# SAN BERNARDINO COUNTY
# INITIAL STUDY / MITIGATED NEGATIVE DECLARATION

This form and the descriptive information in the application package constitute the contents of Initial Study pursuant to County Guidelines under Ordinance 3040 and Section 15063 of the State CEQA Guidelines.

## PROJECT LABEL:

| | |
|---|---|
| ***APN:*** | **0606-121-01, 0606-121-33, 0606-121-44, 0606-121-45, 0606-121-46, 0606-121-47, 0607-251-09, 0607-251-25, 0607-251-34** |
| ***Applicant:*** | Mr. Ricardo Graf<br>Cascade Solar, LLC c/o Axio Power Holdings, LLC<br>3080 Bristol Street, Suite 150<br>Costa Mesa, CA 92626<br>(714) 549-1944 x201 |
| ***Community:*** | Sunfair |
| ***Location:*** | East of Lawrence Avenue, between 4th Street South and Sunflower Road |
| ***Project No:*** | P201100142 |
| ***Staff:*** | Loretta Mathieu, Senior Planner |
| ***Rep:*** | Mr. Jeremy Krout<br>RGP Planning & Development Services<br>8921 Research Drive<br>Irvine, CA 92618<br>(949) 450-0171 |
| ***Proposal:*** | A) Conditional Use Permit to establish an approximately 18.5-megawatt solar photovoltaic electricity generation facility on 9 parcels totaling approximately 150 acres and B) a Major Variance to waive the roadway paving requirement on a portion of Broadway Street. |

| | |
|---|---|
| ***USGS Quad:*** | Sunfair |
| ***Lat/Long:*** | 34°9'51"N/116°14'11"W |
| ***T, R, Section:*** | T1N R7E Sec. 15, 22 |
| ***Thomas Bros*** | P4890/GRID: B-2, B-3, C-2, C-3 |
| ***Community Plan:*** | Joshua Tree |
| ***LUZD:*** | RC, RL |
| ***Overlays:*** | AR-3 |

## PROJECT CONTACT INFORMATION:

| | |
|---|---|
| ***Lead agency:*** | County of San Bernardino<br>Land Use Services Department<br>385 N. Arrowhead Avenue, 1st Floor<br>San Bernardino, CA 92415-0182 |
| ***Contact person:*** | Loretta Mathieu, Senior Planner |
| ***Phone No:*** | (760) 995-8153 ***Fax No:*** (760) 995-8167 |
| ***E-mail:*** | lmathieu@lusd.sbcounty.gov |

## PROJECT DESCRIPTION:

Cascade Solar, LLC c/o Axio Power Holdings, LLC (applicant) proposes to construct and operate the Cascade Solar (project) facility, an 18.5-megawatt (MW) photovoltaic (PV) solar energy generation facility on approximately 150 acres. The project site is located east of Lawrence Avenue between 4th Street South and Sunflower Road in the Sunfair community in unincorporated San Bernardino County (County). The project requires a Conditional Use Permit to permit operation of a renewable energy generation facility and a Major Variance to waive the additional paving requirement on a portion of Broadway Street.

The project area is situated within Sections 15 and 22, Township 1 North, Range 7 East, S.B.B.&M. of the Sunfair, CA USGS 7.5-minute topographic quadrangle at approximately Lat/Long 34°9'51"N/116°14'11"W (See **Figures 1 and 2**). Project site and surrounding area photographs are provided in **Figure 3**.

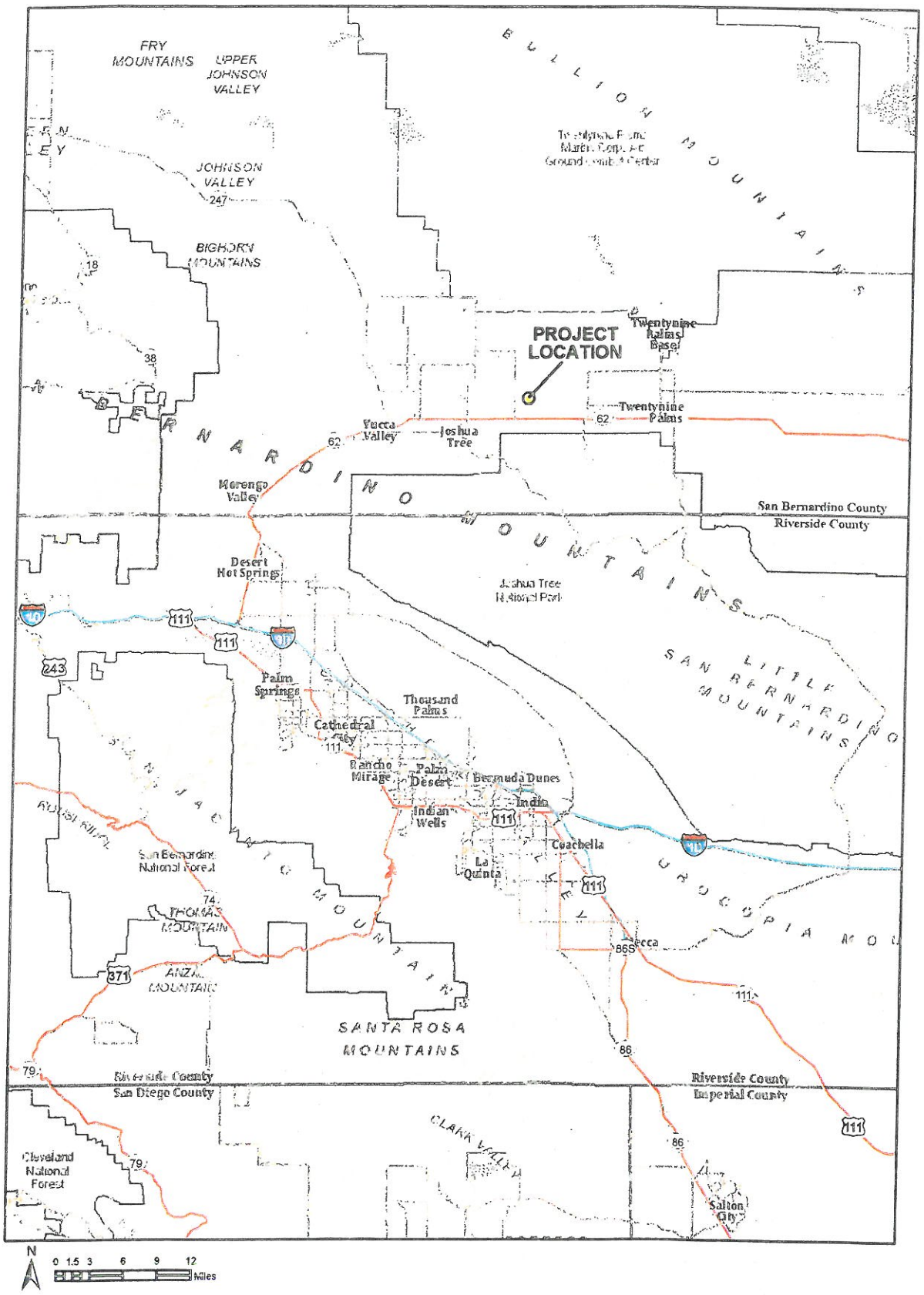





Figure 1
**Vicinity Map**

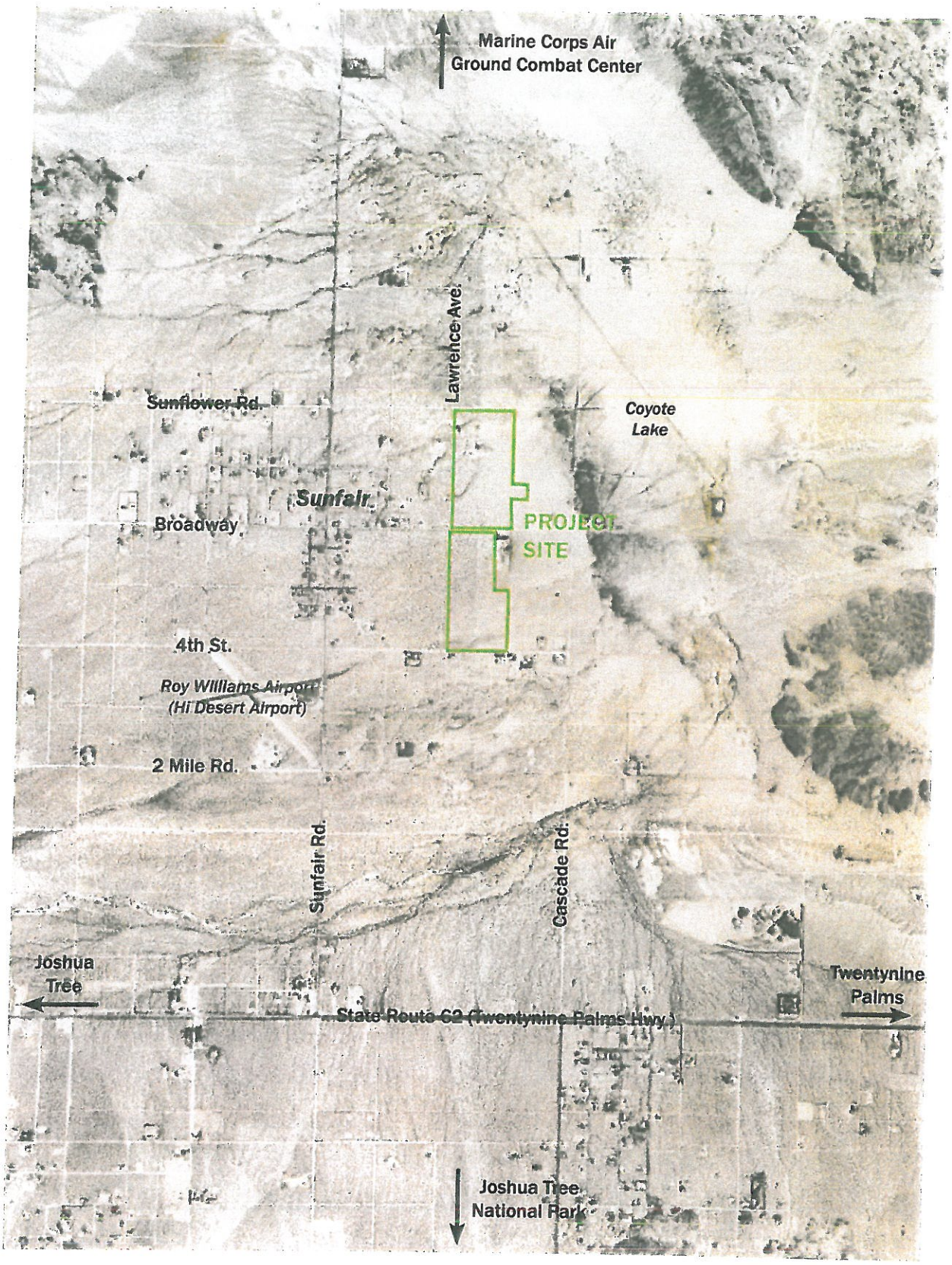





Figure 2
**Local Area Map**

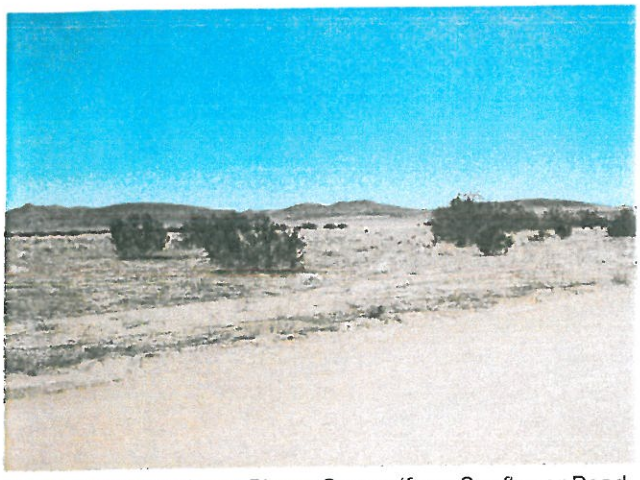


**Photo 1:** Onsite views, Phase 2 area (from Sunflower Road, looking south)

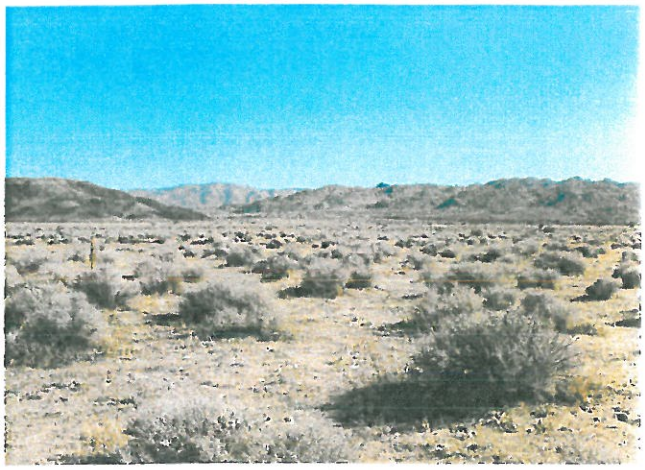


**Photo 2:** Onsite views, Phase 1 area (from Broadway, looking south)

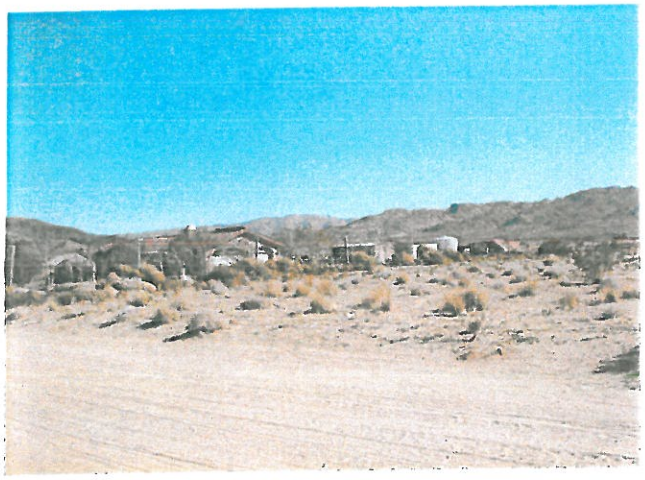
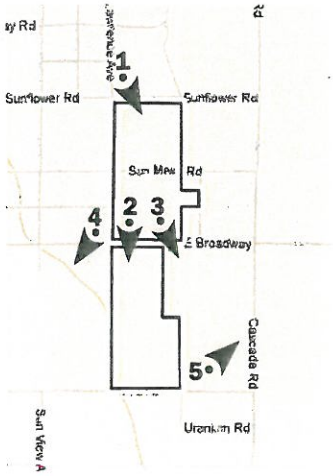


**Photo 3:** Surrounding areas: residential development

**Photo 4:** Surrounding areas: vacant land with desert vegetation

**Photo 5:** Surrounding areas: vacant land with desert vegetation and offroad vehicle tracks




**Key Map**

Figure 3

**Site and Surrounding Photographs**

## PROJECT SETTING

### *Regional Setting*

The project site is located in the Mojave Desert region of San Bernardino County. The Mojave Desert comprises the County's Desert Planning Region, which contains 93 percent of San Bernardino County's land area. The Desert Planning Region consists of an assemblage of mountain ranges interspersed with long, broad valleys that often contain dry lakes. Land uses in the region consist primarily of protected open space and habitats (especially the Joshua Tree National Park, south of the project site) and military facilities (particularly north of the project site). Other uses include rural residential development, small-scale commercial development, and limited support services such as schools, hospitals, and other public facilities. These facilities are clustered in local towns, and also along major rights-of-way. Much of the region's land, particularly away from major roadways, is vacant. The project site is approximately 4 miles northeast of the unincorporated community of Joshua Tree (population 5,200) and 8 miles northwest of the city of Twentynine Palms (population 33,600). The smaller community of Sunfair is located ½ mile west of the site.

