote portion of the Project is less than 5,280 feet. Additionally, the Project's circulatory driveways/roadways will include numerous opportunities for fire engine turn-around, thus meeting Code requirements. Further, the intent of the dead end road length requirements is for evacuation of civilians from a wildfire emergency as well as fire department access. The Project includes very low numbers of on-site staff (roughly 5) so that evacuation during an emergency would not impede fire access. The distance from the site access to the O&M building, where staff would spend the majority of their time, is roughly 1,200 linear feet along a 20 foot wide roadway that includes gated access to the north and south (Figure 3).

Vertical Clearance

Minimum vertical clearance of 13 feet 6 inches will be maintained for most of the Project's Fire Access Roads driving surface when CPV trackers are in the "safe" horizontal position. There

may be CPV tracker positions where 11 feet is the maximum that can be achieved, including in areas with elevation changes and sloped roadways. However, in these areas there is enough room on the drivable portion of the roadway that engine clearance will not be impeded and the CPV trackers can be placed in vertical mode, resulting in unimpeded vertical access along roadways.

Grade

Road grades will not exceed 10%, complying with the Consolidated Fire Code for the proposed decomposed granite aggregate road surface.

Surface

All internal fire access road surfaces and driveways will be improved all-weather surfaces capable of supporting travel by minimum 50,000-pound apparatus.

Secondary Access

Alternative ingress/egress can be an important component to fire protection and safety. In addition to the primary project access point located off of Tierra Del Sol Road, four additional ingress and egress points are provided: two Border Patrol access gates are provided along the southern project boundary near the international border, a access point is provided off of Tierra Del Sol Road along the western project boundary , and a Border Patrol access gate is provided along the eastern project boundary. Of the five access point, two can be accessed from a publically maintained road. Emergency access roads to Border Patrol routes are designated for emergency use only and would not be subject to regular project traffic.

Gates

The gate at the entrance to this project shall be equipped with an approved emergency key-operated switch overriding all function commands and opening the gate. The gate has a measured opening of 26 feet and will be installed in compliance with Section 503.5 and 503.6 of the CCFC and to the satisfaction of the Director of Public Works. The site will be completely fenced with a chain link and barbed wire fence. Gates on all other access roads will be provided chain link with fire-accessible padlock.

Pedestrian gates will be provided on each side (north, south, east and west) of the project's perimeter fence at spacing acceptable to the fire authority, and proposed at 750 feet intervals. Pedestrian gates will include chain-link and fire accessible padlocks.

4.2.2 Identification

Identification of roads and structures will comply with CCFC, Section 505 and Section. Additionally, an illuminated sign at the Project entrance will be provided that clearly indicates inverter and electrical grid layout, CPV Tracker "safe" mode switch location and entire site de-energizing disconnect switch identification and location. Lighting for the sign will be provided by a motion sensor-activation so the light is not on all night, every night. Additionally, the sign lettering will be reflective and the sign locate where vehicle headlights may provide adequate illumination.

4.2.3 Transmission Line

The transmission line Right-of-Way access roads are dirt surfaced and have an average width of 10 feet. These roads are designed for the construction and maintenance of the Gen-Tie line. Even though a Type 3 engine could travel on the dirt roads, they are not designed to be fire access roads that support 50,000 pounds and meet minimum grade standards.

4.3 Water

Once the project is operational, typical water usage will include CPV tracker washing, soil binding agent applications, and O&M building personnel usage. Table 6 provides details regarding the Project's estimated water usage:

Table 6
Total Estimated Water Use for Project Operation

Dust Suppression *(if required)*	
Number of gallons/acre[1]	825
Acres[2]	427
Water use/year (gallons)	352,275
Water use/year (acre-feet[3])	1.08
Panel Washing	
Washes/year	9
Number of trackers	2,538
Gallons/tracker/wash (maximum)	24
Total water use/year (gallons)	**720,360**
Total water use/year (acre-feet)	**2.21**

Table 6
Total Estimated Water Use for Project Operation

Total Potable Water Usage	
Amount of Potable Water usage per year [4]	125,664
Total water use (gallons/year)	**1,198,299**
Total water use (acre-feet/year)	**3.68**

1 Based on suppression activities of 1,650 gallons every 2 years.
2 Based on constructed acres within the Project site. Open space areas are not included in estimates for dust suppression.
3 1 acre-foot = 325,851 gallons
4 Average monthly water usage is 10,472 gallons http://www.sandiego.gov/water/conservation/tips.shtml

In addition to the water required for use by the facility, water must be available in conformance with Sec. 507.2.2 of the County of San Diego Consolidated Fire Code – Type of Water Supply, Table 507.2.2 Water Tank Requirements for firefighting purposes.

Project water will be stored in aboveground metal tanks complying with the requirements of the SDCFA. The tank installation, including all notes on the standard drawing, will be complied with (Appendix A). In addition the tanks shall comply with NFPA 22, Private Fire Protection Water Tanks. The water capacity of each tank shall be 10,000 gallons which is the maximum required by the CCFC standard.

The capacity of the water tanks at the facility will be based upon the demand for the fire sprinkler system for the O&M building (estimated to be less than 20,000 gallons for a 40 minute supply to a rural non-residence structure per CCFC, Table 903.3.2), plus hand lines, plus a reasonable allocation for water supply for Fire Engines to generate firefighting foam for 15 minutes at an application density of 0.16 gpm/sq ft from a hose line using a 3% AFFF concentrate, for use on an oil fire in transformer containment. A conceptual estimate at this point, prior to detailed design, is 250 gpm for 15 minutes (3,750 gallons of water) plus 112.5 gallons of foam concentrate for oil firefighting. The actual amount of stored water is to be determined upon detailed design of the substation, transformer secondary containment, and O&M building, and distance of the O&M building from transformers. The actual size/quantity of the water tanks will be determined by the fire sprinkler contractor and the appropriate agencies, at time of detailed system design. These tanks will need to be on an elevated plane or have an approved pump for fire sprinkler supply. A procedure for ongoing inspection, maintenance and filling of tanks will be in place. The Project will provide up to two10,000 gallon tanks at the O&M building and three additional 10,000 gallon tanks strategically placed throughout the Project site (Appendix G).

The tank and fire engine connection shall be located on the side of the fire access road(s). The width of the road at the water tank locations shall be at least 18 feet (travel width) plus an additional 10 foot width, for a distance of 50 feet, to allow for fire engine to park and connect to the tank, while leaving the road open. Tanks shall be labeled "Fire Water: 10,000 gallons using reflective paint.

Conceptually, the following tank locations are proposed:

- Up to two tanks near the O&M and Substation site
- One tank west of the main intersections of access roads
- One tank near the west-central Project boundary
- One tank near the east-central Project boundary

Final location of the tanks will be approved by the FAHJ based on a tank location drawing to be submitted by the Project applicant. Drawings shall show tank location, road, and shall include the tank standard drawing and notes.

4.4 Ignition-Resistant Construction and Fire Protection Systems

Operations & Maintenance Building

The facility will not include residential development. A 7,500 square foot Operations and Maintenance (O & M) Building will be constructed on site. Other structures include inverter structures, water tanks, and substation control room. All structures will be of non-combustible construction or will comply with the ignition-resistive construction requirements: Wildland-Urban Interface areas of Chapter 7A of the County Building Code.

The O&M facility is the only new structure proposed that will include staff during business hours. The O&M building will include construction that provides fire prevention and protection. The facility construction, including walls, penetrations through walls, doors, vents, roof, glazing and any skylights, will comply with the County Building Code (CBC) Wildland Urban Interface construction standards in Section 92.1.704, and Chapter 7-A of the CBC, and the CFC.

The O&M structure will include a National Fire Protection Association (NFPA) 13 Automatic Fire Sprinkler System. The Fire Sprinkler system will be supervised by an off-site 24/7 alarm monitoring company. Supervision to a SDCFA approved remote alarm monitoring company may be required based on number of sprinkler heads. Twenty heads requires electrical supervision of all valves in system, pumps, water tank level, etc. CFC Section 903.4.

The O&M building will be located on a two-acre site including a parking lot and will be surrounded by a cleared area to the south and west, fuel modification to the north and parking areas to the east. Various occupancies in the building, as classified by the CBC, will have the required fire separations and will comply with the CFC and CBC for the type of occupancy and activities therein; for example, storage, or maintenance shop.

The SCADA monitoring system will have an emergency power source at the O&M building, in addition to 24/7 monitoring at an off-site location. Both on-site staff and off-site staff will have the emergency contact information for the fire agencies, and will coordinate to make sure that the fire agencies will be called in the event of a fire or medical emergency.

