

SECTION 4.1

AESTHETICS

This section defines terms used to assess visual quality and describes the existing visual resources in the vicinity of the Project site that could potentially be affected by the construction, and operation of the Seville 4 Solar Project. This section also examines the potential for the proposed Project to degrade the existing visual character or quality of the Project area and its surroundings through changes in the existing landscape. Key Observation Points (KOPs) are identified from which potential glare from the Project is analyzed. The “Solar Glare Hazard Analysis Seville 4 Solar Project Imperial County, California” was prepared for the Project by Environmental Management Associates (EMA 2018) was used to determine potential for glare from the proposed Project. This document is included as **Appendix B** of the Technical Appendices of this EIR on the attached CD.

4.1.1 REGULATORY FRAMEWORK

A. FEDERAL

Bureau of Land Management

In 1976, Congress designated 25 million acres of land in Southern California as the California Desert Conservation Area (CDCA) through the Federal Land Policy and Management Act (FLPMA). The Bureau of Land Management (BLM) oversees approximately 10 million acres of the CDCA (BLM 1980). All of the public lands in the CDCA managed by the BLM (with the exception of a few small and scattered parcels), are designated into four multiple-use classes: C (suitable for wilderness designation by Congress); L (Limited Use); M (Moderate Use) and I (Intensive Use).

Western Colorado Desert Route Designation

As an amendment to the California Desert Conservation Area (CDCA) Plan, the Western Colorado Desert Routes of Travel Designations (WECO) Plan modifies previous route designations and existing routes in approximately 475,000 acres and approximately 2,320 miles of off-road vehicle limited areas within Imperial County. The purpose of the WECO Plan is to designate routes of travel as open, limited or closed on land that is managed by the BLM. The goal of the WECO Plan is to support the recreational and general access uses of BLM managed land while conserving cultural and natural resources. A reasonable network of routes currently exists that provide general access and recreational opportunities to the public (BLM 2012, p. 3.13-4).

The proposed Project is surrounded by desert land under the jurisdiction of the BLM. The Ocotillo Wells State Recreational Vehicle Area (OWSRVA) is located approximately 1.5 miles from the Project site on the north side of SR 78 within the viewshed Project’s viewshed. The OWSRVA provides 85,000 acres of mud hills, washes and sand dunes ranging from sea level to approximately 500 feet in elevation. Annual visitation to the OWSRVA varies between 500,000 to over one million. Over 50,000 people visit the interpretive programs, which include stargazing, wildlife and wildflower viewing (Aitchison, pers. comm., 2017).

There is one designated WECO route (078) near the western edge of the Seville Solar Farm Project and an open route (dirt road) along the eastern boundary of Lot 8 (refer to Figure 4.2-1 in Section 4.2, Land Use). These are routes of travel designated by WECO and illustrated in the map and text of the BLM Routes of Travel for Western Imperial County, California (BLM n.d.).

B. STATE

Southern California Association of Governments

The Southern California Association of Governments (SCAG) Intergovernmental Review (IGR) section, part of the Environmental Planning Division of Planning and Policy, is responsible for performing consistency

4.1 AESTHETICS

review of regionally significant local plans, projects, and programs. Regionally significant projects are required to be consistent with SCAG’s adopted regional plans and policies. The IGR section does not include any policies regarding aesthetics, light or glare. Therefore, there are no policies that relate to the analysis of visual resources and the Project cannot be analyzed for consistency with SCAG’s IGR section.

C. LOCAL

Imperial County General Plan

Two elements of the Imperial County General Plan discuss issues relevant to the analysis of visual resources. These include the Circulation and Scenic Highways Element and the Conservation and Open Space Element.

Circulation and Scenic Highways Element

The Circulation and Scenic Highways Element of the Imperial County General Plan (Imperial County 2008) identifies the transportation needs of the County and the various modes available to meet these needs. In addition, the Element provides a means of protecting and enhancing scenic resources within both rural and urban scenic highway corridors. There are no designated scenic highways in the area nor is the Project site visible from any designated scenic highway. The portion of SR 78 from the junction with SR 86 to the San Diego County line is eligible for future Scenic Highway Designation in the Imperial County General Plan and California Scenic Highway Mapping System (State of California 2017). The area is considered scenic because of its desert characteristics and view of Salton Sea.

Conservation and Open Space Element

The Conservation and Open Space Element (Imperial County 2008a) of the Imperial County General Plan identifies plans and measures for the preservation and management of biological and cultural resources, soils, minerals, energy, regional aesthetics, air quality, and open space. The Land Use element provides goals and objectives regarding the regional vision of the County. **Table 4.1-1** analyzes the consistency of the proposed Project with the applicable goals and objectives relating to visual resources from these two elements of the General Plan. While this EIR analyzes the Project’s consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

**TABLE 4.1-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
CONSERVATION AND OPEN SPACE POLICIES		
Preservation of Visual Resources		
<p>Goal 7: The aesthetic character of the region shall be protected and enhanced to provide a pleasing environment for residential, commercial, recreational, and tourist activity.</p>	<p>Yes</p>	<p>The Project would temporarily change the visual character of the Project site from desert and idle farmland to a solar facility with PV and/or CPV panels, ancillary structures, electrical lines, and a 32.5-kV Gen-Tie Line. The Project site would be maintained and kept free of weeds and vegetation. The Project site is setback approximately 1.5 miles south of SR 78 and</p>

**TABLE 4.1-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
		would barely be visible beyond Seville 1 Solar and Seville 2 Solar and the tamarisk windbreak along a portion of the Project's sites northern boundary. The substation and switching station would be slightly visible on Lot D approximately one-half miles south of SR 78. Therefore, the proposed Project is consistent with this goal.
<p>Objective 7.1 Encourage the preservation and enhancement of the natural beauty of the desert and mountain landscape.</p>	Yes	The proposed Project would temporarily convert 146 acres (Fixed-Frame Configuration) or 174 acres (HSAT Configuration) acres of desert and idle farmland (approximately 60 acres) to a solar generation facility. The Project does not include any construction on surrounding desert lands. While the proposed Project would not necessarily preserve or protect the adjacent desert and surrounding mountain landscape, it would likewise not result in a substantial aesthetic detriment given the existing solar development (Seville 1 Solar and Seville 2 Solar). Refer to the analysis under Goal 7, above. The Project would temporarily convert 86 to 114 acres of desert lands but would not obstruct distant views of the mountain landscape. Therefore, the proposed Project is consistent with this objective.
LAND USE ELEMENT		
Regional Vision		
<p>Goal 3: Achieve balanced economic and residential growth while preserving the unique natural, scenic, and agricultural resources of Imperial County.</p>	Yes	The proposed Project would create construction jobs and a limited number of operation jobs thereby improving the economy of Imperial County. The portion of Lot 8 previously in agriculture has not been farmed in several years. Therefore, the Project would not convert active or unique agricultural resources. Refer to the analysis under Goal 7 above regarding

4.1 AESTHETICS

**TABLE 4.1-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
		preservation of natural and scenic resources. The proposed Project is consistent with this goal.
Objective 3.4 Protect/improve the aesthetics of Imperial County and its communities.	Yes	The proposed Project is in a rural portion of Imperial County. The site consists of open desert and approximately 60 acres of idle farmland. The Project area does not contain any designated scenic features. Based on the rural nature of the area, the proposed Project would not obstruct views or degrade scenic vistas. Refer to the analysis under Goal 7. Therefore, the proposed Project would be consistent with Objective 3.4.

4.1.2 ENVIRONMENTAL SETTING

The visual setting includes private lands under the jurisdiction of Imperial County (Project site and Project area), lands managed by the IID (transmission line and Anza Substation) as well as lands managed by the California State Parks (Ocotillo Wells State Recreational Vehicle Area [OWSRVA]) to the north of SR 78.

A. REGIONAL

Imperial County encompasses 4,597 square miles in the southeastern portion of California. The County is bordered by Riverside County on the north, the international border of Mexico on the south, San Diego County on the west and Arizona on the east. The length and breadth of the County provide for a variety of visual resources ranging from desert, sand hills, mountain ranges, and the Salton Sea (approximately 12 miles to the east of the Project site).

The desert includes several distinct areas that add beauty and contrast to the natural landscape. The barren desert landscape of the Yuha Desert, lower Borrego Valley, East Mesa, and Pilot Knob Mesa provide a dramatic contrast against the backdrop of the surrounding mountain ranges. The West Mesa area is a scenic desert bordered on the east by the Imperial Sand Dunes, the lower Borrego Valley, the East Mesa and Pilot Knob Mesa. The Project area is situated in the lower Borrego Valley.

