CHAPTER 2.0 SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT

This chapter of the environmental impact report (EIR) provides discussions of those effects that through the course of analyzing the environmental effects associated with the Proposed Project were identified as significant. Each environmental issue area describes existing conditions, regulatory setting, analysis of Project effects and determination as to significance, cumulative impact analysis, significance of impact prior to mitigation, mitigation, and conclusion. The environmental issue areas addressed in Chapter 2 are as follows:

- Aesthetics (Section 2.1)
- Biological Resources (Section 2.2)
- Cultural Resources (Section 2.3)
- Hazards and Hazardous Materials (Section 2.4)
- Noise (Section 2.5)
- Paleontological Resources (Section 2.6)

2.1 Aesthetics

This section evaluates the potential changes to the existing aesthetic and visual characteristics of the Project site and vicinity that could result from development of the Jacumba Solar Energy Project (Proposed Project). The analysis focuses on the change in visual character, effects on views from scenic roads, visual compatibility with surrounding uses, and potential daytime or nighttime views that potentially could be disturbed by light and glare generated by the Proposed Project. The analysis is based on a review of existing resources, technical data, and applicable laws, regulations, and guidelines, as well as the Jacumba Solar Energy Project Visual Resources Technical Report (Dudek 2014). The visual resources technical report was prepared in accordance with the County of San Diego (County) *Guidelines for Determining Significance and Report Format and Content Requirements: Visual Resources* (County of San Diego 2007a) and *Guidelines for Determining Significance and Report Format and Content Requirements: Dark Skies* (County of San Diego 2007b).

Comments received in response to the Notice of Preparation (NOP) included concerns regarding views from surrounding elevated locations including historic old Highway 80, community character changes, and glint and glare from the Proposed Project. These concerns are addressed in this section. A copy of the NOP and comment letters received in response to the NOP is included in Appendix 1-1 of this EIR.

2.1.1 Existing Conditions

This section provides a regional overview of the Project area and describes the existing visual character and quality of the individual project sites and their surroundings.

2.1.1.1 Regional Overview

The Proposed Project is located in southeastern San Diego County at the convergence of the California Peninsular Ranges and desert regions at an elevation of approximately 3,100 feet above mean sea level (amsl). Mountainous terrain is located north, south, and east of the Project site, and elevations in this area range from 3,000 to 4,500 feet amsl. The local mountainous terrain is rugged and steep and is typically covered by scattered, dark green chaparral vegetation and grayish granitic boulders on west-facing slopes. East-facing slopes are typically dotted with desert chaparral. The mountainous terrain is generally undeveloped however; dispersed rural residential development is located in lower-lying desert valleys. The terrain is variable and consists of lower-lying desert floors, alluvial fans, foothills, and mountains. The Project site is situated in the eastern extent of the Jacumba Valley.

The Jacumba Mountains are located to the east of the Project site and these mountains extend to the south into Mexico, where they are referred to as the Sierra de Juarez. Grey and Table Mountains are located to the northwest and north of the site at distances of 2.5 and 1.75 miles, respectively, and at elevations of approximately 3,800 feet amsl. Jade Peak, a conical peak with an approximate summit elevation of 3,600 feet amsl, is located south of Interstate 8 (I-8) and less than 1 mile northeast of the Project site. Nopal Peak, with an elevation of just under 4,300 feet amsl, lies approximately 1.4 miles to the east-northeast in Imperial County. The broad Airport Mesa landform is located immediately west of the Project site at an elevation of just under 3,600 feet amsl and provides a topographic barrier to direct lines of site to the community of Jacumba Hot Springs.

2.1.1.2 Project Site and Surroundings

The Project site consists of undeveloped desert lands crossed by a network of dirt roads and dry washes/drainages. The northern portion of the site is bisected by Old Highway 80. I-8 is located approximately 0.5 miles north of the Project site. The topography of the site generally slopes upwards to the east and the south and the lower, easternmost extent of the Airport Mesa landform extends across the southwestern portion of the site. On-site vegetation communities include juniper woodland and Sonoran mixed woody scrub. Plants commonly associated with these vegetation communities include creosote bush (*Larrea tridentata*), ephedra (*Ephedra* spp.), jojoba (*Simmondsia chinensis*), and yucca (*Yucca schidigera*) and a variety of annual forbs in the herbaceous layer. Plant communities vary in height from 1 to 6 feet and color from light to dark (colors tend to be yellow, brown and gray during dry seasons and green during wet seasons). The

rounded, shrubby form, light to dark green color and rough texture of desert vegetation, as well as the tan to gray color of exposed rocky soils, is displayed across much of the site. The spatial distribution of vegetation varies. The majority of the site has a scattered, patchy composition; however, moderately dense stands of vegetation occur adjacent to washes/drainages. Views from the site are relatively wide in nature but tend to be enclosed by the Jacumba Mountains to the east and the In-Ko-Pah Mountains to the north. The tall, mounded form of Airport Mesa limits the availability of long views to the west and tends to direct the eye to the northwest.

East of the site, the terrain rises gently at first and then much more steeply into the Jacumba Mountains and the vegetation exhibits a coarse, patchy texture. The Jacumba Mountains extend to the south into Mexico, where they are referred to as the Sierra de Juarez. Tall, skylined wind turbines have recently been installed atop the Sierra de Juarez southeast of the project site. Steel lattice structures and a curving access road associated with the wind turbine project descend the ridgeline and west-facing slopes and proceed to the northwest toward the international border. A series of electrical lines span the international border fence and are supported by three steel lattice structures. The approximately 1-mile-long segment of electrical lines (and three steel lattice structures) located north of the international border comprise the Energia Sierra Juarez (ESJ) gen-tie line project and eventually tie into the currently under construction East County (ECO) Substation. South of the project site, the brown vertical slats and rectangular panels of the international border fence create a bold, dark line that interrupts the intactness of the landscape and the continuity of desert vegetation and exposed pale soils. Also, while not prominent due to the screening effect of existing vegetation and terrain, the straight line created by the wide, exposed tan soil surface of the border fence access road also disrupts the continuity of vegetation across the landscape. Tall, steel lattice structures and the largely horizontal form of the Southwest Powerlink and Sunrise Powerlink transmission lines are visible to the north, as are traffic on I-8 and Old Highway 80 and the large, rectangular form of Table Mountain. The tan-colored, sloped walls of the ECO Substation yards, tall metallic steel support structures and a large 138 kilovolt (kV) transmission line monopole are located to the northeast and north. Four additional monopoles will be constructed between the ECO Substation and Old Highway 80. The ECO Substation is accessible via a long asphalt paved access road constructed off Old Highway 80.

The undeveloped natural lands in the immediate Project area and the presence of mountainous terrain creates a generally rural ambiance; however, modifications to the landscape associated with electrical infrastructure development and the international border fence are visible and interrupt the intactness of the natural-appearing landscape.

2.1.1.3 Project Viewshed

The Project viewshed encompasses the landforms in the surrounding area from which the Project would be visible. Due to the presence of higher-elevation terrain to the southeast and southwest, portions of the viewshed lie outside the United States and extend to the south into Mexico. Because these resources are part of the Project viewshed that is perceived by receptors within the United States, these resources are considered part of the visual analysis. As stated above, the Project site is located in the eastern extent of the Jacumba Valley. The physical limits of the Project viewshed are defined by the presence of higher-elevation topography to the west, north, and east and by the presence of the international border fence to the south. The Jacumba and In-Ko-Pah Mountains to the east and the north limit the extent of the Project viewshed as does the elevated terrain of the Airport Mesa landform to the west. Views to the Project site from high-elevation peaks and rideglines to the east, north, and west are available and tend to be panoramic and expansive in nature.

Juniper woodlands are present on the Project site; however, the predominant vegetation community in the viewshed is Sonoran mixed woody scrub. The continuity of light to dark green colors and coarse texture of scrub vegetation on the valley floor is routinely interrupted by patches of the light tan-colored soils of desert terrain and sandy washes. Light-colored exposed boulders are also present in the landscape. These features appear in mounded outcrops on the valley floor, dot mountainous terrain, and are occasionally draped over lower-elevation hills. The steep, rugged and rocky terrain of the Jacumba Mountains, the flat mesa tops and spreading bases of Table Mountain and Airport Mesa, and the conical form of Jade Peak are also present in the viewshed and contribute unique forms to the visible landscape. Unlike the ground plane of the landscape, these landforms tend to display tan or tan-reddish hues that create color contrast and attract the attention of passing motorists.

Although the viewshed primarily consists of undeveloped desert lands and washes, regional and local transportation corridors, regional energy infrastructure, and sparse rural residential development are also supported. I-8 creates an east–west cut through the viewshed from which motorists are afforded views of the valley and mountain landscape. Mobile viewers (i.e., motorists) are offered long views along segments of the interstate between mountain ranges; however, unencumbered views to the south and north are occasional, interrupted by road cuts and/or boulder outcrops that partially enclose the visible landscape. Old Highway 80 is the primary local road in the viewshed and provides connectivity between the rural communities in the area. Through the project viewshed, I-8 is an eligible state scenic highway and both the interstate and Old Highway 80 are included in the County Scenic Highway System.

In addition to wind turbines and steel lattice structures in Mexico, tall,geometric steel lattice towers associated with the ESJ gen-tie and the 500 kV Southwest Powerlink and Sunrise

Powerlink transmission lines are located in the viewshed. Numerous steel support structures and components comprising bays and transformer banks at the ECO Substation also contribute to the project viewshed and the gray surface and light-tan colored slopes of the ECO Substation create noticeable color contrast with the surrounding expanse of low, grey/green vegetation and sandy exposed soils. Rural residential development in the Project viewshed is limited and consists of modest single-story residences located on private land. These residences (identified as R1 and R2 for purposes of this analysis) are located approximately 3,500 feet to the north and 5,370 feet to the northwest of the Proposed Project's on-site substation yard.

2.1.1.4 Viewer Groups

Viewer groups analyzed in this study consist of individuals that frequent public viewpoints in the Project area. Three viewer groups were identified: residents, motorists and trail-based recreationists on public lands in the surrounding area. Two residences are located in the Project area, as are short segments of I-8 and Old Highway 80. Trail-based recreation occurs on Bureau of Land Management (BLM)-designated routes and lands at the Jacumba Mountains, Table Mountain Area of Critical Environmental Concern (ACEC), and Airport Mesa; therefore, trail-based recreationists were identified as a distinct viewer group.

Residential Groups

Based on site observations and a review of aerial photography, there are two residences located in the Project viewshed. One residence (R1) is located south of I-8, approximately 0.7 mile north of the proposed solar facility and approximately 0.5 mile north of the proposed gen-tie transmission line. The other residence (R2) is located north of the interstate and approximately 1 mile north of the proposed solar facility and gen-tie transmission line. Due to a lack of intervening terrain and vegetation, both residences would experience direct views to the Project site. The locations of R1 and R2 are depicted on Figure 2.1-1.

Views of the Project from R1 fall within the middleground to foreground view distance. An existing landscaped perimeter of 8- to 12-foot-tall mature trees surrounds R1. The presence of mature trees in close proximity to R1 could screen or partially screen views to the Proposed Project site and gen-tie poles/lines. The house is situated approximately 29-32 feet above the Project site, creating a low-angle view that would further reduce visibility of the Project due to intervening vegetation. The southerly view direction also places the Project site in a backlit condition for much of the daylight hours when residents would be active. This condition would reduce the visibility of Project details because the visible side of the solar facility would be in shadow and the viewer would be viewing into the oncoming sunlight.

Project views from R2 are more distant than from R1. The middleground distance and backlit condition as discussed above would limit visibility of Project features. The house is situated

approximately 88-91 feet above the Project site. This superior view angle places the Project within the lower portion of the vista obtained from this location that stretches into Mexico. As such, the limited visibility of Project detail and position within the landscape would both serve to minimize the prominence of the Project within the overall viewshed for the R2 location.

The more concentrated residences in the community of Jacumba Hot Springs community are located approximately 3 miles west of the Project. Views to the Project site from the community are generally blocked by Airport Mesa.

The sensitivity of residential viewer groups is anticipated to be moderate, except those individuals with direct, unobstructed views to the Project whose sensitivity is likely to be moderately high.

Motorists

The Project viewshed extends north of the Project site and encompasses noncontiguous segments of Old Highway 80 and I-8. The discussion below characterizes the visibility of the Project site from the east and westbound lanes of Old Highway 80 and I-8.

Old Highway 80

An approximately 1.4-mile-long segment of Old Highway 80, generally from Jade Peak west to Airport Mesa, is located in the Project viewshed. Old Highway 80 is a scenic corridor identified on Figure C-5 (Scenic Highways) of the General Plan Conservation and Open Space Element. Although not continuous, existing views to the low, mounded hill and lower-elevation portions of the Project site are available along this relatively short segment of the highway. From eastbound motorists, visibility to the site is generally unencumbered along the pronounced curve of the highway north of the Airport Mesa landform. Further to the east, the low, mounded hill exits the field of vision and the site is briefly obscured by two elevated, roadside-adjacent berms populated with low boulder outcrops and scattered native shrubs. Between the berms and the paved driveway to the ECO Substation, views to the south are relatively unimpeded. East of the ECO Substation driveway the Project site is generally outside the normal field of vision of motorists.

West of Jade Peak, existing views of the Project site from westbound Old Highway 80 are obscured by a noticeable uplift in the terrain to the south. However, views are available through several pronounced peaks and dips in the roadway between Jade Peak and the ECO Substation driveway. In addition to higher-elevation terrain to the south, the varying elevation of the highway and scrub brush, spreading vegetation affects the availability of views of the lower-elevation portions of the Project site. However, more views are afforded of the low, mounded hill that rises above the valley floor vegetation. West of the ECO Substation driveway, views to the south and to the Project site are the same as discussed above for eastbound motorists.

Interstate 8

I-8 from the El Cajon city limits to the Imperial County line is a scenic corridor identified on Figure C-5 (Scenic Highways) of the General Plan Conservation and Open Space Element. I-8 cuts a dark, horizontal line through the landscape and intermittent views to the Project site are available between Exit 73/Carrizo Gorge Road and Jade Peak (a distance of approximately 3 miles). However, between these locations/features, the presence of intervening terrain, vegetation, large rock outcrops, and interstate road cuts interrupt the availability of long, continuous views. From the eastbound travel lanes, continuous and unimpeded views of the Project site are available after motorists pass through an elevated road cut located approximately 0.5 mile west of the Mica Gem overpass/bridge. From the westbound travel lanes of the interstate, unobstructed views to the Project site and into Mexico are generally available upon passing the conical Jade Peak landform and extend to the elevated road cut located west of the Mica Gem overpass. A mounded berm/road cuts occurs along this segment and limits views to the south, but this feature is relatively short (i.e., approximately 600 feet long).

Recreationists

Superior-angle views of the Project site are available from a BLM-designated motorized route that traverses the Jacumba Mountains at the southwestern most corner of Imperial County. Dispersed recreation (i.e., hiking) also occurs in the BLM-managed and non-BLM-managed areas of the Jacumba Mountains and prominent ridgelines offer opportunities for long views to the western horizon. Other BLM-designated motorized routes are located on Airport Mesa and in the Table Mountain ACEC (designated non-motorized routes are also located on Table Mountain). Although motorized access to these trails is generally limited to four-wheel-drive vehicles (existing trails and roads are steep and rocky) and no formal trailheads or parking areas have been developed, the trails are used by local hikers, hiking clubs, and horseback riders. According to the BLM, the Jacumba Mountain Wilderness, Nopal Peak, and Elliot Mine area are accessible via a narrow and winding designated motorized route located off Old Highway 80 and east of the San Diego and Imperial County border (BLM 2014, 2010). The Table Mountain ACEC is managed by the BLM for biological and cultural values however; existing designated motorized and non-motorized routes are present in this area and may be used by area recreationists to access scenic and panoramic vista points and hiking opportunities. The flat mesa top of the southernmost portion of the Table Mountain landform is located approximately 1.5–2 miles north of the proposed solar facility. Lastly, while managed by the BLM for its rural recreational qualities, existing designated motorized routes provide limited recreational opportunities at the Airport Mesa landform. The international border fence nearly bisects the landform and access roads are regularly used by U.S. Customs and Border Protection vehicles when conducting patrols in the area. No staging or parking areas for hikers or other trail-based recreationists are provided in close proximity to the Airport Mesa landform and users often rely on the U.S. Customs and Border Protection access road

to reach the top of Airport Mesa. Also, the recreational qualities of Airport Mesa were further limited by a temporary prohibition of target shooting along Airport Mesa enacted by the BLM in 2009 (BLM 2009, 2010).

Based on visual evidence of a complex trail network that extends from the designated BLM trail to the edge of the mesa top, a viewpoint on the southern edge of the mesa landform in the Table Mountain ACEC appears to be used relatively frequently by recreationists. A broad vista is available from this location that stretches from desert views to the east to distant views south into Mexico and southwest to the community of Jacumba Hot Springs. With the exception of the south-facing slope of the low, mounded hill, the Project site is visible in its entirety from this viewpoint.

2.1.2 Regulatory Setting

Federal Regulations

There are no relevant federal policies concerning the protection of visual resources that would be applicable to a solar development on County of San Diego jurisdictional land.

State Regulations

California Environmental Quality Act

Under the California Environmental Quality Act (CEQA), impacts to aesthetic resources resulting from a Project must be considered by state and local agencies. Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) includes a series of questions which agencies may use when assessing the potential aesthetic impacts of a proposed Project. The questions, which identify scenic vistas, trees, rock outcropping, and historic buildings within a state scenic highway system as important scenic resources, often formulate the impact analysis within the relevant environmental document accompanying a Project.