Joshua Tree National Park is located 2.5 miles to the south of the site. The park covers almost 793,000 acres, of which 592,000 are designated as "wilderness," or areas where roadways and other evidence of human habitation are not permitted. The park gateways nearest the project site are on Indian Cove Road (approximately 5 miles to the southeast) and Quail Springs Road (approximately 4.5 miles to the southwest).

Major transportation routes in the region include:

- Twentynine Palms Highway, State Route (SR) 62. This east-west roadway is located 1.5 miles south of the project site. Near the project site, it is a paved, four-lane undivided highway. Paved shoulders are present, but there are no sidewalks, curbs, or streetlights. The roadway is identified in the General Plan as a Major Highway; this roadway classification is defined by the Development Code as a four-lane roadway with a minimum right-of-way of 104 feet.
- Sunfair Road (Coyote Valley Road). This is the nearest significant north-south route to the project site. It is located ½ mile west of the project site and is the main street through the community of Sunfair. It is a paved two-lane roadway with no curbs, sidewalks, or streetlights. The roadway is identified in the General Plan as a Major Highway.

Two Mile Road, located ½ mile south of the project site, is currently unimproved, but is depicted in the General Plan as a proposed Secondary Highway west of Sunfair Road. The Development Code defines a Secondary Highway as a four-lane roadway with a minimum right-of-way of 88 feet. However, there are no plans to complete this planned upgrade to the roadway in the near future. Should this upgrade be completed, Two Mile Road would serve as an alternative to SR-62 for east-west travel.

The nearest freeway to the project site is Interstate 10 (I-10), located 25 miles to the southwest via SR-62. In addition to major roadways, the region contains numerous paved and unpaved local streets providing access to individual parcels.

Local airports include:

- Roy Williams Airport. This general aviation airport is located ½ mile southwest of the project site. See *Local Setting*, below, for additional detail.
- Twentynine Palms Airport. Located 16 miles east of the project site, this public airport has two asphalt runways of 5,531 and 3,797 feet in length, respectively. Approximately 16 aircraft are based at the field, which sees 18,000 annual aircraft operations. Most operations are by general aviation aircraft; a small number of military flights also use the airport. Development near the airport is governed by the Airport Comprehensive Land Use Plan (ACLUP): Twentynine Palms Airport (1992). The project site's distance from the airport places it well beyond the purview of its ACLUP.
- Palm Springs International Airport. This is the nearest commercial airport to the project site. Palm Springs International Airport is publicly-owned and has two asphalt runways of 10,001 and 4,952 feet, respectively. Approximately 103 aircraft are based at the field, which sees 70,500 annual aircraft operations. Nearly 1.5 million commercial passengers use the airport annually. Operations are a mix of commercial, general aviation, air taxi, and military flights. Development near the airport is governed by the Riverside County Airport Land Use Compatibility Plan (ALUCP). The project site's distance from the airport places it well beyond the purview of this ALUCP.

The nearest regional rail facilities are located parallel to the I-10 freeway, 25 miles to the southwest.

A major military facility, the Marine Corps Air Ground Combat Center (MCAGCC), is located north of the project site. The MCAGCC's boundary is 5.5 miles from the site, but the nearest significant built facilities within the center are approximately 9.5 miles to the northeast, at the Twentynine Palms Strategic Expeditionary Landing Field. The MCAGCC covers 935 square miles and is used for large-scale drills, including live fire exercises, by the Marine Corps. The Marine Corps is presently examining a potential expansion of the boundaries of this facility which would add approximately 250 square miles to its boundaries. The proposed expansion areas are located towards the east and west of the existing facility, and would not bring its boundaries closer to the project site.

***Local Setting***

The area immediately surrounding the project site primarily consists of vacant land with desert vegetation, including grasses and shrubs. Approximately ten single-family residences are located within approximately 1,000 feet of the project site, including one unit abutting the site to the east on Broadway, one west of the site on Broadway, two units directly across from the project site on 4$^{th}$ Street, one on Sun Oro Road and six units on both sides of 4$^{th}$ Street.

A larger cluster of residences is found ½ mile to the west of the site, in the Sunfair community adjacent to the Roy Williams Airport. This community is centered on Sunfair Road, which connects to SR-62. SR-62 leads to the larger residential areas of Twentynine Palms and Joshua Tree. The Twentynine Palms city limits are just over 2 miles southeast of the project site, but the nearest significant residential subdivision within the city is 4.5 miles to the southeast; the city's downtown and the bulk of its residential and commercial development is between 7 and 11 miles to the east. Joshua Tree is a smaller community, with the nearest significant residential subdivision over 4 miles to the southwest.

To the south of the site, beyond the small number of homes on 4th Street, is vacant land. Areas to the north and east are vacant. Coyote Lake, which is a dry lake bed is located ¼ mile to the east.

A small private airport, the Roy Williams Airport (Hi Desert Airport), is located ½ mile southwest of the project site on the west side of Sunfair Road. The airport includes one 2,493-foot asphalt runway and one 2,355-foot asphalt and dirt runway. The airport is privately-owned but open to the public, and accommodates about 6,200 flight operations per year. About 14 aircraft are currently based at the facility. Development near the airport is governed by the ACLUP: Hi-Desert Airport (1992); the project site is within the least restrictive of the airport's three "Safety Review Areas" (AR-3).

Public transportation services in the project vicinity are limited. The Morongo Basin Transit Authority operates 8 routes in the region. Route 1 operates from the MCAGCC to Yucca Valley, crossing through Twentynine Palms and Joshua Tree along SR-62. This route operates 1.5 miles south of the project site.

There are presently no designated bicycle facilities in the project vicinity. However, the San Bernardino Associated Governments' 2001 Non-Motorized Plan for the Yucca Valley-Twentynine Palms area depicts a planned Class II bike lane or Class III bike route along SR-62.

The project site is located within the Morongo Unified School District. Local schools serving the site include Joshua Tree Elementary School (4 miles to the southwest), Twentynine Palms Junior High School (11 miles to the east), and Twentynine Palms High School (11 miles to the east). Also nearby is the Copper Mountain Head Start preschool, 1.75 miles southeast of the site.

Copper Mountain College, a public community college, maintains its main campus 1.5 miles southeast of the project site on Rotary Way. Copper Mountain College was founded in 1984 as the Twentynine Palms campus of College of the Desert (based in Palm Desert), but became independent in 1999. The college's main campus and satellite facilities serve over 3,000 full-time-equivalent students.

The project site is located within County Service Area (CSA) 20 (Joshua Tree). Fire protection services for CSA 20 are provided by the South Desert Division of the San Bernardino County Fire Department (SBCFD). The nearest fire station is Panorama Heights Station 35, located 1.7 miles southeast of the project site. This station houses one Type II/III Engine Company and one Water Tender. Joshua Tree Station 36 is located 4.7 miles southwest of the project site, in Joshua Tree. This station houses one Type I Engine Company, one Squad vehicle, and one reserve engine. A third station located near the site, Copper Mountain Mesa Station 44, is presently inactive due to staffing shortages. This station is 4.5 miles north of the project site.

Police protection for the project site is provided by the San Bernardino County Sheriff-Coroner Department (SBCSD). The Morongo Basin Station, located 2.7 miles southwest of the project site, serves an expansive area including the cities of Twentynine Palms and Yucca Valley, as well as the unincorporated areas of Joshua Tree and Sunfair. The Morongo Basin Station is part of the County's Law and Justice Complex in Joshua Tree, which also includes three courtrooms and a jail with space for up to 79 inmates.

The nearest medical facility to the project site is Hi-Desert Medical Center, located 2.7 miles southwest of the site, adjacent to the Law and Justice Complex. The hospital offers acute primary care services, including an emergency room. Also on the medical center campus is a 120-bed skilled

nursing facility, the Continuing Care Center. Ambulance services are provided by Morongo Basin Ambulance.

The project site is located within the Joshua Basin Water District (JBWD). The JBWD serves 5,500 customers in a 96-square-mile service area. Water is currently obtained exclusively from local groundwater supplies.

No sewer services are available in the project vicinity. All local properties use septic systems.

***Existing Site Land Uses and Conditions***

The site consists of 9 parcels covering slightly less than 150 acres (see **Table 1**). The site is currently vacant with no physical improvements and sparse desert vegetation. There are no structures or paved drives on the site; however, various portions of the site have been disturbed by off-highway vehicle (OHV) use.

**Table 1**: Site Parcels

| Assessor's Parcel Number | Size (acres) |
|---|---|
| 0606-121-01 | 2.50 |
| 0606-121-33 | 2.50 |
| 0606-121-44 | 18.48 |
| 0606-121-45 | 19.66 |
| 0606-121-46 | 17.98 |
| 0606-121-47 | 19.66 |
| 0607-251-09 | 40.00 |
| 0607-251-25 | 9.70 |
| 0607-251-34 | 19.39 |
| ***Total*** | ***149.87*** |

Several roads cross and border the property. Access is provided by 4th Street, Broadway, and Sunflower Road. Lawrence Avenue borders the property along the west. Beginning at the site's western boundary and continuing westward, Broadway is a paved roadway; crossing through the site and continuing eastward, this street is unpaved. None of the other roads immediately adjacent to the site are paved. No local streets have improvements such as curbs, sidewalks, or street lighting.

The site slopes slightly downward at an approximately 1 percent gradient towards the east and northeast, in the direction of Coyote Lake. Elevations range from 2,370 feet at the northeast corner of the site to 2,400 feet at the southwest corner. Existing drainages are minor and shallow. Project soils are classified as quaternary alluvium deposits (Qal) and consist of loose to medium-dense sands underlain (at depths of 10 to 15 feet) by complex mixtures of fine sand, silt, and clay. Plant communities in the project area include Mojave creosote bush scrub, allscale scrub, white bursage scrub, and big galleta grassland.

According to data from the California Department of Conservation's Farmland Mapping and Monitoring Program, the project site is located in a region which does not contain Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. The project site is not protected by Williamson Act or Farmland Security Zone contracts.

According to Federal Emergency Management Agency (FEMA) mapping, the project site is not located within a floodplain. California Department of Forestry and Fire Protection (CAL FIRE) mapping shows the site to have a Moderate wildland fire hazard.

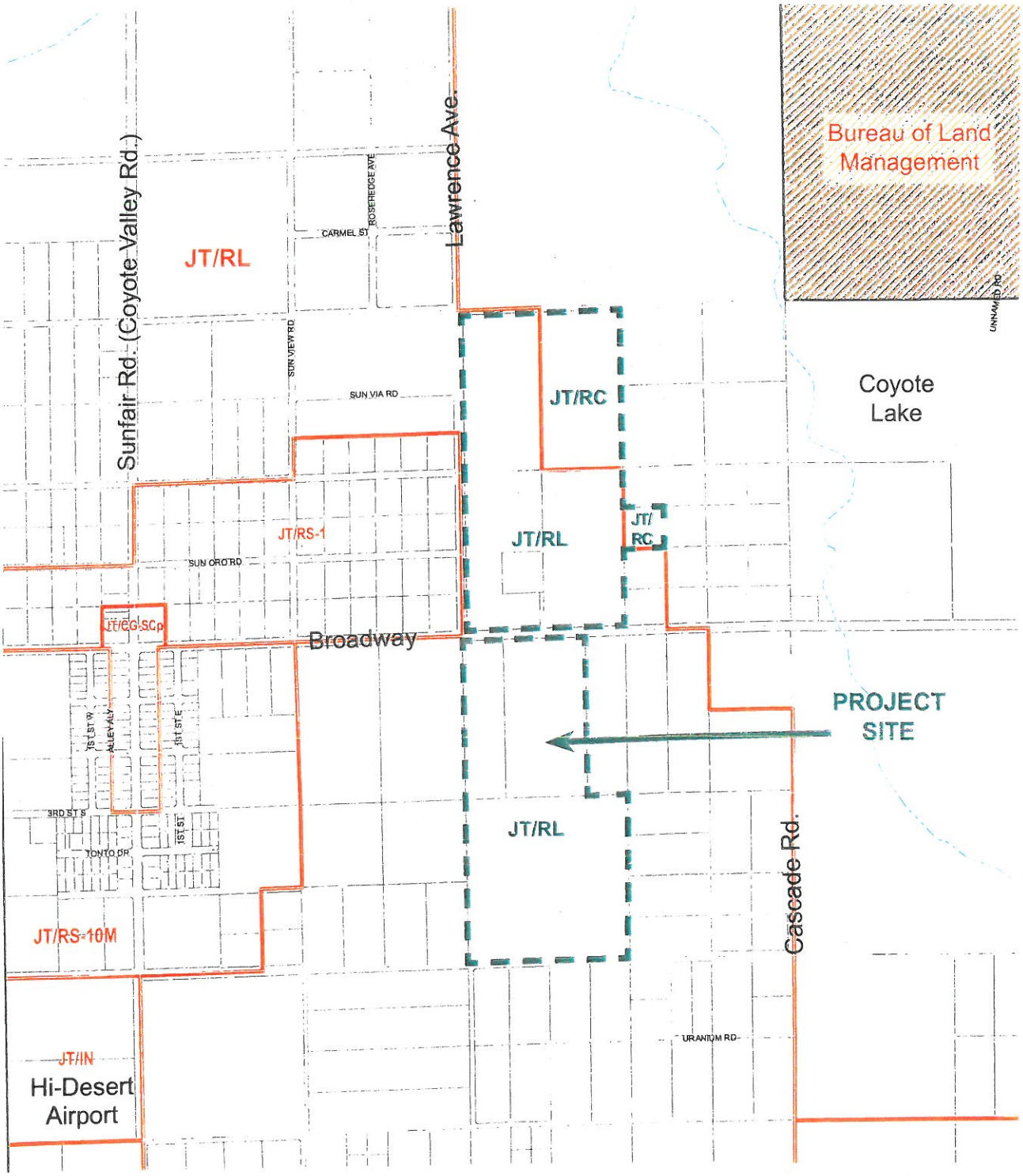
***Existing General Plan Land Use Zoning Designations***

Land uses on the project site and surrounding parcels are governed by the Joshua Tree Community Plan. Community plans are part of the General Plan, and allow for the establishment of focused goals, policies, and land uses for distinct regions of the County. The site's land use zoning designations are RC (Resource Conservation), covering 22.15 acres, and RL (Rural Living), covering 127.67 acres (see **Figure 4** and **Table 2**). The RC district is intended to encourage limited rural development while protecting open space areas. The RL district encourages the development of rural, single-family residential uses as the primary use of land. Solar energy generation facilities are conditionally permitted in both the RC and RL districts.