The building will have smoke detectors, which are supervised and activate an alarm on exterior of building, and are supervised to an off-site location. Alarms may not be transmitted to the offsite 24/7 alarm monitoring company, so as to avoid false calls to 911 resulting in an unnecessary response.

The building will have a KNOX key box on exterior by main door for use by firefighters.

Substation

The substation control room will be of non-combustible construction. Substation transformers will utilize fire walls for exposure protection and will have secondary containment to control any oil that could be released. The size of the containment must be adequate to contain the total amount of oil plus firefighting water for 15 minutes. NFPA 850 recommends 10 minutes however, per NFPA 11, foam delivery from hand lines assumes an application time frame of 15 minutes. Firefighting foam concentrate will be stored at the O&M building for use by firefighters. Typically a 3% Aqueous Film Forming Foam (AFFF) concentrate is used, and the application rate is 0.16 gpm/sq. ft. for 15 minutes from a firefighter hose line. In concept, the needed gpm flow rate for the hose lines is 250 gpm. This is subject to detailed design and size of the containment.

As an additional fire protection measure, portable carbon dioxide (CO2) fire extinguishers will be mounted at the inverter enclosures and medium voltage transformer units throughout the site.

Transmission Line

The Gen-Tie transmission line will consist of overhead and underground alignments. The 3 miles of underground facilities will be installed in a duct bank composed of nine 6-inch polyvinylchloride conduits placed in concrete. The rest of the transmission line from the transition pole to rebuilt Boulevard substation will be constructed on steel poles designed for

extreme winds that meets or exceeds current California Public Utilities Commission (CPUC) standards. The line will also have an overhead static wire to improve lightning performance. The project will incorporate any Federal Aviation Administration required tower or conductor marking and lighting devices, if warranted.

4.5 Defensible Space and Vegetation Management

The Project will be provided defensible space by setting back all CPV trackers a minimum 50-feet from property boundaries and modifying the natural fuels by removing and replacing the landscape plantings with a mix of low growing ground cover plants or, in the case of perimeter areas, drivable surfaces and vegetation free areas.

The site's structures, including the O&M Building, inverter structures and control rooms and the substation site will include minimum 100 feet wide Fuel Management Zones in all directions. The entire site will include modified fuels with fire access roadways and service roads compartmentalizing the low-growing (less than 6-inch) planted areas beneath all CPV solar trackers. No off-site clearing is required or authorized, as required fuel modification can be accommodated on site, however fuels within the existing San Diego Gas & Electric easement that runs east-west through the project, will be converted to fuel modification area to minimize the spread of fire within and through the Project.

Combustible vegetation within the Project area shall be limited to approved species and shall be maintained at a height of no more than 6 inches. None of the plants on the prohibited plant list (Appendix H) shall be allowed on site.

Special Fuel Management Areas will include removal of vegetation, placement of landscape fabric and rock topping to prohibit vegetation growth. These areas will be maintained free of vegetation and are provided in distinct locations, as described below.

Prescribed Defensible Space (site-wide fuel management zones) will be maintained on at least an annual basis or more often, as needed, by the applicant or current Project owner. Planting used in the defensible space will consist of low-growing ground cover selected from the SDCFA desirable plant list. The planting list and spacing will be reviewed and approved by the SDCFA Fire Marshal and included on submitted Landscape Plans.

4.5.1 Fuel Modification

Project fuel modification will include one zone (opposed to multiple zones) that consists of non-irrigated, low growing ground cover. Because this site will utilize non-combustible construction and one habitable structure near the middle of the site, the proposed fuel modification areas will

provide adequate setback for the potential short duration wildfire that may be realized in the adjacent wildland fuels.

A 50 feet wide fuel modification area (cleared area with special fuel modification prohibiting plant growth of 18 feet outside perimeter fence and 20 feet perimeter road inside fence with 12 feet of cleared, vegetation free area) will be provided at the perimeter of the project between the solar trackers and the off-site wildland fuels. The worst-case predicted flame lengths are roughly 45 feet. A rule of thumb standard for residential development is a minimum of two times the flame lengths for structure setback. The O&M structure, inverter structures, and substation area on this site are interior, from 300 (inverters) to more than 1,000 feet (O&M Building) set back from off-site fuels. The CPV trackers could be exposed to short-duration wildfire, but would not be expected to include consistent, focused heat exposure from the off-site vegetative fuels. Damage to the perimeter trackers is not expected, and they are not considered likely to continue fire spread.

4.5.1.1 Fuel Modification Requirements

The following recommendations are provided for fuel modification, which are proposed to occur throughout the site from perimeter fence to interior preserve area boundaries, including beneath all solar arrays. There would be no fuel modification zone markers in the field except at the two interior no-impact areas (Appendix H), as the remainder of the site would be maintained to the same level.

Site Wide Low-Flammability Zone

The site's fuel modification is applicable site wide outside of the two on-site preserve areas (Appendix G), inclusive of the existing easement beneath the SDG&E electrical transmission lines through the site. As such, the existing vegetation will be removed and the site will be replanted with low-growing, desirable ground cover. The following specifications apply to the fuel modification area:

- Non-combustible surface (pavement, concrete, decomposed granite, etc.) is acceptable, or:
- Cleared of all existing native vegetation and replanted with drought tolerant native species. This area will be maintained to 6 inches or less.
- Ground cover, less than 6 inches high
- Removal of all dead, dying, and dried (low fuel moisture) vegetation

- Refer to APPENDIX I customized fuel modification plant list for potential plants that may be suitable for the site-wide low-flammability zone
- Refer to APPENDIX H for Prohibited Plants that will not be allowed on site. Trees are not recommended on the site or its perimeter
- If the area is planted with native annual and perennial grasses they shall be allowed to grow and produce seed during the winter and spring. As grasses begin to cure (dry out), they will be cut to 6 inches or less in height.

Special Fuel Management Areas

Special fuel management areas will include clearance of all vegetation, placement of landscape fabric to inhibit the growth of vegetation, then topped with a rock material. The amount of special fuel management area provided varies with the application, as follows:

1. Tracker Pole Base – a 36-inch circular area around the base of tracker poles will be provided with special fuel management.
2. Inverters – where inverters are not positioned along an internal fire access road or driveway, they will be provided with a 10 feet wide special fuel management area on all sides
3. Perimeter area outside fence – an 18 feet wide area outside the perimeter fence will be cleared and provided with landscape fabric and topped with rock material.
4. In some perimeter locations where perimeter fire access cannot be provided to within 300 feet from the outermost row of trackers (primarily based on road layout constraints on odd shaped sites and environmental constraints), the perimeter special fuel management area will be extended from the perimeter fence to the fire roadway. There are no specific areas on Tierra del Sol where this occurs based on the conceptual plan.

4.5.1.2 Other Vegetation Management

Electrical Transmission Line Vegetation Management

In addition to the Project site fuel modification requirements, the selected interconnection transmission line will require standard vegetation clearance at the off-site locations. Overhead transmission line and transmission pole vegetation management is regulated by various codes and ordinances including by the following regulations:

California Public Utilities Commission

GO 95: Rules for Overhead Electric Line Construction

GO 95 is the standard governing the design, construction, operation, and maintenance of overhead electric lines in California. It was adopted in 1941 and updated most recently in 2006.

GO 95 includes safety standards for overhead electric lines, including minimum distances for conductor spacing, minimum conductor ground clearance, standards for calculating maximum sag, and vegetation clearance requirements.

Vegetation clearance requirements of GO 95 are:

GO 95: Rule 35, Tree Trimming, defines minimum vegetation clearances around power lines.

Rule 35 guidelines specify, at the time of trimming require:

- 4 feet radial clearances are required for any conductor of a line operating at 2,400 volts or more, but less than 72,000 volts;
- 6 feet radial clearances are required for any conductor of a line operating at 72,000 volts or more, but less than 110,000 volts;
- 10 feet radial clearances are required for any conductor of a line operating at 110,000 volts or more, but less than 300,000 volts (this would apply to the project);
- 15 feet radial clearances are required for any conductor of a line operating at 300,000 volts or more.

CCR, Title 14 Section 1254

The firebreak clearances required by PRC § 4292 are applicable within an imaginary cylindrical space surrounding each pole or tower on which a switch, fuse, transformer or lightning arrester is attached and surrounding each dead-end or corner pole, unless such pole or tower is exempt from minimum clearance requirements by provisions of CCR, Title 14 Section 1255 or PRC § 4296.