Appendix G of the CEQA Guidelines states that the potential for aesthetic resource impacts exists if the Project would:

- have a substantial a substantial adverse effect on a scenic vista;
- substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings viewed from a state scenic highway;
- substantially degrade the existing visual character or quality of the site and its surroundings; and/or
- create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

California Scenic Highway System

Created by the California State Legislature in 1963, the California Scenic Highway Program includes highways designated by the California Department of Transportation (Caltrans) as scenic. The purpose of the program is to protect the scenic beauty of California highways and adjacent corridors through conservation and land use regulation. For a highway to be included in the program it must first be nominated by the specific city or county in which it is located. The nomination/eligibility process also entails that the city/county identify and define the scenic corridor of the highway to better understand the extent of visual resources requiring conservation. For an eligible highway to be officially designated and included in the program, the local government with jurisdiction over lands abutting the highway must implement a scenic highway corridor protection program that safeguards the scenic appearance of the corridor. Corridor protection may be achieved through a variety of means including (but not limited to) regulation of land uses and intensity of development, detailed land and site planning, control of outdoor advertising, consideration of earthmoving and landscaping, and the design and appearance of structures and equipment. If the local Caltrans district and State Scenic Highway Coordinators determine that the corridor protection program meets the five legislatively required elements discussed above, a recommendation to designate the highway as scenic is forwarded to the Caltrans Director (Caltrans 2008).

There are four officially designated scenic highways in San Diego County: State Route 163 (SR-163) (from the north to the south boundary of Balboa Park), SR-75 (from Imperial Beach city limits to Avenida Del Sol in the city of Coronado, and Coronado Bridge), SR-125 (from SR-94 to SR-8), and SR-78 (from west to east boundary of Anza-Borrego Desert State Park). In the Project area, I-8 is an eligible state scenic highway; however, it has not received official designation from Caltrans (Caltrans 2014).

Local Regulations

San Diego County General Plan

The General Plan, through elements established to address the various issues accompanying planning and development, provides guidance for the protection of visual resources. Select policies within the Conservation and Open Space Element of the General Plan (County of San Diego 2011a) speak to the protection of existing visual character and/or quality of areas and contain general direction regarding the minimization of adverse impacts to visual resources.

The following policies of the Conservation and Open Space Element concern the preservation of visual and scenic resources:

- **Policy COS-11.1: Protection of Scenic Resources.** Require the protection of scenic highways, corridors, regionally significant scenic vistas, and natural features, including prominent ridgelines, dominant landforms, reservoirs, and scenic landscapes.
- **Policy COS-11.3: Development Siting and Design.** Require development within visually sensitive areas to minimize visual impacts and to preserve unique or special visual features, particularly in rural areas, through the following:
    - Creative site planning;
    - Integration of natural features into the project;
    - Appropriate scale, materials, and design to complement the surrounding natural landscape;
    - Minimal disturbance of topography;
    - Clustering of development so as to preserve a balance of open space vistas, natural features, and community character; and
    - Creation of contiguous open space networks.
- **Policy COS-11.7: Underground Utilities.** Require new development to place utilities underground and encourage "undergrounding" in existing development to maintain viewsheds, reduce hazards associated with hanging lines and utility poles, and to keep pace with current and future technologies.
- **Policy COS-13.1: Restrict Light and Glare.** Restrict outdoor light and glare from development projects in Semi-Rural and Rural Lands and designated rural communities to retain the quality of night skies by minimizing light pollution.
- **Policy COS-13.2: Palomar and Mount Laguna.** Minimize, to the maximum extent feasible, the impact of development on the dark skies surrounding Palomar and Mount Laguna observatories to maintain dark skies which are vital to these two world-class observatories by restricting exterior light sources within the impact areas of the observatories.

In addition to goals and policies, the Conservation and Open Space Element of the General Plan establishes a County Scenic Highway System that identifies particularly scenic segments of county roadways, state routes, and interstate freeways. Within the Jacumba area, I-8 and Old Highway 80 are included within the County Scenic Highway System (County of San Diego 2011a).

Mountain Empire Subregional Plan

The Mountain Empire Subregional Plan (a supplement to the County General Plan) establishes goals and policies to guide development within the areas of Tecate, Potrero, Boulevard, Campo/Lake Morena, Jacumba, and the Mountain Empire Balance which together comprise the Mountain Empire Subregion of southeastern San Diego County. The goals and policies of the Subregional Plan (County of San Diego 2011b) are intended to be more specific than those of the County General Plan as they consider the distinct history, character, and identity of Mountain Empire communities.

The following policies in the Mountain Empire Subregional Plan relate specifically to aesthetics and visual resources.

- **Land Use General Goal, Policy and Recommendation 1:** The landforms of the Subregion are an important environmental resource that should be respected in new development. Hillside grading shall be minimized and designed to blend in with the existing natural contours.
- **Residential Goal, Policy and Recommendation 2:** Preserve the rural atmosphere of the Subregion by blending roads into the natural terrain.
- **Residential Goal, Policy and Recommendation 4:** All development proposals shall demonstrate a diligent effort to retain significant existing natural features characteristic of the community's landscape. Existing topography and landforms, drainage courses, rock outcroppings, vegetation, and views shall be incorporated, to the maximum extent feasible, into the future development of the land.
- **Conservation Policy and Recommendation 1:** All development shall demonstrate a diligent effort to retain as many native oak trees as possible.
- **Conservation Policy and Recommendation 4:** The dark night sky is a significant resource for the Subregion and appropriate steps shall be taken to preserve it.

San Diego County Zoning Ordinance

The provisions of Sections 5000 through 5964 of San Diego County’s Zoning Ordinance, also known as the Special Area Regulations, set forth regulations to ensure that consideration is provided for areas of special interest or unusual value. When Special Area Regulations require the issuance of a minor use permit or a major use permit, such permits are only issued when the proposed use satisfies all conditions and requirements of the Special Area Regulations and is found consistent with the intent and purpose of the applicable Special Area Regulations. The Special Area Regulations and associated Zoning Ordinance Sections that apply to the Project include Scenic Area (S), Sections 5200–5212.

The provisions of Sections 6000 through 6991 of San Diego County's Zoning Ordinance outline general zoning regulations and include a few regulations regarding glare and outdoor lighting. Sections of the general regulations applicable to the Project include 6320, 6322, and 6324 (County of San Diego 1978).

Section 6952 of the County's Zoning Ordinance regulates Solar Energy Systems. Section 6952(b)(2) specifies that a photovoltaic solar energy system for off-site uses with a project area greater than 10 acres is considered a Major Impact Service and Utility within all zones and requires a major use permit. In addition, Section 6952(3)(c) specifically relates to visual resources and requires that the following measures be implemented to minimize the visual impacts of a project:

- Removal of existing vegetation shall be minimized.
- Internal roads shall be graded for minimal size and disruption.
- Any accessory buildings shall be painted or otherwise visually treated to blend with the surroundings.
- A structure shall be non-reflective in all areas possible to blend with the surroundings.

San Diego Light Pollution Code

The Light Pollution Code was developed by the County Planning and Development Services and Department of Public Works in cooperation with lighting engineers, astronomers, land use planners from San Diego Gas & Electric (SDG&E), Palomar and Mount Laguna observatories, and local community planning and sponsor groups to address and minimize the impact of new sources light pollution on nighttime views. For purposes of lighting requirements, the code separates the unincorporated portion of the County of San Diego into two zones: Zone A and Zone B. Zone A includes all unincorporated lands located within a 15-mile radius of the Palomar or the Mount Laguna observatories, and Zone B includes all areas not included in Zone A (County of San Diego 2006). Section 59.105 includes general lighting requirements applicable to all unincorporated lands in the County, and Section 59.106 includes shielding requirements per fixture by lighting type (i.e., outdoor lighting used for outdoor sales, eating areas, or advertisements (Class I), security lighting (Class II), and decorative lighting (Class III)) and according to location (Zone A or B) (County of San Diego 1986). The Jacumba Solar site is located in Zone B.

2.1.3 Analysis of Project Effects and Determination as to Significance

Impacts to visual resources are evaluated based on specified thresholds identified in the CEQA Guidelines (Appendix G) and in the County of San Diego's Guidelines for Determining Significance: Visual Resources (County of San Diego 2007a) and Dark Skies and Glare (County of San Diego 2007b).

Methodology and Assumptions

Baseline information pertaining to aesthetics was obtained through a site visit and experience of on-site conditions as well as a review of the *Final Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) for the East County (ECO) Substation, Tule Wind, and Energia Sierra Juarez Gen-Tie Projects* (CPUC and BLM 2011). In addition, the Visual Resources Report for the *Energia Sierra Juarez U.S. Transmission LLC Generation Tie Line Project* (ICF Jones & Stokes 2010) was reviewed to identify additional existing visual resources in the Project area.

The following discussion summarizes the methodology and assumptions pertaining to the analysis of visual character and quality.

Visual Character and Quality

For purposes of this analysis, aesthetic/visual resources are defined as the natural and man-made elements and features of the landscape that contribute to the visual character and quality of a setting. Influenced by geologic, hydrologic, botanical, and recreational features as well as by roads, structures, utilities, and other urban features, the perception of visual character can vary according to season and time of day as the atmospheric elements present in the viewshed (i.e., weather, light, and shadow) fluctuate over time and work to either obscure or highlight particular features. The fundamental pattern elements used to describe visual character are form (bulk, mass, size and shape), line, color, and texture and the appearance of a landscape is often described according to the dominance of these elements. Additional factors considered include the type of viewers (e.g., resident, motorist) potentially affected, viewing distances, and documented public concerns (including financial well-being and cultural/community values) associated with visual change.

To approximate the visibility of Proposed Project in the surrounding area, a Proposed Project viewshed was created and is presented in Figure 2.1-1, Viewshed. Figures 2.1-1a, Viewshed – Old Highway 80, and 2.1-1b, Viewshed – Interstate 8, present a more detailed version of the Proposed Project viewshed as it relates to I-8 and Old Highway 80. The viewshed presented in Figure 2.1-1 does not consider the screening effect of existing vegetation and structures and was created by assigning a height of less than 9 feet (i.e., the height of proposed solar panels installed on the proposed racking support system) at 16 locations within the identified solar facility boundary. In addition, a height of 150 feet was assigned to potential gen-tie pole locations along the proposed gen-tie line corridor. The GIS-based software then references the assigned height of the Project components and creates a raster file consisting of points or terrain in the surrounding area from which the assigned height would be visible. The viewshed presented on Figure 2.1-1 is an approximation of the potential visibility of Project components from locations in the United States and is based purely on the elevation of existing terrain and the assigned elevation of Project components. No digital topographic data was available for analysis of the viewshed area within Mexico,which would be dominated by the international border fence at all but the highest nearby elevations.

Although the Project viewshed approximates the availability of views of the Proposed Project from the surrounding area, this analysis uses visual simulations of the Proposed Project from identified key view locations to assess the level of visual change and overall effects to visual resources within the Project viewshed. Visual simulations from key views are essentially static images of the area that are selected as representative locations from which views of the project would be experienced by sensitive receptors. However, visual resources are experienced in dynamic conditions as people move through the environment. This dynamic experience forms human perception of surroundings and perception can be modified by many variables such as viewer activity (driving, work activities, recreational activities, etc.). For solar energy projects, political and economic values can modify personal attitudes toward visual change when the project represents a valued goal. However, these attitudes are more difficult to assess and the acceptable balance between personal lifestyle and larger economic themes is not easily weighed. Therefore, this visual analysis focuses on the dynamic experience associated with the Proposed Project and uses key view simulations to inform the analysis.

In order to assess the Proposed Project's effect on the existing visual character of the surrounding landscape, two key view locations were selected and submitted to the County for review in June 2014. In response to County comments received in December 2014, two additional key views from which to assess the Proposed Project were identified and are included in this assessment. For this EIR, publicly accessible vantage points including I-8, Old Highway 80, Airport Mesa, and the mesa landform in the Table Mountain ACEC were selected as key view locations. The visual impact assessment uses visual simulations of the Proposed Project from key view locations to analyze the level of visual change and overall effects to visual resources within the Project viewshed.

2.1.3.1 Scenic Vistas

Guidelines for the Determination of Significance

For the purpose of this EIR, the County's *Guidelines for Determining Significance, Report Format and Content Requirements: Visual Resources* (County of San Diego 2007a) was utilized to establish significance thresholds. As stated in the County guidelines, a significant scenic vista impact would occur if:

The project would substantially obstruct, interrupt, or detract from a valued focal and/or panoramic vista from:

- a public road,
- a trail within an adopted County or State trail system,
- a scenic vista or highway, or
- a recreational area.

Analysis

Public Roads/Scenic Highways

As shown on Figure 2.1-1, Project Viewshed, the Proposed Project viewshed would encompass segments of I-8 and Old Highway 80. I-8 is an eligible state scenic highway and both I-8 and Old Highway 80 are included in the County Scenic Highway System.

Interstate 8

The Proposed Project viewshed as it relates to I-8 is shown on Figure 2.1-1a. Areas from which views of the Proposed Project would be available as depicted on Figure 2.1-1a are approximate and do not consider the screening effect of intervening vegetation and structures. As shown on Figure 2.1-1a, brief view opportunities of the proposed solar facility would be available to eastbound motorists through three viewing windows separated by rocky boulder outcrops and intermittent road cuts/berms. The viewing windows are approximately 1,000 feet, 350 feet, and 1,800 feet in length and are located 1.7 miles, 1.1 miles, and 0.8 mile from the proposed solar facility site. Assuming travel at the posted speed limit of 70 miles per hour (mph), view opportunities of the proposed solar facility through these windows would be available for durations of approximately 10 seconds, 3 seconds, and 17 seconds, respectively. For westbound motorists, views of the proposed solar facility would be available through one longer viewing window of approximately 2,200 feet beginning at Jade Peak and continuing to the west. The viewing window is located approximately 0.85 mile north of the proposed solar facility and assuming travel at the posted speed limit, view opportunities of the Project would be available for approximately 21 seconds.

As stated above, views to the proposed solar facility are intermittently available to eastbound and westbound I-8 motorists generally between Exit 73/Carrizo Gorge Road and Jade Peak (a distance of approximately 3 miles). As westbound motorists travel through the Proposed Project viewshed, views to the west extend to the distant horizon.Views to the north are unavailable due to the upward-sloping terrain, Table Mountain, and the prominent mesa landform located south of Table Mountain. Views to the south extend to the Sierra de Juarez.; However, continuous views of mountainous terrain to the south, southwest, and west are interrupted by the spreading and mounded Airport Mesa landform. The prominent, elevated landform substantially blocks views of the distant mountain backdrop. Similarly, as eastbound motorists travel through the landscape, Airport Mesa and Table Mountain interrupt continuous views of mountainous terrain to the south and west and establish limits on the length of views to the north. The Jacumba Mountains also limit the availability of particularly long and expansive views to the east as eastbound motorists travel through the Proposed Project viewshed. As such, views from I-8 through the Proposed Project viewshed are not considered panoramic vistas.

The landscape visible to the I-8 motorists as they pass through the Proposed Project viewshed includes prominent mesa landforms, unique conical peaks, rugged ridgelines of the Jacumba Mountains and Sierra de Juarez, relatively flat and horizontal form of the valley floor, and the ECO Substation, along with several tall steel lattice structures. There are multiple elements of interest presented to motorists as they pass through the Proposed Project viewshed and attention does not tend to linger on any one focal point in the landscape. The Project site is situated between the Airport Mesa landform to the west and the Jacumba Mountains to the east, and mountainous terrain in Mexico occupies the middleground landscape between these elements. As a result, there is no sharp convergence of terrain that would create a particularly strong focal point. Therefore, valued focal vistas are not considered to occur along the approximately 3-mile-long segment of I-8 included in the Proposed Project viewshed. Introduction of the proposed solar facility and gen-tie line would not substantially obstruct, interrupt, or detract from a valued focal and/or panoramic vista from I-8; thus, impacts would be **less than significant**.

Old Highway 80

The Proposed Project viewshed as it relates to Old Highway 80 is shown on Figure 2.1-1b. Areas from which views of the Proposed Project would be available as depicted on Figure 2.1-1b are approximate and do not considering the screening effect of intervening vegetation and structures. For eastbound motorists, views of the Project site are available along three noncontiguous segments of the highway. Between the Carrizo Creek overpass and the existing ECO Substation access road (a distance of approximately 0.6 mile), views of the proposed solar facility are available through viewing windows of approximately 500 feet, 390 feet, and 1,100 feet in length. Assuming travel at the posted speed limit of 55 mph, interrupted views of the easternmost portion of the proposed solar facility through these viewing windows are available for approximately 6 seconds, 5 seconds, and 13 seconds, respectively. Through these view opportunities, motorists would be located approximately 0.75 mile, 0.6 mile, and 0.4 mile from the proposed solar facility. East of the ECO Substation access road, the proposed solar facility is located outside the normal cone of vision of passing motorists. Views of the gen-tie structures would be available along the entire segment of Old Highway 80 included in the Proposed Project viewshed.

The Project viewshed encompasses an approximate 1.4-mile-long segment of Old Highway 80 generally from Airport Mesa east to Jade Peak, and as stated above there is opportunity to view the proposed solar facility and gen-tie line from the highway. As viewed from the highway, the Jacumba Mountains and Sierra de Juarez display spatial dominance and are visually prominent in the landscape. Therefore, middleground and background mountainous terrain tends to attract the of attention of east- and westbound motorists along the approximately 1.4-mile-long segment of the highway located in the Proposed Project viewshed. Also, when viewing a relatively long feature in the landscape, viewers tend to scan the feature and follow the forms and lines. After passing Airport Mesa and Jade Peak, southerly views are relatively open and extend to the Sierra

de Juarez, with exception given to road cuts/berms along the highway. Despite the relative openness of the views, there is a lack of noticeable sharp convergence in terrain or other elements in southerly views that would suggest a particularly dominant focal point in the landscape. In addition, the mountainous terrain lacks a particularly prominent peak that would be considered a focal feature. As such, southerly views from Old Highway 80 through the Proposed Project viewshed are not considered focal vistas. Although views to the south between Airport Mesa and Jade Peak are relatively open, the Jacumba Mountains, Table Mountain, and Airport Mesa limit the views available from Old Highway80. These landforms are all located within the foreground to middleground distance and provide verticality and ruggedness to the Project area landscape. Therefore, views from Old Highway 80 through the Proposed Project viewshed are not considered panoramic vistas. Because valued focal and/or panoramic vistas are not considered to occur along the segment of Old Highway 80 included in the Proposed Project viewshed, impacts would be **less than significant**.