Parcels surrounding the project site to the north, south, and east are also within the RC and RL districts. To the west, the RL district is present in addition to the RS (Single Residential) district. The RS district supports residential development at a higher intensity than the RL district.

**Table 2**: Existing Land Use and Land Use Zoning Districts

| Location | Existing Land Use | Land Use Zoning District |
|---|---|---|
| **Project Site** | Vacant land | RC (Resource Conservation)<br>RL (Rural Living) |
| North | Low-density and rural residential; vacant lands | RC, RL |
| South | Low-density and rural residential; vacant lands | RL |
| East | Vacant lands | RC, RL |
| West | Low-density and rural residential; vacant lands; Hi Desert Airport | RL, RS-1 (Single Residential, 1-acre minimum parcel size) |




| | | | |
|---|---|---|---|
| CG | Commercial General | RC | Resource Conservation |
| IN | Institutional | RL | Rural Living |
| JT | Joshua Tree Community Plan | RS | Single Residential |

Figure 4

**Existing Land Use Zoning Designations**

## PROJECT OVERVIEW

The proposed Cascade Solar project is an 18.5-megawatt solar photovoltaic (PV) electricity generation facility on 9 parcels totaling 150 acres. Once constructed, the facility would produce enough electricity to serve over 7,000 homes. Implementation of the project requires the approval of a Conditional Use Permit to permit a renewable energy facility and a Major Variance to waive additional roadway paving.

The project would be developed over two phases. The two phases are separated by Broadway, a public right-of-way. Phase 1 is located south of Broadway, includes three parcels, and covers approximately 69.1 acres. Phase 2 is north of Broadway, includes six parcels, and covers approximately 80.7 acres.

### *Overview of Solar Technology*

*Solar cells*, also called *PV cells*, convert sunlight into electricity. PV gets its name from the process of converting light (photons) to electricity (voltage), which is called the *PV effect*.

PV cells are located on *panels*, which may be mounted at a fixed angle facing south or on a tracking device that follows the sun, allowing them to capture the most sunlight. When panels are mounted on tracking devices, they are referred to as *trackers* or *tracker blocks*. The combination of solar panels into a single system creates a *solar array*. For large electric utility or industrial applications, hundreds of solar arrays are interconnected to form a large, utility-scale PV system.

Traditional solar cells are made from silicon, are usually flat-plate, and are generally the most efficient. Second-generation solar cells are called thin-film solar cells because they are made from amorphous silicon or non-silicon materials such as cadmium telluride. No panels incorporating cadmium telluride are proposed on the project site. Thin-film solar cells use layers of semiconductor materials only a few micrometers thick. Because of their flexibility, thin film solar cells can double as rooftop shingles and tiles, building facades, or the glazing for skylights.

Third-generation solar cells are being made from a variety of new materials besides silicon, including solar inks using conventional printing-press technologies, solar dyes, and conductive plastics. Some new solar cells use plastic lenses or mirrors to concentrate sunlight onto a very small piece of high-efficiency PV material. The PV material is more expensive, but because so little is needed, these systems are becoming cost-effective for use by utilities and industry. However, because the lenses must be pointed at the sun, the use of concentrating collectors is limited to the sunniest parts of the country.

The amount of the sun's heat absorbed by a solar panel is similar to the amount of the sun's heat absorbed by the earth. On the other hand, solar panels store less heat than the earth. A solar panel is thin – the glass is approximately 3 millimeters (0.12 inches) in thickness – lightweight, and surrounded by airflow (because it's mounted above the ground). Therefore, heat dissipates quickly from a solar panel. The normal operating condition temperature for solar panels would be 20 degrees Celsius (°C) or 68 degrees Fahrenheit (°F) above ambient temperature, and so a typical summer day at 40°C (104°F) results in panel temperatures of approximately 60°C (140°F). When accounting for irradiance, wind, and module type, it is expected that the peak module temperatures in the summer would be between 65°C and 70°C (149 and 158°F) and the peak module temperatures in the winter

would be between 35°C and 40°C (95 and 104°F). Although the panels would be hot to the touch, they would not noticeably affect the temperature of the surrounding area; temperatures below the trackers would be nearly the same as ambient temperatures in the ordinary shade.

***Project Objectives***

The applicant's objectives for the proposed project are to:

- Develop a solar power generation project to help meet the increasing demand for clean, renewable electricity.
- Develop a solar power generation project that will help California meet its statutory and regulatory goal of increasing renewable power generation.
- Develop a solar power generation project that contributes to the California Renewables Portfolio Standard goal of 33 percent of California energy coming from renewable sources by the year 2020.
- Locate project facilities in an area that optimizes desirable solar project characteristics with minimum potential for environmental impacts.
- Locate project generation-tie (gen-tie) distribution lines in areas that optimize connection to the electrical grid with minimum potential for environmental impacts and land use conflicts.
- Develop a project that utilizes a reliable and proven solar technology with minimal use of natural resources.
- Provide a range of job opportunities related to renewable energy generation.

## PROJECT FEATURES

Major project features would include the following (see **Figure 5**):

***Solar Field***

A solar field would be the primary feature of the proposed project. Over 100,000 panels would be placed on the site, in a total of approximately 200 rows. Phase 1 of the project (south of Broadway) would contain either fixed panels, which do not rotate with the sun, or trackers, which rotate to maximize sun exposure; Phase 2 of the project (north of Broadway) would contain trackers. Generally, panels would be approximately 8 feet in height. However, depending on the particular manufacturer and specifications selected, panels could be as tall as 12 feet. A cross-section of typical fixed and tracker panel layouts is provided on Figure 5.

***Inverters and Switchgear***

Individual PV panels are connected together in series to create a "string" to carry direct current (DC) electricity. Strings of DC current run to inverters mounted on small concrete equipment pads distributed across the site. The inverters take the DC output and convert it to alternating current (AC) electricity.

AC current produced by the inverters would be transported to switchgear, located in a switchyard. Two alternative switchyard locations are considered; the final location of the switchyard would be

based on the selection of a distribution line route, as described in the next subsection and mapped on **Figure 6**.

- Alternative #1: At the southwest corner of the project site (the northeast corner of 4th Street and Lawrence Avenue).
- Alternative #2: At the southeast corner of the site (the northwest corner of 4th Street and Barnaby Avenue).

The proposed switchyard is approximately 27,900 square feet, with approximate dimensions of 155 feet by 180 feet. Switchgear would be located in low-profile metal enclosed boxes on skids. Concrete within the switchyard would be limited to footings or pads for equipment; most of the switchyard ground would consist of gravel or aggregate. The switchyard would include fencing (similar to project perimeter fencing) separating it from the rows of solar panels. A gateway would be provided from 4th Street, offering access exclusively to the switchyard.

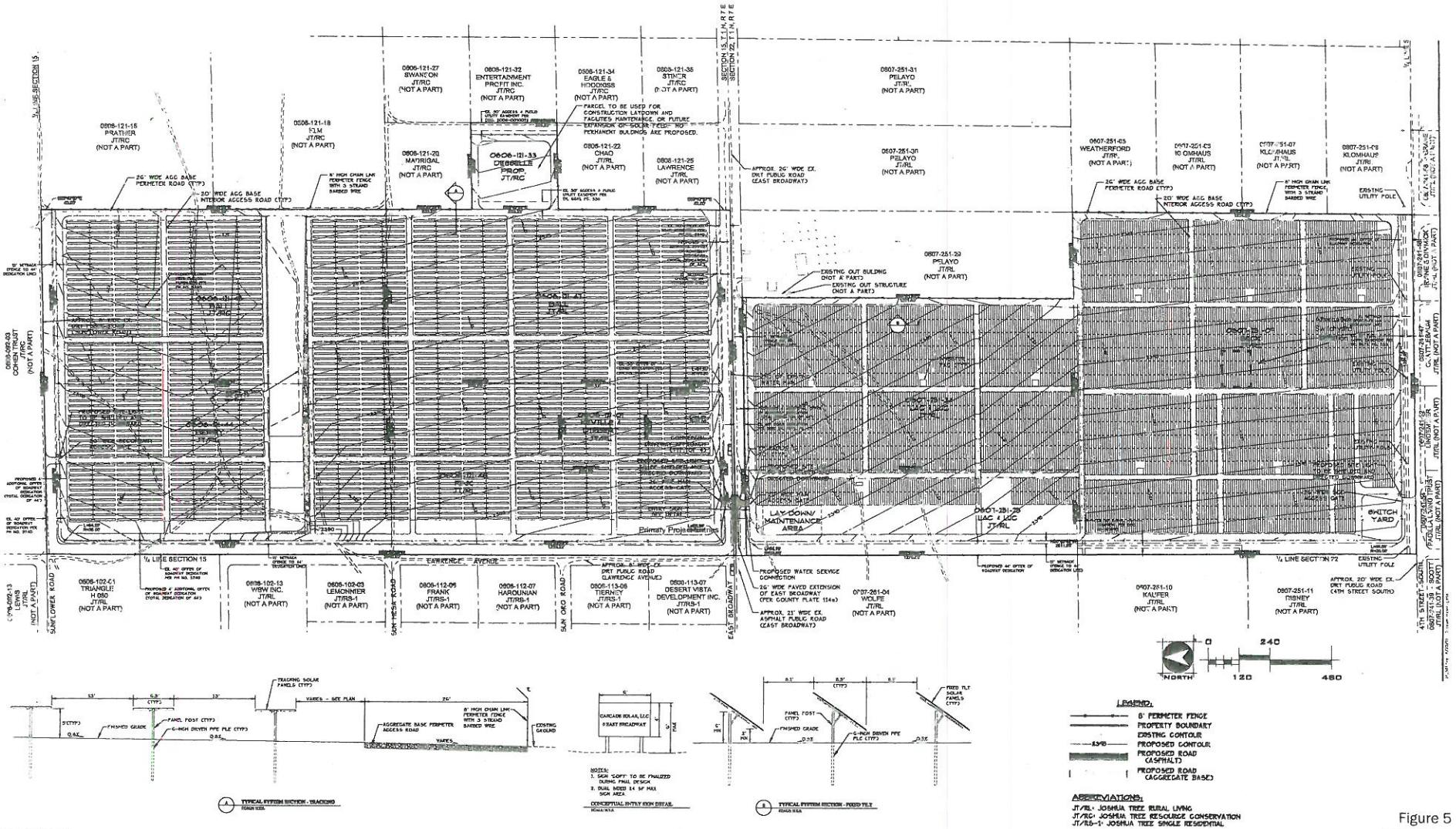
***Distribution Lines***

Electricity generated by the project would be delivered onto Southern California Edison's (SCE) local electricity distribution network. Distribution lines used for the project would be 33 kV in capacity and the supporting poles would be constructed of wood, and approximately 35 feet in height. The distribution lines poles would be similar in scale and type to existing poles in Sunfair and surrounding communities, also owned and maintained by SCE under their Franchise Agreement with the County. The poles and the lines would be located in existing and planned electricity distribution line rights-of-way. Two alternative route alignments are presently being evaluated for the project (see Figure 6):

- Alternative #1: This alternative runs ¼ mile east on 4th Street to Cascade Road, then runs south along Cascade Road for slightly less than 1.5 miles. At this point, this route intersects with the existing 33-kV SCE Himo distribution line. The full length of Route Alternative #1 is approximately 1.75 miles.
- Alternative #2: This alternative runs ½ mile west on 4th Street to Sunfair Road, then turns south to run along Sunfair Road for another ½ mile. At this point, the route intersects with the SCE Himo distribution line. The full length of Route Alternative #2 is approximately 1 mile.

***Perimeter Fencing***

Eight-foot-tall fencing is proposed along the perimeter of the project site. Fencing would consist of seven feet of chain link topped with approximately one foot of three-strand barbed wire. Access gates would be provided at four locations (two locations on Broadway and one each at Sunflower Road and 4th Street). Security cameras would be placed at appropriate locations to deter potential trespassers.