The radius of the cylindroids is 10 feet measured horizontally from the outer circumference of the specified pole or tower with height equal to the distance from the intersection of the imaginary vertical exterior surface of the cylindroid with the ground to an intersection with a horizontal plane passing through the highest point at which a conductor is attached to such pole or tower. Flammable vegetation and materials located wholly or partially within the firebreak space shall be treated as follows:

- At ground level – remove flammable materials, including but not limited to, ground litter, duff and dead or desiccated vegetation that will propagate fire;
- From 0 to 8 feet above ground level – remove flammable trash, debris or other materials, grass, herbaceous and brush vegetation. All limbs and foliage of living trees shall be removed up to a height of 8 feet;

- From 8 feet to horizontal plane of highest point of conductor attachment – remove dead, diseased or dying limbs and foliage from living sound trees and any dead, diseased or dying trees in their entirety.

Western Project Area Preservation Area

The undeveloped area in the western portion of the project site will be subject to fuel reduction to include removal of all plant species on the prohibited plant list, thinning of remaining shrub species to 50% of pre-thinning condition, and removal of all trees. This area will be maintained annually or more often to a low-fuel condition.

Pre-Construction Vegetation Management

Since the Project will be constructed in two phases:

- Fuel reduction work must be completed on the first phase and a minimum 50 feet of fuel reduction on the adjacent second phase must be completed before commencement of construction.
- Fuel modification must be maintained on the perimeter and throughout Phase 1, including areas on Phase 2 that are necessary for achievement of the 50 feet of modified fuels on Phase 1's perimeter CVP trackers and inverters.
- Fuel modification of 100 feet must be provided around all structures built during Phase 1 including O&M Building, inverters, and substation/control room.
- Fuel reduction work must be completed on the second phase before commencement of construction.

Environmentally Sensitive Areas/Riparian Area

Fuel modification within the eastern Project preserve area is not required. The area includes sensitive species and is an environmentally sensitive area. A minimum 50 foot fuel modification zone setback is provided between this environmentally sensitive area and the closest solar tracker.

Undesirable Plants

Certain plants are considered to be undesirable in the landscape due to characteristics that make them highly flammable. These characteristics can be physical or chemical.

The plants included in the Prohibited Plant List (Appendix H) are unacceptable from a fire safety standpoint, and shall not be planted on the site. The area retained outside of the Project footprint

in the western portion of the project that includes terrain not desirable for grading includes non-native pine and eucalyptus trees as well as undesirable native plant species. These trees and flammable plants shall be removed and any subsequent sprouting or volunteering of trees or undesirable plant materials will be removed on an annual basis.

4.5.1.3 Fuel Modification Area Vegetation Maintenance

All fuel modification area vegetation management shall be completed annually by May 15 of each year and more often as needed for fire safety, as determined by the SDCFA. Project applicant or current owner shall be responsible for all vegetation management throughout the facility and Project site, in compliance with the requirements detailed herein. The Project applicant or current owner shall be responsible for ensuring long-term funding and ongoing compliance with all provisions of this FPP, including vegetation planting, fuel modification, vegetation management, and maintenance requirements throughout the Project site.

Fuel modification maintenance work may be provided by mowing, trimming, masticating, managed goat grazing, or other methods that result in the desired low-fuel conditions detailed herein.

As a further means of ensuring the fuel modification area is maintained per this FPP, the Project owner shall obtain an inspection and report from a SDCFA-authorized Wildland Fire Safety Inspector by June 1st of each year, certifying that vegetation management activities throughout the project site have been performed pursuant to this plan. This effort further ensures vegetation maintenance and compliance with no impact on the SDCFA.

4.6 Cumulative Impact Analysis

This and other projects may have a cumulative impact on the ability of local agencies to protect residents from wildfires. This project and other development in the area will increase the population and/or activities and ignition sources in the Tierra Del Sol area, which may increase the chances of a wildfire and increase the number of people and structures exposed to risk of loss, injury or death.

The potential cumulative impacts from multiple projects in a specific area can cause fire response service decline and must be analyzed for each project. The Project and its proposed Solar Trackers along with substantial other solar and/or wind projects in the greater Boulevard region represent an increase in potential service demand along with challenges regarding rescue or firefighting within or adjacent to electrical facilities.

Despite the generally low calculated increase in number of calls per year anticipated from the Project, the project contributes to the cumulative impact on fire services, when considered with

other anticipated projects in the area. The cumulative impact results in a situation where response capabilities may erode and service levels may decline. In response, the Project shall enter into ~~has developed~~ a fire and emergency protection services agreement with the San Diego County Fire Authority to make a fair share contribution to find the provision of appropriate fire and emergency medical services (see PDF-PS-1) ~~that results in significant funding to be used toward firefighting and emergency response augments, improvements, and additions so that the SDCFA and area firefighting agencies will be able to perform their mission into the future at levels consistent with the General Plan. A Fire Service Agreement will be entered into with SDCFA and will provide for funding on a MW basis to be used for Type VI fire engine acquisition and operation, establishment of a paramedic assessment engine company on an existing area fire engine (either Pine Valley or Lake Moreno), and annual funding for homeowner assistance through a fuel modification grant program managed by SDCFA~~. The requirements described in this FPP, including ignition-resistive construction, fire protection systems, pre-planning, education and training, and fuel modification/vegetation management, are designed to aid firefighting personnel such that the Project is defensible and on-site personnel are protected and impacts to the fire authority are addressed~~mitigated~~.

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5.0 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

As presented in this FPP, the proposed Project provides customized measures that address the identified potential fire hazards on the site. The measures are independently established, but will work together to result in reduced fire threat and heightened fire protection. Appendix G provides a Fire Safety Site Plan indicating the locations of important site safety features including roads, water tanks, inverters, and fuel modification areas. The provided measures include both required and Project-volunteered items, as follows:

1. Fuel Modification throughout the Project site from boundaries inward, including beneath CPV trackers with restrictions on plant species, heights, densities, and locations. Implementation of vegetation management standards for electrical transmission line/interconnect to Boulevard substation.
2. Special Fuel Management Areas will augment the site's fuel modification by creating areas void of vegetation, such as cleared areas outside the perimeter fence, areas where perimeter roads are inside the outer tracker rows, around tracker poles (36 inches), and around inverters (10 feet). These areas will be treated with placement of landscape fabric topped with rock material and provided ongoing maintenance to exclude vegetation growth.
3. 20 foot wide perimeter fire apparatus access road and primary access to Operation & Maintenance structure; 12 foot wide driveways within 300 feet of all other on-site appliances (inverters, trackers, etc.), turnouts/turnarounds along 12' wide roads at inverters and every 600 feet if no inverter.
4. Participation in a ~~F~~fire and emergency protection ~~S~~service ~~A~~agreement with the San Diego County Fire Authority to make a fair share contribution to fund the provision of appropriate fire and emergency medical services ~~for funding firefighting resources on a MW basis. Funding will provide for a Type VI fire engine, funding for a paramedic on one of the area's engines (either Pine Valley or Lake Moreno), and for annual funding of $50/MW to a focused homeowner fuel modification grant program managed by SDCFA~~.
5. Project funded annual fuel modification inspections to ensure compliance with this FPP.
6. Motion sensor illuminated (and/or reflective) signage at entrance with inverter and electrical grid disconnect and isolation information and identification.
7. Ability of first responders to put the trackers in the horizontal stow "safe" position by flipping a switch/switches (located at the main gate near the directory), which will provide the greatest clearance from ground level to the tracker assembly of a minimum of 11 feet for some CPV trackers and 13'6" for most CPV trackers of overhead clearance. Back-up power

will be provided to ensure this feature works when needed. Ability to place the CPV trackers in the vertical position to enable unimpeded site access on fire access roads.

8. Ability of first responders to de-energize the entire project site from one location.
9. Training program for local fire agencies including preparation of a technical training video with SDCFA input and customized for this facility that can be easily viewed by new firefighters who rotate through the local fire stations.
10. Fire Safety Technical Report for Responding Firefighters (Appendix J)
11. Preparation of a construction fire prevention plan for this project to be implemented by all contractors working on Phase 1 and Phase 2 of this project.
12. Portable carbon dioxide (CO_2) fire extinguishers mounted at the inverters and medium voltage transformer units
13. Five (5) 10,000-gallon water tanks
14. System contact information with local fire agencies/stations to assist responding firefighters during an emergency
15. Committed on-going maintenance of all facility components for the life of the project
16. Consistent placarding and labeling of all components for fire safety/response
17. The overhead Gen-Tie alignment will consist of non-combustible, steel poles that will be accessed from existing and newly-constructed roads. The overhead transmission line poles will be based on an extreme wind design.
18. Vegetation management around steel poles and overhead power line will reduce fire danger.

~~Alternative mitigation measures may be included, such as staffing, equipment, and other elements that are identified in the Soitec Solar Portfolio Project Emergency Service Capabilities Assessment and Cumulative Impact Mitigation study.~~

6.0 CONCLUSION

This FPP is submitted in support of an application for project entitlement of the Tierra Del Sol Solar Project. It is submitted as required in compliance with the County's conditions for FPP content. The requirements in this document meet the intent and purpose of the Code for fire safety, building design elements, fuel management/modification, and landscaping requirements of San Diego County. This FPP documents required fire safety features required by applicable codes and recommends additional measures that will enhance the site's fire safety and reduce potential impacts to insignificant without lessening health, life, or fire safety.