The eastern foothills of the Peninsular Range are located on the west side of the County. The Chocolate Mountains, named to reflect their dark color, are in the northeastern portion of the County, extending from the southeast to the northwest between Riverside County and the Colorado River. These mountains reach an elevation of 2,700 feet and are highly visible throughout the County. The Santa Rosa Mountains are to the northwest of the Project area while the Fish Creek Mountains are to the south and the Vallecito Mountains are to the west and southwest.

Additional resources in the area include the OWSRVA to the north across SR 78 and the Anza Borrego State Park approximately 18 miles to the west.

B. SURROUNDING AREA

The Project area is located in west-central Imperial County, California, approximately eight miles west of the junction of SR 78 and SR 86, and approximately three miles east of the San Diego County line. SR 78 aligns east to west approximately 1.5 miles to the north of the Project site. The OWSRVA is immediately north of SR 78 across from the Project area. The OWSRVA is dominated by a diverse mix of desert shrub and limited woodland vegetation communities intermixed with barren or sparsely vegetated areas (OWSVRA Working Paper #2 2013, p. 2).

The Project area is surrounded by private properties and land administered by the BLM. The area surrounding the Project site is generally flat with a gentle slope to the southeast. Several overhead transmission lines are readily visible in the area including the 92 kV-transmission line on the south side of SR 98 and the lines extending south along Pole Line Road along the eastern boundary of Lot 8. Land along the existing 92-kV transmission line adjacent to SR 78 and along the western boundary of the Seville Solar Farm Complex site has been subject to off-road vehicle use.

Nine residences and two commercial buildings are located with 3.75 miles of the outer boundary of the Project site. The Blu-In RV Park is located approximately 1.85 miles west of the northwestern boundary of Lot 6.

Based on the undeveloped nature of the surrounding landscape, very little light is generated in this area of the County. The primary source of light and glare in the area is from motor vehicles traveling on SR 78 and off-road vehicle activity in the OWSVRA. Glare is generated during daytime hours from the sun's reflection off cars and paved roadway surfaces. Likewise, at night, vehicle headlights on SR 78 generate light and glare.

Seville 1 Solar and Seville 2 Solar are outfitted with HSAT PV arrays aligned north-south.

C. PROJECT SITE

The Project site is on privately-owned land. The Project site consists of flat-lying land consisting of desert and approximately 60 acres of idle farmland. Elevations across the Project site range from a high of approximately 44 feet below mean sea level (msl) at the northwest corner to a low of approximately 59 feet below msl at the southeast corner. The Project site is within the boundaries of Lot 8.

The Project site is vacant and does not contain any structures. Views of the Project site are partially obstructed by an existing tamarisk windbreak extending east-west along the northern boundary of Lot 8. The eastern portion of the Project site is characterized by disturbed habitat with the majority of the vegetation removed. Old vegetation stockpiles are present throughout the Project site. There are no panoramic scenic views from the Project site and it is barely visible from SR 78 due to the set-back (1.5 miles or more) and the presence of an existing tamarisk windbreak.

D. VIEWSHED

Existing views of the Project area are available from the surrounding areas, specifically from SR 78 and the OWSVRA to the north. Due to the flat topography of the Project site and the surrounding area, the existing transmission lines and tamarisk windbreaks are the only readily visible features of the site. No other unique topographical features are present in the Project area.

Key Observation Points

Key observation points (KOPs) are locations which may be sensitive to glare from the Project. Four classes of KOPs were identified for this assessment: residences, roads, trails and airports. Each class is described below.

4.1 AESTHETICS

Occupied Residences and Commercial Buildings

Table 4.1-2 identifies the location of the 9 KOPs for the occupied residences and commercial buildings in terms of longitude and latitude. Ten residences and commercial buildings within 3.75 miles of the outer boundary of the Project site and one at a distance of 6.75 miles were selected for analysis as part of the Glint and Glare Study. Only one residence was located on the east side of SR 78/SR 86 approximately 9.25 miles away from the Project site. This residence was also included as a KOP (Figure 4.1-1).

**TABLE 4.1-2
DESCRIPTION OF KOPs – OCCUPIED RESIDENCES AND COMMERCIAL BUILDINGS (FIGURE 4.1-1)**

Number	Description	Latitude (deg)	Longitude (deg)
1	Blu Inn Café	33.125270	-116.044420
2	Blu Inn RV park	33.123450	-116.040750
3	Residence #1	33.121760	-116.0310770
4	Residence #2, #3 & #5	33.122910	-116.052040
5	Residence #4	33.112370	-116.041880
6	Residence #7	33.105510	-116.040630
7	Residence #8	33.108380	-116.038420
8	Residence #9	33.084850	-116.104720
9	Residence #10	33.116980	-116.826883

Source: EMA 2018, p. 4.

Road or Off-Highway Trail Locations

Table 4.1-3 identifies the location of the 10 KOPs for the roads and OWSVRA points in terms of longitude and latitude. Ten road or off-highway trail locations within the OWSVRA to the north of the Project site were examined. Three KOPs were along SR 78 and the remaining seven were all to the north of SR 78. None of the KOPs were more than 2 miles north of SR 78. KOP distance from the Project site boundaries ranged from approximately 3.5 miles to 5.5 miles (Figure 4.1-2).

**TABLE 4.1-3
DESCRIPTION OF KOPs – ROADS AND OWSVRA POINTS (FIGURE 4.1-2)**

Number	Description	Latitude (deg)	Longitude (deg)
1	Highway 78 – NE	33.125550	-115.983140
2	Highway 78 – N	33.125760	-115.003740
3	Highway 78 – NW	33.125840	-115.024850
4	OWSVRA – County Line Road Bluff	33.137910	-115.081620
5	OWSVRA - County Line Road Hill	33.148220	-115.086330
6	OWSVRA – South of Oil Well Wash	33.148910	-115.934340
7	OWSVRA – San Felipe Creek	33.137630	-115.048990
8	OWSVRA – Tarantula Wash	33.143680	-115.013550
9	OWSVRA – Pole Line Road	33.145280	-115.972800
10	OWSVRA – Gas Dome Trail	33.155050	-115.943440

Source: EMA 2018, p. 4.

Transmission Line Road

Table 4.1-4 identifies the location of the 5 KOPs along IID’s “R” transmission line, located on the eastern edge of Lot 8. These KOPs were examined for sensitivity to glare. Two of these KOPs (TLR 3rd View and TLR 4th View) were immediately adjacent to the eastern boundary of the Project. TLR 1st View and TLR 2nd View were slightly north of Project site’s eastern boundary and TLR 5th View was to the south of the Project site’s eastern boundary (**Figure 4.1-3**).

**TABLE 4.1-4
DESCRIPTION OF KOPs – IID “R” TRANSMISSION LINE ROAD (FIGURE 4.1-3)**

Number	Description	Latitude (deg)	Longitude (deg)
1	IID T-Line Road #1	33.107402	-115.978259
2	IID T-Line Road #2	33.104716	-115.978387
3	IID T-Line Road #3	33.100159	-115.978204
4	IID T-Line Road #4	33.095468	-115.978130
5	IID T-Line Road #4	33.092824	-115.977989

Source: EMA 2018, p. 4.

Airports

Table 4.1-5 identifies the location of the KOPs for the two airports located closest to the Project site. One KOP was located at the Salton Sea Airport approximately 9.75 miles north and slightly east of the Project site. The other KOP was at the Ocotillo Airport in San Diego County approximately 8.5 miles to the northeast of the Project site (**Figure 4.1-4**).

**TABLE 4.1-5
DESCRIPTION OF KOPs – AIRPORTS (FIGURE 4.1-4)**

Description	Latitude (deg)	Longitude (deg)
Salton Sea Airport	33.2411944	-115-9525833
Ocotillo Airport	33-1477778	-116.1315833

Source: EMA 2018, p. 4.

4.1.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following. CEQA Guidelines, as listed in Appendix G. The Project would result in a significant impact to visual resources if it would result in any of the following:

- a) Have a substantial adverse effect on a scenic vista.
- b) Substantially damage scenic resources, including, but limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
- c) Substantially degrade the existing visual character or quality of the site and its surroundings.
- d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

B. ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

Criterion “b” was scoped out as part of the Initial Study because although the portion of SR 78 from the junction with SR 86 to the San Diego County line is eligible for future Scenic Highway Designation, SR 78 is not officially designated as a Scenic Highway. Therefore, no impact is identified regarding impacts to a state scenic highway and this issue is not discussed further.

4.1 AESTHETICS

THIS PAGE INTENTIONALLY LEFT BLANK.

C. METHODOLOGY

In general, the potential aesthetic, light, and glare impacts associated with the proposed Project are analyzed on a qualitative basis. The evaluation of impacts is based on professional judgment; the existing aesthetic conditions (including presence of nighttime illumination and glare sources); analysis of the Imperial County General Plan goals and objectives related to visual resources; and the significance criteria established by CEQA. The analysis focuses on development of the solar field on the Project site with PV panels rather than the Gen-Tie Line, Seville 4 Substation, IID Switching Station, and access road extension because these features are already present throughout the Seville Solar Farm Complex (i.e. the Seville 3 Substation is already in place on Lot C).