0606-121-15 PRATHER JT/RC (NOT A PART)
0606-121-18 F.I.M. JT/RC (NOT A PART)
0606-121-27 SWANSON JT/RC (NOT A PART)
0606-121-32 ENTERTAINMENT PROFIT INC. JT/RC (NOT A PART)
0606-121-34 EAGLE & HIDDOSSB JT/RC (NOT A PART)
0606-121-35 STINCR JT/RC (NOT A PART)
0606-121-20 MATRIGAL JT/RC (NOT A PART)
0606-121-33 DEBELLE PROP. JT/RC
0606-121-22 CHAO JT/RL (NOT A PART)
0606-121-25 LAWRENCE JT/RL (NOT A PART)
0607-251-31 PELAYO JT/RL (NOT A PART)
0607-251-30 PELAYO JT/RL (NOT A PART)
0607-251-29 PELAYO JT/RL (NOT A PART)
0607-251-03 WEATHERFORD JT/RL (NOT A PART)
0607-251-03 10 OMHAUS JT/RL (NOT A PART)
0607-251-07 KLOMHAUS JT/RL (NOT A PART)
0607-251-08 KLOMHAUS JT/RL (NOT A PART)
0606-102-01 TRIANGLE H 050 JT/RL (NOT A PART)
0606-102-13 WBW INC. JT/RL (NOT A PART)
0606-102-03 LEMONNIER JT/RS-1 (NOT A PART)
0606-112-06 FRANK JT/RS-1 (NOT A PART)
0606-112-07 HARONIAN JT/RS-1 (NOT A PART)
0606-113-08 TIERNCY JT/RS-1 (NOT A PART)
0606-113-07 DESERT VISTA DEVELOPMENT INC. JT/RS-1 (NOT A PART)
0607-251-04 WOLFE JT/RL (NOT A PART)
0607-251-10 KAUFER JT/RL (NOT A PART)
0607-251-11 MINEY JT/RL (NOT A PART)
LAY-DOWN/ MAINTENANCE AREA
SWITCH YARD
Primary Project Entrance
LAWRENCE AVENUE
SUNFLOWER ROAD
SUN MESA ROAD
SUN ORO ROAD
EAST BROADWAY
1/4 LINE SECTION 15
1/4 LINE SECTION 22
EXISTING UTILITY POLE
EXISTING OUT BUILDING (NOT A PART)
EXISTING OUT STRUCTURE (NOT A PART)
PARCEL TO BE USED FOR CONSTRUCTION LAYDOWN AND FACILITIES MAINTENANCE, OR FUTURE EXPANSION OPTIONS. THERE ARE NO PERMANENT BUILDINGS ARE PROPOSED.
APPROX. 26' WIDE EX. DIRT PUBLIC ROAD (EAST BROADWAY)
APPROX. 21' WIDE EX. ASPHALT PUBLIC ROAD (EAST BROADWAY)
PROPOSED WATER SERVICE CONNECTION
26' WIDE PAVED EXTENSION OF EAST BROADWAY (PER COUNTY PLAN: 154a)
APPROX. 20' WIDE EX. DIRT PUBLIC ROAD (4TH STREET SOUTH)
26' WIDE AGG BASE PERIMETER ROAD (TYP)
20' WIDE AGG BASE INTERIOR ACCESS ROAD (TYP)
8' HIGH CHAIN LINK PERIMETER FENCE WITH 3 STRAND BARBED WIRE
0606-092-03 COHEN TRUST JT/RL (NOT A PART)
0607-251-01 CLINTSEBAUER JT/RL (NOT A PART)
0607-241-08 - SCOTT JT/RL (NOT A PART)
0607-241-09 - SCOTT JT/RL (NOT A PART)
0606-113-13 LEWIS JT/RL (NOT A PART)
0607-241-48 RODRIGUEZ JT/RL (NOT A PART)
0607-241-49 RODRIGUEZ JT/RL (NOT A PART)
0607-241-50 RODRIGUEZ JT/RL (NOT A PART)
0607-241-51 RODRIGUEZ JT/RL (NOT A PART)
0607-241-52 LINDSEY JR JT/RL (NOT A PART)
0607-241-53 RODRIGUEZ JT/RL (NOT A PART)
0607-241-54 RODRIGUEZ JT/RL (NOT A PART)
0607-241-55 RODRIGUEZ JT/RL (NOT A PART)
0607-241-56 RODRIGUEZ JT/RL (NOT A PART)
0607-241-57 RODRIGUEZ JT/RL (NOT A PART)
0607-241-58 RODRIGUEZ JT/RL (NOT A PART)

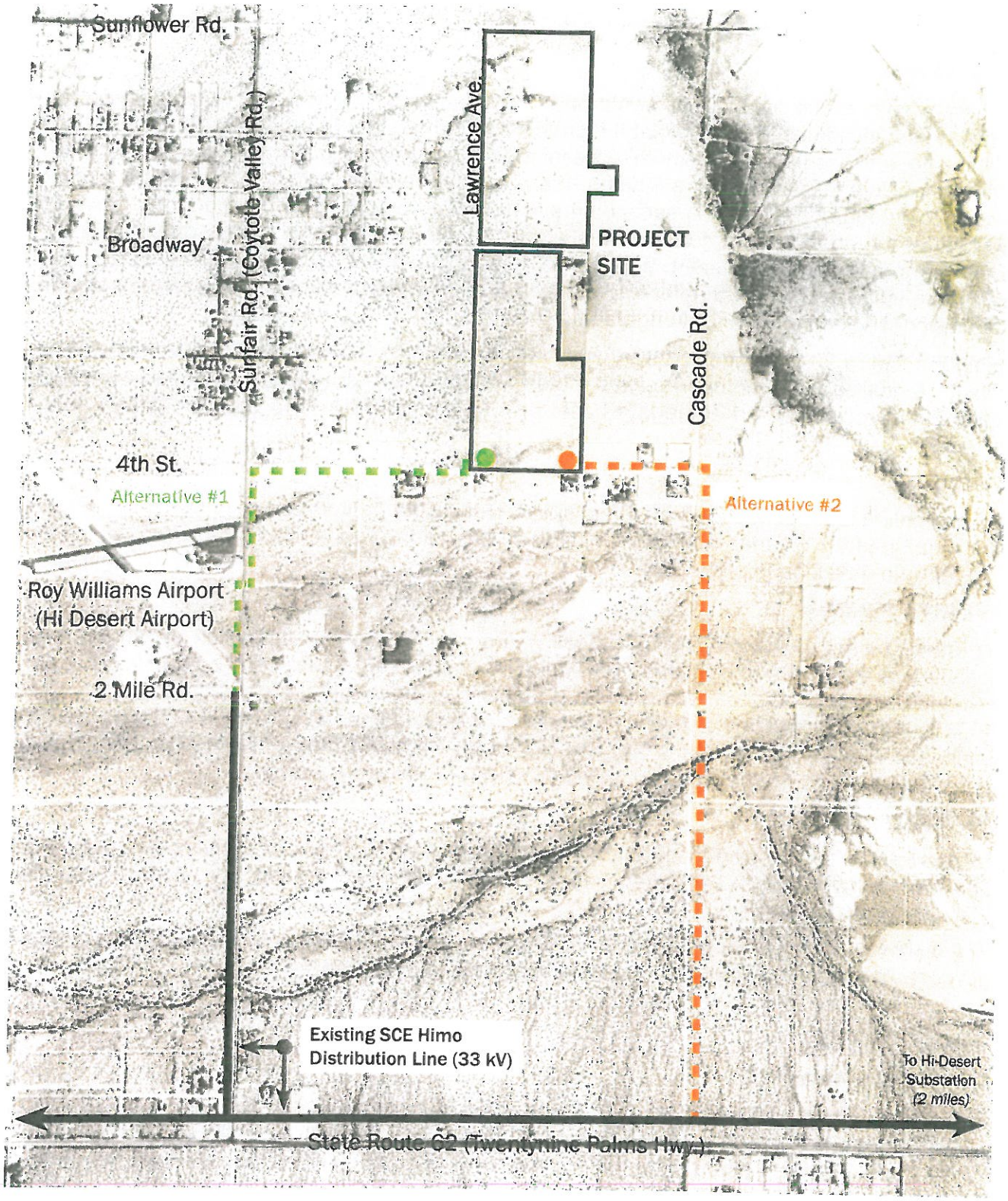





Figure 6
**Alternative Switchyard and Distribution Line Locations**

### *Access Roads*

Primary access to the project site would be from Broadway. Access gates would be located on the north and south sides of Broadway, at the project's western edge. Broadway is a paved roadway west of the site and would be the main access road for maintenance vehicles. Access drives from Broadway would be paved with asphalt to the project's fenceline; within the fenceline, drives would consist of an aggregate base. A secondary access point, to be used in emergencies only, would be provided at the northwestern corner of the site at Sunflower Road. An access point along 4th Street would be provided for SCE use in accessing the switchyard. SCE staff would require access to the switchyard only periodically. Sunflower Road and 4th Street are unimproved; access drives from these streets would be improved with an aggregate base.

Within the site, a 26-foot-wide roadway would be constructed along the project perimeter, inside the project's fenceline. Other interior access routes would be 20 feet in width. Roadways within the site would consist of gravel, an aggregate base, or native materials with a soil stabilization material, if necessary.

### *Lighting*

Limited lighting is proposed on the project site. Lights would be installed at project entries and at the switchgear pads. No other perimeter lighting is planned. Cutoffs would be employed to prevent spillover onto neighboring properties.

### *Stormwater Facilities*

With development of the proposed facilities, there would be a less than one percent reduction in pervious site acreage. Fencing and solar panel supports would have little influence on stormwater flows and the proposed site grading would not alter or concentrate the stormwater flows through the site. Therefore, the project is anticipated to have very limited impact on site drainage. Water would be permitted to follow current courses and flow through the site. Current drainage patterns are generally towards the east and northeast. No onsite detention facilities are planned.

### *Other Infrastructure*

Because the project site would not house any permanent employees, no onsite restroom facilities are proposed. Therefore, no wastewater would be produced and no septic system or other disposal facility would be required.

Water would be required on the project site for occasional cleaning of solar panels. Water would be provided by the JBWD through an existing waterline below Broadway.

## CONSTRUCTION

### *Site Preparation/Grading*

The site is mostly flat, with a slight downward slope towards the east. Grubbing and grading would occur on the site to achieve the required surface conditions. As the site is already largely flat, grading would be limited to approximately 93,000 cubic yards of cut and fill. In order to achieve a relatively flat, planar surface in the Phase 2 area, some removal of dirt would be required from the Phase 1 area. Most of the required grading activities would occur in the Phase 2 area, north of Broadway. The

site's cut and fill would ultimately balance and there would be no import or export of materials necessary. No buildings are presently located on site; therefore, no demolition would be required.

Following grading, temporary fencing would be placed around the site. This would allow for materials and equipment to be securely stored on the site.

***Construction Access Routes and Laydown Areas***

Construction vehicles would access the project site from SR-62 via Sunfair Road, which leads to Broadway. Broadway is a paved roadway and provides direct access to both segments of the project site (located north and south of Broadway). As part of the project, a small portion of Broadway (less than 8,000 square feet) would be paved from the current edge of pavement to the site's access points.

During construction, materials would be placed within the project boundaries adjacent to the then-current phase of construction. Materials would be within secured, fenced areas at all times to prevent theft or vandalism. A storage container may be used to house tools and other construction equipment. In addition, security guards would regularly monitor the site.

Portable toilet facilities would be installed for use by construction workers. Waste disposal would occur in a permitted offsite facility. Domestic water for use by employees would be provided through a connection to an existing water line below Broadway.

***Construction Activities and Equipment***

Construction is anticipated to occur over an 18-month period. Up to 44 workers would be onsite during construction. Most workers are anticipated to commute to the site from nearby communities such as Joshua Tree, Twentynine Palms, and Yucca Valley, with some traveling from more distant areas such as Palm Springs and Banning. Construction would occur during daylight hours. Workers would reach the site using existing roads, with most traveling on SR-62 via Sunfair Road and Broadway.

Project construction would consist of several phases, including site preparation, grading, and preparation of staging areas and onsite access routes; assembly of solar panels; and construction of electrical interconnection facilities. Assembly of solar panels and construction of electrical interconnection facilities could occur simultaneously.

Placement of solar panels would require the placement of 6-inch driven pipe piles approximately 6 to 10 feet into the ground.

Concrete required for project construction would be sourced from a batch plant 0.9 mile from the project site, on 2 Mile Road south of Roy Williams Airport. Due to the short distance from the nearby batch plant, no onsite concrete production would be necessary.

During construction, a variety of equipment and vehicles would be operating on the project site. **Table 2** provides a list of the type and number of equipment and vehicles for each construction phase. All equipment and vehicles would comply with the noise requirements of Title 8 of the San Bernardino County Code.

***Construction Phasing***

Construction of the project site is expected to occur in two phases over an 18-month period. Phase 1 would involve development south of Broadway and Phase 2 development north of Broadway. Each phase would consist of two sub-phases, Site Preparation (Phases 1A and 2A) and PV System Installation (Phases 1B and 2B). Construction of electrical distribution lines would occur during Phase 2. Phase durations, equipment, and staffing are further described in **Table 3**. Phase locations are mapped on **Figure 7**.

**Table 3**: Construction Phasing

| Phase | | Duration | Equipment | Staffing |
|---|---|---|---|---|
| 1A | Site Preparation, South of Broadway | 3 months | Grader<br>Roller<br>Dozer, rubber-tired<br>Trackers/Loaders/Backhoes (2)<br>Water Truck | 12 |
| 1B | PV System Installation, South of Broadway | 6 months | Crane<br>Generator set<br>Forklift, rough-terrain<br>Tracker/Loader/Backhoes (2)<br>Welders (3) | 44 |
| 2A | Site Preparation, North of Broadway | 3 months | Grader<br>Roller<br>Dozer, rubber-tired<br>Trackers/Loaders/Backhoes (2)<br>Water Truck | 12 |
| 2B | PV System Installation, North of Broadway | 6 months | Crane<br>Generator set<br>Forklift, rough-terrain<br>Tracker/Loader/Backhoes (2)<br>Welders (3) | 44 |
| | *All Phases* | *18 months* | | |

The applicant may accelerate project construction so that both phases occur simultaneously, or with some overlap. To ensure a conservative analysis of potential impacts (including, but not limited to, air quality, greenhouse gases, and traffic) it is assumed in the project's technical studies that both phases would occur simultaneously over a 9-month construction period; thus, Phases 1A and 2A would occur simultaneously with a total of 24 workers onsite, and Phases 1B and 2B would occur simultaneously with a total of 88 workers onsite. By assessing a conservative scenario in the technical studies (with 88 workers onsite at one time, versus only 44 workers as included in this project description), phasing can be modified due to market or other conditions without creating environmental impacts that are greater than those evaluated in this document.