Fire and Building Codes and other local, county, and state regulations in effect at the time of each Project phase's building permit application supersede these recommendations unless the FPP recommendation is more restrictive.

The Project provides fire access, on-site water, structures built to ignition resistant standards, fuel modification and vegetation management on the non-paved or built portions of the site, along with measures providing on-site foam concentrate, fire fighter training materials, and measures for fire protection during construction. The site fuel modification is based on fire behavior modeling representing the fire environment and the type of fire that would be anticipated at this site. The fuel modification areas will be maintained and inspected annually by a SDCFA-approved, Project-funded wildland fire inspector, removing all dead and dying materials and maintaining appropriate horizontal and vertical spacing. In addition, plants that establish or are introduced to the fuel modification area that are not on the approved plant list will be removed.

In addition, the project will participate in a development services agreement which has been created specifically to mitigate all future development impacts in this portion of eastern San Diego County by requiring projects to provide funding toward fire department assets (stations, apparatus, equipment, personnel).

Ultimately, it is the intent of this FPP to guide, through code and ~~mitigation~~policy requirements, the construction of a Solar Facility and Gen-Tie transmission line that is defensible from wildfire and, in turn, does not represent significant threat of ignition source for the adjacent native habitat. It must be noted that during extreme fire conditions, there are no guarantees that a given structure will not burn. Precautions and mitigating actions identified in this report are designed to reduce the likelihood that fire would impinge upon the proposed structures. There are no guarantees that fire will not occur in the area or that fire will not damage property or cause harm to persons or their property.

Implementation of the required enhanced construction features provided by the applicable codes and the mitigating fuel modification requirements provided in this FPP will accomplish the goal of this FPP to assist firefighters in their efforts to defend these structures and reduce the risk associated with this project's WUI location.

7.0 LIST OF PREPARERS

Project Manager:

Michael Huff
Fire Protection Planner; San Diego County California Environmental Quality Act Consultant List
Dudek

GIS and Research Assistant:

Chris Kallstrand
Data gathering, GIS exhibit preparation
Dudek

GIS Fire Behavior Modeling:

Scott Eckardt
Registered Professional Forester
Dudek

FPP Preparation and Fire Behavior Modeling:

Michael E. Scott
Urban Forester and Fire Protection Planner
Dudek

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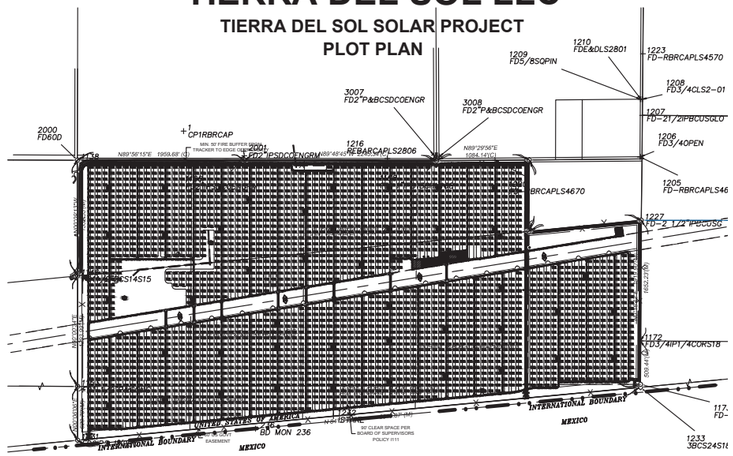
APPENDIX A

Tierra del Sol Solar Farm Project Features

60.0MW SOLAR SYSTEM
TIERRA DEL SOL LLC

TIERRA DEL SOL SOLAR PROJECT
PLOT PLAN



GENERAL NOTES:

1. Each tracker assembly is approximately 48 FT wide with a maximum constructed height of 30 FT and spaced approximately 69 FT North to South; 82 FT East to West.
2. Entrance to each gate will be from an improved driveway that shall be designed in accordance with the attached details on C-103 and equipped with an emergency key-operated override switch.
3. At no point does the change of grade, along the primary access road, exceed 10%.
4. Detailed cross sections of the roads are provided on the preliminary grading plan.
5. All compaction requirements are listed on the preliminary grading plan.
6. Turnaround shall be designed in accordance with County of San Diego Design Standard DS-06 for a county emergency fire apparatus.
7. The project site is not located in a designated flood plain, therefore lines of inundation are not shown.
8. Temporary and Permanent BMPs are shown on the preliminary grading plan.
9. All coordinates shown are state plane coordinates based on CCS83, Zone 6 (2007.00 Epoch).
10. All dimensions are shown in Decimal Feet.
11. The solar related facilities (panels, electrical connections, transformer/inverter platform, O&M buildings, emergency generator, fencing, internal access and switchgear pad, etc.) shown on the plot plans may be relocated, (exclusive of the open space areas & undeveloped (future development area)) with the administrative approval of the director of dplu when found in conformance with the intent and conditions of the permit's approval. Transformer/inverter platform locations can be relocated/reconfigured without requirement of minor deviation.

ABBREVIATIONS:

AC	Alternating Current
ADT	Average Daily Trips
BB	Building Block
BMP	Best Management Practice
CEQA	California Environmental Quality Act
CPV	Concentrating Photovoltaic
CFA	County Fire Authority
DPLU	County of San Diego, Department of Planning and Land Usage
DS	Design Standard
EIR	Environmental Impact Report
EOP	Edge of Pavement
FT	Feet
kV	kilovolt
kW	kilowatts
MAX	Maximum
MOU	Memorandum of Understanding
MPA	Major Use Permit Application
MUP	Major Use Permit
MW	Megawatts
NTS	Not to Scale
PL	Property Lines
QTY	Quantity
RL	Rural Land
ROW	Right of Way
RPO	Resource Protection Ordinance

SHEET INDEX

PARCEL ZONING SETBACK SCHEDULE

APN	SETBACK SCHEDULE DESIGNATION
658-090-31	D
658-090-55	D
658-120-03	D
658-090-54	D
658-120-02	D

* THIS PLAN IS EXEMPT FROM THE SETBACK SCHEDULE PURSUANT TO ZONING ORDINANCE 4813

COVERAGE TABLE

UNIT	# UNITS	ACRES / UNIT
TRACKER	2538	0.026
INVERTER	45	0.005
O&M	1	0.172
SUBSTATION	1	0.126
	TOTAL ACRES =	67

RESERVED FOR COUNTY STAMPS

AECOM

DESIGNER

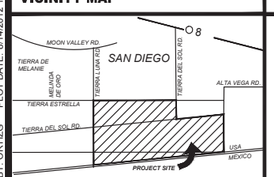
AECOM
AECOM TECHINCAL SERVICES, INC
440 Stevens Avenue, Suite 250
Solana Beach, CA 98075
858.947.7144 tel 858.947.7145 fax
www.aecom.com

CLIENT

Soitec

Soitec Solar Development, LLC
4250 Executive Square, Suite 770
San Diego, CA 92037-9178

VICINITY MAP



OWNER INFORMATION

NAME: Brown Family Trust, Brown & Reynolds Trust
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ZIP: 38401
PHONE:
FAX:
EMAIL:

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EMAIL: patrick.brown@soitec.com

PARCEL INFORMATION

APN: 6580903100, 6580905500, 6581200300, 6581200200, 6580905400
SITE ADDRESS: 796 Tierra del Sol Road, Boulevard, CA 91905

PROJECT INFORMATION

EXISTING:
Relatively level land on the southern and central portions of the site with rolling rock and boulder covered hills on the northwestern portion. The site is minimally developed with unpaved roads.

PROPOSED:
60 Megawatt (MW) project, constructed in two phases, located on approximately 420 acres and includes the construction and operation of approximately 2538 Concentrated Photovoltaic (CPV) trackers configured into 45 (1.36 MW) BB that consist of 56 trackers with associated Inverter and Transformer.