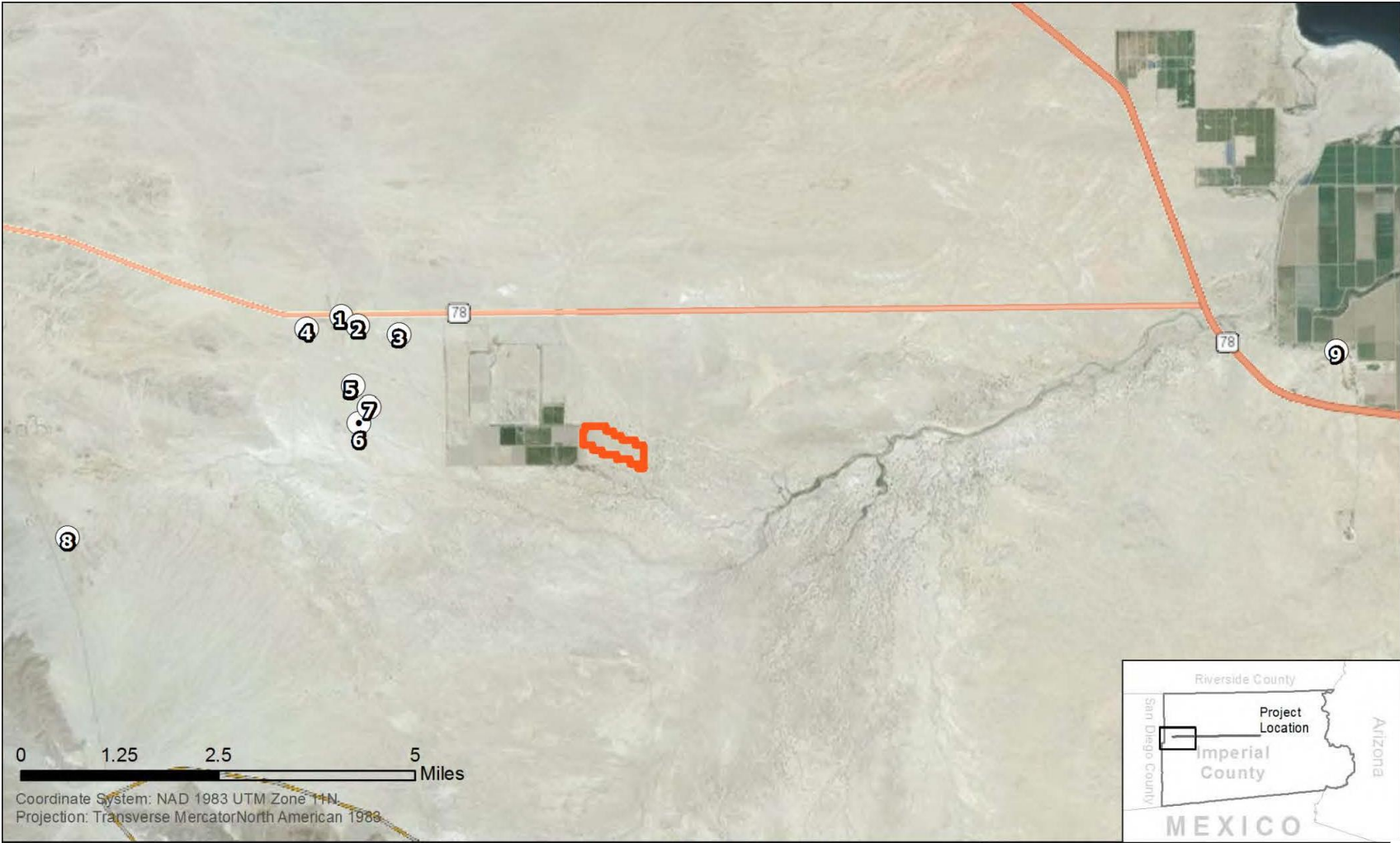
Glare Analysis

A "Solar Glare Hazard Assessment" (included as **Appendix B** of the Technical Appendices of this EIR on the attached CD) was prepared for the Project by Environmental Management Associates (EMA 2018). The analysis was prepared to determine the potential for glare from the proposed Project. The calculations in the analysis are based on the Solar Glare Hazard Analysis Tool (SGHAT) methodology and tool, developed by Sandia National Laboratory. The SGHAT provides a quantified assessment of when and where glare will occur throughout the year for the proposed solar installation and potential effects on the human eye at locations where glare occurs.

The SGHAT employs an interactive Google map where the user can locate a site, draw an outline of the proposed PV array(s), and specify observer locations or paths. Latitude, longitude, and elevation are automatically recorded through the Google interface, providing necessary information for sun position and vector calculations. Additional information regarding the orientation and tilt of the PV panels, reflectance, environment, and ocular (eye or vision) factors are entered by the user. If glare is found, the tool calculates the retinal irradiance (intensity of the glare) and subtended angle (size/distance) of the glare source to predict potential ocular hazards ranging from temporary after-image to retinal burn. The results are presented in a simple plot that specifies when glare will occur throughout the year, with color codes indicating the potential ocular hazard.

The latitude, longitude and ground elevation for each KOP and each array vertex (vertices are the "turn points" for the outline of the modeled PV array) is automatically recorded through the SGHAT-Google interface. The observation point parameters and vertex parameters also require either the height of the observation point above the ground or the total elevation (the sum of the ground elevation and height above the ground). A height of 5 feet of ground level was used for the residence and vehicle observation points. Because the fixed-frame panels have a maximum height of 3 feet above the ground and a maximum of 8-feet, 6-inches above the ground, glare analyses at both heights above the ground were modeled. **Figure 4.1-5** shows the fixed-frame array model. **Figure 4.1-6** shows the HSAT array model.

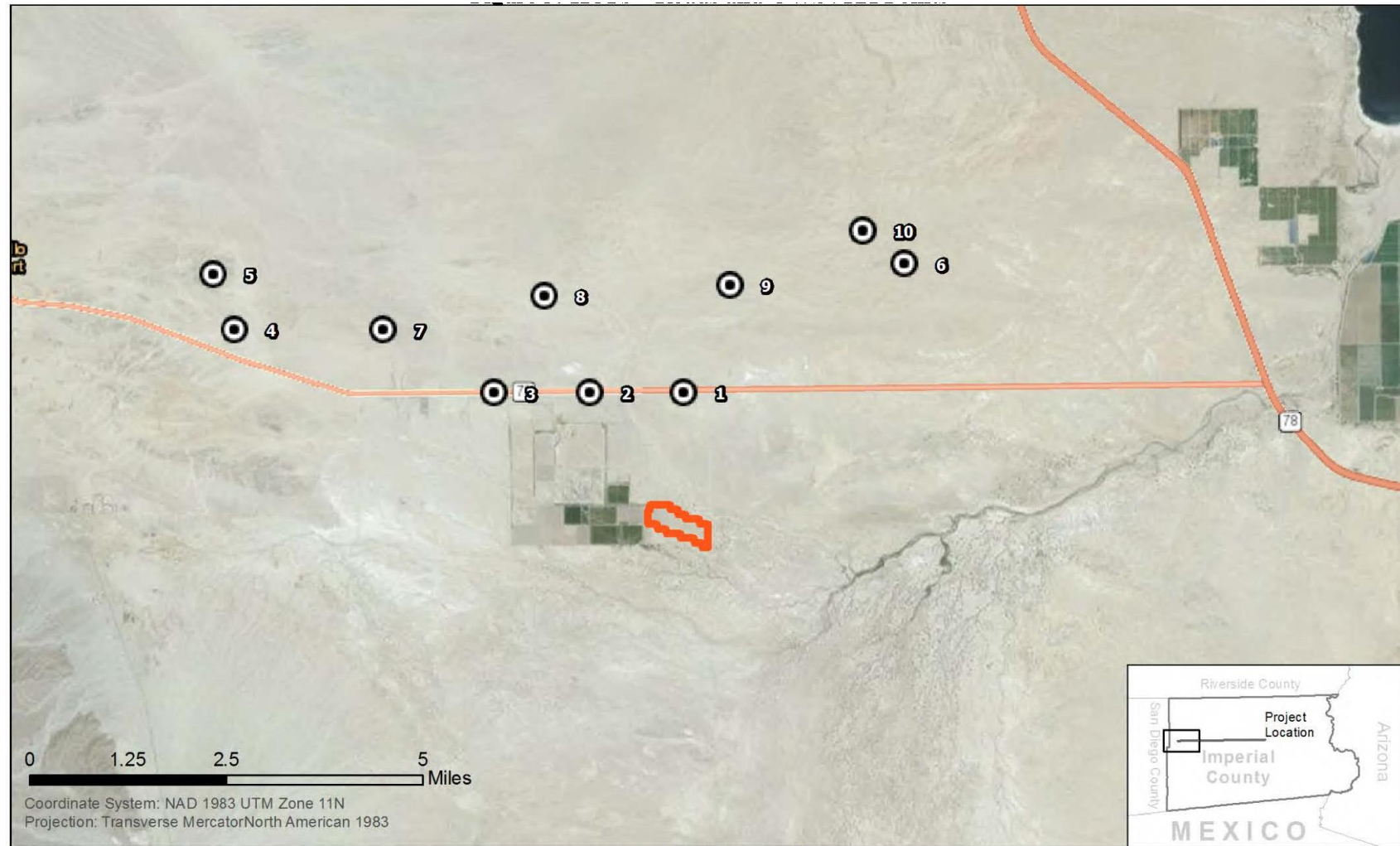
While a useful tool for estimating glare, one important limitation of SGHAT Version 3.0 is that it does not consider obstacles (either man-made or natural) between the observation points and the prescribed solar installation that may obstruct observed glare such as trees, hills, buildings, etc. Full methodology for the Glare Analysis can be found in **Appendix B** of the Technical Appendices of this EIR on the attached CD.