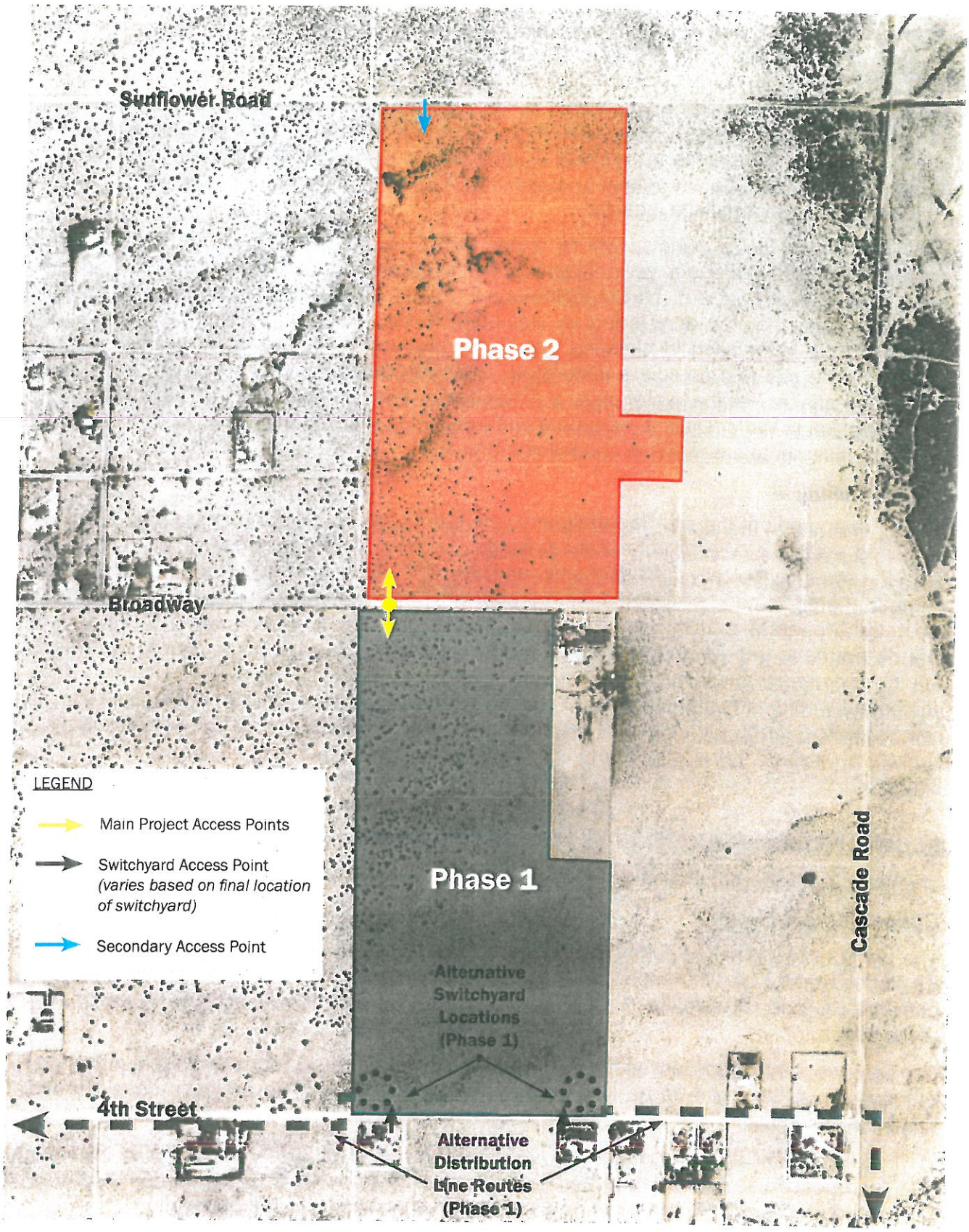





Figure 7
**Phasing Map**

## OPERATIONS

The project facilities would be automated to allow for operation without staff being present. By nature, solar power generation projects operate during daylight hours, 365 days per year. Staff would visit the site to provide maintenance services and ensure proper operation. Maintenance staff and security personnel would visit the site a total of approximately two times a week. Activities would be monitored remotely by staff at an offsite location.

Washing of the solar panels, which is necessary to maintain panel efficiency, would occur approximately two times per year. Washing would require an increase in temporary staffing onsite and the use of water trucks. Trucks would obtain a supply of water from existing service lines below Broadway. Less than two acre-feet of water would be required per year for panel cleaning activities. A portion of the water used in cleaning would evaporate into the atmosphere; the remainder would remain on the site and percolate underground. Negligible amounts of water used in panel washing would flow offsite. Per the Water Supply Assessment (Kennedy/Jenks 2011) approved June 1, 2011 by Joshua Basin Water District, adequate water supplies are available from existing entitlements and no new entitlements are required to service the project.

### *Decommissioning*

Should operations at the site be terminated, the facility would be decommissioned. Most parts of the proposed system are recyclable. Panels typically consist of silicon, glass, and an aluminum frame. Tracking systems typically consist of steel and concrete, in addition to motors and control systems. All of these materials can be recycled. Numerous recyclers for the various materials to be used on the project site operate in San Bernardino and Riverside Counties. Metal, scrap equipment, and parts that do not have free flowing oil may be sent for salvage. Equipment containing any free flowing oil would be managed as waste and would require evaluation. Oil and lubricants removed from equipment would be managed as used oil – a hazardous waste in California. Decommissioning would comply with federal, state, and local standards and regulations that exist at the time of project shutdown, including the requirements of San Bernardino County Development Code Section 84.29.060.

## REQUESTED ENTITLEMENTS

The project's requested entitlements are a Conditional Use Permit and a Major Variance.

### *Conditional Use Permit*

The project site's land use zoning districts are RC and RL. According to Development Code Sections 82.03.040 and 82.04.040, respectively, electrical power generation is a conditionally permitted use in both the RC and RL districts. A CUP is required to implement a solar energy generation facility in these zones.

Per Development Code Section 85.06.040, the following are the required findings that the reviewing authority must determine to be true before approving a CUP. The project's consistency with each finding is described:

1. The site for the proposed use is adequate in terms of shape and size to accommodate the proposed use and all landscaping, loading areas, open spaces, parking areas, setbacks, walls and fences, yards, and other required features pertaining to the application.

*Project Consistency:* The project site is approximately 150 acres, and is adequate in shape and size to provide all required features pertaining to the application, including all required setbacks and fences.

2. The site for the proposed use has adequate access, which means that the site design incorporates appropriate street and highway characteristics to serve the proposed use.

   *Project Consistency:* The project site has adequate access from SR-62 via Sunfair Road and Broadway, all existing paved roads. The project would also provide a paved extension of Broadway to the primary access points. The site would generate negligible traffic during operations, and would therefore not require an increase in roadway capacity or changes in roadway design.

3. The proposed use will not have a substantial adverse effect on abutting property or the allowed use of the abutting property, which means that the use will not generate excessive noise, traffic, vibration, or other disturbance. In addition, the use will not substantially interfere with the present or future ability to use solar energy systems.

   *Project Consistency:* The proposed project would comply with required setback and fencing requirements. The site would comply with the noise restrictions established by Development Code Section 83.01.080, would produce negligible traffic during operations, would produce no discernable vibrations, and would not otherwise produce any disturbance for the community. The site's proposed use does not shade adjacent parcels and in no other way would limit the future development of solar energy systems on neighboring properties.

4. The proposed use and manner of development are consistent with the goals, maps, policies, and standards of the General Plan and any applicable community or specific plan.

   *Project Consistency:* Solar energy generation is a conditionally permitted use within the RC and RL land use zones; therefore, the project's land use is consistent with the General Plan map for the area. The General Plan is strongly supportive of the development of renewable energy resources. Specifically, the General Plan states that the County should:

   - Encourage utilization of renewable energy resources (Goal D/CO 2).
   - Encourage use of renewable and alternative energy systems for residential uses (Policy D/CO 2.2).
   - Provide incentives to promote siting or use of clean air technologies (e.g., fuel cell technologies, renewable energy sources, UV coatings, and hydrogen fuel) (Policy CO 4.12).
   - Assist in efforts to develop alternative energy technologies that have minimum adverse effect on the environment, and explore and promote newer opportunities for the use of alternative energy sources (Policy CO 8.3).

   In addition, the Joshua Tree Community Plan includes the following goals and policies in support of renewable energy development:

   - Encourage utilization of renewable energy resources (Goal JT/CO 4).

- Encourage use of renewable and alternative energy systems for residential uses (Policy JT/CO 4.2).

5. There is supporting infrastructure, existing or available, consistent with the intensity of development, to accommodate the proposed development without significantly lowering service levels.

   *Project Consistency:* The project would place negligible requirements on local infrastructure. The project would produce an insignificant number of vehicle trips, which would easily be supported by existing local roadways. An existing water line below Broadway offers adequate capacity to serve the site. No wastewater, natural gas, telephone, or cable television infrastructure is required to serve the project.

6. The lawful conditions stated in the approval are deemed reasonable and necessary to protect the public health, safety, and general welfare.

   *Project Consistency:* The project would be reviewed by County agencies, which would establish conditions of approval for the project that would be reasonable and necessary to protect the public health, safety, and general welfare.

7. The design of the site has considered the potential for the use of solar energy systems and passive or natural heating and cooling opportunities.

   *Project Consistency:* The project is a solar energy generation system, and therefore fully complies with this requirement. Implementation of the project would not impede further development of solar energy generation systems on adjacent parcels.

An additional action proposed as part of the project has been determined to be consistent with the Development Code, and therefore requires no variance from existing standards. The action is described below:

- **The proposed project does not include dedication roadway rights-of-way on sixteenth section lines.** Consistent with Section 83.05.030(a) of the Development Code, the Land Development Division, on reviewing the proposed project, has determined that the dedication of 30-foot-wide half-width roadway dedications on 1/16$^{th}$ section lines is not necessary due to the availability of sufficient alternative north-south roadways to the individual parcels of the project. The applicant would establish a reciprocal access easement to the parcel and adjacent leased parcels, which the landowners of adjacent leased parcels have agreed to accept.

***Major Variance***

A Major Variance from Development Code Section 83.05.050 is requested to allow the following:

- **Limit the requirement for paving of Broadway Street along the project site from the easterly project boundary to the project's main entry.** This is requested because Broadway east of the project site does not serve any significant traffic generators, and paving of the road is therefore unnecessary and an inefficient use of resources. A paved roadway would reduce perviousness in the site vicinity and potentially result in increased stormwater flows to adjacent properties. In addition, following decommissioning of the project, it is likely that the project area and its vicinity would still be rural in nature, making a paved roadway unnecessary.

- **A reduction in the width of pavement on Broadway Street from 36 feet to 26 feet from the project entry westward.** This is requested because the paved width of Broadway west of Lawrence Avenue is currently only 21 feet in width. Matching this 21-foot width with a 36-foot width in front of the project site would create a safety hazard as the road tapers into a narrower section. This concern is significantly reduced with the project's proposed 26-foot section. In addition, the very low traffic levels generated by the project makes a 36-foot width unnecessary at this time.

Per Development Code Section 85.17.060, the following are the required findings that the reviewing authority must determine to be true before approving a Variance. The project's consistency with each finding is described:

1. The granting of the Variance will not be materially detrimental to other properties or land uses in the area and will not substantially interfere with the present or future ability to use solar energy systems.

   *Project Consistency:* The granting of the Variance would have no material impact on adjacent properties, most of which are vacant and unutilized. Broadway is a lightly-traveled road, and serves no significant traffic generators in the project vicinity. A reduction in the amount of required paving would have no impact on the community as the proposed paving width is 5 feet wider than the existing improvements in the area. The requested Variance increases the solar energy production capacity of the site, which is encouraged by the General Plan. The Variance would not have any negative impact on the ability of neighboring property owners to implement solar energy systems or otherwise develop their properties.

2. There are exceptional or extraordinary circumstances or conditions applicable to the subject property or to the intended use that do not apply to other properties in the same vicinity and land use zoning district.

   *Project Consistency:* The intended use as a solar energy generation facility requires a maximum land area for efficient operation. Solar energy generation is encouraged by the General Plan and would have highly positive environmental impacts on the region. The requested Variance would allow for Broadway adjacent to the project site to be developed to a paved width which is similar to that of neighboring areas. To the west of the site, Broadway is paved to a width of only 21 feet, significantly less than the 36 feet required by Master Plan of Highways Local Street designation. East of the project site, Broadway is unpaved and serves no residences, businesses, or other traffic generators.

3. The strict application of the land use zoning district deprives the subject property of privileges enjoyed by other properties in the vicinity or in the same land use zoning district.

   *Project Consistency:* The strict application of the land use zoning district standards would result in Broadway being developed to paved width which is significantly greater than neighboring areas. To the west of the site, Broadway is paved to a width of only 21 feet, significantly less than the 36 feet required by Master Plan of Highways Local Street designation. The proposed 26-foot pavement from the project entry westward is consistent with the County's standard for a Hillside Paved Road. East of the project site, Broadway is unpaved and serves no residences, businesses, or other traffic generators.

4. The granting of the Variance is compatible with the maps, objectives, policies, programs, and general land uses specified in the General Plan and any applicable specific plan.

   *Project Consistency:* Solar energy generation is a conditionally permitted use within the RC and RL land use zones; therefore, the project's land use is consistent with the General Plan map for the area. The General Plan is strongly supportive of the efficient development of renewable energy resources. The proposed Variance aids in creating an efficient development and maximizing energy production. This is in agreement with the General Plan, which states that the County should:

   - Encourage utilization of renewable energy resources (Goal D/CO 2).
   - Encourage use of renewable and alternative energy systems for residential uses (Policy D/CO 2.2).
   - Provide incentives to promote siting or use of clean air technologies (e.g., fuel cell technologies, renewable energy sources, UV coatings, and hydrogen fuel) (Policy CO 4.12).
   - Assist in efforts to develop alternative energy technologies that have minimum adverse effect on the environment, and explore and promote newer opportunities for the use of alternative energy sources (Policy CO 8.3).

   In addition, the Joshua Tree Community Plan includes the following goals and policies in support of renewable energy development:

   - Encourage utilization of renewable energy resources (Goal JT/CO 4).
   - Encourage use of renewable and alternative energy systems for residential uses (Policy JT/CO 4.2).

**Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):**

- Mojave Desert Air Quality Management District
- San Bernardino County Airport Land Use Commission

## EVALUATION FORMAT

**This** initial study is prepared in compliance with the California Environmental Quality Act (CEQA) pursuant to Public Resources Code Section 21000, et seq. and the State CEQA Guidelines (California Code of Regulations Section 15000, et seq.). Specifically, the preparation of an Initial Study is guided by Section 15063 of the State CEQA Guidelines. This format of the study is presented as follows. The project is evaluated based on its effect on 17 major categories of environmental factors. Each factor is reviewed by responding to a series of questions regarding the impact of the project on each element of the overall factor. The Initial Study checklist provides a formatted analysis that provides a determination of the effect of the project on the factor and its elements. The effect of the project is categorized into one of the following four categories of possible determinations:

| | | | |
|---|---|---|---|
| Potentially Significant Impact | Less than Significant With Mitigation Incorporated | Less than Significant | No Impact |

Substantiation is then provided to justify each determination. One of the four following conclusions is then provided as a summary of the analysis for each of the major environmental factors.

1. **No Impact**: No impacts are identified or anticipated and no mitigation measures are required.
2. **Less than Significant Impact**: No significant adverse impacts are identified or anticipated and no mitigation measures are required.
3. **Less than Significant Impact with Mitigation Incorporated**: Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as a condition of project approval to reduce these impacts to a level below significant. The required mitigation measures are: (List of mitigation measures)
4. **Potentially Significant Impact**: Significant adverse impacts have been identified or anticipated. An Environmental Impact Report (EIR) is required to evaluate these impacts, which are (List of the impacts requiring analysis within the EIR).

At the end of the analysis the required mitigation measures are restated and categorized as being either self- monitoring or as requiring a Mitigation Monitoring and Reporting Program.

## ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below will be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

| | | |
|---|---|---|
| ☐ Aesthetics | ☐ Agriculture and Forestry Resources | ☐ Air Quality |
| ☐ Biological Resources | ☐ Cultural Resources | ☐ Geology / Soils |
| ☐ Greenhouse Gas Emissions | ☐ Hazards & Hazardous Materials | ☐ Hydrology / Water Quality |
| ☐ Land Use/ Planning | ☐ Mineral Resources | ☐ Noise |
| ☐ Population / Housing | ☐ Public Services | ☐ Recreation |
| ☐ Transportation / Traffic | ☐ Utilities / Service Systems | ☐ Mandatory Findings of Significance |

**DETERMINATION:** (To be completed by the Lead Agency)

On the basis of this initial evaluation, the following finding is made:

| | |
|---|---|
| ☐ | The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION shall be prepared. |
| ☒ | Although the proposed project could have a significant effect on the environment, there shall not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION shall be prepared. |
| ☐ | The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. |
| ☐ | The proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. |
| ☐ | Although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required. |

Loretta Mathieu — 9/21/2011
Signature (prepared by Loretta Mathieu, Planner) — Date

Matthew Slowik — 9/21/2011
Signature: Matthew Slowik, MURP, MPA, Supervising Planner — Date
Land Use Services Department/Planning Division

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|---|---|---|---|
| **I. AESTHETICS** - Will the project | | | | |
| a) Have a substantial adverse effect on a scenic vista? | ☐ | ☐ | ☒ | ☐ |
| b) Substantially damage scenic resources, including but not 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 will adversely affect day or nighttime views in the area? | ☐ | ☒ | ☐ | ☐ |

***SUBSTANTIATION:*** *(Check ☒ if project is located within the view-shed of any Scenic Route listed in the General Plan):*

a) **Less than Significant Impact.** General Plan Open Space Element Policy OS 5.1. states that a feature or vista can be considered scenic if it:

- Provides a vista of undisturbed natural areas,
- Includes a unique or unusual feature that comprises an important or dominant portion of the viewshed, or
- Offers a distant vista that provides relief from less attractive views of nearby features (such as views of mountain backdrops from urban areas).

The site is adjacent to the community of Sunfair and to Roy Williams Airport. In addition to the airport, areas to the west and south of the site contain paved roadways, homes, powerlines, a concrete batch plant, and non-native vegetation. Areas to the north and east have been substantially impacted by OHV use, with numerous informal, unmarked trails being developed on public and private lands. In addition, the site is not part of a vista of natural areas, as surrounding areas are generally flat and intervening landscapes and manmade structures limit views. More distant vistas from higher-elevation areas are not significantly impacted due to the low height of the proposed solar panels and other project features. As such, views of undisturbed natural areas are not significantly affected by the project.

In addition, the project site is vacant and mostly flat, with a modest 1 percent grade from the southwest to the northeast. There are no unique or unusual features on the site that could dominate views of the area. Therefore, there are no unique or unusual features on the site that could comprise an important or dominant position in the viewshed.

Finally, the site does not offer distant vistas that provide relief from less attractive nearby features. The proposed project would directly alter the existing view of the project site from adjacent uses and roadways by developing 150 acres of vacant land with over 100,000

solar panels, ancillary equipment, and the extension of power distribution lines to the site. However, the site is flat and contains no significant geological or vegetation features that could be considered scenic. The solar equipment on site, consisting of solar panels and associated electrical equipment, would maintain a low profile – generally no more than 12 feet in height. Other project features would include a switchyard, access drives, chain link fencing, and power distribution lines. None of the proposed onsite equipment would obstruct any viewsheds in the area; offsite distribution lines would be consistent in height and design with existing power distribution lines adjacent to area roadways, and would therefore not cause any significant change in views.

The project's viewshed, which extends approximately two miles from the site boundary, includes areas up to 650 feet higher in elevation. This analysis of aesthetics impacts relies in part on visual simulations of the proposed project. The viewpoints used in the simulations are mapped on **Figure 8**. **Figure 9a** shows the pre-development view from Viewpoint Location #1, a residential neighborhood south of SR-62. This site is hundreds of feet higher in elevation than the project site and represents a typical vista from higher elevations in the project vicinity. Notably, the pre-development viewpoint shows extensive manmade modifications to the landscape, including residential development, Roy Williams Airport, paved roadways, and non-native vegetation. A simulation of the proposed project is provided in **Figure 9b**. This view, which is typical of vistas of the project site from all directions, shows the site as a dark patch in the desert landscape. Due to the low height of project facilities, no structures would stand out on the horizon or significantly modify the landscape. The small scale of the project's distribution lines makes them imperceptible from higher elevations near the project site. Overall, the simulation reveals that elevated locations in the project's viewshed would observe only minor visual changes as a result of project implementation.

**Figure 10a** shows the pre-development view from Viewpoint Location #2, a trailhead located approximately 2.25 miles southwest of the project site, along the edge of the Joshua Tree National Park. This viewpoint is located 420 feet higher in elevation than the project site and represents the views that users of this and other nearby trails would experience. The pre-development view shows scattered development and other human impacts, such as dark green areas indicative of non-native irrigated landscaping. Hills and mountains in the background are clearly visible. A simulation of the proposed project is provided in **Figure 10b**. Like the view in Figure 9b, the project from this viewpoint appears as a dark patch in the desert landscape, with no structures or other specific project features being visible. Views of hills and mountains in the background are not impacted by the project. Overall, the simulation reveals that users of this and other nearby trails would not see significant visual changes with project implementation.

Therefore, based on the analysis provided above and the visual simulation provided in Figure 9b, the proposed project would not have a substantial adverse effect on a scenic vista; impacts would be less than significant and no mitigation measures are required.

**VIEWSHED MAP LEGEND:**

KOP / Simulation Location

Project Boundary

**POTENTIAL RECEPTOR KEY:**

R1: Rural Residences
R2: Rural Residences
R3: Rural Residences
R4: Rural Residences
R5: Eligiable Scenic Hwy

SCALE: 0 .25 .5 1mi.

Map Source: Google Earth



Figure 8
**Viewshed Map**

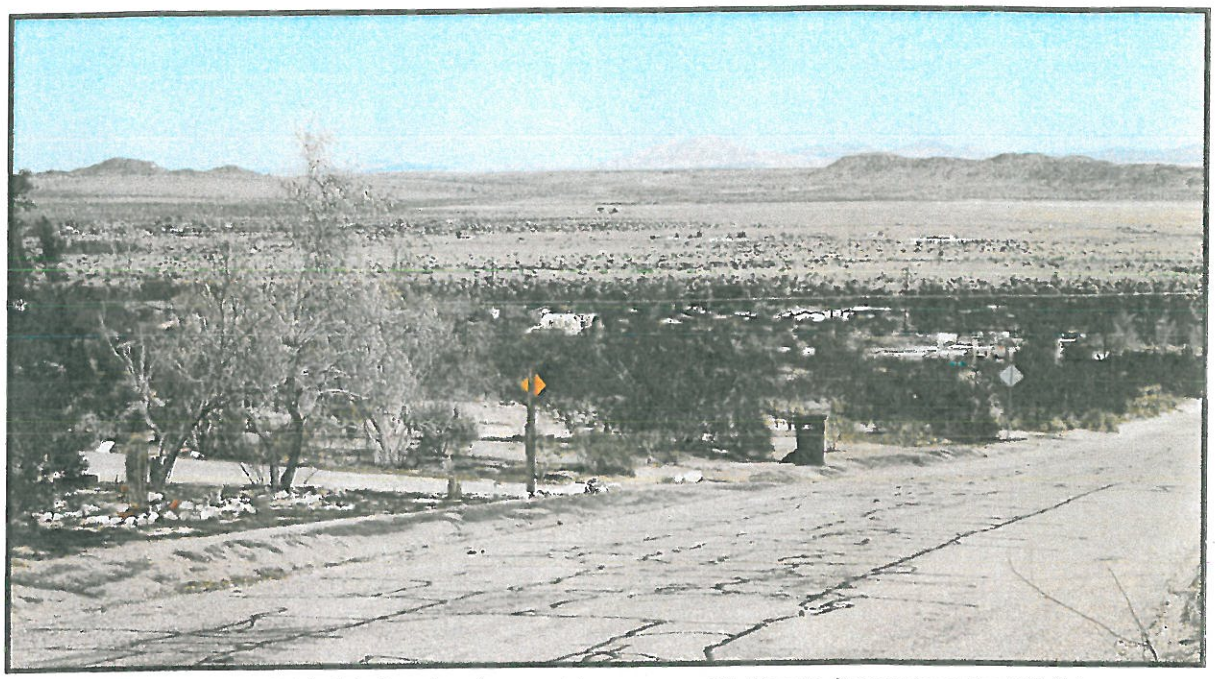


**Figure 9a** LOCATION 1: Existing view from residences near Mt. Shasta Avenue and Foothill Drive.

**Figure 9b** LOCATION 1: Simulated view from residences near Mt. Shasta Avenue and Foothill Drive.

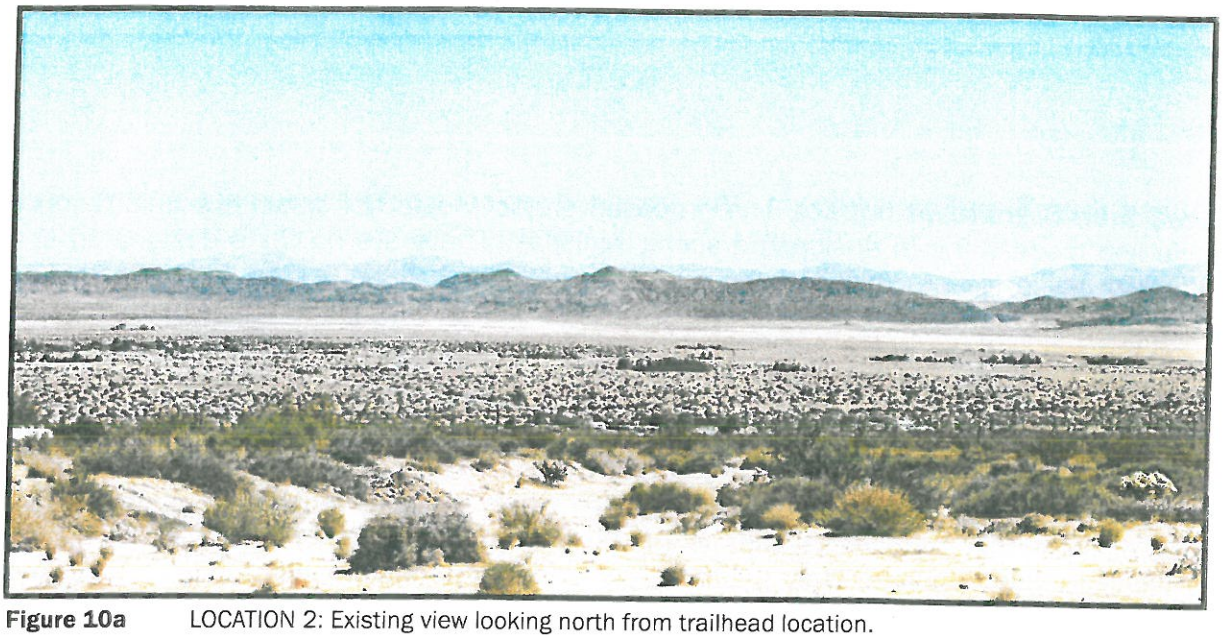


**Figure 10a** LOCATION 2: Existing view looking north from trailhead location.

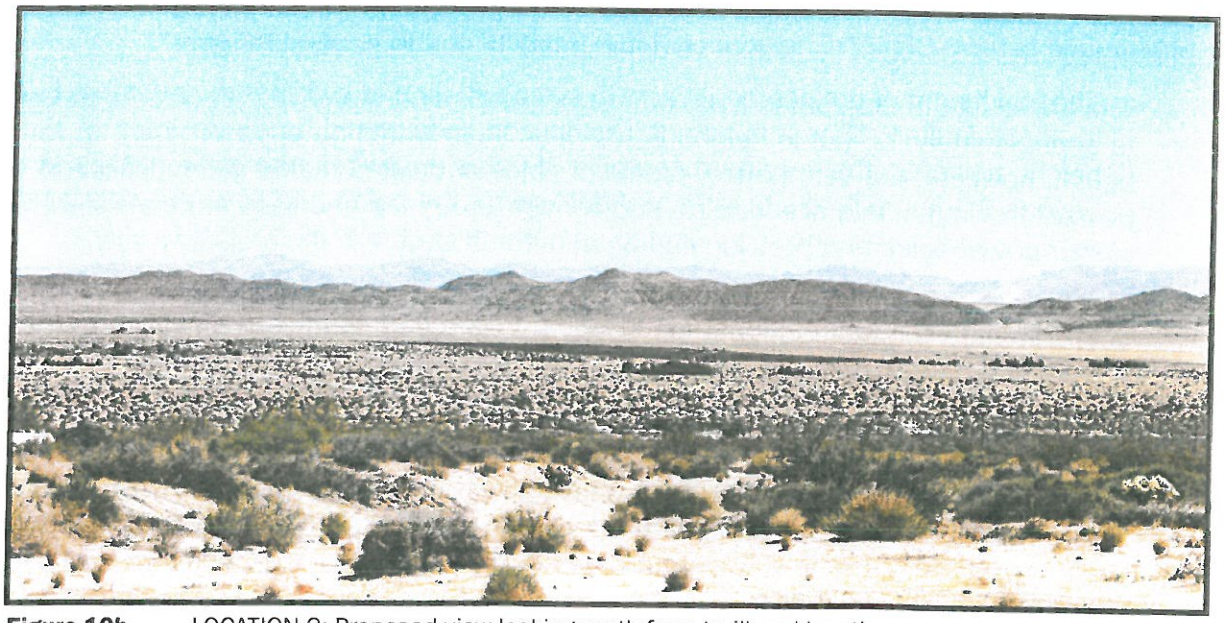


**Figure 10b** LOCATION 2: Proposed view looking north from trailhead location.

b) **Less than Significant Impact.** The proposed project would not damage scenic resources, including those within a designated scenic highway. There are no State-designated scenic routes in the project vicinity and there are no scenic or historic resources onsite. Although undeveloped, there are no large trees or natural rock outcroppings onsite. The vegetation on the site and along the perimeter is sparse and is not unique to the immediate area and therefore is not a scenic resource.

SR-62, located 1.5 miles south of the project site, has been designated by the State as an "Eligible State Scenic Highway," but has not received an official designation. A roadway is officially designated as a state scenic highway when the local jurisdiction adopts a scenic corridor protection program, applies to Caltrans for scenic highway approval, and receives notification from Caltrans that the highway has been designated as an official scenic highway.

SR-62 is depicted on the General Plan's Open Space Element Map as a County-designated scenic route. Post-development views from SR-62 have been simulated (see Viewpoint Location #3 on Figure 8). The pre-development view from Viewpoint Location #2 on SR-62 is provided in **Figure 11a**; **Figure 11b** depicts the project site after implementation of the proposed project. The simulation reveals that project facilities would be virtually imperceptible from SR-62. The lack of visual impacts is due to several factors:

- The low height of project facilities, with solar panels and switchyard structures being up to approximately 12 feet in height. Distribution lines would be approximately 35 feet in height; however, the very narrow profile of poles and wires makes them difficult to see beyond the immediate site vicinity. Additionally, the poles and lines are consistent with similar power poles and lines located on numerous streets in the project vicinity.
- The lack of any significant change in elevation. Within the project viewshed, SR-62 is approximately 100 feet higher in elevation. This minor change in elevation (a less than 1 percent grade) over a distance of 1.5 miles from the project site allows minor natural and manmade features (e.g., trees or single-story residences) between the highway and the site to block site features.
- The presence of vegetation between the highway and project site. The presence of brush and other desert vegetation along SR-62 shields the project site from highway users and provides a visual distraction and impediment which makes the site less visible to highway travelers.