PLOT PLAN INFORMATION

CPV System Summary	
Approx. Number of Trackers:	2538
Tracker per BB:	56
Number of BB:	45
Total AC Capacity (MWs):	Approx. 60MW
Inverter Skid AC Capacity (MWs):	1.36 / 2.0
Number of 1.36 MW Inverter Skids:	45
Total Lot Size (Acres):	Approx. 420
Estimated Disturbed Acreage:	420
Coverage Ratio:	16%

SHEET TITLE

LEGEND, SYMBOLS ABBREVIATIONS & NOTES

SHEET NUMBER	REV.
C-100	0

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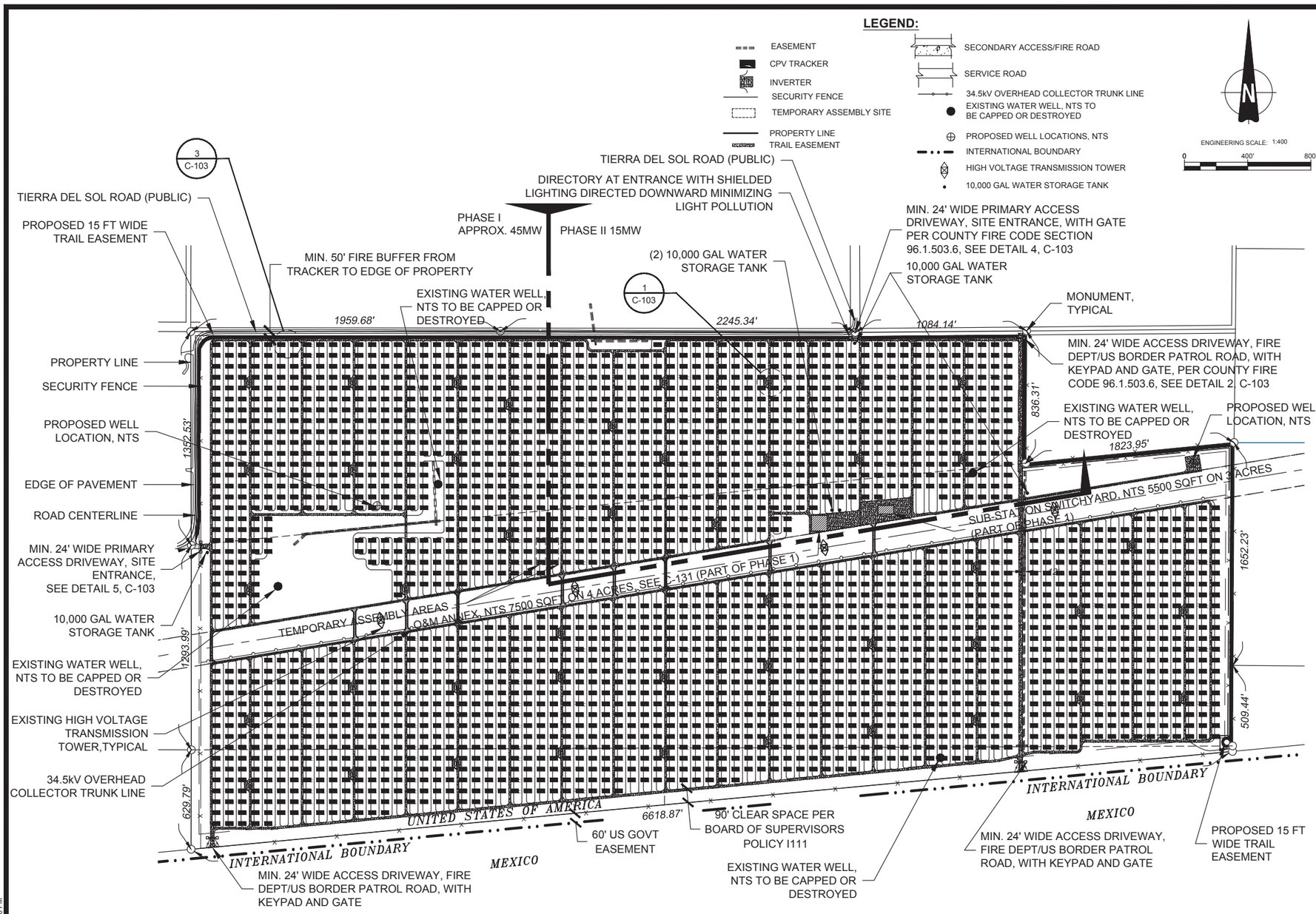

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DESIGNER

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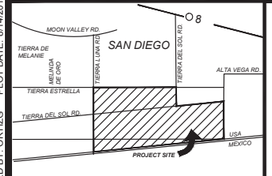
VICINITY MAP



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APN: 6580903100, 6580905500, 6581200300, 6581200200, 6580905400

SITE ADDRESS: 796 Tierra del Sol Road, Boulevard, CA 91905

PROJECT INFORMATION

EXISTING:
Relatively level land on the southern and central portions of the site with rolling rock and boulder covered hills on the northwestern portion. The site is minimally developed with unpaved roads.

PROPOSED:
60 Megawatt (MW) project, constructed in two phases, located on approximately 420 acres and includes the construction and operation of approximately 2538 Concentrated Photovoltaic (CPV) trackers configured into 45 (1.36 MW) BB that consist of 56 trackers with associated Inverter and Transformer.

PLOT PLAN INFORMATION

CPV System Summary

Approx. Number of Trackers:	2538
Tracker per BB:	56
Number of BB:	45
Total AC Capacity (MWs):	Approx. 60MW
Inverter Skid AC Capacity (MWs):	1.36 / 2.0
Number of 1.36 MW Inverter Skids:	45
Total Lot Size (Acres):	Approx. 420
Estimated Disturbed Acreage:	420
Coverage Ratio:	16%

SHEET TITLE

PLOT PLAN

SHEET NUMBER	REV.
C-101	0

EXCEPTIONS AND EXCLUSIONS

(15) *AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 28, 1979 AS INSTRUMENT NO. 79-085974 OF OFFICIAL RECORDS.*

(16) *AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 28, 1979 AS INSTRUMENT NO. 79-085975 OF OFFICIAL RECORDS.*

(17) *AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES, RECORDED MAY 6, 1980 AS INSTRUMENT NO. 80-151392 OF OFFICIAL RECORDS.*

(18) *AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES, RECORDED JANUARY 21, 1982 AS INSTRUMENT NO. 82-017128 OF OFFICIAL RECORDS.*

(19) *AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES, RECORDED JUNE 18, 1982 AS INSTRUMENT NO. 82-187732 OF OFFICIAL RECORDS.*

EASEMENT LEGEND

(10) *AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES, RECORDED MAY 6, 1980 AS INSTRUMENT NO. 80-151391 OF OFFICIAL RECORDS.*

(11) *AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES, RECORDED NOVEMBER 16, 1983 AS INSTRUMENT NO. 83-416580 OF OFFICIAL RECORDS.*

(12) *THE TERMS, PROVISIONS AND EASEMENT(S) CONTAINED IN THE DOCUMENT ENTITLED "EASEMENT GENERAL" RECORDED FEBRUARY 1, 1995 AS INSTRUMENT NO. 1995-0044962 OF OFFICIAL RECORDS.*