County or State Trail System

The viewshed of the Proposed Project does not extend to a trail or segments of a trail within an adopted County or State trail system. The County of San Diego has developed a Community Trails Master Plan that includes individual community trails and pathways plans for several communities and subregional areas however; a plan for the community of Jacumba has not been prepared and/or adopted. There are no known trails within an adopted State trail system located in the Proposed Project viewshed.

Recreation Areas

The Project viewshed encompasses existing trails located on the west-facing slopes of the Jacumba Mountains, the east-facing slopes of the Airport Mesa landform, and the southerly mesa landform of the Table Mountain ACEC.

While a large portion of the Jacumba Mountains is managed as designated wilderness by the BLM, a designated motorized route outside the wilderness boundary traverses the southwestern most extent of public lands in Imperial County. Recreationists may also use designated routes and existing dirt roads in the BLM-managed and non-BLM-managed portions of the Jacumba Mountains to access nearby ridgelines for scenic viewing opportunities. Brief, intermittent, and partial views of the Project are available from the identified southwesterly route on BLM-managed lands, and views from this route are obscured by intervening terrain. However, long views stretching to the western horizon, mountainous terrain to the south in Mexico, and the Imperial Valley to the east are available from several ridgelines located on both BLM- and non-BLM-managed portions of the Jacumba Mountains. Due to the availability of long views to the western horizon and the broad, seemingly horizontal composition of the visible

landscape, westerly views from accessible ridgelines in the Jacumba Mountains are considered panoramic vistas. These views are not however considered valued focal vistas as there is no noticeable convergence of terrain or other elements that would draw attention to a particular focal point in the landscape.

From elevated vantage points, the proposed solar facility would display a dark color and horizontal form on the valley floor. The removal of vegetation from the Project site and development of a solar facility would create a break in the continuity of vegetation and soils visible on the valley floor. However, a similar break resulting from development of the ECO Substation is currently visible from these elevated and scenic vantage points. In addition, due to the apparent horizontal composition of the proposed solar facility, the Project would not block views of prominent middleground features (e.g., Airport Mesa, Table Mountain) or distant background features. The Project would also introduce three new light-colored monopoles and an associated access road that would run between the proposed solar facility and the nearby ECO Substation. Although these elements would be visible from elevated vantage points, the area surrounding the Project site features a number of access roads that have produced light-colored lines in the landscape. In addition, new monopoles would be backscreened by soils and vegetation and would display similar forms, lines, and colors as the existing poles concentrated around the ECO Substation. These elements would also not block views of prominent middleground or background objects and as such would not substantially obstruct, interrupt, or detract from existing panoramic views. Impacts to panoramic vistas in the Jacumba Mountains would be **less than significant**.

The Airport Mesa landform is a designated recreation management zone managed by the BLM for rural recreation opportunities. A road is located on the east-facing slope of the landform and provides access to a relatively wide summit that affords recreationists long and expansive views to the southwest and west. Views to the north, northeast, and east, however, are shorter in length (i.e., views are limited to the middleground distance) due to the presence of Table Mountain and the Jacumba Mountains, which limits the views. Therefore, due to the limitation of views, eastward-oriented views from the Airport Mesa landform toward the Project site are not considered panoramic vistas. Due to the spatial dominance and visual prominence of rugged mountainous terrain, the Jacumba Mountains tend to draw attention in easterly-oriented views from atop the Airport Mesa landform. When viewed from Airport Mesa, the proposed solar facility would be located in the foreground–middleground distance and would display a dark color and horizontal form on the low, mounded on-site hill and nearby valley floor. Gen-tie poles would be backscreened by soils and vegetation and would display similar form, line, and color as existing poles concentrated around the ECO Substation. Because the Project would not block views of the Jacumba Mountains and Project elements would not be located near the focal point of easterly oriented views (the proposed solar facility and gen-tie structures would be located on

the valley floor), the Project would not substantially obstruct, interrupt, or detract from existing focal views. Impacts to focal vistas at Airport Mesa would be **less than significant**.

Lastly, a broad vista is available from the southern edge of the mesa landform located within the Table Mountain ACEC. At this elevated landform (located approximately 1.5 miles north of the proposed solar facility), views extend to the east into the Imperial Valley, to the south and southwest into Mexico and to the community of Jacumba Hot Springs, and to the west to the distant, dark-colored horizon. A wide valley landscape bordered by mountainous terrain to the east, south, and west is apparent from Table Mountain ACEC mesa landform looking south. Due to the availability of expansive and distant views, the Table Mountain ACEC mesa landform is considered a scenic vista. From the elevated vantage point offered at Table Mountain, nearly the entire proposed solar facility would be visible; however, the details of individual solar modules would be difficult to discern. The rectangular form and lines of the Project would somewhat resemble agricultural fields as a comparative land use and visual element and the dark color of solar arrays would appear similar to the dark line exhibited by the international border fence. Three new, light-colored monopoles would display similar lines and colors as the existing monopoles and structures concentrated around the ECO Substation. In addition, the Project would account for a small percentage of the overall land area visible from this viewpoint and the solar facility would display a seemingly horizontal form. As such, Project components would not block views of distant background elements or prominent middleground landforms and would not obstruct or detract from a strong focal point in the landscape. Therefore, the proposed solar facility and associated gen-tie line would not obstruct, interrupt, or detract from the panoramic view available to recreationists at the mesa landform within the Table Mountain ACEC. Impacts would be **less than significant**.

2.1.3.2 Visual Character or Quality

Guidelines for the Determination of Significance

For the purpose of this EIR, the County's *Guidelines for Determining Significance, Report Format and Content Requirements: Visual Resources* (County of San Diego 2007a) was used to establish significance thresholds. As stated in the County guidelines, a significant impact would result if:

a. The project would introduce features that would detract from or contrast with the existing visual character and/or quality of a neighborhood, community, or localized area by conflicting with important visual elements or the quality of the area (such as theme, style, setbacks, density, size, massing, coverage, scale, color, architecture, building materials, etc.) or by being inconsistent with applicable design guidelines.

b. The project would result in the removal or substantial adverse change of one or more features that contribute to the valued visual character or image of the neighborhood, community, or localize area, including but not limited to landmarks (designated), trees, and rock outcroppings.

For purposes of this EIR, four key view locations were selected from which to analyze the potential effects to existing visual character and quality resulting from implementation of the Proposed Project. The key view locations encompass characteristic and sensitive viewpoints in the existing landscape that were identified as critical to evaluating the overall visual effect of the Proposed Project. Key view locations are depicted on Figure 2.1-2, Key View Points. The location, orientation, and existing visual character of each Key View landscape are discussed below.

Key View 1

Key View 1 provides a southerly view to the Project site for westbound motorists on I-8. From Key View 1, the landscape to the south is framed by Airport Mesa to the west and the Jacumba Mountains to the east. The Sierra de Juarez are visible to the south in Mexico. The Key View is situated at an approximate elevation of 3,200 feet amsl and the high point of the Project site sits at an approximate elevation of 3,120 feet amsl. The northernmost boundary of the proposed solar facility is located approximately 0.8 mile south of Key View 1.

The ECO Substation was under construction during field work conducted for this analysis and the facility appears on the left side of the Key View 1 photograph. As shown in Figure 2.1-3, the rugged, rural desert landscape composed of natural elements including the Jacumba Mountains and Sierra de Juarez and characteristic shrubs and soils of the desert valley landscape has been noticeably modified by the introduction of man-made elements in the vicinity of the ECO Substation. More specifically, metallic bays, insulator racks, and tan soils and slopes at the ECO Substation and the tall, light-colored monopoles that would support the 138 kV transmission line have modified the visual character of the landscape. The tall forms, geometric lines, and smooth metallic texture of Southwest Powerlink and Sunrise Powerlink steel lattice towers are also visible and contrast with natural elements in the landscape however; these features are regularly spaced and due to lattice construction the towers tend to visually blend with the backscreening landscape when viewed from a distance. As a result, non-skylined portions of steel lattice towers blend with the mountainous backdrop when viewed from Key View 1.

A number of strong vertical lines created by power and communication poles tend to contrast with the dominantly horizontal lines viewed within the broader landscape. The light color and continuous form of the 138 kV monopole installed outside the ECO Substation yard stands out against the tan and darker brown colors of the Sierra de Juarez. Four narrow wood poles installed south of I-8 run perpendicular to the Key View 1 sight line and in combination with

the ECO Substation and other energy development, these features detract from the overall visual quality of the landscape.

From Key View 1, the Project site would be visible to the west of the ECO Substation and to the east of the Airport Mesa landform. The proposed solar facility would occupy a seemingly unaltered, low area of the desert landscape supporting low, dark green to reddish tinged shrubs occasionally interrupted by tan soils. From I-8, the density of shrubs in southerly views appears to increase with distance and vegetation on the Project site tends to display a solid form and smooth texture as viewed from this acute angle. The continuity of vegetation is noticeably interrupted by the horizontal form and dark line of the international border fence and by the angular, metallic forms and light-colored soils associated with the ECO Substation.

Key View 2

Key View 2 is situated on the eastbound Old Highway 80, approximately 0.3 mile east of the Carrizo Creek overpass and approximately 0.4 mile west of the eastern arm of the proposed solar facility. The low, mounded hill representing the easternmost extension of the Airport Mesa landform conceals a segment of the international border fence and Sierra de Juarez from view. This low hill would also effectively screen from view major portions of the southern and westernmost areas of the proposed solar facility. The Key View is situated at an elevation of 3,050 feet amsl and the existing high point of the proposed solar site is approximately 3,170 feet amsl. As shown on Figure 2.1-4, Key View 2 – Eastbound Old Highway 80, Key View 2 provides views of the visually dense vegetated desert floor against the backdrop of the mounded and rugged, boulder-covered Jacumba Mountains and Sierra de Juarez.

The view from Key View 2 is characterized as a primarily undisturbed expanse of low, dark green to grayish shrub covered desert landscape intermixed with small rock outcrops and pale arid soils. The color and texture of shrubs, rock outcrops and soils are detailed in the foreground however; in the middleground viewing distance, shrubs appear as a dense, darkly colored consolidated mass. The rugged form and line displayed by distant mountain ranges attract the attention of passing motorists as does the dark, horizontal line of the international border fence. The low hill located in the foreground is stippled with characteristic desert shrubs and creates a low arching horizon line to the southeast. A thin, diagonal line created by a steep access road appears on the north-facing slope of the hill.

Key View 3

Key View 3 is located on the steep road/trail that climbs the east- and north-facing slopes of the Airport Mesa landform. Although the available view from atop Airport Mesa is panoramic in nature, Key View 3 is orientated to the east toward the Project site and Jacumba Mountains/ Sierra de Juarez Mountains. Located approximately 0.36 mile (1,892 feet) west of the western

boundary of the proposed solar facility, Key View 3 provides a representative superior angle view from higher elevation terrain in the area afforded to local recreationists. Key View 3 is located at an approximate elevation of 3,475 amsl and the high point of the low, wide hill situated between Airport Mesa and the valley floor is located at an approximate elevation of 3,165 feet amsl.

As shown in Figure 2.1-5, Key View 3 provides views of a valley floor covered with sandy exposed soils and dotted with low, dark green forbs and shrubs. In addition to the international border fence and the ECO Substation, thin, light-colored lines of access roads are visible. In addition, approximately 20 skylined wind turbines can be seen atop the high, prominent terrain in Mexico. North of the international border, the rugged Jacumba Mountains provide a mountainous backdrop to the scene. The faint, vertical lines of communication towers east of Nopal Peak in the Jacumba Mountains can be seen in northeasterly views from atop Airport Mesa (see Figure 2.1-5). Patches of light-colored soils resulting from installation of the ESJ gen-tie are detectable, although the steel lattice structures supporting the gen-tie are difficult to detect due to the mountainous terrain in the background. Steel lattice structures of the Southwest Powerlink and Sunrise Powerlink are installed at the base of Jade Peak. Although not seen in Figure 2.1-5, additional steel lattice structures associated with the Southwest and Sunrise Powerlinks dot the middleground valley floor terrain to the north. Lastly, the dark-colored, straight lines of Old Highway 80 and I-8 cut through the middleground landscape to the northeast, north, and northwest.

Also, although not apparent in Figure 2.1-5, panoramic and long views to the south into Mexico and to the distant western horizon are available. Views to the south consist of a desert valley stippled with small brown and red shrubs and occasionally marked by rising, mounded terrain and narrow bands of low, green/yellow grasses. Westerly views include a chain of rugged and domed peaks, a primarily horizontal line created by the western horizon, and the expansive desert sky. Views to the northeast and north are fairly limited in extent due to the presence of the rugged Jacumba Mountains, the mesa landform in the Table Mountain ACEC, and other mountains, including Table Mountain.

Key View 4

Key View 4 is located approximately 1.5 miles north of the Project site and is situated at the southern extent of the prominent mesa-top landform in the Table Mountain ACEC. Similar to the view afforded to recreationists from Airport Mesa, Key View 4 provides a representative superior angle view for local hiking clubs and other recreationists, including off-road vehicle enthusiasts. Although not apparent in Figure 2.1-6, clumped landscape screens and single-story residential structures and trailers in the community of Jacumba Hot Springs can be seen in southwesterly views from the Table Mountain ACEC mesa landform. The Desert Mesa, Desert

Alluvial Fan, and Jacumba Mountains LCUs are visible within this Key View.Key View 4 is approximately 3,770 feet amsl and is the highest point of the relatively low, wide hill situated between Airport Mesa and the valley floor, which is located at an approximate elevation of 3,165 feet amsl.

The view from the mesa landform at the Table Mountain ACEC is wide and relatively long (see Figure 2.1-6). Southerly views extend to the distant mountains in Mexico, while the foreground and middleground is occupied by seemingly flat terrain with occasional hills and a subtle central depression. The valley floor is covered with desert shrubs and tan to dark brown colored soils. The Jacumba Mountains and Sierra de Juarez provide a rugged backdrop to the view. A modest rural residential structure, water tank, and access road are visible in the foreground and the north- and southbound I-8 travel lanes are located farther to the south. In addition to the ECO Substation and the international border fence, steel lattice structures and associated access roads in Mexico can be seen south of I-8.

Analysis

The introduction of the proposed solar facility and connector line would create visual contrast in form, line, color and texture that would degrade the visual quality of the Project area landscape. The severity of visual changes and contrast would be informed by distance and viewing angle. For example, from middleground viewing distances, the details of individual racks and solar PV panels would not be discernible however; the concentration of these features and associated shadows on the Project site would appear as a single grayish mass in the landscape (see Figure 2.1-3). The visual pattern of racks and panels would be intruded upon by the slightly taller, rectangular form and light gray color of inverters that would be distributed across the proposed solar field. Furthermore, as depicted on Figure 2.1-3, the smooth, sandy horizontal line displayed by access roads and solar field edges would interrupt the predominantly dark gray color of the proposed solar field and would contrast with the seemingly dense texture of dark green desert shrubs outside the solar field fence line. The energy storage facility and on-site collector substation would be visible from middleground viewing distance such as I-8 and would add new horizontal and vertical lines to the landscape. The installation of PV modules atop the low hill located on site would create a gray, low, arching line that would mimic the line displayed by existing terrain. The form, line, and color of Project components would garner attention from passing I-8 motorists, who would be afforded brief views of the Project site. Lastly, a 138 kV overhead connector line is proposed and would deliver power generated at the proposed solar facility to the adjacent ECO Substation. The connector line would be supported by approximately three 150-foot-tall, light-colored monopoles that would be backscreened by distant mountainous terrain. As shown on Figure 2.1-3, the proposed monopoles would display a similar form and line as existing ECO Substation transmission line monopoles in the middleground viewing distance however; the

tall and light-colored monopoles would contrast with the largely horizontal composition and green to brown hues of the Project area landscape.

As shown on Figure 2.1-3, discoloration within the eastern, lower elevation arm of the solar facility is anticipated as light reflecting off panel edges would be visible from the superior viewing angle afforded to motorists at Key View 1. In contrast, PV modules installed atop the low hill located on site at the western Project boundary would be located at a higher elevation than Key View 1 and as a result, reflected light and discoloration within the solar array is not anticipated to be visible. Line, color and texture contrast would occur at Project edges where the straight line, tan color, and smooth surface of on-site perimeter access roads would visibly contrast alongside undisturbed vegetation and soil located outside of the Project fence line. The tan-colored lines created by perimeter access roads at the eastern edges of the solar array and at the eastern edge of the low hill located on site would also interrupt the uniformly grayish color of the proposed solar facility. In addition, the anticipated form, line, and color contrasts associated with the proposed water tanks, particularly the site atop the low, mounded hill at the western Project boundary, would present an additional vertical disruption to the landscape. While the Proposed Project would mainly add new horizontal features to the predominantly horizontal desert valley landscape, the proposed solar facility would require the installation of three gen-tie monopoles to deliver generated power to the nearby ECO Substation. As shown on Figure 2.1-3, new monopoles would display a similar form, line, color and texture as the existing monopole located outside the ECO Substation 230/138 kV substation yard. While new monopoles would be backscreened, the introduction of additional vertical elements to the landscape would create further interruption of views to the rugged ridgelines of the distant Sierra de Juarez and the light color and strong vertical line of monopoles would attract attention and diminish the existing visual quality of the landscape. Implementation of the Proposed Project would contribute to an increasingly jumbled visual scene that currently includes the ECO Substation and steel lattice towers of the Southwest Powerlink and the Sunrise Powerlink (see Figure 2.1-3).