Therefore, based on the visual simulation of impacts from SR-62 and the various factors described above which limit visual impacts from the highway, the proposed project would not have a substantial adverse effect on scenic resources within a scenic highway. Impacts would be less than significant and no mitigation measures are required.

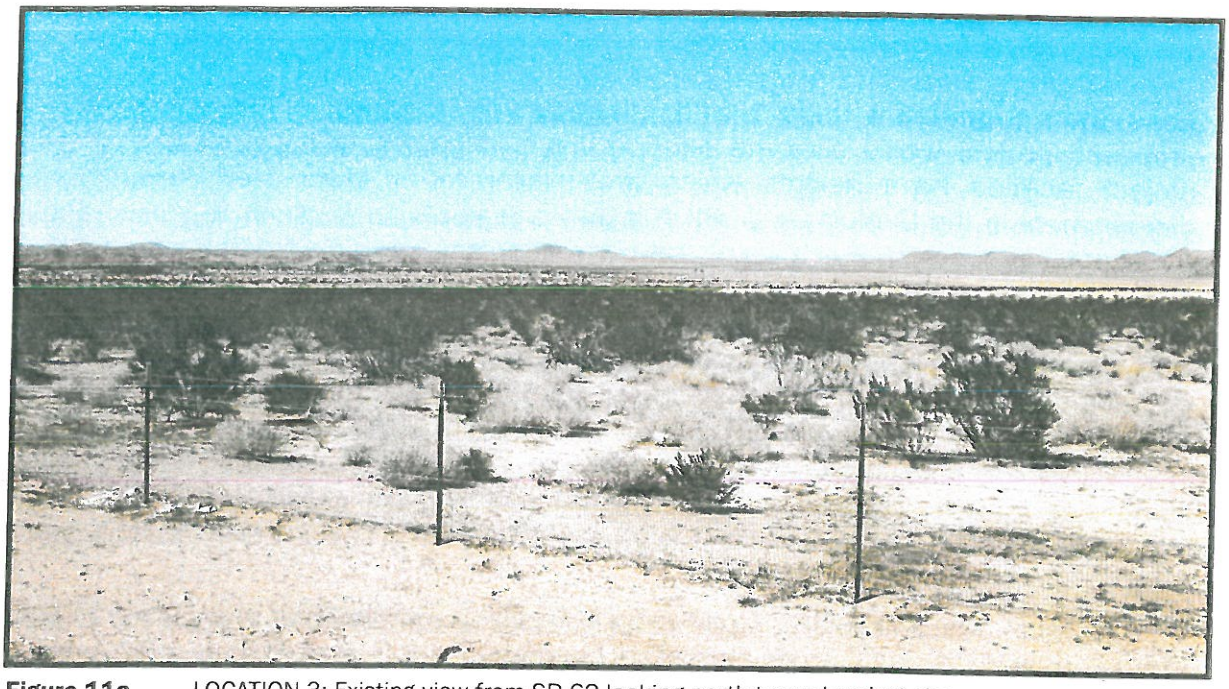


**Figure 11a** LOCATION 3: Existing view from SR-62 looking north toward project site.

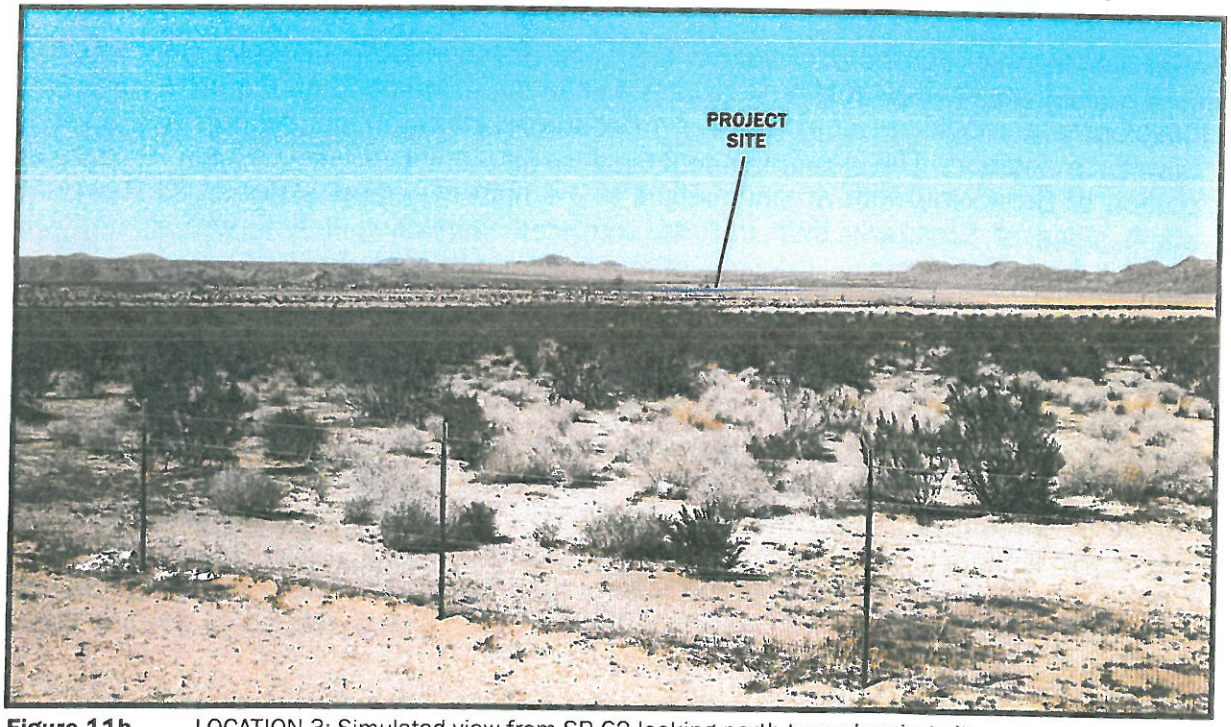



**Figure 11b** LOCATION 3: Simulated view from SR-62 looking north toward project site.

c) **Less than Significant Impact with Mitigation Incorporated.** Implementation of the proposed project would alter the existing visual character of the project site. Proposed project facilities have heights which are similar to or lower than those of existing development in the Sunfair area, which includes features such as single-family residences, an airport, a concrete batch plant, paved roads, and powerlines. The proposed project would have a low profile (with a maximum height of approximately 12 feet for solar panels and switchyard equipment, and distribution lines with a height and design that is consistent with similar lines in the vicinity) and minimal lighting and, therefore, would not substantially degrade the existing visual character or quality of the site and its surroundings. The current visual character of the project site is typical of rural living/resource conservation areas consisting of flat lands surrounded by sparse residential development, and vegetation communities such as creosote bush, allscale scrub, and big galleta grassland. There is some evidence of human disturbance on the site, including several OHV trails within the project area and on adjacent lands.

Photographs of typical solar PV power plant facilities are provided in **Figure 12**. While the precise design of panel systems varies by manufacturer and model, and is subject to modification as technologies evolve, these figures provide an accurate indication of the systems that would be used on the project site. Panels and associated onsite equipment would have a profile much lower than that of a single-story building.

Visual simulations have been prepared to depict anticipated post-development conditions on the project site. **Figure 13a** (Viewpoint Location #4, as mapped on Figure 8) depicts pre-development conditions looking east on Broadway, from the intersection of Broadway and Lawrence Avenue. The pre-development view shows the existing terminus of the paved portion of Broadway, with a continuation of the right-of-way as a dirt road. The north and south sides of Broadway both include scattered vegetation that is typical of the desert region. Copper Mountain is visible in the background. The post-development condition depicted in **Figure 13b** shows the removal of vegetation on the project site and its replacement with a solar field and fencing. Project setbacks totaling over 40 feet (including a 15-foot setback from the property line to the fenceline, and a further 26 feet within the fenceline consisting of an onsite access drive) from the roadway substantially reduce visual impacts, because the existing view corridor is maintained. In addition, the dominant aspect of the area's scenic views, the background image of Copper Mountain, is still visible. Because the project would not protrude into sky, blocking views of mountains, the project would have limited impacts on the visual character of the site and its surroundings. Depending on the perspective of the viewer, major regional features, such as mountains, are already partially blocked by existing development; the proposed project would not significantly add to this obstruction of views.

**Figure 14a** (Viewpoint Location #5, as mapped on Figure 8) depicts pre-development conditions looking east on 4$^{th}$ Street from the intersection of 4$^{th}$ Street and Lawrence Avenue. The pre-development view shows the existing, unimproved right-of-way of 4$^{th}$ Street, a powerline along the street, and desert vegetation. Mountains are visible in the background. The post-development view in **Figure 14b** shows the removal of vegetation on the project site and its replacement with a switchyard, solar field, and fencing. As in Figure

13b, project setbacks from the roadway substantially reduce visual impacts. Due to the relatively low height of project facilities, vegetation beyond the project boundary would screen site features and substantially limit views. In addition, views of mountains in the background remain unimpeded.

Overall, the project would be similar in scale to existing development, and does not limit or substantially modify views of scenic features such as Copper Mountain. With approval of the CUP, the proposed project would be consistent with the County's zoning requirements and development standards relative to the setbacks and height of the project. In order to further minimize potential negative impacts to the visual character of the site, Mitigation Measure AES-1 is included to require that the exteriors of structures within the switchyard use non-reflective materials and neutral colors. With implementation of this mitigation measure, the proposed project would not have a substantial adverse effect on the visual character or quality of the site or its surroundings; impacts would be less than significant and no further mitigation is required.