Source: EMA 2018.

- Glare OP
- ▭ PV Array

FIGURE 4.1-1
OCCUPIED RESIDENTIAL AND COMMERCIAL BUILDINGS



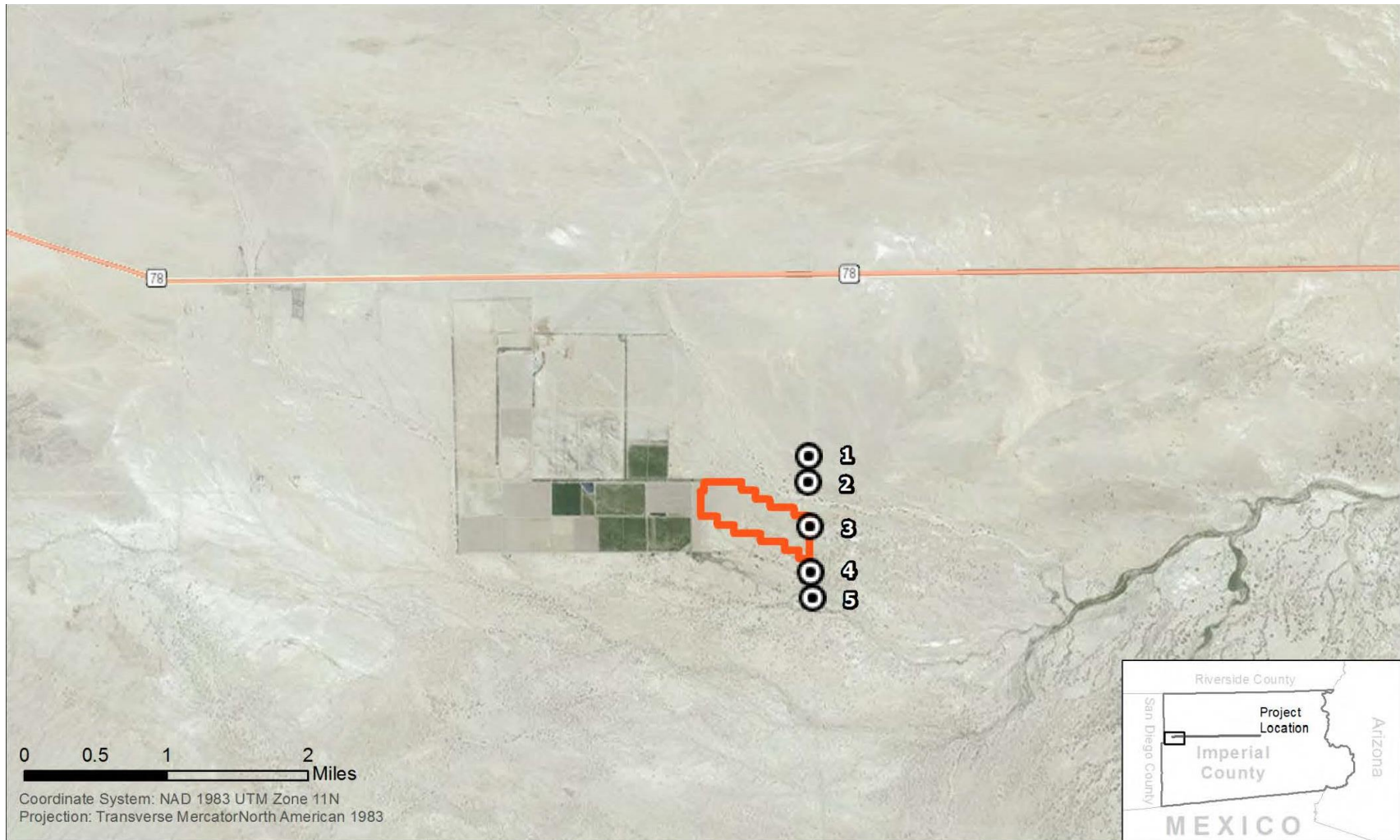
Source: EMA 2018.

⊙ Glare OP

▭ PV Array

FIGURE 4.1-2
KOPS – ROADS AND OWSVRA POINTS

4.1 AESTHETICS

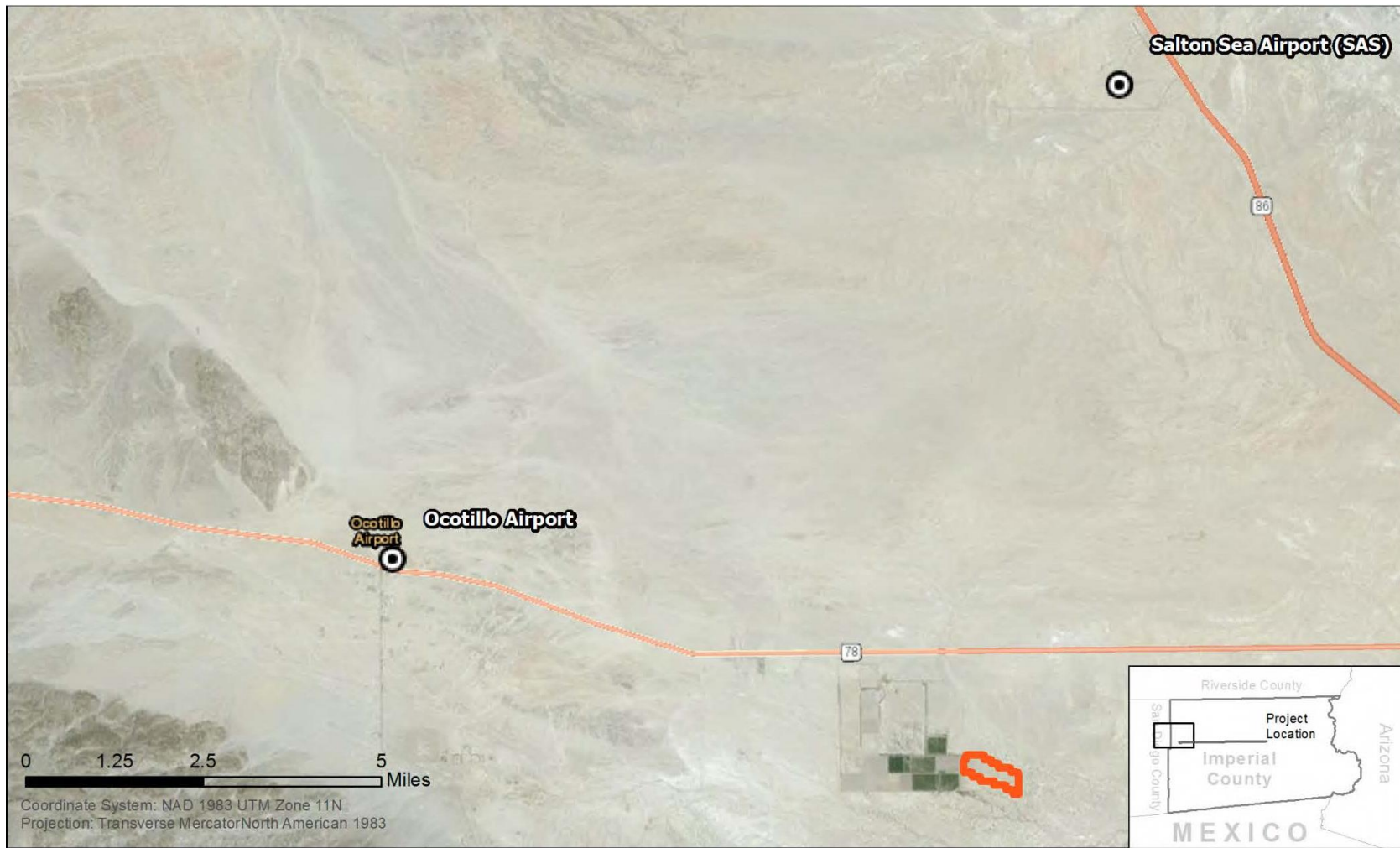


Source: EMA 2018.