From foreground viewing distances such as Old Highway 80, the normal to slightly inferior viewing angle afforded to viewers and the presence of intervening terrain and vegetation affect visibility to the Project site. For example, from Key View 2, the moderate height of foreground desert shrubs and occurrences of intervening terrain would partially screen the proposed solar facility from the view of Old Highway 80. As depicted on Figure 2.1-4, changes to the existing visual pattern and perceptible contrast with the established landscape character following introduction of the Proposed Project would be relatively subdued. As viewed from Old Highway 80, the shadow side of solar panels would introduce a dark grayish color and horizontal line across the Project site that would reference the dark color and bold line of the existing international border fence. The lighter, gray color of solar PV module racks and perimeter fencing would blend in with the gray tones of existing desert shrub vegetation in the

middleground beyond the Project site. The form and line of individual panels and racks would be difficult to discern and instead, from Key View 2, the proposed solar facility would appear as gray mass in the middleground viewing distance (see Figure 2.1-4). The edges of several PV modules installed on the southern slope of the low on-site hill would be skylined however; these modules (approximate 8 feet in height) would largely follow the contours of existing topography and would be partially obscured by the northern slope of the low hill. The side by side sequence of skylined panel edges would appear as a low, arching line that would mimic the line created by the on-site low hill. Additional PV modules installed on the southern slope of the hill would descend the terrain and would be obscured from view. Lastly, the introduction of new vertical element (i.e., gen-tie monopoles) would contrast with the low, primarily horizontal form of the desert valley landscape. While these features would be backscreened by the Jacumba Mountains and would display similar tall form and vertical lines as the installed ECO Substation 138 kV transmission line monopole, vertical features would be visually prominent, would attract attention and would diminish the visual quality of the existing landscape.

From elevated vantage points in the surrounding area, such as Airport Mesa (Key View 3, Figure 2.1-4) and the mesa terrain at the Table Mountain ACEC (Key View 4, Figure 2.1-5), the rugged and mountainous backdrop of the Jacumba Mountains and Sierra de Juarez would continue to display spatial dominance and visual prominence. These mountains would be background features in the landscape. However, alteration of the valley floor associated with development of the proposed solar facility and associated gen-tie line would interrupt the existing composition of low, gently rising shrub- and soil-covered terrain that transitions to moderate foothills and steep mountainous landforms. The proposed solar facility would create a break in the continuity of desert vegetation and arid soils and as a result, the valley floor would appear somewhat jumbled and would begin to display a slight patchwork quality when viewed alongside the ECO Substation (see Figures 2.1-4 and 2.1-5). Moreover, from atop Airport Mesa, easterly and southeasterly views of the desert landscape would display an increasingly industrial character marked by substation and solar facility development; high-voltage regional transmission lines; prominent, skylined wind turbines; and large, steel lattice towers and monopoles. While the visual details of the proposed solar facility and resulting effects of Project development would tend to decline with distance (a moderately high visual impact is anticipated at Airport Mesa and a moderate visual impact is anticipated at Table Mountain), visual effects to the existing character of the site would remain apparent to recreationists afforded long, sweeping views of the Project area landscape.

The proposed solar PV arrays would display a height visually consistent with that of the international border fence and single-story rural residences in the Project viewshed; however, the bulk, horizontal scale, and grayish to grayish-blue color of the solar facility would draw the attention of passing motorists. From elevated vantage points, the characteristic visual pattern of light brown to tan soils and shrubby, stippled vegetation across the valley floor would be

replaced by the dark, rectangular form of solar panels and underlying shadows and the horizontal, light grayish-colored lines displayed by on-site access roads. The change in color at the valley floor and abrupt break in the visual pattern of vegetation and soils would be noticeable and would detract from the vividness of panoramic views. Furthermore, the rectangular form of inverters distributed across the Project site would rise above the comparatively low horizontal form of solar modules and would be visible. The anticipated form, line, and color contrasts associated with the proposed water tanks, particularly the site atop the low, mounded hill at the western Project boundary, would present an additional vertical disruption to the landscape. Although the Project would primarily be viewed from a distance and would be experienced in the larger landscape context that includes the ESJ gen-tie, ECO Substation, steel lattice towers associated with the Southwest Powerlink and Sunrise Powerlink, and wind turbines and steel lattice structures located in Mexico, the perceived intactness and unity of the landscape and Project site as viewed from stationary and mobile locations would be diminished by the introduction of the uniformly dark-colored solar facility, tan-colored soils at Project edges, and tall, light-colored monopoles. As such, impacts to existing visual character and quality of the site would be **potentially significant** (**Impact AE-1**).

2.1.3.3 Plan Compliance

Guidelines for the Determination of Significance

For the purpose of this EIR, the County of San Diego *Guidelines for Determining Significance, Report Format and Content Requirements: Visual Resources* (County of San Diego 2007a) was used to establish significance thresholds. According to the guidelines, a significant impact would result if the Project would not comply with applicable goals, policies, or requirements of an applicable County community plan, subregional plan, or historic district zoning.

Analysis

The San Diego County General Plan and the Mountain Empire Subregional Plan are the relevant planning documents for development in the Project area. Both the General Plan and Subregional Plan contain policies related to the protection of visual resources that are applicable to the Project. More specifically, General Plan Conservation and Open Space policies COS-11.1, COS-11.3, COS-11.7, COS-13.1 and COS-13.2 are applicable to the Project. These policies concern the protection of scenic resources including scenic landscapes and corridors (COS-11.1), minimization of visual impacts through development siting and design (COS-11.3), undergrounding of utilities in new developments to maintain viewsheds (COS-11.7) and restriction of outdoor lighting and glare (COS-13.1 and COS13.2). A detailed consistency analysis regarding the Proposed Project and relevant policies of the General Plan is provided in Section 3.1-5, Land Use and Planning (see Table 3.1.5-3).Several subregional plan policies

concerning the minimization of hillside grading and retaining significant natural features characteristic of the community's landscape are also applicable to the Project. A detailed consistency analysis regarding the Proposed Project and relevant policies of the subregional plans is provided in Section 3.1-5, Land Use and Planning (see Table 3.1.5-4).

General Policy COS-11.1 pertains to the protection of scenic resources, including scenic highways. The Project would be visible from I-8 and Old Highway 80, both of which are County-designated scenic roads. Fixed-tilt, south-oriented solar PV modules would be located approximately 0.8 miles from the eastbound lanes of I-8 and as close as 0.25 mile to Old Highway 80. As shown on Figure 2.1-2, from I-8 the visual details of the proposed solar facility would be difficult to discern and the Project would appear as a concentrated mass of gray horizontal lines occasionally interrupted by bands of light-colored soils. A-frames at the on-site substation would introduce additional vertical lines and these features would be backscreened by panels and the distant foothills of the Sierra de Juarez. The introduction of the Proposed Project to the I-8 landscape would create similar line contrasts as the international border fence and similar color and texture contrast as the ECO Substation. From I-8 and Old Highway 80, support racks and solar PV modules of the Proposed Project would display low-vertical profiles that would be compatible with the largely horizontal composition of the valley floor. The low profile of solar PV modules and the distance to the Project site from the interstate would decrease the visual prominence of the solar field; however, the horizontal bulk and grayish color of the facility would be apparent to passing motorists. From Old Highway 80, low-profile solar modules would be partially screened by intervening vegetation and terrain and would create similar line contrasts to those displayed by the international border fence. The edges of several PV modules installed atop the low on-site hill would be partially skylined; however, PV modules would generally follow the contours of the existing terrain and would create a similar (albeit slightly elevated) line to that displayed by the low hill. Despite the relatively close proximity of the highway to the proposed solar field, the visual details of racks and solar panels would be difficult to detect. The uniformly dark color associated with the shadow side of solar panels would create a dark, horizontal line that would appear similar to the dark line of the international border fence. The grayish edges of solar PV modules would blend in with the grayish-green color of existing desert shrubs located to the east in the middleground.

While the Proposed Project would result in potentially significant impacts to visual character and quality, existing views from I-8 and Old Highway 80 would be protected to the extent feasible. The proposed solar facility would be sited near existing substation, regional electrical transmission, and wind turbine development. Furthermore, due to the proximity of the ECO Substation, the length of the gen-tie line would be minimized and new monopoles would be installed within an existing transmission corridor alongside ECO Substation 138 kV transmission line monopoles that would display similar form, line and color to the existing monopoles. In addition, the Proposed Project would install low-profile racks and PV modules within a low-lying desert alluvial fan landscape

and would avoid alteration of dominant landforms and prominent ridgelines. As such, development of the Project would be consistent with General Plan Policy COS-11.1.

Policy COS-11.3 pertains to development siting and design and requires development to minimize visual impacts and preserve unique or special visual features through creative site planning, integration of natural features into the project, and use of appropriate scale, materials, and design to complement the surrounding landscape. Policy COS-11.3 also recommends minimal disturbance of topography, clustering of development, and creation of a contiguous open space network. Development of the Project would not require the removal of existing oak trees or rock outcroppings. The height of solar arrays (approximately 8 feet above ground surface) would be consistent with the height of the international border fence and limited single-family rural residential development in the surrounding area. Further, the proposed solar array would occupy an approximate 108-acre portion of a larger, approximately 304-acre parcel; therefore, more than half of the Project site would retain its existing rural and rugged desert characteristics. Clearing, grubbing, and grading would be required for site preparation and the construction of access and service roads, such that all vegetation on the 108-acre area would be completely removed. However, the topography of the site is relatively mild and is not anticipated to require substantial excavation of the soils or modification of prominent landforms. PV modules installed on the southern slope of the low hill would generally follow existing contours and minimal changes to existing landforms would result. The solar panels and associated racking system, on-site substation, and battery energy storage facility would create visible form, line, and color contrasts in the landscape; however, from public viewpoints along transportation corridors, the visual details of the proposed solar facility would obscured by distance and routinely screened by road cuts, intervening terrain, and vegetation. As such, development of the Project would be consistent with General Plan Policy COS-11.3.

General Plan Policy COS-11.7 concerns the undergrounding of utilities, with facilities exceeding 34.5 kV exempt from the requirements. The Proposed Project proposes a short overhead 138 kV gen-tie line, as undergrounding the entire gen-tie as part of the Proposed Project would increase impacts relative to biology, cultural resources, and air quality due to required trenching activities and would be cost prohibitive. It should be noted that multiple existing overhead high-voltage transmission lines are located in the viewshed of the aboveground gen-tie associated with the Project.

General Plan Policies COS-13.1 and COS-13.2 pertain to restriction of light and glare and minimization of lighting impacts on dark skies within impact areas of the Palomar and Mount Laguna Observatories. As proposed, the Project would install motion-controlled outdoor lighting at vehicle entrance gates and at the on-site collector substation. Outdoor lighting would be installed for security and safety purposes and would operate during nighttime hours only on an as-needed basis. When not in use, lighting would be turned off. Furthermore, compliance with

County of San Diego Light Pollution Code (see Dark Skies and Glare analysis below) would ensure that all lighting would conform to the lamp type and shielding requirements applicable to lighting in Zone B as established by the County of San Diego Light Pollution Code. In addition, and as further discussed in Section 2.1.3.4, glare generated by proposed solar modules would be restricted by the angle and orientation of fixed-tilt panels and limited daily glare would be received by recreationists at prominent ridgelines of the Jacumba Mountain and at Airport Mesa. No glare would be received by motorists on I-8 or Old Highway 80 or by recreationists at the mesa landform within the Table Mountain ACEC. Therefore, impacts associated with light and glare and to the existing quality of night skies would be minimal.

There is no historic zoning located near the proposed solar facility site.

For the reasons discussed above and in Section 3.1-5, Land Use and Planning, the Proposed Project would comply with the relevant goals, policies, or requirements of the applicable County community plan and subregional plan. Therefore, impacts would be **less than significant.**

2.1.3.4 Light and Glare

Guidelines for the Determination of Significance

For the purpose of this EIR, the County of San Diego *Guidelines for Determining Significance, Report Format and Content Requirements: Dark Skies and Glare* (County of San Diego 2007b) was used to establish significance thresholds. According to the dark skies and glare guidelines, a significant impact would result if:

a. The Project will install outdoor light fixtures that do not conform to the lamp type and shielding requirements described in Section 59.105 (Requirements for Lamp Source and Shielding) and are not otherwise exempted pursuant Section 59.108 or Section 59.109 of the San Diego County Light Pollution Code.

b. The Project will operate Class I or Class III outdoor lighting between 11:00 p.m. and sunrise that is not otherwise exempted pursuant Section 59.108 or Section 59.109 of the San Diego County Light Pollution Code.

c. The Project will generate light trespass that exceeds 0.2 foot-candles measured five feet onto the adjacent property.

d. The Project will install highly reflective building materials, including but not limited to reflective glass and high-gloss surface color, that will create daytime glare and be visible from roadways, pedestrian walkways or areas frequently used for outdoor activities on adjacent properties.

e. The Project does not conform to applicable Federal, State or local statute or regulation related to dark skies or glare, including but not limited to the San Diego County Light Pollution Code.

Analysis

Lighting

Construction is anticipated to occur during hours permitted by the County, and therefore, nighttime lighting to accommodate construction activities would not normally be required. However, during autumn and winter months when sunset would occur prior to 7:00 p.m., lighting during nighttime hours may be required. Construction activities are permitted between 7:00 a.m. and 7:00 p.m., Monday to Saturday, by the County of San Diego. Although use of nighttime lighting would be limited and only two residences are located in the Project vicinity, nighttime lighting could affect existing views in the surrounding area which is generally devoid of significant nighttime lighting sources. All lighting at the site would comply with the County of San Diego Light Pollution Code Section 59.101 et seq. in regards to both general requirements (i.e., use of low-pressure sodium lamps, shielded light fixtures, hours of operation limitations) and lamp type and shielding requirements for Class I and II lighting in Zone B. Class I lighting means all outdoor lighting used for but not limited to outdoor sales or eating areas, assembly or repair areas, billboards and other signs, decorative effects, recreational facilities and other similar applications when color rendition is important. Class II lighting means all outdoor lighting used for but not limited to illumination for walkways, roadways, equipment yards, parking lots and outdoor security. Class III lighting means outdoor lighting used for decorative effects. Conformance with the County of San Diego Light Pollution Code during construction would ensure that light trespass from the site would be minimized and lighting would conform to the applicable local regulation.

All outdoor lighting installed at the proposed solar facility would be shielded and directed downward to comply with the applicable requirements of the San Diego County Light Pollution Code. The Project site is located more than 15 miles from the Mount Laguna Observatory; therefore, lighting at the Project site would be subject to Zone B standards for Class I and Class II lighting. As stated in Chapter 1, Project Description, all lighting for the solar facility would have bulbs that do not exceed 100 watts; however, per the San Diego County Light Pollution Code, the acceptability of a particular light is decided by its lumen output, not wattage. Therefore, in compliance with the San Diego County Light Pollution Code, all outdoor lighting at the proposed solar facility will conform to the Zone B lamp type and shielding requirements of the Light Pollution Code to protect the Dark Skies at night.

Outdoor lighting is proposed to be motion controlled at vehicle entrance gates to the solar facility and at the Project substation for security and safety purposes. While nighttime outdoor lighting may be required to illuminate particular areas of the substation for O&M personnel, all outdoor lighting would be turned off when not in use and would only be used on an as-needed basis. Maintenance activities are not anticipated to be conducted during the evening hours. If nighttime lighting does operate between 11:00 p.m. and sunrise such as may occur during emergency work, use of lighting would be temporary. In addition, conformance with the San Diego Light Pollution Code Zone B lamp type and shielding requirements for all outdoor lighting at the solar facility would minimize the potential for light trespass and effects to the surrounding area including excess illumination of the nighttime sky. Furthermore, there are no existing residences located on properties adjacent to the solar facility. There are two residences located in the Project viewshed, and both are located more than 0.5 mile from the solar facility. Therefore, due to distance and through conformance with applicable regulations pertaining to lighting, outdoor lighting installed at the proposed solar facility would not substantially affect the nighttime views of existing residences in the local Project area. As such, conformance with the San Diego Light Pollution Code Zone B lamp type and shielding requirements for all outdoor lighting would ensure that impacts related to Guidelines a, b, and c would be **less than significant**.

Glare

Although the Project does not propose to install traditional highly reflective building materials such as glass windows or metallic siding, the Project entails the introduction of thousands of glass-surfaced solar modules on fixed-tilt racks across the 108-acre site. Solar PV modules are designed to be highly absorptive of all light that strikes their glass surfaces. Steel support structures and steel shipping containers would be installed at the on-site substation and battery energy storage facility and three connector line support structures would be required to deliver power generated at the proposed solar facility to the nearby ECO Substation. In addition to two residences, the Proposed Project viewshed would encompass portions of I-8 and Old Highway 80, and would extend to the Jacumba Mountains to the east, the Table Mountain ACEC to the north, and the Airport Mesa Recreation Management Zone to the west.

As shown on Figures 2.1-3 and 2.1-4, fixed-tilt racks and solar panels would be oriented toward the south. Motorists on I-8 and Old Highway 80 would be afforded views of the shadow side of the panels as well as the beams of the racking system. Because panels would not be oriented to the north toward I-8 and Old Highway 80 and because solar PV modules are designed to absorb rather than reflect light and the panels would be treated with a non-reflective coating, limited daytime glare would be generated and glare would not be visible from these roadways, or points further north including R1 and R2 recreational areas. Slight variations in the color of individual or small groups of solar panels resulting from the specific angle of orientation may be perceptible to passing motorists afforded a superior angle view of the solar field. However, this effect would be

experienced as a contrast of color as opposed to received glare. Therefore, due to the southerly orientation of fixed –tilt solar panels and because solar PV modules are light absorbing and would be treated with a non-reflective coating, significant daytime glare would not be generated and would not be visible from I-8 or Old Highway 80.

While the southerly orientation of fixed-tilt solar panels would limit opportunities for motorists to receive glare as they pass through the proposed Project viewshed, the presence of prominent and mountainous terrain to the east and west of the site may expose recreationists to Project-generated glare. To determine the likelihood for recreationists at the Jacumba Mountains and Airport Mesa to receive glare during operation of the proposed solar facility, the Solar Glare Hazard Analysis Tool from Sandia National Laboratories and the U.S. Department of Energy was used. The Solar Glare Hazard Analysis Tool uses an interactive Google map that can be used to identify the specific location of the Project site and proposed components. Latitude, longitude, and elevation of Project components are recorded and specific off-site locations that may have susceptibility to glare can be identified (location and elevation information is used for sun position and vector calculations). The product of the Solar Glare Hazard Analysis Tool is a simple glare occurrence plot that approximates when glare would occur throughout the year and the severity of glare at the given observation point. The severity of glare is placed into one of three categories: (1) potential for permanent eye damage; (2) potential for temporary after-image (i.e., temporary disability of distraction); and (3) low potential for temporary after-image. While the Solar Glare Hazard Analysis Tool does have limitations (e.g., the tool does not consider obstacles (man-made or natural) such as trees, intervening terrain, or buildings between the observation point and solar facility that may obstruct observed glare), the tool does allow for general approximation of the severity of received glare in the surrounding landscape.