(13) *EXCEPTIONS AND EXCLUSIONS ARE THE SAME AS THAT SHOWN ON COMMITMENT NO. NCS-474346-SD SEPTEMBER 09, 2011.*

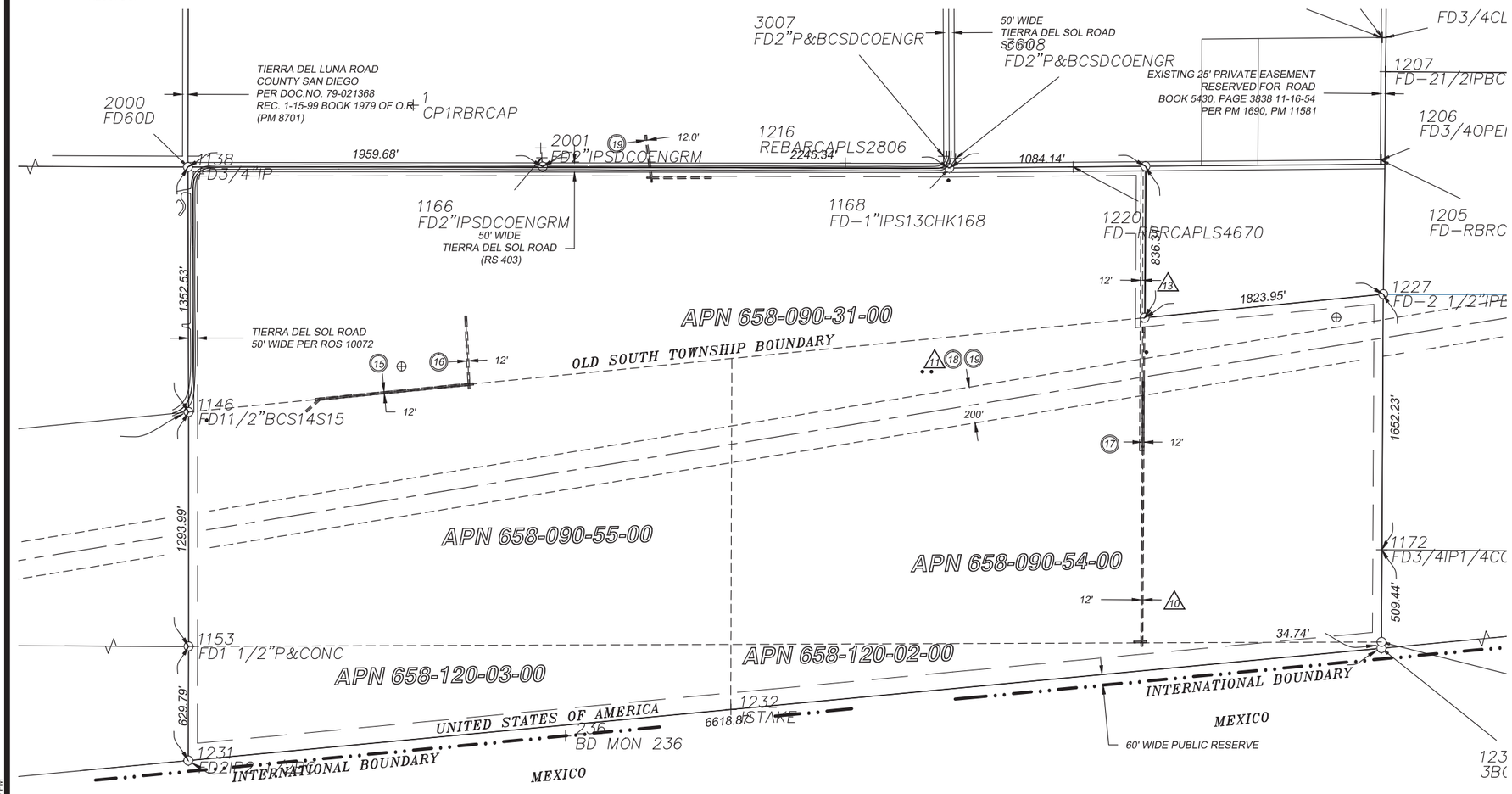
(15) *EXCEPTIONS AND EXCLUSIONS ARE THE SAME AS THAT SHOWN ON COMMITMENT NCS-505191-SD DATED SEPTEMBER 15, 2011.*

LEGEND:

- EASEMENT
- PROPERTY LINE
- SECURITY FENCE
- EXISTING WATER WELLS, NTS TO BE CAPPED OR DESTROYED
- PROPOSED WELL LOCATIONS, NTS
- INTERNATIONAL BOUNDARY

ENGINEERING SCALE: #####

0 400' 800'



DESIGNER

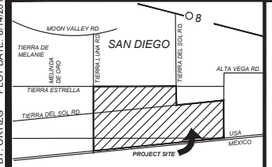
AECOM

AECOM TECHINCAL SERVICES, INC
440 Stevens Avenue, Suite 250
Solana Beach, CA 98075
858.947.7144 tel 858.947.7145 fax
www.aecom.com

CLIENT

Soitec Solar Development, LLC
4250 Executive Square, Suite 770
San Diego, CA 92037-9178

VICINITY MAP



OWNER INFORMATION

NAME: Brown Family Trust, Brown & Reynolds Trust
ADDRESS: 1116 W. 7th Sreet PMB 158
CITY: Columbia
STATE: TN
ZIP: 38401
PHONE:
FAX:
EMAIL:

CONTACT INFORMATION

NAME: Pat Brown
ADDRESS: 4250 Executive Square, Suite 770
CITY: La Jolla
STATE: CA
ZIP: 92037
PHONE: (858) 652-4423
FAX:
EMAIL: patrick.brown@soitec.com

PARCEL INFORMATION

APN: 6580903100, 6580905500, 6581200300, 6581200200, 6580905400
SITE ADDRESS: 796 Tierra del Sol Road, Boulevard, CA 91905

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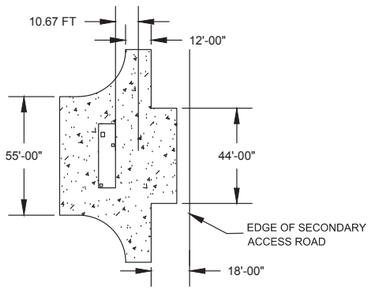
Number of 1.36 MW Inverter Skids:	45
Total Lot Size (Acres):	Approx. 420
Estimated Disturbed Acreage:	420
Coverage Ratio:	16%

SHEET TITLE

EASEMENT PLAN

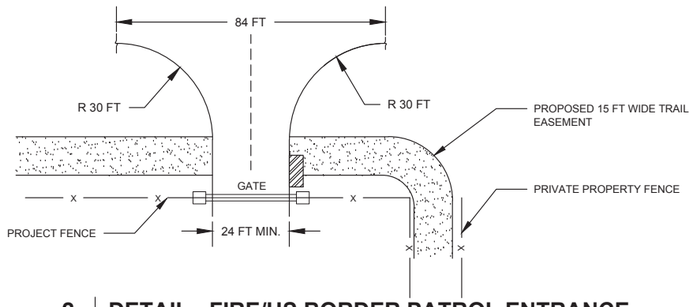
SHEET NUMBER	REV.
C-102	0

FILE NAME: Z:\PROJECTS\U7\12301\DATA\DATA_RCV\DAECOM\2012-08-07\SOITEC TIERRA DEL SOL PLOT PLAN & EASEMENT PLAN .DWG
LAST SAVED BY: ORTIZES PLOT DATE: 8/14/2012 1:45:34 PM



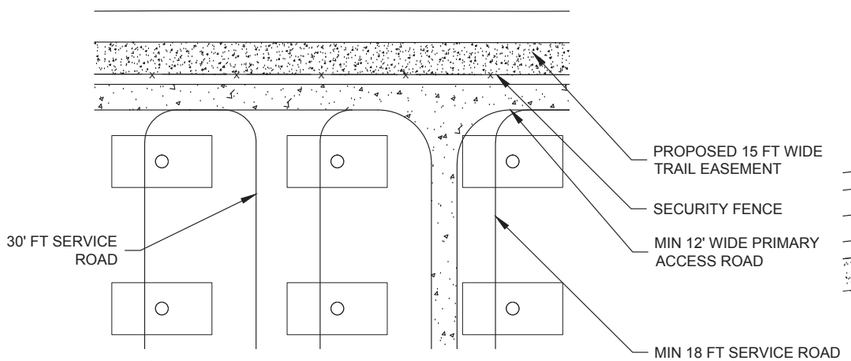
1 DETAIL - INVERTER PAD

SEE DETAIL 1 FOR MATERIAL COMPACTION NTS



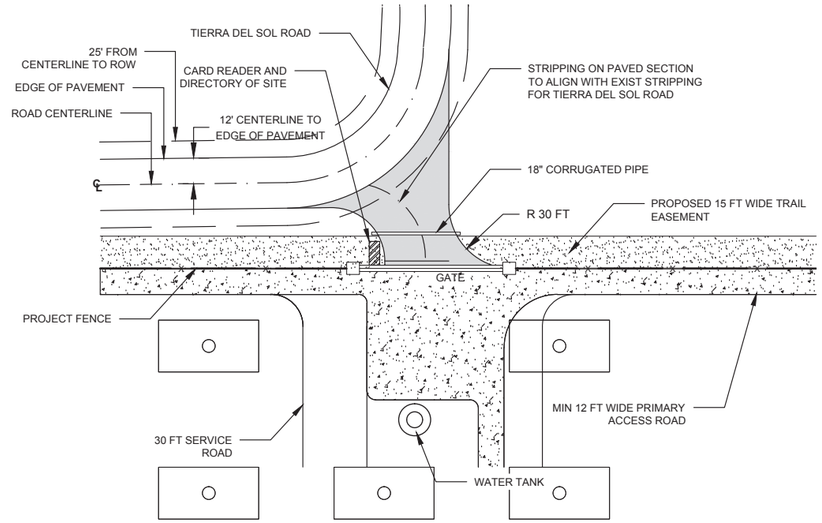
2 DETAIL - FIRE/US BORDER PATROL ENTRANCE