-  Glare OP
-  PV Array

FIGURE 4.1-3
KOPs - IID "R" TRANSMISSION LINE ROAD

4.1 AESTHETICS

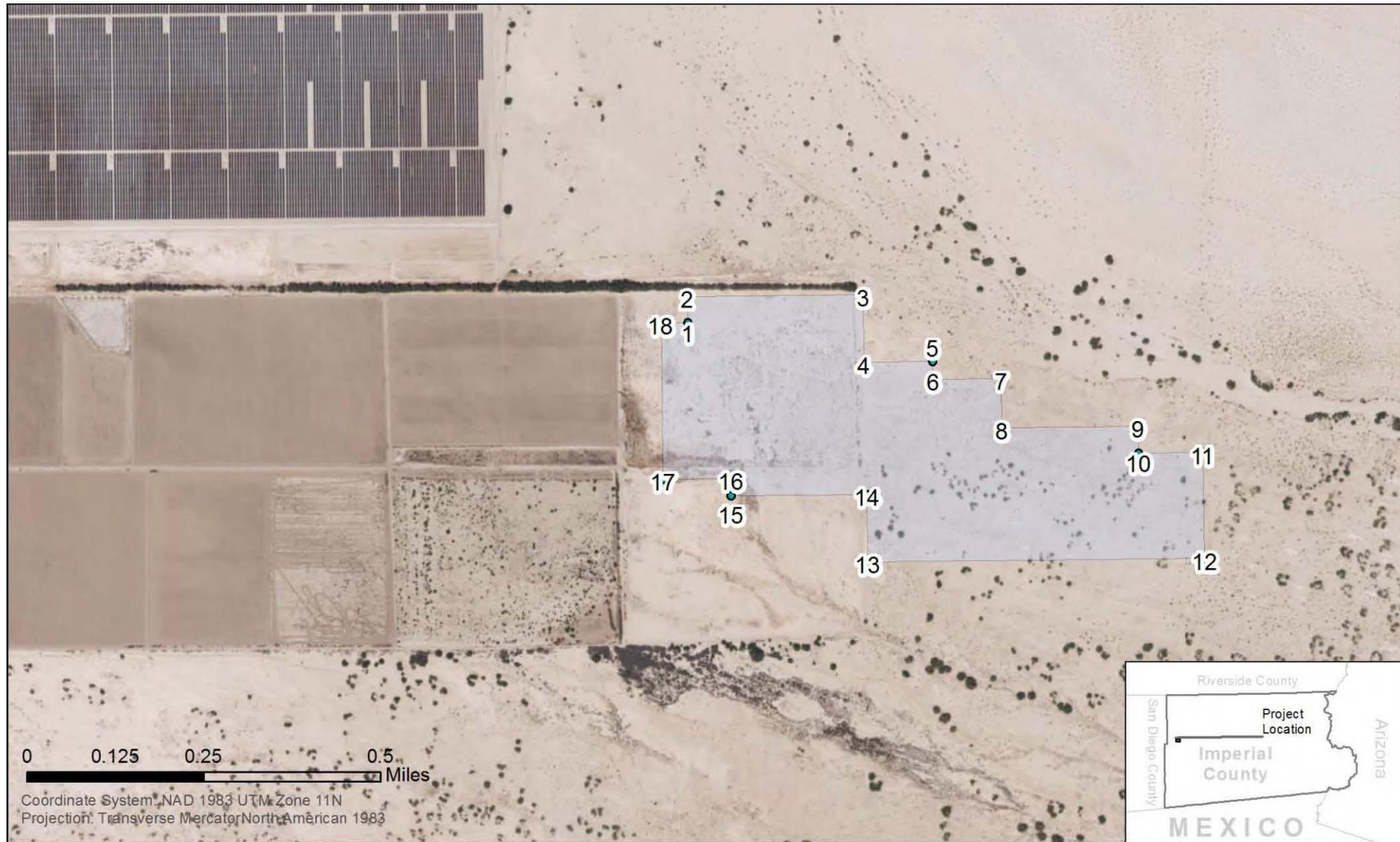


Source: EMA 2018.

- ⊙ Airport
- ▭ PV Array

**FIGURE 4.1-4
KOPS - AIRPORTS**

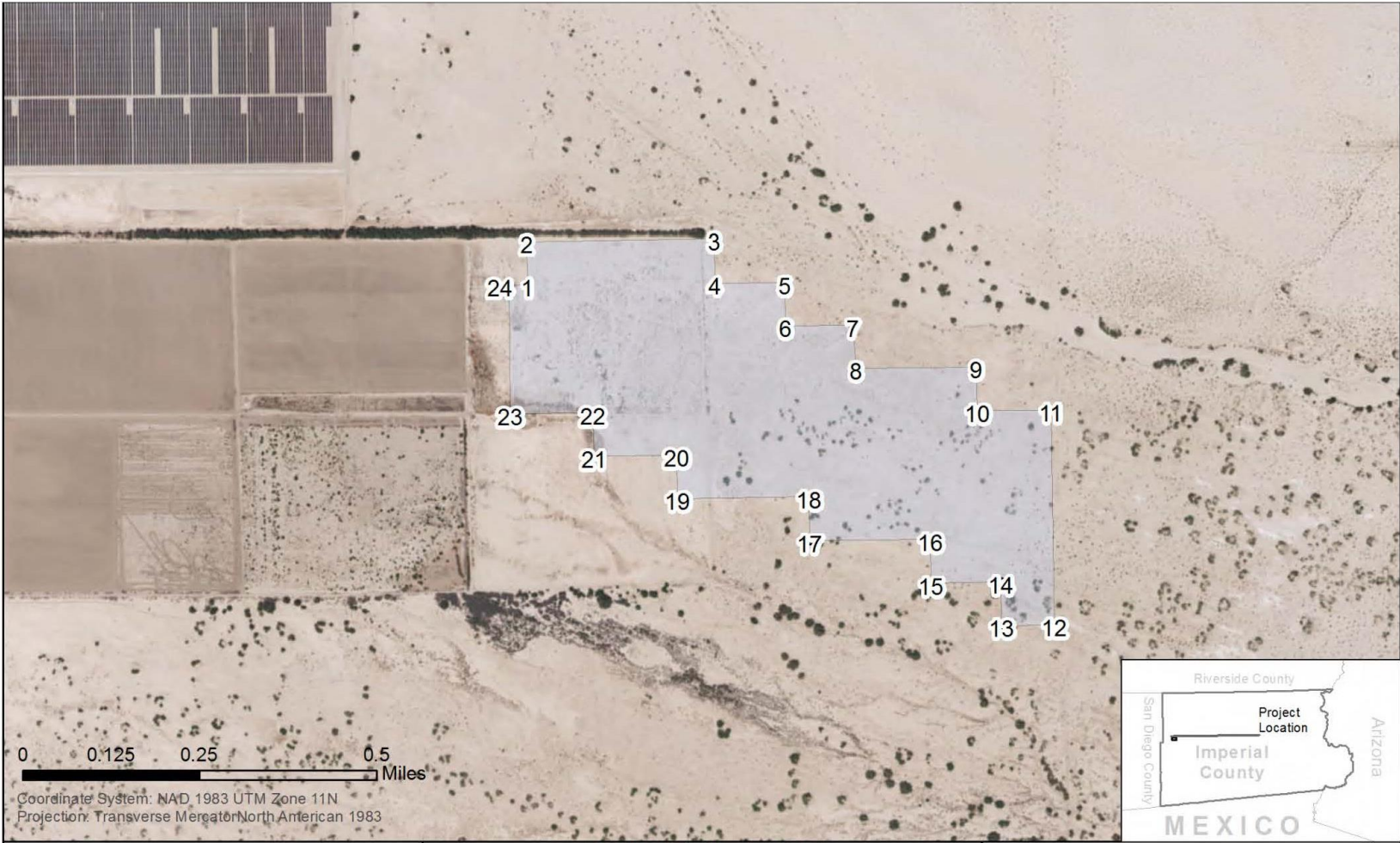
4.1 AESTHETICS



Source: EMA 2018.

Fixed Panel PV Array

**FIGURE 4.1-5
FIXED-FRAME ARRAY VERTICES**



Source: EMA 2018.