Two specific observation points from Airport Mesa were identified and considered in the Solar Glare Hazard Analysis Tool. The first location is located on the summit route/trail at the gate and culvert at an approximate elevation of 3,340 feet amsl and is located 570 feet north of the international border and 0.23 mile west of the Project boundary. The second location is atop Airport Mesa at an approximate elevation of 3,570 feet amsl, approximately 260 feet north of the international border and approximately 0.46 mile west of the Project boundary. According to the Solar Glare Hazard Analysis Tool, temporary disability/distraction glare may be received by recreationists at Airport Mesa generally during the hour immediately after sunrise (6:00 a.m. to 7:00 a.m.) ~~and~~ from April to October only. Glare exposure would be slightly greater (i.e., glare could be received year-round) for recreationists on the trail/route traversing east-facing slopes when compared to the summit but would be experienced for less than 1 hour from January to March and November to December, which represents less than a 10% of the day during less than 50% of the year.

The Airport Mesa is not likely a destination for large numbers of early morning hikers because it was not designated as part of a state or local trail system that could attract large numbers of hikers. Although recreationists would receive project-generated glare, glare exposure would be of a limited duration and would not substantially affect the availability of panoramic views from the elevated landform. Glare would be received by recreationists during the hour immediately following sunrise and glare exposure would be concentrated during spring and summer months. During fall and winter months, glare would be received but daily duration would decrease to between 15 minutes and 45 minutes. While it is not known whether Airport Mesa is a popular destination for early morning hikes (the proximity of the international border and surveillance of the landform by U.S. Customs and Border Protection suggests that this is unlikely), panoramic views to the southwest and west are available from Airport Mesa. Because glare would be experienced in easterly oriented views during early morning hours, glare would not substantially affect panoramic views to the southwest and west and would not obscure or interrupt the casting of light onto the expansive valley and distant mountain landscape. Therefore, project-generated glare would not substantially affect the daytime views of recreationists at Airport Mesa and impacts would be less than significant.

Three specific observation points from the Jacumba Mountains were identified and considered in the Solar Glare Hazard Analysis Tool. Identified observation points are situated atop ridgelines located between 1.4 and 2 miles east of the Project site in the Jacumba Mountains at elevations ranging from approximately 3,980 to 4,520 feet amsl. According to the Solar Glare Hazard Analysis Tool, temporary disability/distraction glare would be received by recreationists at elevated vantage points (ridgelines) for an approximate daily duration of between 15 and 45 minutes prior to sunset between the months of March to May and September to November. The Jacumba Mountains is not likely a destination for large numbers of late evening hikers because it was not designated as part of a state or local trail system that could attract large numbers of hikers. In addition, the steep, mountainous and rocky roads would tend to limit nighttime hikers along existing routes and the lack of established trails to ridgelines discourages nighttime trail-based recreation. For purposes of this analysis ridgelines in the Jacumba Mountains are considered to offer panoramic viewing opportunities to the west. Because daily glare exposure would be limited between 15 and 45 minutes prior to sunset during the months of March to May and September to November, the availability of panoramic views would not be substantially affected. Glare is not anticipated to be received by recreationists at ridgelines within the Jacumba Mountains during the majority of daytime hours; therefore, Project-generated glare would not substantially affect the daytime views of recreationists at the Jacumba Mountains. Impacts would be less than significant.

Due to the southern orientation of solar modules, glare would not be received by recreationists at the mesa landform within the Table Mountain ACEC. An observation point atop the mesa landform was considered in the Solar Glare Hazard Analysis Tool and no glare was identified for this particular location.

In addition to solar modules, reflective materials may be introduced elsewhere on the proposed solar facility site. Steel support structures and shipping containers at the on-site substation and battery energy storage facility could potentially produce daytime glare that would be visible by passing motorists. The use of highly reflective materials at the on-site substation would be limited to the extent feasible and with the exception of the battery energy storage facility, similar materials installed at the neighboring ECO Substation would be introduced to the solar field site at the collector substation. Solar reflectance off the steel shell of the battery energy storage containers may produce glare that could be visible by passing motorists along I-8 and Old Highway 80, and to recreationists in the adjacent mountain areas. The proposed water tanks, particularly the site atop the low, mounded hill at the western project boundary, would present visible vertical disruption to the landscape that could be constructed of steel and if unpainted could generate glare. Components used to construct the proposed 138 kV transmission line would all feature non-reflective surfaces. For example, insulators would be constructed of gray polymer, conductors would be made from aluminum-wrapped steel, and the transmission poles and associated hardware (as proposed) would be composed of galvanized steel. While the use of highly reflective materials at the on-site substation would be limited and components of the 138 kV transmission line would feature non-reflective surfaces, the steel shells of the energy storage containers may produce glare that could be visible by passing motorists along I-8 and Old Highway 80, and to recreationists in the adjacent mountain areas. As such, the introduction of the battery energy storage system represents a **potentially significant** impact (**Impact AE-2**) in regards to Guideline d listed above.

2.1.4 Cumulative Impact Analysis

Methodology

For most projects, the cumulative study boundary for visual resources encompasses the Project viewshed. The character elements of cumulative development occurring within the Project viewshed contribute to the overall visual character of the viewshed and would affect, either negatively or positively, the quality of existing views of the landscape. However, when scenic roads are included in the Project viewshed, an expanded cumulative study area is warranted. Both the Proposed Project and development occurring or planned within the viewshed of a designated scenic road could combine to permanently alter the visual character of the landscape and diminish the quality of existing views of valued scenic resources. For purposes of this analysis, the List of Projects method is used in the cumulative impacts discussion below.

The viewshed for the Jacumba Solar Energy Project extends to I-8 and Old Highway 80 and both roads are included in the County Scenic Highway System. I-8 from the El Cajon city limits to the Imperial County line and Old Highway 80 from SR-79 (Pine Valley) to I-8 (Jacumba) are designated by the County of San Diego as scenic highways. For purposes of this

analysis, the cumulative study area is defined as the viewshed of I-8 from SR-79 (Pine Valley) to the Imperial County line. Due to the proximity of I-8 and Old Highway 80 along this corridor, projects that would be visible from the interstate would also be visible from the highway. Extending the cumulative study area further to the west is not warranted as the landscape becomes increasingly developed west of SR-79 and into the community of Alpine. In addition, renewable energy development and projects that could create similar visual impacts as the Proposed Project are generally located east of SR-79 in southeastern San Diego County. Extending the study area east into Imperial County is not warranted because I-8 is not a designated or eligible scenic highway in Imperial County and the visual character of the landscape is distinct as viewers enter the desert valley floor.

Cumulative Projects

Cumulative projects considered in this analysis are those in the study area that would produce similar visual effects as the proposed Jacumba Solar Energy Project. Therefore, for purposes of this analysis, electric substation, solar energy and transmission projects within the cumulative study area are considered and they would create similar form, line, color, and texture contrasts as the proposed solar facility. The location of cumulative projects is depicted on Figure 1-9, Cumulative Projects Map (see Chapter 1, Project Description, of this EIR).

The following projects are considered in the cumulative impact analysis provided below:

- **Rugged Solar.** MUP for the construction and operation of an 80 MW solar energy system on an approximately 765-acre site located north of I-8 in the Boulevard Community.
- **Tierra del Sol Solar.** MUP for the construction and operation of an 60 MW solar energy system on an approximately 420-acre site located south of I-8 in the Community of Tierra del Sol.
- **Chapman Ranch Solar Project (pre-application meeting held in Fall 2014).** Proposed by Solar Electric Solutions LLC as a 50-acre solar project on a 133-acre site. Located north of I-8 near McCain Valley Road and Rocky Knoll Road.
- **ECO Substation Project (approved and constructed as of February 2015).** Located northeast of the proposed Jacumba Solar facility. The ECO Substation project consists of the construction of a 500/230/138 kV substation on approximately 86 acres, a short loop-in of the existing Southwest Powerlink to the ECO Substation, a new overhead 138 kV transmission line that would connect the ECO Substation to the Boulevard Substation, and rebuild of the Boulevard Substation to provide 138 kV and 69 kV facilities on a 3.2-acre site. The ECO Substation, segments of the 138 kV transmission line (part of the transmission line would be installed within Old Highway 80), and the Rebuilt Boulevard Substation are visible from I-8.

- **Energia Sierra Juarez U.S. Transmission MUP (approved and constructed as of January 2015).** As approved by the County Board of Supervisors in August 2012, the project would construct approximately 1-mile-long, dual-circuit 230 kV power lines from the U.S./Mexico border north to the ECO Substation. The power lines would deliver power generated at the ESJ wind project located in the town of La Rumorosa in Mexico to the ECO Substation.

Cumulative Impact Analysis

2.1.4.1 Scenic Vistas

Panoramic vistas in the proposed Project viewshed were identified at Airport Mesa, the mesa landform at the Table Mountain ACEC, and ridgelines within the Jacumba Mountains. As stated in the analysis presented above for the Proposed Project, recreationists at elevated vantage points in the local area would be afforded combined views of the proposed solar facility and gen-tie monopoles, the constructed ECO Substation project~~(under construction as of January 2015)~~, and the completed ESJ gen-tie project. Although the removal of vegetation from the Project site and development of a solar facility would create a break in the continuity of vegetation and soils visible on the valley floor, a similar break resulting from development of the ECO Substation is currently visible from these elevated and scenic vantage points. In addition, due to the apparent horizontal composition of the proposed solar facility, the ECO Substation, and the backscreening of gen-tie and transmission line steel lattice structures the Project would not block views of prominent middleground features (e.g., Airport Mesa, Table Mountain) or distant background features from view.

Due to intervening terrain, cumulative solar development projects would not be visible from Airport Mesa, the mesa landform at the Table Mountain ACEC, or ridgelines within the Jacumba Mountains; however, wind turbines associated with the Tule Wind Project in the McCain Valley may be visible. Wind turbines for the Tule project would be located more than 5 miles from these elevated vantage points and would not substantially block views of distant mountainous terrain to the west and southwest. Tecate Divide, the Carrizo and Sacatone Overlooks in the McCain Valley Conservation Area, and Mount Tule were identified as scenic vistas in the Programmatic EIR prepared for the Soitec Solar Development Projects, which included Rugged Solar and Tierra del Sol Solar. Project-specific impacts were not identified for any of these vantage points. Also, the Jacumba Solar Energy Project would be located more than 10 miles from the segment of I-8 between the Tecate Divide and Exit 65/Ribbonwood Road (the Project site is screened from view by intervening terrain) and due to the presence of intervening, mountainous terrain, views to the Jacumba Solar Energy Project are not available from the Carrizo or Sacatone Overlook. Views to the Proposed Project site may be available from Mount Tule; however, the solar facility would be located on the valley floor approximately 7.75 miles to the southeast and would not be visually

prominent in the landscape. In addition, from the elevated vantage point of Mount Tule, the solar facility would display a flat, horizontal form and would not substantially obstruct, interrupt, or degrade the existing panoramic view. As such, the Project would not contribute to a potential cumulative impact to valued focal or panoramic vistas.

2.1.4.2 Visual Character

The Proposed Project, in combination with proposed and approved but not constructed projects, includes solar development located within the viewshed of I-8. With the exception of available views to the site from brief viewing windows between Tecate Divide and Ribbonwood Road, the 765-acre Rugged solar facility sites is well screened from the views of passing motorists. Vegetation removal across the site would be visible briefly to eastbound motorists, but given the brief duration of the view and distance to the project, short-term visual impacts associated with construction would be less than significant. The Chapman Solar Project is located south of the Rugged solar facility and would be visible from I-8 near McCain Valley Road. If the construction of these projects were to occur simultaneously then the line, color, and form contrasts associated with vegetation removal and grading would be apparent to passing motorists and would diminish the visual quality of views to the rural rugged landscape of the Boulevard area. Tierra del Sol Solar would not be visible from I-8. After passing through the Boulevard area and entering Walker Canyon, the cumulative substation, solar, and transmission development would not be visible again for approximately 5 miles until eastbound motorists enter the Proposed Project viewshed. At this point, motorists are afforded views of the proposed solar facility site, the ECO Substation, and the ESJ gen-tie line.

Construction of the ESJ gen-tie project is complete and the ECO Substation is currently under construction. Therefore, the visual effects associated with vegetation removal, grading, staging, and access road development and component installation of the ECO Substation will have already marked the landscape. It is safe to assume that the ECO Substation would be in operation during construction of the Jacumba solar facility. In addition to vegetation removal and alteration of ground plane resources associated with construction of the Jacumba solar facility, ~~as well as~~ visual effects resulting from development of the ESJ gen-tie line and the ECO Substation are visible to interstate motorists generally between Exit 73/Carrizo Gorge Road and Jade Peak (a distance of approximately 3 miles). Although combined views of construction activities, ~~and~~ substation, and gen-tie line development would be experienced briefly by passing motorists, and distantly from recreation areas, noticeable breaks in the continuity of characteristic soils and vegetation across the flat desert valley terrain would be visible and would further diminish the quality of existing southerly views at the eastern extent of the cumulative study area. When combined with the visual effects associated with construction of cumulative projects in the Jacumba and Boulevard areas, cumulative solar, substation, and gen-tie development would occupy relatively large pockets of the foreground to middleground desert valley landscape

visible from the interstate. Furthermore, the horizontal and vertical scale of CPV trackers, solar modules, transmission and gen-tie structures, grayish and metallic colors of components, and smooth, light-colored soils of access roads would cumulatively degrade the interstate viewshed. Although views of background mountainous terrain would not be altered by the cumulative projects considered in this analysis, foreground and middleground landscapes would be modified from their existing state and the resulting line, color, and texture contrasts would appear dissimilar to surrounding natural vegetation and terrain. Therefore, if the Proposed Project were constructed concurrently with the cumulative solar projects considered in the analysis above, a cumulative short-term impact to the existing visual character and quality of the interstate viewshed would occur.

Although views of the Proposed Project would be available to local area recreationists at Airport Mesa, Table Mountain, and the Jacumba Mountains, the Project viewshed does not extend to cumulative solar development sites located in the Boulevard area. Therefore, cumulative solar development in Boulevard ~~and the ECO Substation, ESJ gen-tie, and the Jacumba Solar Energy Project~~ would not be visible from the identified recreational resources considered in this analysis. However, combined views of the ECO Substation, ESJ gen-tie, and Jacumba Solar Energy Project would be visible from these recreational resources. Because the ESJ gen-tie line and the ECO Substation ~~is~~ are constructed ~~and the ECO Substation is under construction~~, short- and long-term cumulative visual impacts to Airport Mesa, Table Mountain, and ridgeline vantage points in the Jacumba Mountains would be similar to that previously discussed for the Proposed Project in Section 2.1.3.2.

In addition to the Proposed Project, identified cumulative projects considered in this analysis would be visible from I-8, Old Highway 80, local area roads, and recreational lands in the McCain Valley Conservation Area, Table Mountain ACEC, Airport Mesa, and Jacumba Mountains. The cumulative effects associated with the alteration of approximately 1,200 acres of undeveloped lands and introduction of multiple solar facilities, private substations and transmission lines/generator tie line in the interstate viewshed would result in a perceived increase in the industrialization of the foreground and middleground landscape. The projects considered in the cumulative scenario are concentrated in the communities of Boulevard and Jacumba and as motorists travel through the cumulative study area and hikers and horseback riders recreate at local area public lands, a diminution of visual quality, and increase in visual contrast from existing conditions would be experienced. Solar and substation Project development would be part of a landscape-scale conversion in the existing visual environment and given the geographic extent of planned projects, the effects of several solar projects and the ECO Substation project would cumulatively alter the landscape character. Therefore, implementation and development of the Proposed Project and cumulative projects considered in this analysis would result in a cumulative long-term impact to the existing visual character and quality of the I-8 viewshed. Also, while the resulting line and color contrasts of 490-foot-tall

wind turbines would be more prominent and bold than line and color contrasts associated with the Jacumba Solar Energy Project, the Tule Wind Project would also be located within the I-8 viewshed. The visual effects associated with development of the Tule Wind Project would be experienced by the same motorists afforded views of the Jacumba Solar Energy Project at the eastern extent of the cumulative study area and by the same recreationists afforded views of the Rugged solar facility project in the Boulevard area. Therefore, in combination with solar development, proposed wind development would contribute to the ongoing change in the visual character of the interstate viewshed and change in scenic views available from recreation lands in the Boulevard area.

Therefore, implementation and development of the Proposed Project and cumulative projects considered in this analysis would result in a **potentially significant cumulative long-term impact** to the existing visual character and quality of the interstate viewshed (**Impact AE-3**).

2.1.4.3 Plan Compliance

As identified in Section 2.1.3.3, the Jacumba Solar Energy Project would be consistent with the applicable visual resources policies of the San Diego County General Plan Conservation and Open Space Element and the Mountain Empire Subregional Plan. Similarly, projects located on private County lands considered in the cumulative scenario would also be required to demonstrate compliance with the applicable policies and regulations of the County General Plan and Mountain Empire Subregional Plan (the solar development projects would be required to comply with the visual resources policies of the Mountain Empire or Boulevard Subregional Plan). Public lands projects (i.e., the Tule Wind Project) and projects under the jurisdiction of a state agency (i.e., the ECO Substation project) were required to demonstrate compliance with the relevant policies of lead agencies. While not required, the Final EIR for the ECO Substation project included a consistency analysis between the Project and relevant policies and regulations of the County of San Diego. None of the identified cumulative solar projects are anticipated to require a General Plan Amendment or a Rezone. For all projects considered in the cumulative analysis, project-specific analysis would be required to ensure that projects considered in the cumulative scenario are compatible with applicable plans and policies. Because the Jacumba Solar Energy Project would comply with the goals, policies, or requirements of the County General Plan and the Mountain Empire Subregional Plan, the Project would not contribute to a potential cumulative impact associated with plan conflicts.