NTS



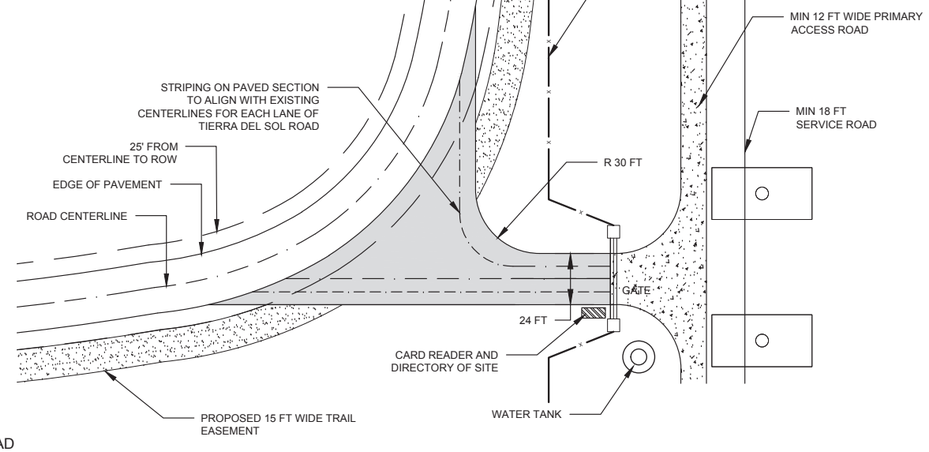
3 DETAIL - ROAD LAYOUT

NTS



4 DETAIL - NORTH MAIN ENTRANCE

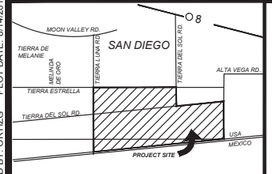
NTS



5 DETAIL - WEST ENTRANCE

NTS

VICINITY MAP



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Number of 1.36 MW Inverter Skids:	45
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Estimated Disturbed Acreage:	420
Coverage Ratio:	16%

SHEET TITLE

ROAD DETAILS

SHEET NUMBER	REV.
C-103	0

AECOM

DESIGNER

AECOM
AECOM TECHINCAL SERVICES, INC
440 Stevens Avenue, Suite 250
Solana Beach, CA 98075
858.947.7144 tel 858.947.7145 fax
www.aecom.com

CLIENT

Soitec

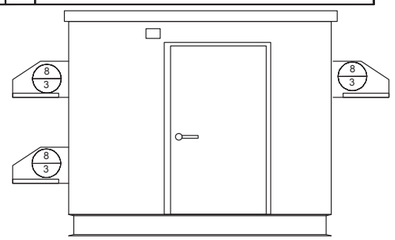
Soitec Solar Development, LLC
4250 Executive Square, Suite 770
San Diego, CA 92037-9178

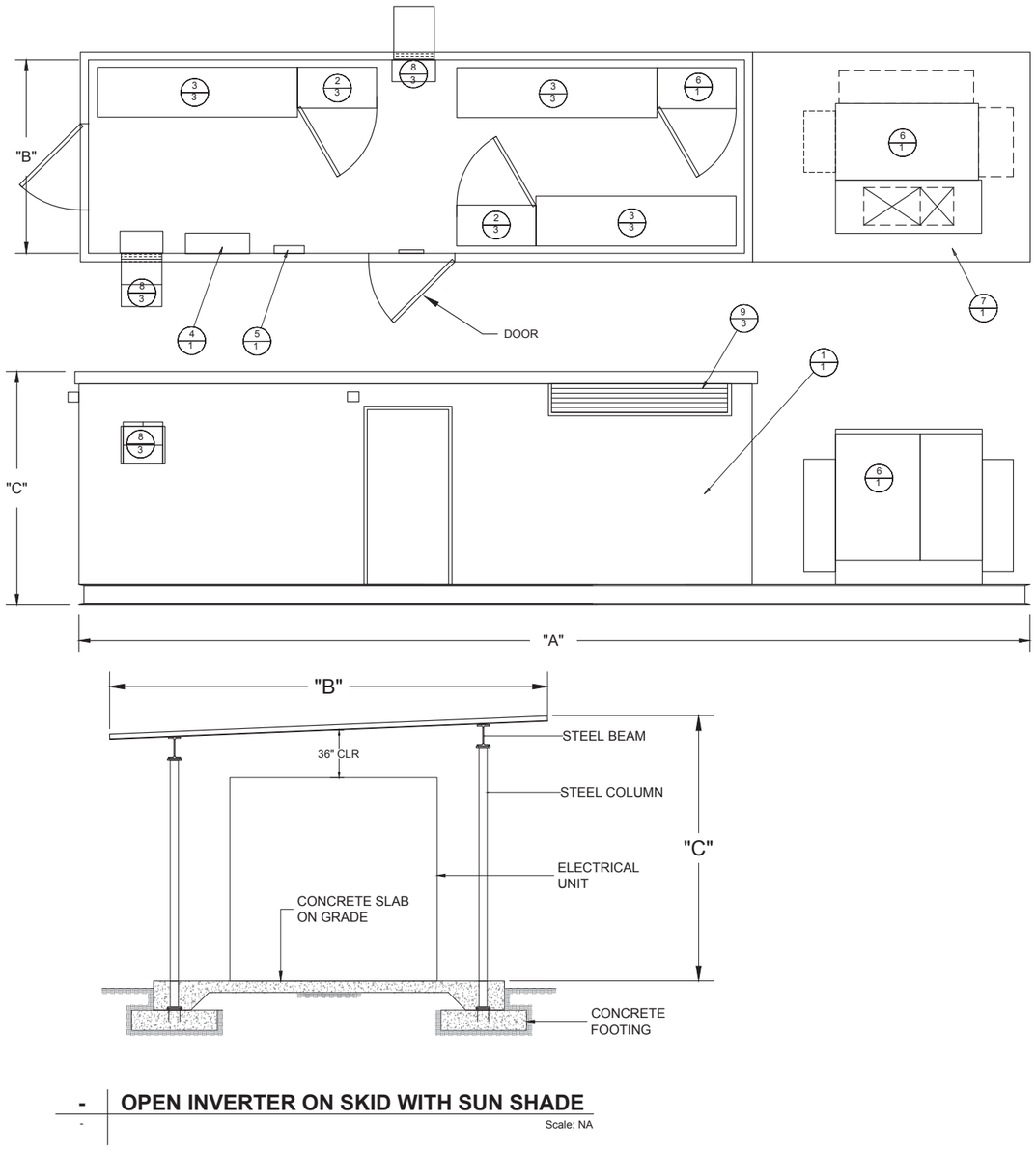
FILE NAME: Z:\PROJECTS\J71200\DATA\DATA_RCVD\AECOM\2012-08-07\SOITEC TIERRA DEL SOL LAYOUT 60 MW 08092012\TIERRA DEL SOL\C-100 SOITEC TIERRA DEL SOL PLOT PLAN & EASEMENT PLAN .DWG
LAST SAVED BY: ORTEGO PLOT DATE: 9/14/2012 1:46:13 PM

INVERTER DIMENSION

INVERTER RATING (MW)	DIMENSION (FT)		
	"A"	"B"	"C"
1.36	25	10	12
2.00	40	10	12

REV	ITEM	QTY	DESCRIPTION
	1	1	PRECAST SHELTER
	2		PRIMARY RE-COMBINER BOX, 16 X 150A MCCC (QTY OF 2 OR 3)
	3		XC 680 INVERTER (QTY OF 2 OR 3)
	4	1	SCADA
	5	1	POWER PANEL
	6	1	TRANSFORMER
	7	1	STEEL SKID
	8	3	INTAKE AIR FANS
	9	3	EXHAUST LOUVERS





- OPEN INVERTER ON SKID WITH SUN SHADE

Scale: NA

DESIGNER

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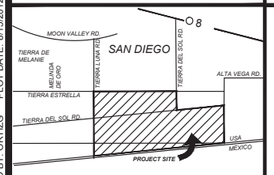
VICINITY MAP



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PLOT PLAN INFORMATION

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Number of 1.36 MW Inverter Skids:	45
Total Lot Size (Acres):	Approx. 420
Estimated Disturbed Acreage:	420
Coverage Ratio:	16%

SHEET TITLE

1.36 / 2.0 MW INVERTER BOX DESIGN

SHEET NUMBER	REV.
C-130	0

FILE NAME: \\HQTR-DATA1\PROJECTS_OLD\300.ENVIRONMENTAL\7123_TIERRA_DEL_SOL\DUDEK WORK PRODUCTS\PROJECT DESCRIPTION\AECOM SITE PLAN\AUG 15\TIERRA DEL SOL\C-130.DWG
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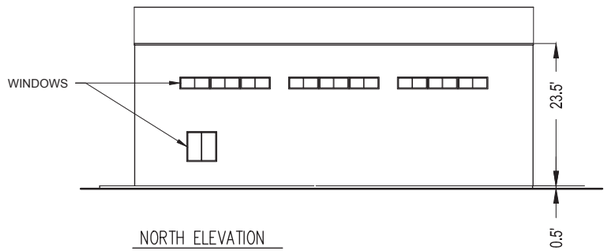
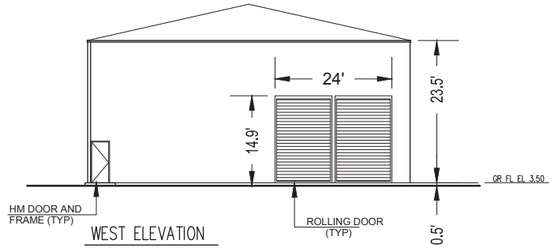
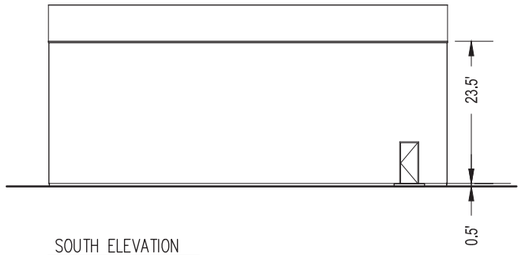