HSAT PV Array

**FIGURE 4.1-6
HSAT ARRAY VERTICES**

D. PROJECT IMPACTS AND MITIGATION MEASURES**Adverse Effect on Scenic Vista**

Impact 4.1.1 Implementation of the proposed Project would result in a minor alteration of views of the Project area from surrounding lands and SR 78. The Project area is not considered a scenic vista nor does it contain any outstanding aesthetic features. Moreover, views of the Project site would be partially obscured by the existing tamarisk windbreak along its northern boundary as well as the set-back from SR 78 and nearby uses. Therefore, adverse effects on a scenic vista are considered **less than significant**.

Construction

Visual impacts associated with construction activities would include, but not be limited to, heavy equipment (e.g., cranes, graders), staging and materials storage areas, and potential dust and exhaust. Construction activities would be temporary in nature and take place over the course of several months. The Project area is not considered a scenic vista nor does it contain any outstanding aesthetic features. Moreover, views of the Project site would be partially obscured by the existing tamarisk windbreak that extends approximately 1,775 feet east along the northern boundary. Therefore, a **less than significant** impact to scenic vistas would occur during the construction of the proposed Project.

Operation

The Project area is in a rural, sparsely populated portion of Imperial County and is not within in a designated scenic vista. Likewise, the Imperial County General Plan does not designate the Project area or surrounding area as an important visual resource (Imperial County 2008). The Project site consists of desert land and approximately 60 acres of idle farmland. The northern extent of the Project site is located approximately 1.5 miles south of SR 78. While there are no panoramic scenic views in the area, the Santa Rosa Mountains to the northwest, the Fish Creek Mountains to the south, and the Vallecito Mountains to the west and southwest will remain visible even with the introduction of the proposed Project.

The nearest residential structure (Residence #7) is located approximately 2.5 miles west-northwest of the Project site. This residence is currently experiencing minor changes in views to the east due to the introduction of the Seville 1 Solar and Seville 2 Solar project. Only a small portion of the HSAT PV modules are visible above the existing tamarisk windbreak along the western boundary of the Seville Solar Farm Complex (refer to **Figure 4.1-4b**). Occupied structures at the Blu-In RV Park are located approximately 3.0 miles northwest of the northwestern boundary of Project site. As shown in **Figure 4.1-1**, views of the proposed Project would be obscured from some KOPs by the existing north-south tamarisk windbreak along the western boundary of the Seville Solar Farm Complex as well as the east-west tamarisk windbreak along 1,775 feet of the northern boundary of the Project site. As noted above, the Project area does not possess any unique aesthetic or scenic qualities. In addition, distant views of the surrounding mountain ranges from occupied residential and commercial buildings would not be obstructed. Therefore, adverse effects on a scenic vista during operation of the proposed Project are considered **less than significant**.

Reclamation

Reclamation would involve decommissioning the Project at the end of its useful life. Activities would include dismantling and removal of structures and infrastructure on the Project site. The area surrounding the Project site does not possess any unique aesthetic or scenic qualities, and distant views of the surrounding mountain ranges from the closest residence would not be obstructed by any aspect of the Project. The Project site would be reclaimed to approximate the existing desert or idle farmland. Therefore, **no impact** to a scenic vista would occur in association with reclamation.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

Degrade Existing Visual Character or Quality of the Site

Impact 4.1.2 The proposed Project would convert existing low gradient desert and idle farmland to a solar generation facility. In addition, the Project includes construction of a Gen-Tie Line, access road, water tank(s), Seville 4 Substation and the IID Switching Station. While the Project would alter existing conditions of the Project area, it would not substantially degrade the existing visual character or quality of the area. Therefore, this impact is considered **less than significant**.

Construction

Project Site

Short-term visual impacts would occur in association with construction of the proposed Project. These would include but not be limited to operation of heavy equipment (e.g., cranes, graders); staging of equipment and materials storage areas, and potential dust and exhaust plumes. The nearest residential structure is located slightly over one mile west-northwest of the Project's western boundary (Residence #7). Due to the set-back of the residence (approximately 2.5 miles) and the intervening tamarisk windbreak, views from the residence looking east towards the Project site would not be substantially affected during construction. Other residences located west of the Project site are set-back further and would likewise not be visually impacted during construction.

The Blu-In RV Park is approximately 3.0 miles northwest of the western boundary of the Project site. As shown in **Figure 4.1-1**, views of the proposed Project would be obscured by the existing tamarisk windbreak along the western boundary of the Seville Solar Farm Complex and the east-west windbreak along 1,775 feet of the norther Project site boundary. Therefore, views from the Blu-In RV Park, Blu In Café and all residences to the west of the Project site would not be substantially affected during construction. Likewise, travelers along SR 78 and off-road vehicle users to the north and west of the Project area may also experience some visual changes associated with construction activity. However, as with the residences to the west, views of the proposed Project site are partially obstructed by the presence of tamarisk windbreaks extending north-south as well as east-west along the northern boundary of the Project site. As various aspects of construction are completed (e.g., grading), the corresponding equipment would be eliminated from view. While heavy equipment and construction activity may present a visual nuisance, it is temporary and does not represent a permanent change in views. Therefore, impacts associated with degrading the visual character or quality of the site for travelers and residents is considered **less than significant**.

Gen-Tie & Seville 4 Substation

The 34.5-kilovolt (kV) proposed Gen-Tie Line and Seville 4 Substation would be the tallest features of the proposed Project. These components of the Project would be built on Seville 3 Solar (Lots 1, 2, and 3) to the west of the Project site as well as Lot D (located in the northwestern portion of Seville 1 Solar) (refer to **Figure 2.0-5A** and **Figure 2.0-5B**). Seville 1 Solar and Seville 2 Solar currently have a substation as well as a gen-tie line which would be similar to the proposed Project. As such, the addition of the proposed Gen-Tie Line and Seville 4 Substation are not anticipated to be noticeable or dramatically alter view of this portion of the Project area. In both cases, the proposed Gen-Tie Line and Seville 4 Substation would represent expansion of existing solar facilities currently present as part of the Seville 1 Solar and Seville 2

4.1 AESTHETICS

Solar Projects. Therefore, a **less than significant impact** would occur with regard to substantially degrading the existing visual character or quality of the Project area as a result of construction of the gen-tie and substation.

Operation

Seville 4 Solar

The proposed Project would alter the existing visual character of the Project site by placing a solar generation facility on existing desert and approximately 60 acres of idle farmland. Either 146 acres (Fixed-Frame Configuration) or 174 acres (HSAT Configuration) would be converted to accommodate the solar field and 18 acres of stormwater retention. An additional 7 acres of the Project area would be developed with access roads, the Gen-Tie Line (aligned through Lots 1, 2, and 3) and Seville 4 Substation (Lot D) for either configuration. In total, approximately 153 acres (146 Fixed-Frame Configuration plus 7 acres) or 181 acres (174 HSAT Configuration plus 7 acres) would be visually changed by the Project.

Fixed-Frame Configuration

The major generation equipment that would be installed on the Project site includes PV modules on fixed frames or HSAT system. The fixed-frame PV module arrays would be mounted on racks that would be supported by driven piles. The fixed-frame racks would be secured at a fixed tilt of 25° +/- 5° from horizontal facing a southerly direction. Current Project design would have individual PV modules, each approximately 3-feet, 4-inches wide by 6-feet, 6-inches long (depending on the specific PV technology selected), mounted two high on a fixed frame, providing a three-foot ground clearance and resulting in the tops of the panels at a maximum of 8-feet, 6-inches above the ground (EMA 2018, p. 1).

HSAT Configuration

If HSAT technology is used, the PV panels would rotate around the north-south HSAT axis so that the PV modules would continue to face the sun as it moves across the sky over the course of the day. The PV modules would reach a maximum height (up to 13-feet, 6-inches above the ground depending on the final design) when the HSAT is rotated to 60° from the horizontal point at both sunrise and sunset. Depending on the final design, the maximum height would be approximately 10-feet, 9-inches above the ground at noon, or when stowed during high winds (i.e. when the HSAT system is rotated so that the PV modules are horizontal). Current Project design would have individual HSAT PV modules, each approximately 3-foot wide by 5-feet, 6-inches long (depending on the specific PV technology selected), mounted on a frame which is attached to an HSAT system (EMA 2018, pp. 1-2).

Retention basins accommodating 18-acre-feet are proposed along the southern portion of the Project site (one basin for the Fixed-Frame Configuration and six basins for the HSAT Configuration). In addition, one or more water tanks capable of holding a total of approximately 20,000 gallons of water for fire-fighting would also be placed on the Projects site. The Project would also add a gen-tie line through Lots 1, 2 and 3 in the Seville 3 Solar project.