2.1.4.4 Light and Glare

Similar to the Jacumba Solar Energy Project, identified cumulative projects will be evaluated on a project-by-project basis to determine the severity of lighting and glare impacts. Outdoor lighting at the Jacumba Solar Energy would be installed at facility entrance gates, at the on-site substation and next to the entrance door of the substation control house. All outdoor lighting

would be turned off when not in use and would only be used on an as needed basis. Furthermore, all outdoor lighting installed at the solar facility will conform to the Zone B lamp type and shielding requirements of the Light Pollution Code. Conformance with the San Diego Light Pollution Code Zone B lamp type and shielding requirements would minimize the potential for light trespass onto adjacent properties and excess illumination of the nighttime sky. All other proposed cumulative solar facilities are anticipated to have similar operational lighting scenarios (e.g., nighttime lighting used on an as needed basis and turned off when not in use) as the Jacumba Solar Energy Facility. In addition, all of the proposed cumulative projects located on private lands under County of San Diego land use jurisdiction would be required to conform to the applicable lighting and shielding requirements of the San Diego Light Pollution Code. Through conformance with existing County regulations, a cumulative nighttime lighting impact would not occur and the operation of outdoor lighting at the Jacumba Solar Energy Facility would not contribute to a potential cumulative lighting effect.

Due to the southerly orientation of fixed-tilt solar panels associated with the Jacumba Solar Energy Project, daytime glare would not be generated and would not be visible from I-8, Old Highway 80, or the mesa landform at Table Mountain. Project-generated glare would be visible from the Jacumba Mountains and Airport Mesa; however, glare generated from other solar projects considered in the cumulative analysis and located in the Boulevard area would not be visible from these areas due to the presence of intervening landforms and more specifically, the In-Ko-Pah Mountains. The In-Ko-Pah Mountains would screen views of the Rugged solar project and Chapman Ranch solar project from recreationists at Airport Mesa and ridgelines in the Jacumba Mountans. The Rugged and the Chapman Ranch solar facility would generate glare that would be visible from Mount Tule (Rugged and Chapman Ranch), I-8, and Old Highway 80 (and potentially Chapman Ranch); however, due to the southerly orientation of the fixed-tilt solar panels, the Jacumba Solar Energy Project would not generate glare that could be received by recreationists at Mount Tule or by interstate and highway motorists. As such, glare from Project components would not combine with the anticipated glare effects associated with the other solar projects to create a cumulative glare impact to daytime views in the area. As detailed in Section 2.1.3.4, glare that may be generated by the battery energy storage system and received by passing highway and interstate motorists would be **potentially significant**.

2.1.5 Significance of Impacts Prior to Mitigation

Scenic Vistas

The Project would not substantially obstruct, interrupt, or detract from a valued focal and/or panoramic vista from I-8, Old Highway 80, Airport Mesa, ridgelines in the Jacumba Mountains, or the mesa landform within the Table Mountain ACEC. As a result, impacts to scenic vistas would be **less than significant**.

Visual Character or Quality

While the proposed solar PV arrays would display a height consistent with that of the international border fence and single-story rural residences in the Project viewshed, the bulk, horizontal scale, and grayish color of the solar facility would draw the attention of passing motorists. Moreover, line, color and texture contrasts at Project edges would attract the eye and would disrupt the continuity of the grayish mass display by the solar facility. From I-8, discoloration within the eastern, lower-elevation arm of the solar facility is anticipated as light reflecting off panel edges would be visible from the superior viewing angle afforded to motorists. Although the Project would primarily be viewed from a distance and would be experienced in the larger landscape context, the perceived intactness and unity of the landscape as viewed from stationary and mobile locations would be diminished by the introduction of the solar facility and associated tall, light-colored monopoles. As such, introduction of the Proposed Project represents a **potentially significant impact** (**Impact AE-1**) associated with existing visual character and quality. In combination with solar development and proposed wind development, the Proposed Project would contribute to an ongoing change in the visual character of the interstate viewshed and change in scenic views available from recreational lands in the Jacumba area. Therefore, implementation and development of the Proposed Project and cumulative projects considered in this analysis would result in a **cumulative long-term impact** (**AE-3**) to the existing visual character and quality of the interstate viewshed.

Light and Glare

All outdoor lighting at the proposed solar facility would conform to the San Diego Light Pollution Code Zone B lamp type and shielding requirements. Furthermore, all outdoor lighting would be turned off when not in use and would only be used on an as needed basis (such as during emergencies that may occur). Maintenance activities are not anticipated to be conducted during the evening hours except in case of emergency. Conformance with the San Diego Light Pollution Code Zone B lamp type and shielding requirements for all outdoor lighting at the solar facility would minimize the potential for light trespass and effects to the surrounding area including excess illumination of the nighttime sky. As such, impacts would be less than significant.

Solar PV modules would be oriented to the south and would feature a non-reflective surface. No daytime glare would be received by motorists on I-8 and Old Highway 80 or by recreationists at the mesa landform within the Table Mountain ACEC. Slight variations in the color of individual or small groups of solar panels resulting from the specific angle of orientation may be perceptible to passing motorists afforded a superior angle view of the solar field. However, this effect would be experienced as a contrast of color as opposed to received glare. Because glare would be experienced in easterly oriented views during early morning hours, glare would not

substantially affect panoramic views from Airport Mesa to the southwest and west and would not obscure or interrupt the casting of light onto the expansive valley and distant mountain landscape. Therefore, project-generated glare would not substantially affect the daytime views of recreationists at Airport Mesa and impacts would be less than significant. Because daily glare exposure would be limited to between 15 and 45 minutes prior to sunset during the months of March to May and September to November, the availability of panoramic views from ridgelines in the Jacumba Mountains would not be substantially affected. Glare is not anticipated to be received by recreationists at ridgelines the during the majority of daytime hours; therefore, Project-generated glare would not substantially affect the daytime views of recreationists at the Jacumba Mountains. Therefore, glare associated with operation of the solar PV panels would not substantially affect daytime views and impacts would be less than significant.

The use of highly reflective materials at the on-site substation would be limited and components of the 138 kV transmission line would feature non-reflective surfaces. However, the steel shells of the battery energy storage containers may produce glare that could be visible to passing motorists along I-8 and Old Highway 80. As such, the introduction of the energy storage system represents a **potentially significant impact** (**Impact AE-2**) associated with received glare.

2.1.6 Mitigation Measures

Mitigation measures **M-AE-1** and **M-AE-2** address Project design and would be implemented to ensure that visual contrast is minimized to the extent practicable. **M-AE-3** would be implemented to address potential long-term aesthetic impacts and establish decommissioning activities that would occur once the operational life of the Project has expired. **M-AE-4** would be implemented to ensure that glare from the proposed battery energy storage facility is minimized as viewed from Project area roadways and, more specifically, I-8 and Old Highway 80.

M-AE-1 Inverter enclosures shall be painted with a flat, non-reflective grayish or dark-green color to match the color of surrounding Project components and the existing landscape. Alternatively, enclosure walls shall have a coarse texture (such as a split-face concrete block) to reduce reflectivity and blend with surrounding vegetation; flat building surfaces ~~should~~ shall be avoided.

M-AE-2 The installation of water tanks atop elevated landforms shall be avoided. If the installation of water tanks atop elevated landforms is required by San Diego Rural Fire Protection, then water tanks shall be installed with the top of the tank no more than 8 feet above the native terrain. Any remaining visible tank surface shall be painted with a flat, non-reflective grayish or dark-green color to match the color of surrounding Project components and the existing landscape.

M-AE-3 Prior to the end of one year from the date of building permit issuance for construction of the Project, the Project Applicant shall submit a Decommissioning Plan that shall at a minimum ~~identify~~ require removal of all above-grade structures from the site and any non-shared transmission facilities, associated decompaction activities, recontouring, application of hydroseeding, and, if necessary, installation of any necessary permanent best management practices (BMPs) required by the Minor Stormwater Management Plan (SWMP) to prevent significant impacts to water quality. These include but are not limited to: erosion controls, sediment controls, off-site sediment tracking controls, general site and materials management, minimize impervious surfaces, and outlet protection. The Project shall comply with all requirements of the San Diego Regional Water Quality Control Board General Construction Permit for Notice of Termination filing associated with site stabilization. A demolition permit is required prior to any decommissioning activity at which time a construction SWPPP, mitigation measures and any other code compliance requirements will be enforced. Furthermore, permittee shall provide evidence satisfactory to the Planning and Development Services Director (or his or her designee) that the decommissioning plan has been successfully implemented prior to release of permittee's security deposit submitted in compliance with Zoning Ordinance section 6954(b)(3)(d).

M-AE-4 Energy storage containers shall be painted a flat, nonreflective color to match the color of surrounding Project components and the existing landscape.

2.1.7 Conclusion

The Project would not substantially obstruct, interrupt, or detract from a valued focal and/or panoramic vista from I-8, Old Highway 80 or from the Jacumba Mountains or the Table Mountain ACEC. As a result, impacts to scenic vistas would be **less than significant**.

Implementation of **M-AE-1** would minimize potential color contrasts associated with the installation of light-colored inverter enclosures within an otherwise dark-colored solar facility. **M-AE-2** would be implemented to reduce anticipated form, line, and color contrasts associated with water tanks and is specifically target towards the proposed installation of a water tank atop the low, mounded hill at the western Project boundary. Removing the water tank from an elevated location or alternatively, installing the water underground with no more than 8 feet of the tank visible and applying a flat, non-reflective grayish or dark-green exterior color to visible portions of the tank would reduce the prominence of this component and present a relatively uniform Project appearance atop the low, mounded hill. Because the Project requires exposure to sunlight and the characteristic vegetative cover in the area is low scrub shrubs, vegetation or landscape screening of the project was determined to result in an increase in the Project visibility

not a decrease. Other potential measures to reduce visual impacts would involve project design alterations that have been explored through the alternatives process and would shift impacts from visual to potentially fire, or biological resources, or in the case of the gen-tie poles, cultural resources. **M-AE-3** ensures that the aboveground components of the Project are removed and the site is allowed to return to existing conditions as part of decommissioning. In addition, **M-AE-3** ensures that the long-term visual contrast associated with the solar facility would cease after Project operations. Despite implementation of mitigation measures specified above, the Proposed Project would create potentially significant visual contrasts in form, line, and color. Because feasible mitigation has not been identified that would reduce color contrast within the solar facility; line and color contrast at Project edges associated with perimeter access roads; and form, line, and color contrasts associated with connector line monopoles, **Impact AE-1** and cumulative impacts (**Impact AE-3**) would remain **significant and unavoidable**.

As discussed in Section 2.1.3.3, the Project would be consistent with applicable policies of the San Diego County General Plan Conservation and Open Space Element and the Mountain Empire Subregional Plan. Relevant policies within these plans concern the protection of scenic resources including scenic landscapes and corridors, minimization of visual impacts through development siting and design, undergrounding of utilities and restriction of outdoor lighting and glare. The minimization of hillside grading, blending roads into the natural terrain and retaining significant natural features characteristic of the community's landscape are also addressed in local plans. Because the Project would be consistent with relevant policies of applicable plans, impacts would be **less than significant**.

All outdoor lighting for the Project would have bulbs that do not exceed 100 watts. All fixtures would be shielded and directed downward to minimize lighting trespass to surrounding properties and unnecessary illumination of the nighttime sky. In addition, all outdoor lighting would comply with the County of San Diego Light Pollution Code Section 59.101 (the Project site is located in Zone B of the Light Pollution Code). Because all outdoor Project lighting would comply with the County of San Diego Light Pollution Code Section 59.101, impacts to Dark Skies and Glare Guidelines 1, 2, and 3 would be less than significant. Due to the southerly orientation of fixed-tilt solar panels and because solar PV modules would be non-reflective, daytime glare would not be visible from I-8, Old Highway 80, or the accessible mesa landform within the Table Mountain ACEC. Glare exposure at Airport Mesa would be limited to the hour immediately after sunrise from April to October. Daily glare exposure at southerly located ridgelines in the Jacumba Mountains would be limited to between 15 and 45 minutes prior to sunset during the months of March to May and September to November. Due to the limited duration of glare exposure, the daytime views of recreationists at Airport Mesa and ridgelines within the Jacumba Mountains would not be substantially affected. Impacts would be **less than significant**. Potential glare associated with the battery energy storage facility (**Impact AE-2**) would be mitigated to a **less than significant** level with implementation of **M-AE-4**.

Secondary Impacts Associated with Implementation of Mitigation

The decommissioning of the Proposed Project is identified as mitigation (M-AE-3) for potentially significant project impacts to the existing visual character and quality of the site (Impact AE-1). The following provides analysis of the secondary impacts associated with implementation of the mitigation measure M-AE-3, which requires a decommissioning plan for the removal of the Proposed Project as also discussed in Section 1.1.2 the decommissioning plan involves the following.

Decommissioning and Recycling

Decommissioning would first involve removing the panels for sale into a secondary solar PV panel market or recycling. The majority of the components of the solar installation are made of materials that can be readily recycled because the panels' components can be broken down. If the panels can no longer be used in a solar array, the aluminum can be resold, and the glass can be recycled. Other components of the solar installation, such as the rack structures and mechanical assemblies, can be recycled as they are made from galvanized steel. Equipment such as inverters, transformers, and switchgear can be either reused or their components recycled. The equipment pads are made from concrete that can be crushed and recycled. Underground conduit and wire can be removed by uncovering trenches and backfilling when done. The electrical wiring is made from copper and/or aluminum and can be reused or recycled as well.

Dismantling

Dismantling the solar facility would entail disassembly of the solar facilities and substantive restoration of the site. Impacts associated with closure and decommissioning of the Project site would be temporary and would involve the following steps to dismantle the Project site and return it back to a conforming use:

1. The aboveground (detachable) equipment and structures would be disassembled and removed from the site. Detachable elements include all panels, inverters, transformers, and associated controllers and transformers. Removal of the aboveground conductors on the transmission line would also be implemented. Most of these materials can be recycled or reclaimed. Remaining materials that cannot be recycled or reclaimed would be limited and would be contained and disposed of off site, consistent with the County of San Diego Construction Demolition and Debris Management Plan (County Ordinance 68.508-68.518).
2. Underground collector and transmission components would be removed and recycled, including all of the underground support rack materials.
3. The use of the land would have to return to a use that is consistent with the County of San Diego Zoning Ordinance at the time of dismantling. The current zoning for the site is General Rural (S92), which allows for the following use types that are permitted pursuant

to Section 2922 and 2923 of the County Zoning Ordinance: Residential, Family Residential, Essential Services, Fire and Law Enforcement Services, Agricultural Uses, Animal Sales and Services, Recycling Collection Facility, and Green Recycling.

4. If a new use is not proposed, the decommissioning would include removal of all ground-level components and preparing the site with a soil stabilization agent, such as a nontoxic permeable soil binding agent, or reseeded with native species. These activities would be consistent with current zoning General Rural (S92) or future applicable zoning.

Removal Surety

The final decommissioning plan(s) that would be provided within one year of issuance of the building permits for construction of the Project and would comply with Section 6954(b)(3)(d) of the County of San Diego Zoning Ordinance (County of San Diego 2012) for removal surety as follows:

> The operator shall provide a security in the form and amount determined by the Director to ensure removal of the Solar Energy System. The security shall be provided to the County prior to building permit issuance. Once the Solar Energy System has been removed from the property pursuant to a demolition permit to the satisfaction of the Director, the security may be released to the operator of the Solar Energy System.

Financial responsibility for decommissioning would be an obligation of the owner of the solar facility.

In general the secondary impacts associated with the decommissioning mitigation would be similar to those identified for construction, though reduced. Supplemental memorandums have been prepared that evaluate the potential impacts from the decommissioning and included in the Final EIR as Appendices 9.1-1 through 9.1-6. The decommissioning activities would require heavy machinery onsite and worker and truck trips to the site over an approximately similar duration (6 months). However, the site would be a developed site and no additional disturbance would be required outside the already disturbed areas. Furthermore, the level of effort to remove the facility would be substantially reduced compared to construction including accounting for activities such as re-contouring, dust suppression, and hydroseeding. By ensuring that the decommissioning of the proposed solar facility is undertaken in a systematic manner according to a plan, the existing rural character of the project site would be reestablished.

The **aesthetic** impacts of undertaking the decommissioning mitigation would be similar to those associated with project construction and would involve temporary impacts from the presence of heavy machinery and modifications on the ground. These impacts would be temporary and less

than significant. Furthermore, the decommissioning would result in the disturbed land being suitable for vegetation to re-establish, which would visually blend with surrounding vegetation.

The impacts of undertaking the decommissioning mitigation to **biological resources** would be similar to those associated with construction and would involve temporary indirect impacts from the presence of heavy machinery. Indirect effects could include the following: generation of fugitive dust, noise, and increased human activity during the decommissioning process, non-native animal species, and lighting. Because the decommissioning area will have already been considered a permanent direct impact to biological resources, no additional direct impacts would occur. To ensure decommissioning activities would avoid indirect impacts to biological resources, mitigation measures identified for project construction in the Section 2.2 Biological Resources of this EIR (M-BI-1, M-BI-2, M-BI-6, M-BI-7, M-BI-8, M-BI-9 and M-BI-12) would be required. The secondary impacts from decommissioning would be temporary and less than significant with incorporation of mitigation measures for the same reasons as expressed for project construction in Section 2.2 Biological Resources of this EIR.

The impacts of undertaking the decommissioning mitigation to **cultural resources** would be similar to those associated with construction and would involve potential discovery during ground disturbing activities. In actuality the likelihood of impacting cultural resources, or discovery of unknown resources during decommissioning activities would be substantially reduced compared to construction as the activities during construction would have disturbed the ground and no additional disturbance footprint would be necessary for decommissioning. However, as a conservative approach to ensure decommissioning activities would be undertaken in accordance with County guidance, mitigation measures identified for project construction in the Section 2.3 Cultural Resources of this EIR (M-CR-1 and M-CR-2) would be required in the event unknown resources are discovered.