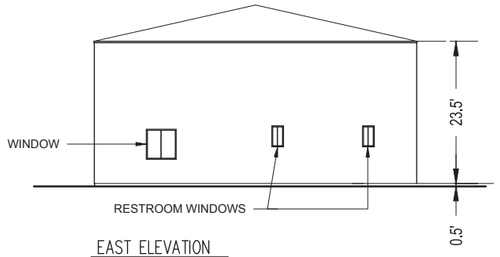
NORTH ELEVATION



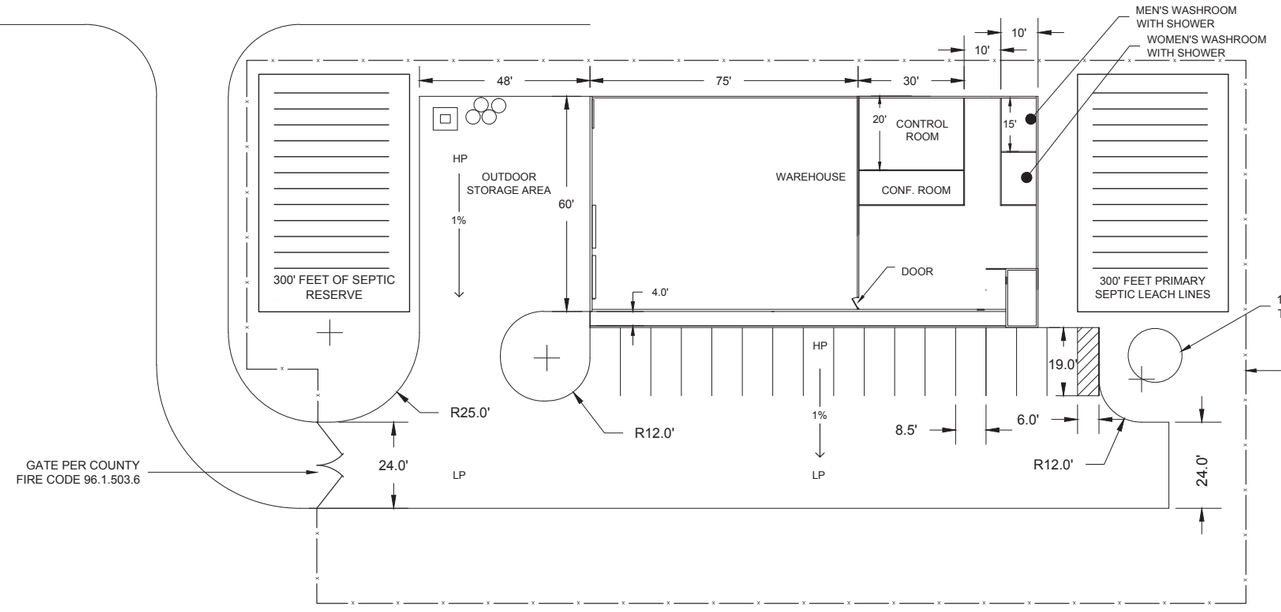
WEST ELEVATION



SOUTH ELEVATION



EAST ELEVATION



A PLAN VIEW

Scale: NA

NOTES

1. PARKING LOT WILL BE AN IMPROVED SURFACE OF 6" D/G ON EXISTING SOIL.
2. PRELIMINARY SEPTIC DESIGN IS FOR DISCRETIONARY REVIEW ONLY. FINAL SEPTIC LAYOUT DESIGN WILL BE PROVIDED WITH BUILDING PLANS.
3. NEAREST WELL IS 800 FT FROM SEPTIC SYSTEM.

DESIGNER

AECOM

AECOM TECHINCAL SERVICES, INC
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Solana Beach, CA 98075
858.947.7144 tel 858.947.7145 fax
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CLIENT

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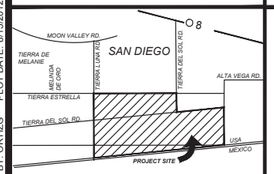
San Diego, CA 92037-9178

VICINITY MAP



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Total Lot Size (Acres):	Approx. 420
Estimated Disturbed Acreage:	420
Coverage Ratio:	16%

SHEET TITLE

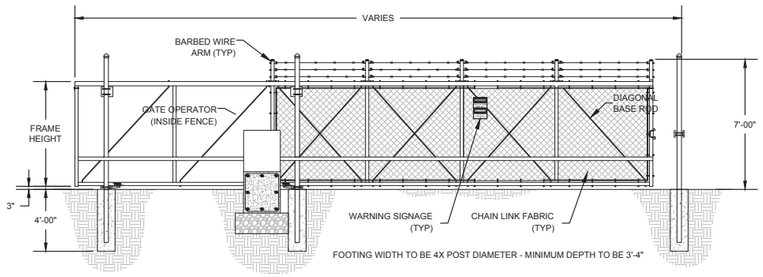
O & M BUILDING

SHEET NUMBER	REV.
C-131	0

FILE NAME: \\HQTR-DATA1\PROJECTS_OLD\300.ENVIRONMENTAL\7123_TIERRA_DEL_SOL\DUDEK WORK PRODUCTS\PROJECT DESCRIPTION\AECOM SITE PLAN\AUG 15\TIERRA DEL SOL\C-131.DWG
LAST SAVED BY: ORTIZG PLOT DATE: 8/15/2012 10:04:52 AM

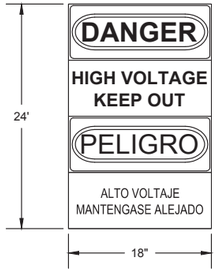
FENCE DETAILS

GATE PLAN

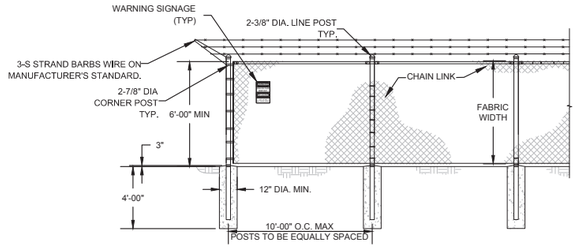


1 DETAIL - GATE
SINGLE MOTORIZED SLIDING GATE PER COUNTY FIRE CODE 96.1.503.6
NTS

* 4" DIAMETER POST FOR GATE LEAF LENGHT 35'-0" AND LESS



2 WARNING SIGNAGE
Scale: NTS



3 DETAIL - CHAIN LINK FENCE
NTS

FENCE NOTES:
1. CHAIN LINK SHALL BE 2" MESH NO.9 GAGE WERE SECURITY FASTED TO LINE POSTS AND RAILS.WIRE FASTENERS AND THE CLIPS SHALL BE NO.11 GAGE
2. WIRE.CONCRETE FOOTINGS SHALL HAVE TOPS CROWNED AT GROUND LEVEL.
3. CHAIN LINK FENCE TO BE FITTED WITH UV- RESISTANT MESH FABRIC, COLOR PER CUSTOMER REQUEST.
4. ELECTRICAL SAFETY SIGNAGE TO BE PLACED ALONG PERIMETER.

DESIGNER
AECOM
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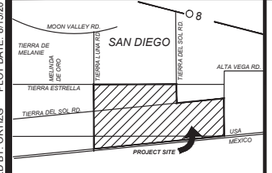
VICINITY MAP



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STATE:	TN
ZIP:	38401
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Coverage Ratio:	16%

SHEET TITLE
FENCE ELEVATION DETAIL

SHEET NUMBER	REV.
C-132	0

FILE NAME: \\HQTR-DATA1\PROJECTS_OLD\300.ENVIRONMENTAL\7123_TIERRA_DEL_SOL\DUDEK WORK PRODUCTS\PROJECT DESCRIPTION\AECOM SITE PLAN\AUG 15\TIERRA DEL SOL\C-132.DWG
LAST SAVED BY: ORTIZG PLOT DATE: 8/15/2012 10:05:13 AM