Residential and Commercial Uses Proximate to the Project Site

As shown in **Figures 4.1-1**, residences and commercial buildings were identified within 3.75 miles of the outer boundary of the Project site. One residence (#9) is approximately 6.75 miles to the southwest, but has an unobstructed view of the site. Residence #10, which is approximately 9 miles to the northeast, is the only residence to the east of the Project site. Development of the proposed Project on a portion of Lot 8 would not be highly visible from SR 78 or surrounding residential and commercial uses. The Project site is partially obscured from the viewpoints of the occupied residential and commercial buildings by the existing north-south tamarisk windbreak along the western boundary of the Seville Solar Farm Complex as well as the north-south windbreak along the northern boundary of the Project site. As a result, residents

and commercial businesses in these locations would not be able to readily see the Project site. Therefore, a **less than significant impact** would occur with regard to substantially degrading the existing visual character or quality of the Project site for proximate residential and commercial users during operations.

SR 78 and OWSVRA

As shown in **Figure 4.1-2**, the Project site is set back between 3 miles and more than 5 miles from points north of SR 78 in the OWSVRA. Based on the distance of the setbacks, as well as intervening features including windbreaks and the Seville 1 Solar and Seville 2 Solar projects, the Project site is difficult to see from the ten roads and off-highway trail locations within the OWSVRA north of SR 78. The existing solar development is visible from these vantage points, but is not a dominant foreground feature nor does it obstruct views of the Vallecito Mountains in the background. The areas north of SR 78 and west of Project are used by off-road vehicle riders for recreational purposes. Given the limited visibility of the Project site from the north and the limited duration of time the site would be viewed from either the north or the west along the transmission line, the existing visual character of the site would not appear drastically altered. Therefore, a **less than significant impact** would occur with regard to substantially degrading the existing visual character or quality of the Project site for travelers along SR 78 and OWSVRA users during operations.

R Transmission Line

As shown in **Figure 4.1-3**, five KOPs were established at intervals along the IID's "R" transmission line, located on the eastern edge of Lot 8. Views along this route would be limited to maintenance crews working on the transmission line as well as to off-road vehicle users who may traverse the dirt road adjacent to the transmission line. These users would have unobstructed views of the Project site. However, given the purpose for being on the site (i.e. maintenance) and the brevity of viewing by off-road users, the change in the character of the Project site would not be considered adverse. Therefore, a **less than significant impact** would occur with regard to substantially degrading the existing visual character or quality of the Project site for off-road vehicle users during operations.

While open desert and idle agricultural land are not considered significant or unique visual resources, both represent undeveloped open space. The introduction of the proposed Project would change the existing appearance of the Project site to a solar generation facility similar to the Seville 1 Solar and Seville 2 Solar projects. The site would be developed with rows of PV solar panels across approximately 146 acres (Fixed-Frame Configuration) or 174 acres (HSAT Configuration). An additional 7 acres would be disturbed by the required access roads, Gen-Tie Line and Seville 4 Substation on Lot D.

Generally, CEQA considers visual impacts from public viewpoints rather than from private property. However, residents are considered to be a highly sensitive viewer group because of the long periods of time spent in personal residences, and the strong feelings attached to their homes. The proposed Project, if developed with Fixed-Frame systems would have a maximum height of 8-feet, 6-inches or a maximum height of 13-feet, 6-inches for HSAT. Either configuration would be mostly obscured as viewed from the residences and commercial uses by set-back distance (slightly over one mile) as well as tamarisk windbreaks (Figure 4.1-1 and Figure 4.1-2). Development of the Project site with the HSAT configuration may be slightly more visible due to the higher profile of this technology. However, even the HSAT panels would be partially obscured by the setback and windbreaks, lessening the visibility and intensity of the change in visual character of Lot 8. The proposed eight-foot chain-link fence would be obscured by distance under either panel configuration scenario. Given that the proposed Project would not be dominant, overbearing or obstruct the landscape or horizon for any viewers proximate to the Project site, **less than significant impact** would occur with regard to substantially degrading the existing visual character or quality of the Project site during operations.

4.1 AESTHETICS

Gen-Tie & Seville 4 Substation

The tallest Project features would be the proposed Gen-Tie Line and Seville 4 Substation. The Gen-Tie Line would extend east through Seville 3 Solar then north to the west of the existing access road. In both cases, the addition of these features would represent an expansion of existing uses with similar equipment that is currently present in association with Seville 1 Solar and Seville 2 Solar as well as the proposed Seville 3 Solar Project. As such, the addition of these features would not drastically alter views. In fact, the Gen-Tie Line would not be perceptible from the north of SR 78. Therefore, **less than significant impacts** would occur to residences, commercial uses, and off-road vehicle users with regard to substantially degrading the existing visual character or quality of the Project site as a result of the Gen-Tie Line and Seville 4 Substation.

Reclamation

Reclamation would involve decommissioning the Seville 4 Solar Project at the end of its useful life. Activities would include dismantling and removal of structures and infrastructure on the Project site. Because the Project site does not possess any unique aesthetic or scenic qualities, reclamation of the Project site to approximate the existing low gradient desert lands or idle farmland would have a **less than significant impact** with regard to degrading the visual character or quality of the area.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

New Source of Substantial Light or Glare

Impact 4.1.3 The Project proposes to use either thin film or crystalline solar PV technology modules mounted on either fixed frames or HSAT systems. No lighting is proposed on the Project site. Glare modeling determined that there would be no substantial or prolonged period of glare created by either the fixed-frame configuration or the HSAT configuration. Therefore, impacts associated with creation of substantial light and glare are considered **less than significant**.

The Project does not include any sources of lighting. No O&M Building is proposed nor is any form of security lighting included the Project design. As such, the discussion below will focus on glare impacts based on the Solar Glare Hazard Assessment (EMA 2018) prepared for the Project.

Glare is the continuous source of excessive brightness including reflection of the sun off any reflective surface, including windows, calm water and solar panels. The Solar Glare Hazard Assessment provides a quantified assessment of when and where glare will occur throughout the year for the proposed Project as well as the potential effects on the human eye where glare occurs (EMA 2018c, p. 1). Retinal irradiance determines the amount of energy impacting the retina of the observer. The ocular impact of viewed glare has been classified into three levels based on the retinal irradiance and subtended source angle: 1) low potential for after-image; 2) potential for after image; and 3) potential for permanent eye damage (EMA 2018, p. 6).

The impact potential for after-images with regard to the first two levels varies broadly from minor distractions, to after-images, to flash blindness, to potentially permanent eye damage. Examples of after-images at level 2 include the eye's reaction to a flash bulb or a light being turned on in a dark room.

Construction

No lighting is proposed during construction. Short-term sources may occur in association with headlights on construction worker vehicles and or/equipment. No permanent lighting would be present.

Construction is not anticipated to result in major sources of glare other than vehicle windshields or reflection that may occur off of metallic surfaces (e.g. PV panel support structures) while being installed. Thus, new sources of light and glare associated with construction of the Project would result in a **less than significant impact**.

Operation

Light

The Project site is currently low gradient desert lands and approximately 60 acres of idle farmland with no existing sources of light. The Project does not include an O&M Building and does not propose any sources of light on the site.

The PV modules are specifically designed to absorb light, rather than reflect it. The Project would not change the illumination of the existing night sky environment. Thus, new sources of light associated with long-term operation and maintenance of the Project would result in a **less than significant impact**.

Glare

PV modules are designed to absorb as much light as possible to maximize efficiency. In addition, PV modules use anti-reflective coatings to decrease reflection and increase conversion efficiency. The time and duration of any potential reflections from the panels are determined by the orientation of the panels and the position of the observer in relation to the panels. All PV solar projects, regardless of the type of mounting structure, orient the panels perpendicular to the sun or as close to perpendicular as much of the time as possible to maximize solar absorption and energy output. This results in the panels being oriented towards the sun throughout the day and the course of the year as the position of the sun changes in the sky. This orientation towards the sun results in the portion of incoming light that is reflected to be directed back into the sky because light is reflected from a flat surface at an angle equal to that of the incoming light.

Fixed-Frame Configuration Modeling Results

Glare was modeled for both the top and bottom of the fixed-frame trackers. Modeling results for the top of the fixed-frame arrays are provided in Appendix J through M included in **Appendix B** of the Technical Appendices of this EIR on the attached CD. Modeling results for the bottom of the fixed-frame arrays are provided in Appendix F through I included in **Appendix B** of the Technical Appendices of this EIR on the attached CD. No glare was predicted from either the bottom or the top of the fixed-frame array to any of the commercial buildings, SR 78, the OWSVRA trail or airport KOPs (refer to **Figure 4.1-1, Figure 4.1-2, Figure 4.1-3 and Figure 4.1-4**). Glare was predicted at only one residence (Residence 7). The modeling of KOP #6 predicted that this KOP would receive annually only 2 minutes of "green" glare from the bottom of the fixed-frame array and 1 minute of "green" glare from the top of the fixed-frame array (refer to Appendix F included in **Appendix B** of the Technical Appendices of this EIR on the attached CD) (EMA 2018, p. 8). This glare impact is **less than significant**.