The **hazards and hazardous materials** impacts of undertaking the decommissioning mitigation would be similar to those associated with construction and would involve potential ignition sources from onsite machinery and equipment for decommissioning as well as emergency medical services (EMS) response times for workers onsite during decommissioning. In actuality the likelihood of ignition would be substantially reduced compared to construction as no on-site vegetative fuel for a fire would be present. However, as a conservative approach to ensure decommissioning activities would not result in a risk of ignition to adjacent potential fuel (vegetation) mitigation measure M-HZ-1 identified for project construction in Section 2.4 Hazards and Hazardous Materials of this EIR shall also be applied to decommissioning and additional information shall be incorporated in to the Construction Fire Protection Plan to identify applicable and additional measures as necessary for decommissioning. The potential impacts associated with EMS responses during decommissioning is too speculative to determine as the likelihood of multiple construction or decommissioning occurring at the same time as this project's decommissioning is not known. Nevertheless potential impacts are provided for in the mitigation measure M-HZ-2, which as prescribed in Section 2.4 Hazards and

Hazardous Materials of this EIR is applicable to decommissioning as well as construction. Certain components such as battery and substation components contain materials that necessitate disposal of at an appropriately regulated waste disposal facility.

Noise impacts of undertaking the decommissioning mitigation would be similar to those associated with construction and would involve temporary increases in noise levels from the presence of heavy machinery. As with other resources, noise would likely actually be less compared to construction as the number of items of equipment for decommissioning would be reduced and in particular the pile driving equipment would not be required. As is the case for construction activities, these impacts would be less than significant because of the distances between onsite equipment noise sources and the closest receptors as expressed for project construction in Section 2.5 Noise of this EIR.

The impacts of undertaking the decommissioning mitigation on **paleontological resources** would be similar to those associated with construction and would involve potential discovery during ground disturbing activities. In actuality the likelihood of impacting paleontological resources, or discovery of unknown resources during decommissioning activities would be substantially reduced compared to construction as the activities during construction would have disturbed the ground and no additional disturbance footprint would be necessary for decommissioning. However, as a conservative approach to ensure decommissioning activities would be undertaken in accordance with County guidance, mitigation identified for project construction in the Section 2.6 Paleontological Resources of this EIR (M-PR-1) in the event unknown resources are discovered would be required.

The **air quality** impacts of undertaking the decommissioning mitigation would be similar to those associated with construction, though reduced, and would involve temporary impacts from the presence of heavy machinery. Decommissioning activities would be expected to result in substantially lower air quality emissions compared to construction activities due to more stringent engine and motor vehicle standards, including Best Available Control Technology (BACT), at the time of decommissioning.

The construction equipment fleet required for decommissioning would not include as many pieces or the same type of equipment as required during construction due to the activities associated with dismantling the facility. The number of construction workers, vendor trips, and haul truck trips necessary to decommission and dismantle the proposed project would be less than that required for construction because material deliveries would not be required, though some trips for equipment removal would be necessary, and the need for water import would be greatly reduced. The total water demand estimated for decommissioning is approximately 10 acre-feet and the total number of water delivery truck trips would be substantially reduced as a result, compared to construction.

Therefore, because several major pollutant generating activities would not occur or would be greatly reduced during decommissioning activities compared to construction activities, emissions generated during decommissioning are anticipated to be substantially lower than those occurring during construction. As such, the maximum daily construction emissions estimated for the proposed project would represent the maximum daily emissions that would occur during any phase of the proposed project life, including construction, operation and decommissioning. However, for the purposes of a conservative analysis, it was assumed that decommissioning emissions would equate to emissions estimated for construction activities. The secondary impacts from decommissioning would be temporary and less than significant for the same reasons as expressed for project construction in Section 3.1.1 of this EIR.

The decommissioning mitigation would remove development from the site and, as such, would not have the potential to result in impacts to or risk of impacts from seismic ground shaking, liquefaction, and/or expansive soils. Therefore, secondary impacts from decommissioning mitigation associated with **geology and soils** would be less than significant.

The **GHG** impacts of undertaking the decommissioning mitigation would be similar to those associated with construction and would involve temporary impacts from the presence of heavy machinery. As described for air quality emissions, the actual expected emissions during decommissioning would be substantially reduced compared to construction activities. The secondary impacts from decommissioning would be temporary and less than significant for the same reasons as expressed for project construction in Section 3.1.3 GHG of this EIR. Furthermore, the GHG emissions generated during the decommissioning mitigation have been pro-rated and added to the project GHG emissions over the life of the project to conservatively estimate the project's average GHG emissions impacts.

The decommissioning mitigation would remove development from the site; **hydrology and water quality** impacts from these activities would be similar to those identified in Section 3.1.4 Hydrology and Water Quality of this EIR for construction activities. The requirements of a Construction SWPPP would be applied to decommissioning in accordance with County requirements such that storm water flows and soil erosion are managed. As described in M-AE-3, the decommissioning mitigation would be undertaken in accordance with a plan that would identify efforts such as recontouring and hydroseeding, which would maintain the drainage flow patterns and velocities into undisturbed drainages consistent with the existing and the developed conditions. The volume of water necessary for decommissioning activities is estimated to be approximately 10 acre feet and would be provided by JCSD, or PDMWD, or a mix thereof as established for construction. Therefore, secondary impacts from decommissioning mitigation would be less than significant. A demolition permit is required prior to any decommissioning activities at which time a construction SWPPP, mitigation measures and any other code compliance requirements will be enforced.

The decommissioning mitigation would not result in secondary impacts, as determined for construction activities, to **land use and planning** because the decommissioning mitigation simply returns the use to vacant land.

The decommissioning mitigation would remove development from the site and as such would not have the potential to result in secondary impacts to **public services**. Decommissioning of the Project would not result in demand that would require new or expanded physical facilities. Workers required to decommission the Project are expected to come from the San Diego and Imperial Valley areas, which are currently served by existing hospitals and health care facilities. Potential impacts associated with ignition resulting in wildfire is addressed in the Hazards and Hazardous Materials analysis and mitigation including the need to incorporate decommissioning into the Construction FPP is identified (M-HZ-1). The potential impacts associated with EMS responses during decommissioning is too speculative to determine as the likelihood of multiple construction or decommissioning occurring at the same time as this project's decommissioning is not known. Nevertheless potential impacts are provided for in the mitigation measure M-HZ-2, which as prescribed in Section 2.4 Hazards and Hazardous Materials of this EIR is applicable to decommissioning as well as construction. The additional personnel and equipment, an additional paramedic startup kit or equivalent, can be accommodated within the existing facilities that service the area. All other public services would be impacted similarly as during construction by the presence of a relatively modest number of workers largely from the San Diego and Imperial Valley region and equipment during the approximately 6-month decommissioning period. Therefore, secondary impacts from decommissioning mitigation would be less than significant.

The secondary **traffic and transportation** impacts of undertaking the decommissioning mitigation would be similar to those associated with construction and would involve temporary impacts from worker vehicles, water trucks, and components removal. The number of trips associated with the decommissioning mitigation activities would be similar to those for construction though reduced. A traffic control plan would be required for decommissioning activities the same as required for construction activities, as would notification procedures per County requirements. The traffic control plan for decommissioning would ensure that truck movements and oversized truck travel is undertaken in a safe manner and that other roadway users are notified. Secondary traffic and transportation impacts would be temporary and less than significant for the same reasons as expressed for project construction in Section 3.1.7 Traffic and Transportation of this EIR.

The secondary **utilities and service systems** impacts of undertaking the decommissioning mitigation would be similar to those associated with construction and would involve temporary impacts from water required for activities including dust suppression. The amount of water associated with the decommissioning mitigation activities would be approximately 10 acre feet, reduced compared to that for construction and would be provided by either JCSD, or PDMWD,

or a mix thereof. The components removed from the project site would be recycled to the extent practicable. Certain components such as battery and substation components are not readily recyclable at this time and would be disposed of at a regulated disposal facility. Secondary impacts would be less than significant for the same reasons as expressed for project construction in Section 3.1.8 Utilities and Service Systems of this EIR.

Table 2.1-1
Summary of Analysis for Secondary Impacts
From Mitigation (Decommissioning)

Issue Areas	Proposed Project	Decommissioning
2.1 Aesthetics	SU	**LTS**
2.2 Biological Resources	LTS	LTS
2.3 Cultural Resources	LTS	LTS
2.4 Hazards and Hazardous Materials	LTS	LTS
2.5 Noise	LTS	LTS
2.6 Paleontological Resources	LTS	LTS
3.1.1 Air Quality	NS	NS
3.1.2 Geology, Soils, and Seismicity	NS	NS
3.1.3 Greenhouse Gas Emissions	NS	NS
3.1.4 Hydrology and Water Quality	NS	NS
3.1.5 Land Use and Planning	NS	NS
3.1.6 Public Services	NS	NS
3.1.7 Transportation and Traffic	NS	NS
3.1.8 Utilities and Service Systems	NS	NS

Notes: SU = potentially significant and unavoidable; LTS = less than significant with mitigation; NS = not significant.

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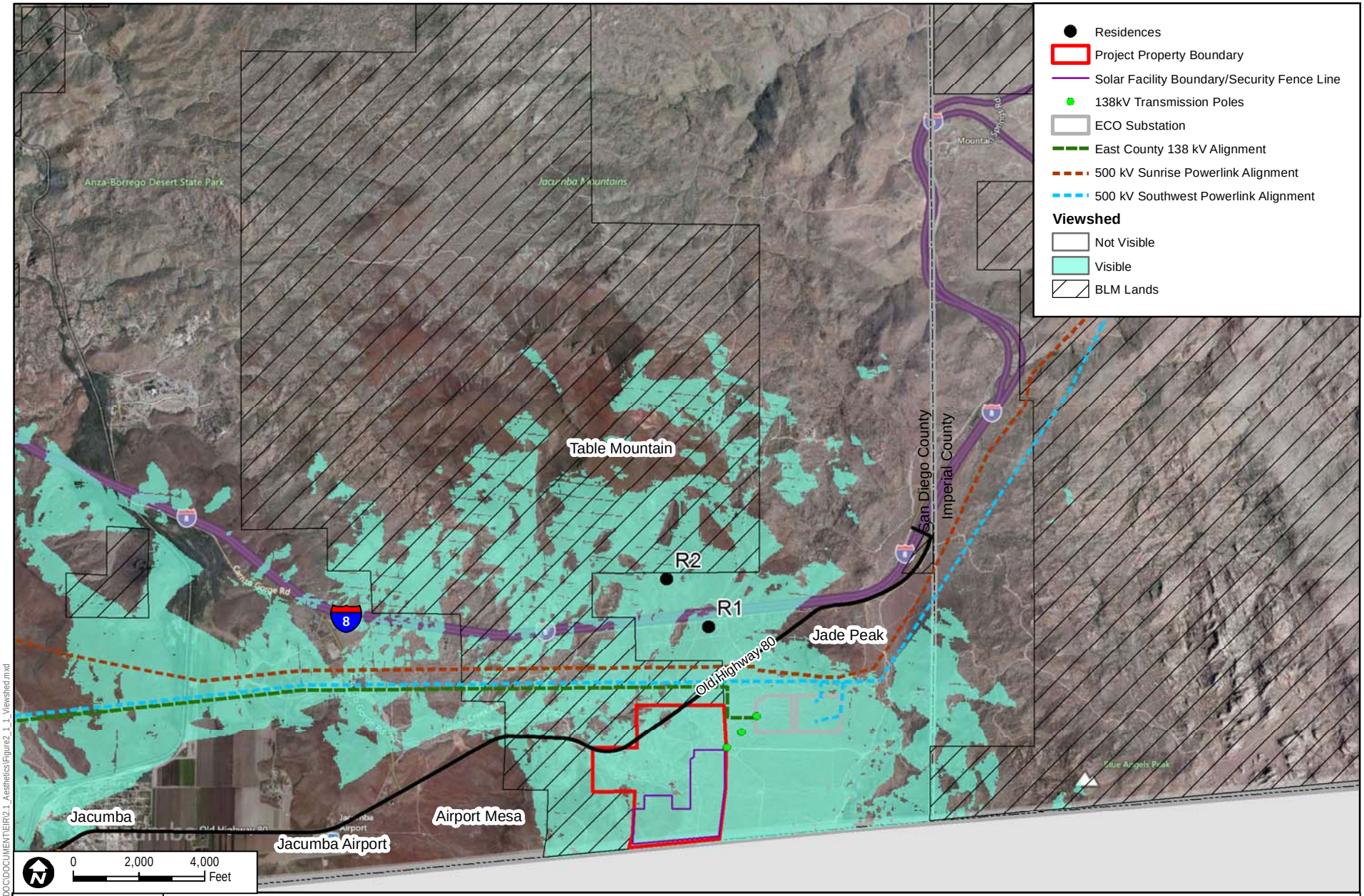

SOURCE:Bing 2014

FIGURE 2.1-1

Viewshed

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Jacumba Solar Project Visual Resources Report

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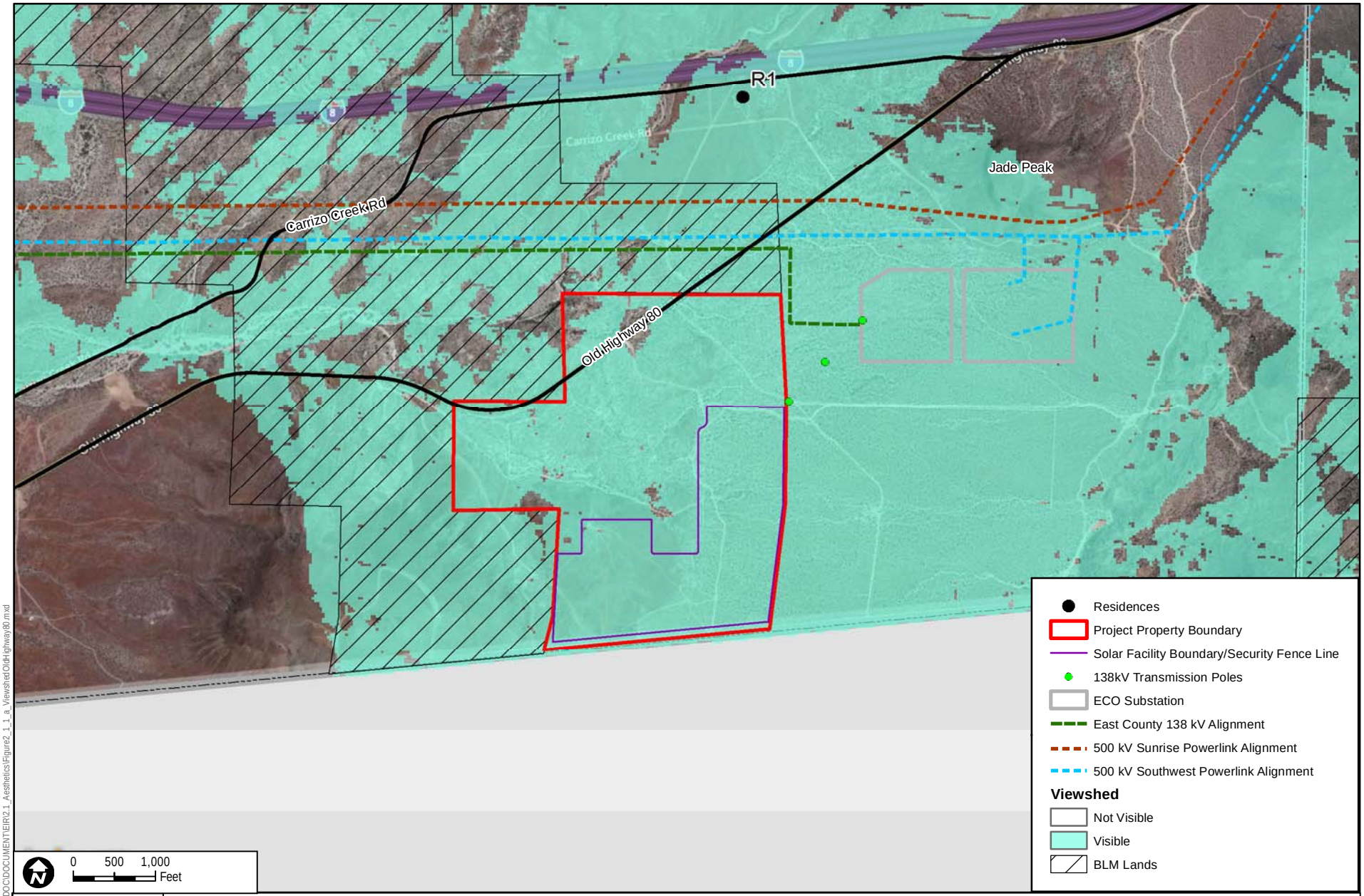

SOURCE:Bing 2014

FIGURE 2.1-1a

Viewshed - Old Highway 80

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Jacumba Solar Project Visual Resources Report

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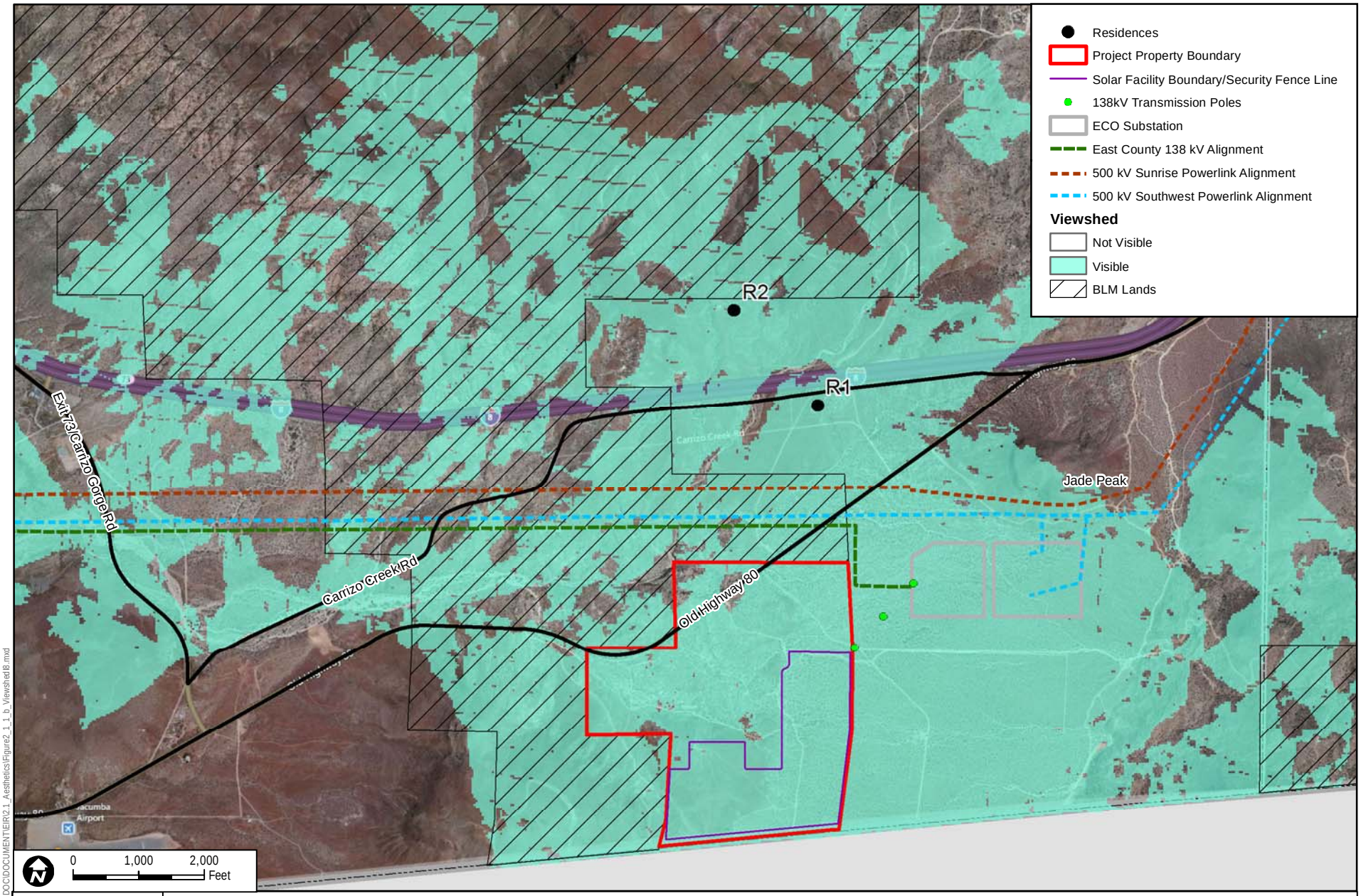

SOURCE:Bing 2014

FIGURE 2.1-1b

Viewshed - Interstate 8

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Jacumba Solar Project Visual Resources Report

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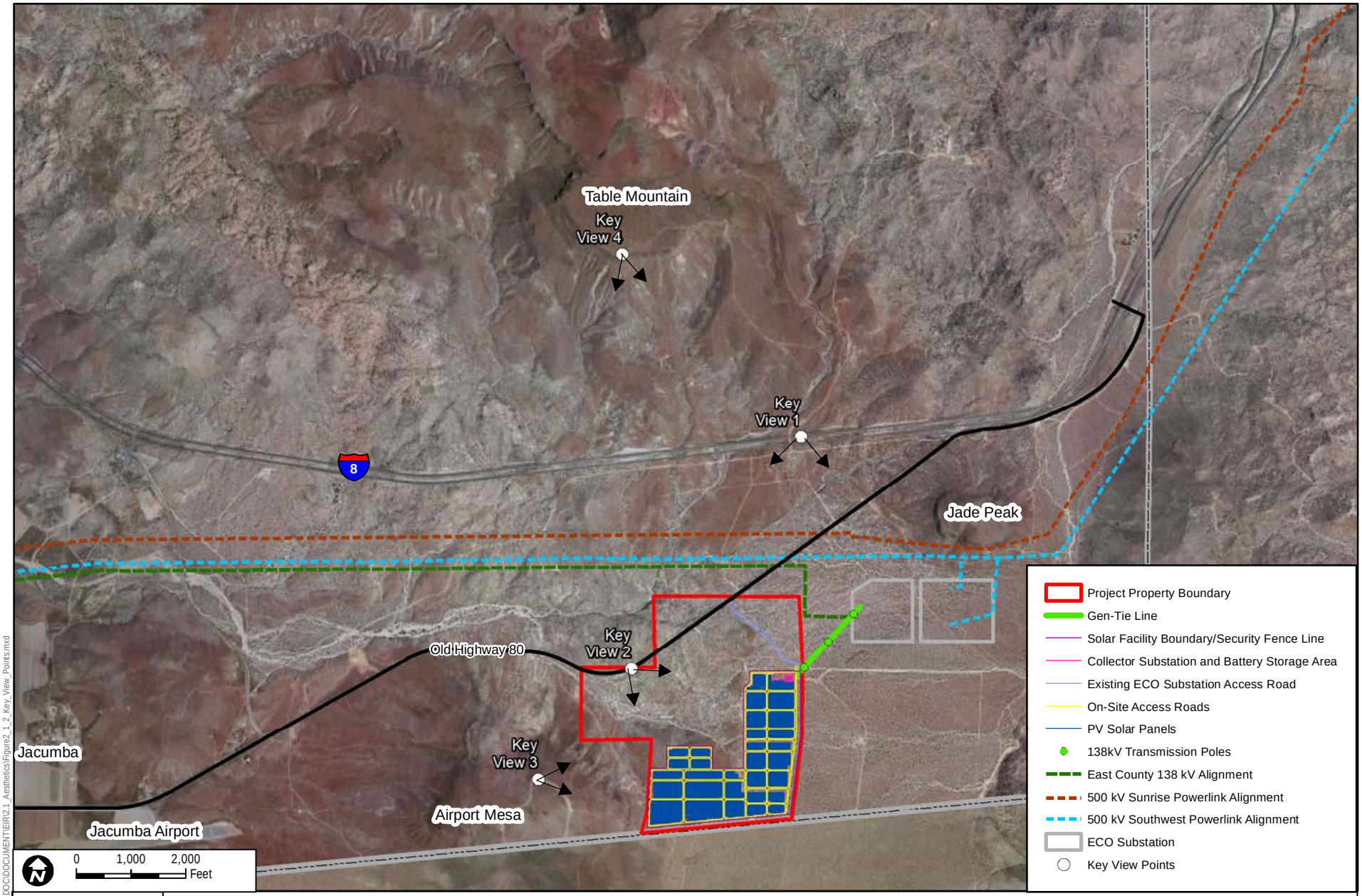

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DUDEK

SOURCE:Bing 2014

FIGURE 2.1-2

Key View Points

8477

Jacumba Solar Energy Project

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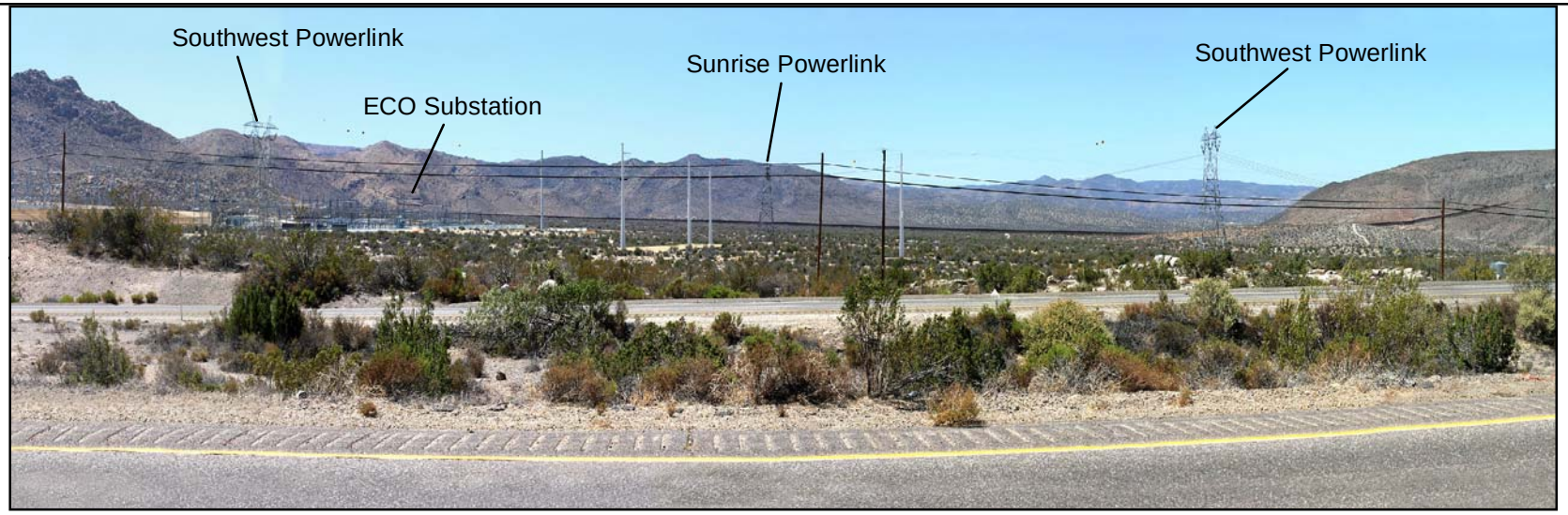

Existing Conditions

Proposed Conditions

DUDEK

8477

FIGURE 2.1-3

Key View 1 - Westbound Interstate 8

Jacumba Solar Energy Project

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Existing Conditions

Proposed Conditions

DUDEK

8477

SOURCE: DUDEK 2014

FIGURE 2.1-4

Key View 2 - Eastbound Old Highway 80

Jacumba Solar Energy Project

Path: Z:\Projects\8477\01\MAPDOC\DOCUMENT\EIR\2.1_Aesthetics\Figure2_1_4_KeyView2_8x11_Landscape.mxd

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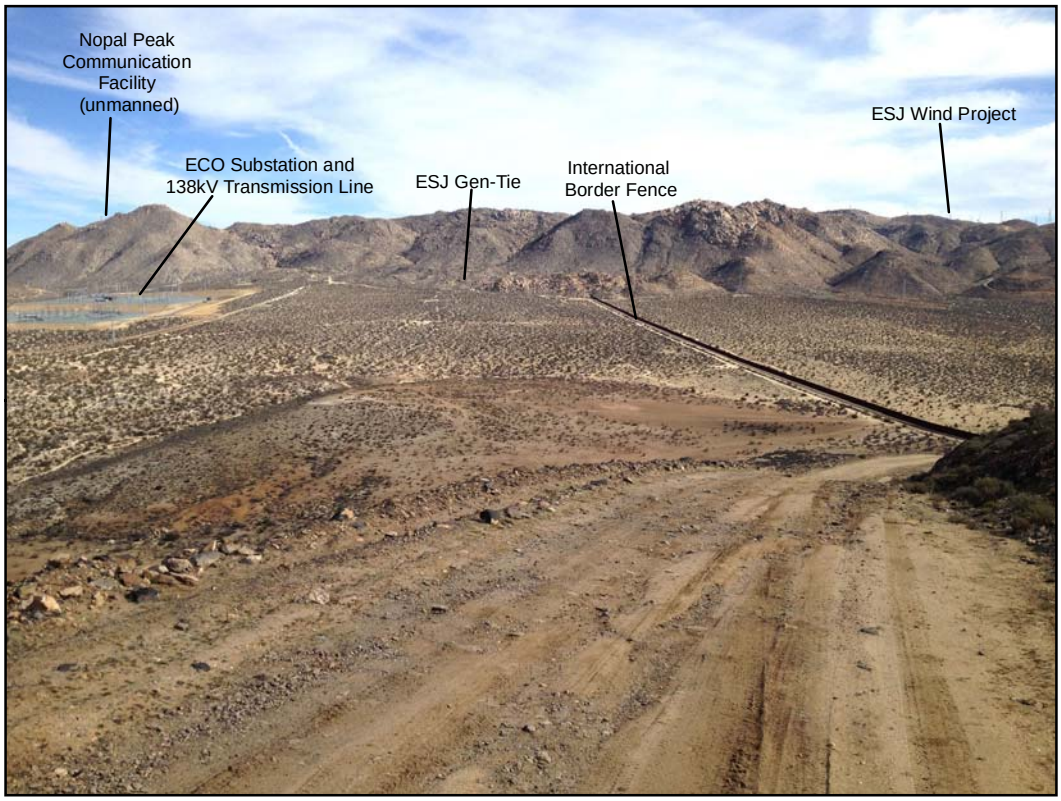

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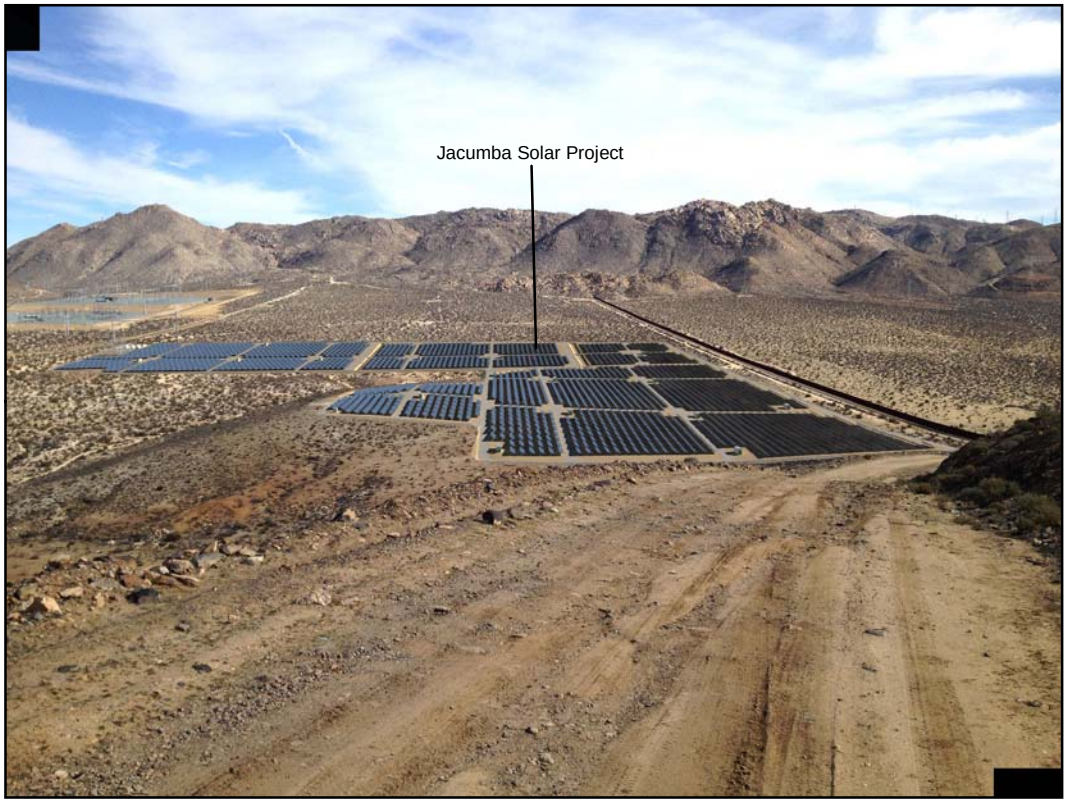

Proposed Conditions

DUDEK

8477

FIGURE 2.1-5

Key View 3 - Airport Mesa

Jacumba Solar Energy Project

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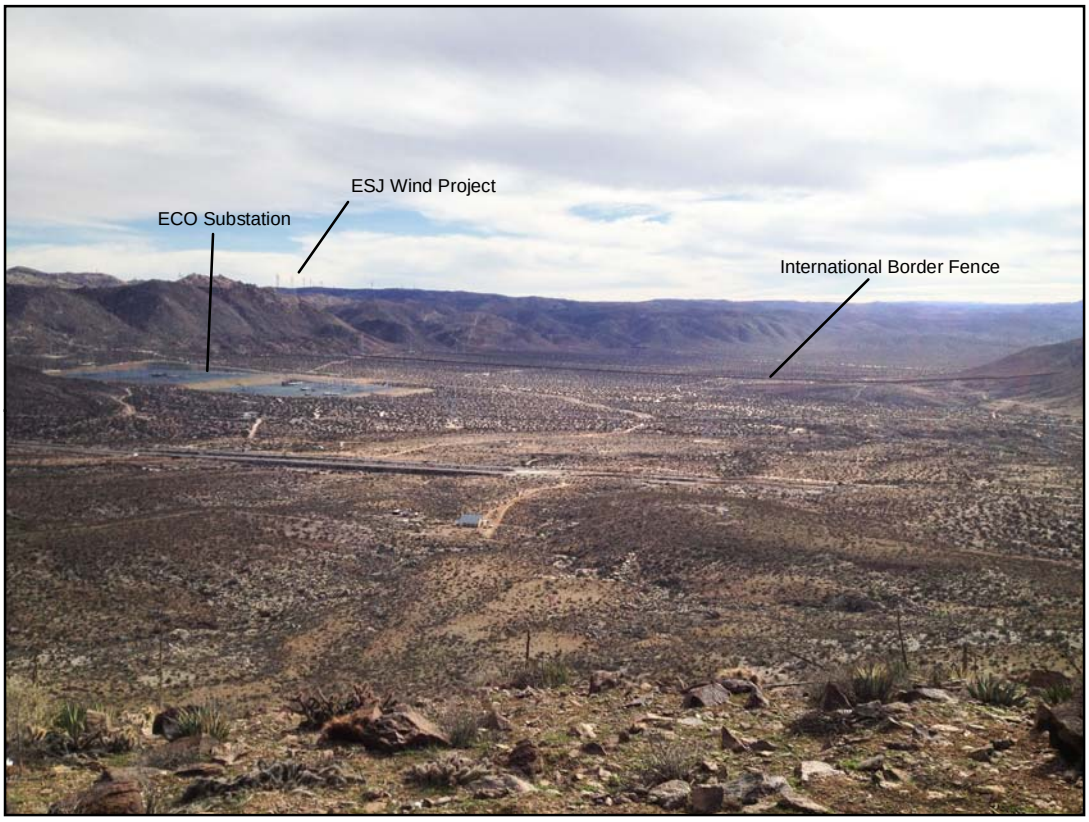

Existing Conditions

Proposed Conditions

DUDEK

8477

FIGURE 2.1-6

Key View 4 - Table Mountain ACEC

Jacumba Solar Energy Project

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