Exposure to predicted glare depends upon the type of glare receptor. Fixed receptors (e.g. occupied residences and commercial buildings and airports) are exposed to the predicted glare during the full, predicted time of the glare. Mobile receptors (e.g. travelers along roads and trails) move through the area of predicted glare. As such, mobile receptors are exposed to the predicted glare only during the time the

4.1 AESTHETICS

mobile receptor is within the zone of that specific predicted glare. Thus, although the SGHAT model predicts that KOP #3 on the IID's "R" transmission line road would receive annually nearly 18,000 minutes (300 hours) of "yellow" glare from the bottom of the fixed-frame array, a vehicle traveling at 20 miles per hour on the "R" transmission line road would spend less than 30 seconds in the predicted yellow glare area immediately adjacent to the solar array and less than two minutes on the road before the source of the solar array glare is passed. Vehicles moving along the "R" transmission line are traveling generally perpendicular to the proposed solar array, and not driving toward it, so the glare is peripheral. There are also no facilities along the IID "R" transmission line road that would attract or keep travelers to the areas of predicted "yellow" glare. Based on this assessment, the impact of glare from the fixed-frame configuration is **less than significant**.

HSAT Configuration Modeling Results

The modeling results for the HSAT array revealed that no glare was predicted at any of the KOPs (EMA 2018, p. 8) (Refer to Appendix B through Appendix E included in **Appendix B** of the Technical Appendices of this EIR on the attached CD). Therefore, if HSAT PV arrays are used, **no impact** would occur with regard to glare at KOPs.

Reclamation

Reclamation would involve decommissioning the Project site at the end of the Project's useful life. Activities would include dismantling and removal of structures and infrastructure on the Project site. The site would be reclaimed to approximate the existing low gradient desert lands or idle farmland, neither of which generates light or glare. Thus, following reclamation, **no impact** related to light or glare would occur.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

4.1.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The geographic scope for the cumulative setting for aesthetics, light, and glare encompasses lands within a 5-mile radius of the proposed Project site. In a broader context, the cumulative setting also includes large scale proposed, approved and reasonably foreseeable renewable energy projects identified in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used. The only project in the cumulative list within 5-miles of the proposed Project is the Ocotillo Wells Solar Farm approximately 3.5 miles east along the San Diego-Imperial County border.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Visual Impacts

Impact 4.1.4 Implementation of the proposed Project, in conjunction with large scale proposed, approved and reasonably foreseeable renewable energy projects in the Imperial Valley and the Ocotillo Wells Solar Project to the west in San Diego County, would alter the visual character of the region, resulting in a change to public views as well as increased daytime glare and nighttime lighting levels. Such impacts are typically addressed on a project-by-project basis. Therefore, cumulative impacts to visual resources are considered **less than cumulatively considerable**.

Construction

Under cumulative conditions, existing views of the Project area would be altered in association with short-term construction activities. Construction of the proposed Project would result in temporary changes to the visual character of the Project area due to the presence of equipment, site clearing activities, installation of the PV arrays, inverters, etc., as well as the gen-tie and substation on Lot D. These visual changes would be **less than cumulatively considerable** due to their limited duration.

Operation

The proposed Project site currently consists of low gradient desert lands and approximately 60 acres of idle farmland. Likewise, the proposed Project site is surrounded primarily by open desert on the south and east with Seville 2 Solar to the north and Seville 3 Solar to the west. The OWSRVA is north of the Project area across SR 78. In the long-term, existing views of the Project site would be altered by the introduction of a solar facility on 146 acres (Fixed-Frame configuration) or 174 acres (HSAT Configuration) the required internal roads and water storage tanks. Another 7 acres of land would be associated with the internal roads, gen-tie and Substation on Lot D. However, the Project area and surrounding area within the geographic scope does not contain any unique or outstanding features with high aesthetic value. Likewise, the existing Seville 1 Solar and Seville 2 Solar project as well as projects proposed within the geographic scope (Ocotillo Wells Solar Project and Seville 3 Solar) are not anticipated to damage or compromise any outstanding aesthetic features nor would the proposed Project be visible to a large number of viewers.

The Ocotillo Wells Solar Project is approximately 3.5 miles south of SR 78. As discussed in the “Visual Resources/Aesthetics Analysis Ocotillo Wells Solar Farm,” (RBF 2013) the proposed Ocotillo Wells Solar Project would be located on generally undeveloped lands just east of Spilt Mountain Road. The Ocotillo Wells Solar Project would not result in the introduction of features that would significantly detract from or contrast with the visual character of the Ocotillo Wells community by conflicting with visual elements or quality of an existing area. In addition, the Ocotillo Wells Solar Project would not result in the removal of or substantial adverse change of one or more features that contribute to the valued visual character or image of the Project area, including but not limited to designated landmarks, historic resources, trees, or rock outcroppings. Furthermore, the Ocotillo Wells Solar Project would not substantially obstruct, interrupt, or detract from a valued focal and/or panoramic vista from a public road, trails within an adopted County or State trail system, scenic vista or highway, or recreational area. The Ocotillo Wells Solar Project as designed would also not result in an inconsistency with any goals, standards, or policies related to visual resources as given in the County General Plan or other applicable regulations and ordinances. For the above reasons, no significant impacts on visual resources/aesthetics are anticipated to occur in association with implementation of the Ocotillo Wells Solar Project” (RBF 2013).

The proposed Project, in combination with other large-scale proposed, approved and reasonably foreseeable renewable energy projects identified in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used, would contribute to cumulative changes to the character of the cumulative visual setting. However, the County of Imperial allows for development of the Project site with a solar generation facility with issuance of a Conditional Use Permit. In addition, the Project is not located in a highly scenic area nor would it substantially obstruct or degrade existing views. Therefore, the proposed Project would result in a **less than cumulatively considerable contribution** to cumulative visual setting impacts during the operation and maintenance phase. Likewise, because aesthetic impacts are considered on a project-by-project basis, cumulative impacts to visual resources are considered **less than cumulatively considerable**.

PV panels would cover either 146 acres or 174 acres of the Project site. The PV panels are non-reflective and no light is proposed on the Project site. Some glare would be generated for limited durations that

4.1 AESTHETICS

would impact KOP #6. The modeling of KOP #6 predicted that this KOP would receive only 2 minutes of "green" glare from the bottom of the fixed-frame array and 1 minute of "green" glare from the top of the fixed-frame array on an annual basis and accordingly result in a less than significant impact. KOP #3 on the IID's "R" transmission line road would annually receive nearly 18,000 minutes (300 hours) of "yellow" glare from the bottom of the fixed-frame array. However, a mobile receptor (e.g. a vehicle) traveling at 20 miles per hour on the "R" transmission line road would spend less than 30 seconds in the predicted yellow glare area immediately adjacent to the solar array and less than two minutes on the road before the source of the solar array glare is passed. As such, the Project would result in a **less than cumulatively considerable contribution** to glare impacts. Likewise, because glare impacts are considered on a project-by-project basis, cumulative glare impacts are considered **less than cumulatively considerable**.

According to page 7 of the "Ocotillo Wells Solar Farm Project Conformance with Applicable Plans" (March 2013), the solar panels would be gray to black in color and highly absorptive. The materials used to construct the panels are designed to minimize the potential for reflection and retain as much of the solar spectrum as possible, thereby reducing glare. Additionally, based on technical evidence evaluating the reflectivity of PV solar panels, the proposed Ocotillo Wells Solar Project would not install highly reflective building materials that would result in a substantial increase in light or glare that would affect the surrounding area, or that would produce reflective light that would create adverse disability or discomfort glare. Therefore, the Ocotillo Wells Solar Project in combination with the proposed Project would result in a **less than cumulatively considerable** contribution to light and glare during Project operation.

Visual impacts are typically addressed on a project-by-project basis via mitigation such as screening, setbacks, use of earth tone colors, non-reflective building materials, landscaping, and downward or shielded lighting. All projects are required to comply with the County's lighting ordinance to avoid excessive illumination and light spillage on adjacent properties. This west-central portion of Imperial County is largely undeveloped and unlit. Lighting is not proposed as part of the Project. Thus, the proposed Project would not incrementally add to existing conditions such that a significant cumulative impact would occur. Therefore, the Project's incremental contribution to cumulative visual impacts, including light and glare, is considered **less than cumulatively considerable** during the operation and maintenance phase.

Reclamation

Reclamation would entail removal of all Project area structural components. Under cumulative conditions, existing views of the Project area (primarily the Project site), would be altered in association with short-term reclamation activities. Reclamation of the proposed Project would result in temporary changes to the visual character of the Project area associated with the presence of equipment, structure removal and/or demolition, and reclamation of the Project area to approximate existing low gradient desert lands or idle farmland. These visual changes would be **less than cumulatively considerable** due to their limited duration. Upon reclamation, the Project site would appear similar to its current condition but without any on-site structures.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.