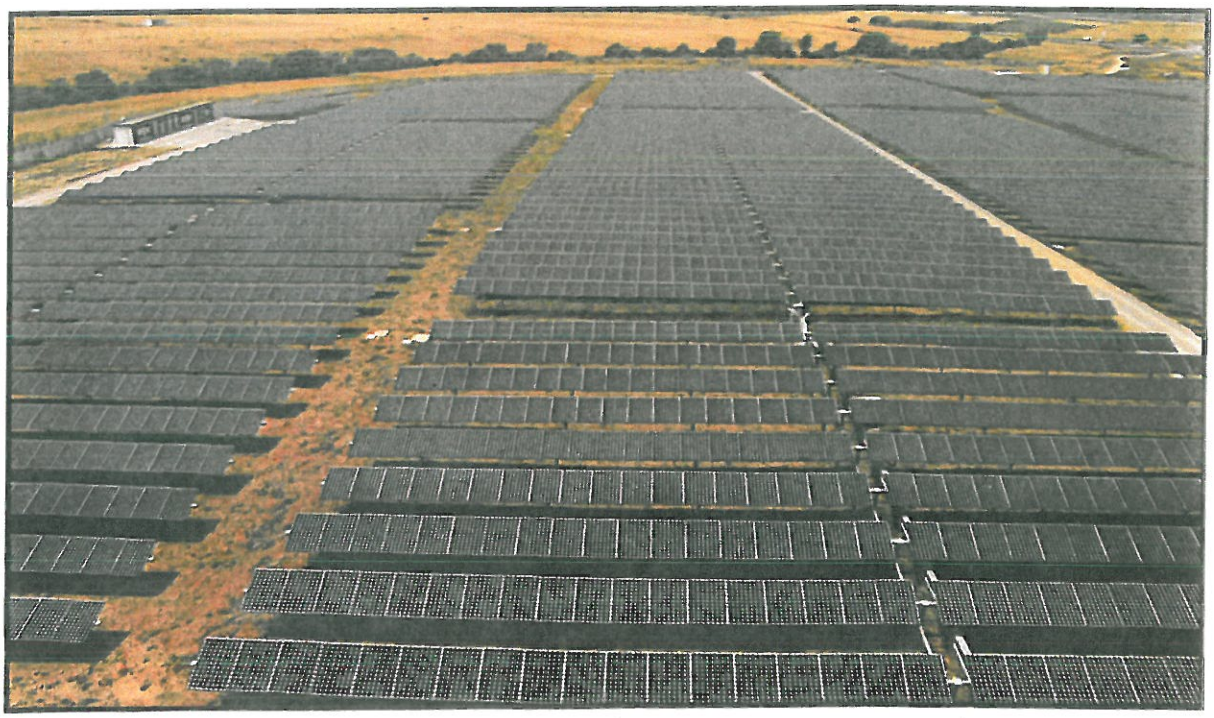




Figure 12
**Typical Solar Photovoltaic Power Plant Facilities**

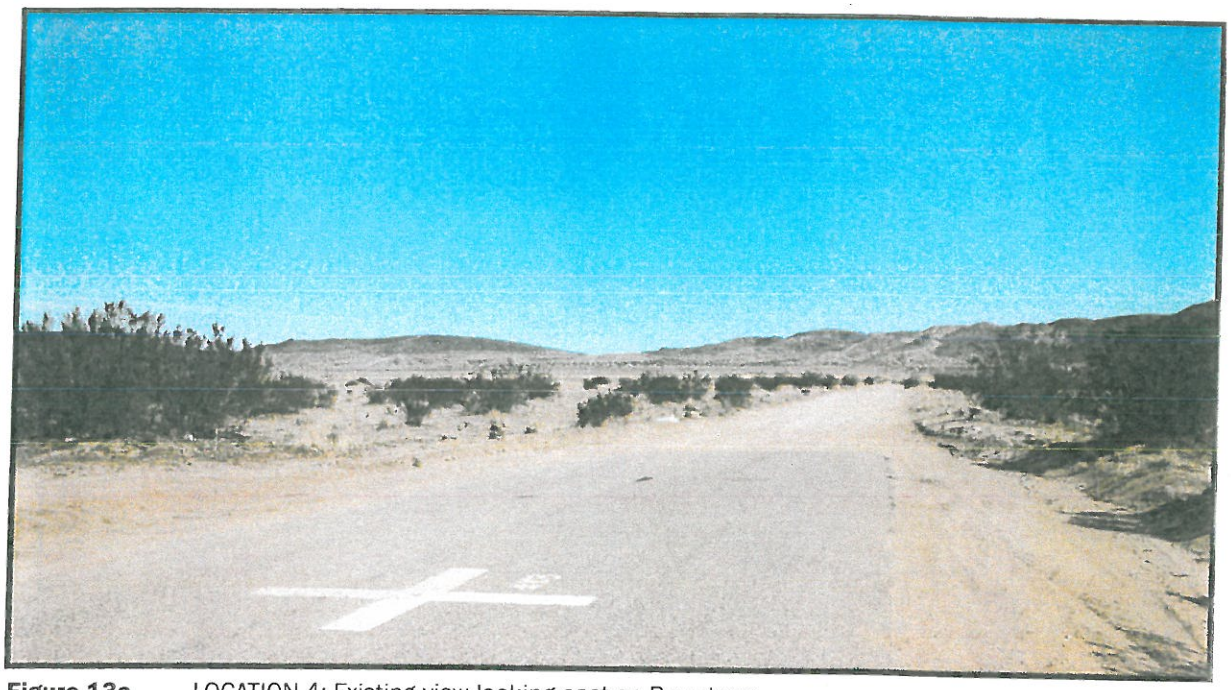


**Figure 13a** LOCATION 4: Existing view looking east on Broadway

**Figure 13b** LOCATION 4: Simulated view looking east on Broadway

**Figure 14a** LOCATION 5: Existing view looking east on 4th Street.

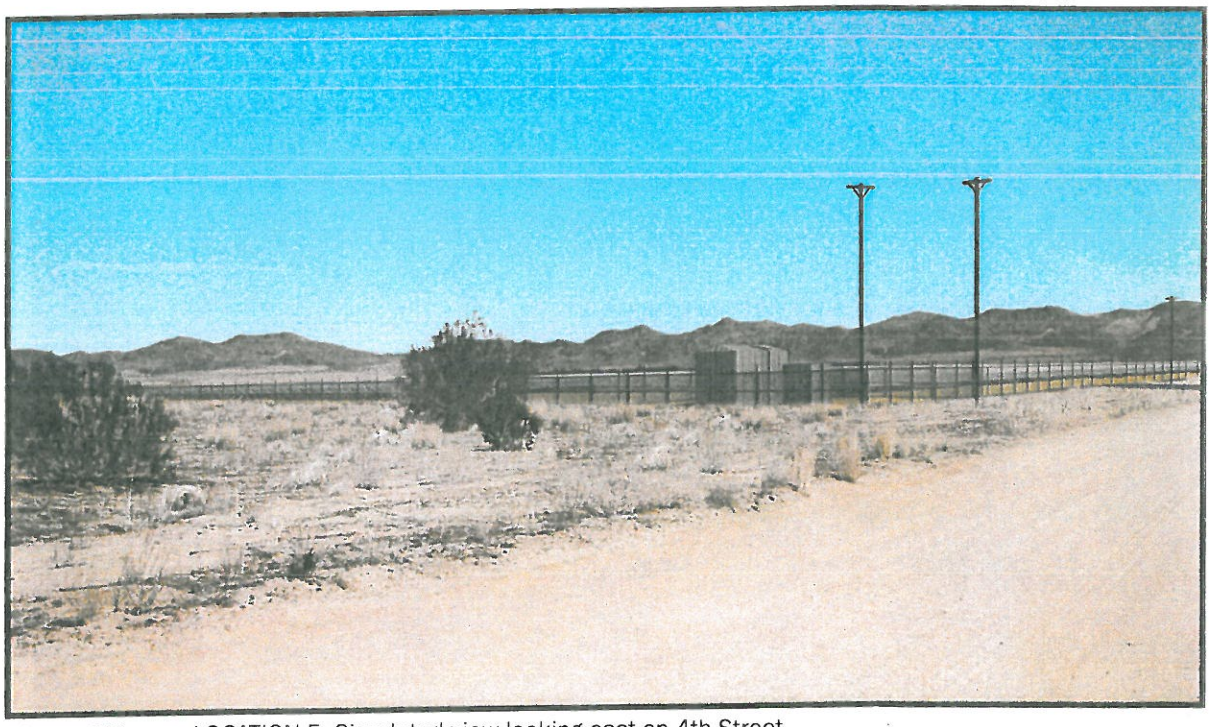


**Figure 14b** LOCATION 5: Simulated view looking east on 4th Street.

d) **Less than Significant Impact with Mitigation Incorporated.** The project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. The project uses dark photovoltaic solar cells, which would track the sun to maximize solar exposure to the panels.

Regarding nighttime lighting conditions and daytime glare conditions, "light" refers to artificial light emissions, or the degree of brightness, generated by a given source. The Illuminating Engineering Society of North America (IES, 1993) defines "glare" as the sensation produced by luminance in the visual field that is sufficiently greater than the luminance to which the eye has adapted to cause annoyance, discomfort, or loss of visual performance and visibility.

**Lighting**

Construction of the proposed project would generally occur during daytime hours, and could occur as late as 7:00 p.m. in order to meet the construction schedule. No overnight construction would occur. In the event that work is performed between dusk and 7:00 p.m., the construction crew would only use the minimum illumination needed to perform the work safely. All lighting would be directed downward and shielded to focus illumination on the desired work areas only, and to prevent light spillage onto adjacent properties. As applicable, work in the solar field areas and on the distribution lines at night would be performed using battery or gas-powered light stands that would be directed to the active work area. Because lighting would be shielded and focused downward and lighting used to illuminate work areas would be turned off by 7:00 p.m., the potential for lighting to adversely impact any residents is minimal. Construction of distribution lines would have a very short duration (i.e., less than one day to install each pole, followed by conductor stringing) and lighting would be shielded to prevent spillage onto adjacent residences. As a result, the project would not be anticipated to adversely impact nighttime views in the project area.

As described under "Project Features," above, the proposed project would include security lighting at project entries. If improperly designed or oriented, such lighting may result in light trespass that falls outside the boundaries of the project site. Under particularly adverse conditions, spillover lighting causes annoyance, discomfort, or loss in visual performance because of its intensity, direction, or source type and visibility.

Impacts resulting from lighting would be minimized through compliance with all development standards, Zoning Ordinance standards, and the goals, policies, and implementation measures of the General Plan. San Bernardino County Ordinance No. 3900 regulates glare, outdoor lighting, and night sky protection. Nighttime lighting associated with the proposed project would be subject to County approval and compliance with San Bernardino County requirements. Lighting would be directed toward the ground from low elevation poles (less than 14 feet in height). All lights would be shielded so that there is no upward directed light. In addition, the implementation of Mitigation Measure AES-2 would minimize the potential for spillover lighting to adversely affect residents and motorists. With implementation of the standard conditions discussed above, as well as Mitigation Measure AES-2, the project would not have substantial adverse impacts related to lighting; impacts would be less-than-significant.

**Glare**

Most of the project's construction activities are planned to occur during daylight hours. Increased truck traffic and the transport of the solar arrays and construction materials to the project site and transmission lines would temporarily increase glare conditions during construction. However, this increase in glare would be minimal and temporary. Construction activity would occur on focused areas of the site as construction progresses and any sources of glare would not be stationary for a prolonged period of time. Additionally, the surface area of construction equipment would be minimal compared to the scale of the project site. Therefore, construction of the proposed project would not create a new source of substantial glare that would affect daytime views in the area. Impacts would be less than significant during the construction period.

During operations, the reflection of sunlight would be the primary potential producer of glare off the glass surfaces of the solar panels in the proposed project.

A solar panel comprises numerous solar cells. A solar cell differs from a typical reflective surface in that it has a microscopically irregular surface designed to trap the rays of sunlight for the purposes of energy production. The intent of solar technology is to increase efficiency by absorbing as much light as possible (which further reduces reflection and glare). **Figure 15** shows the reflected energy of sunlight off some common residential and commercial surfaces. Solar glass sheets (the glass layer that covers the PV panels) are typically tempered glass that is treated with an anti-reflective or diffusion coating that further diffuses the intensity of glare produced. The figure shows that solar panels are about half as reflective as standard glass used in residential or commercial applications. Solar panels without an anti-reflective coating have approximately the same reflectivity as water; with an anti-reflective coating, the reflectivity is significantly less than that of water. **Figure 16** shows how the direction of the small amount of energy which would be reflected.

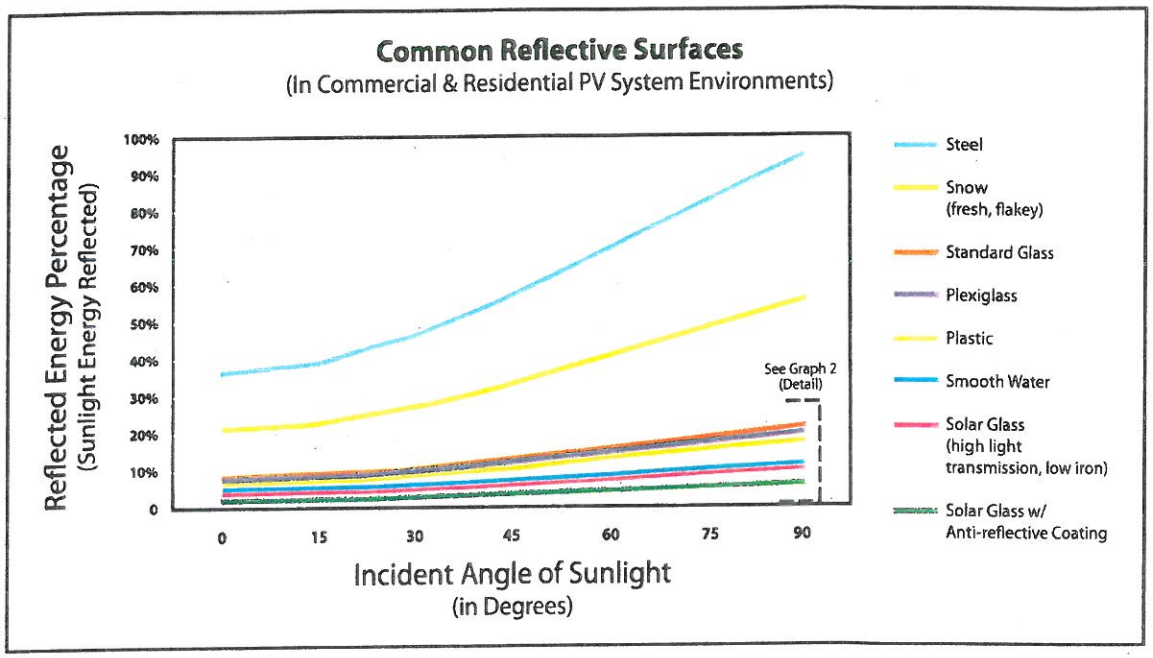
As described in under "Project Features," above, some or all of the project's panels would be mounted on trackers. Trackers allow the panels to follow the sun in its path from east to west across the southern sky as the day progresses. These devices orient the solar panels perpendicular to the incident solar radiation, thereby maximizing solar cell efficiency and potential energy output. Some of these tracking devices use GPS, which enables the tracking to be extremely accurate, and are capable of positioning the array so that the incident rays would be at or very near a surface normal (perpendicular angle). During midday conditions, when the sun is high in the sky, the law of reflection indicates that the reflected ray would be at an equally low angle and reflected in a direction toward the light source or back into the atmosphere away from receptors on the ground. When the sun is low on the horizon (near dawn or dusk), the sun's angle in the sky is low; however, reflected rays would still be directed away from ground-level receptors.

Issues of glare and reflectance are more fully discussed in the SunPower Technical Notification titled *SunPower Solar Glare and Reflectance*, dated September 29, 2009 (Appendix A). The Technical Notification provides added evidence of the very limited glare and reflectance impacts that can be expected from solar energy generation facilities.

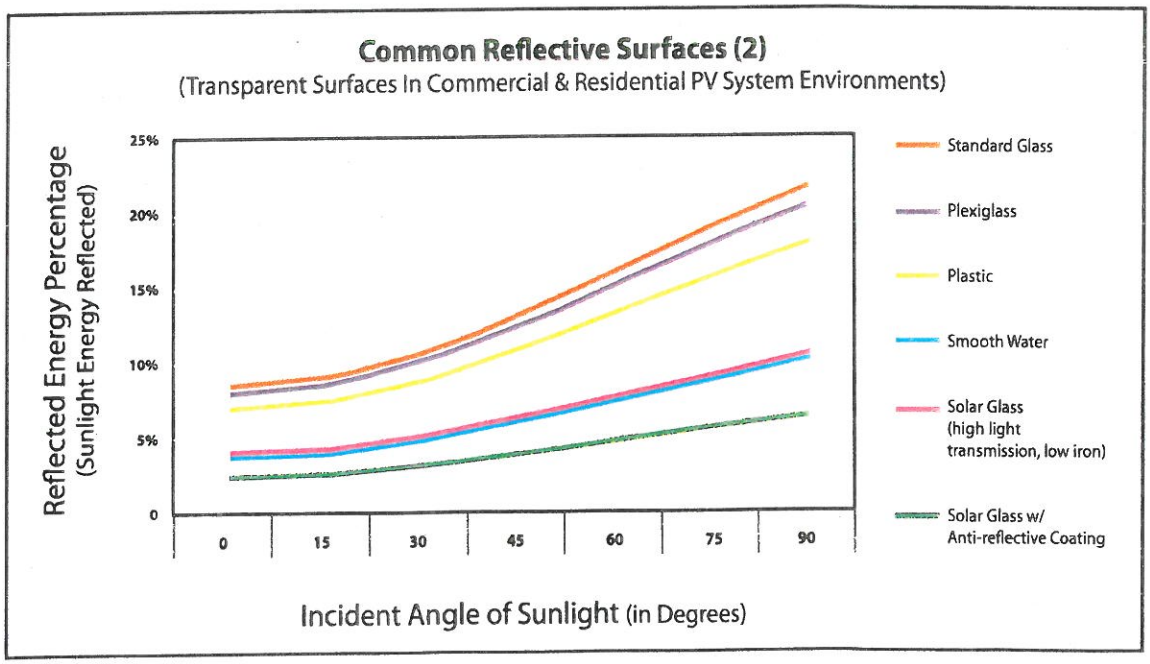
The panels would not be expected to cause extreme visual discomfort or impairment of

vision for residents because the panels are designed to absorb as much sunlight as possible and therefore would have minimal reflectivity. The type of glare that could be expected in the most extreme conditions, when the sun is low in the sky, is a level of veiling reflection that may cause viewers to be less able to distinguish levels of contrast, but not cause a temporary loss of vision. Additionally, for most residents, glare effects would be further reduced by intervening elements in the immediate viewshed, such as vegetative screening created by mature landscape trees, ornamental planting, and other homes or structures, which would obstruct views of the panels. Therefore, the proposed project would result in less-than-significant impacts related to glare for residences in the project vicinity.

Similarly, and also due to their low reflectivity, the panels would not be expected to cause visual impairment for motorists on area roadways. Effects on eastbound motorists (specifically, on 4$^{th}$ Street South, Broadway, and Sunflower Road) would likely be greatest in the early evening hours, when the sun is at its lowest arc in the western horizon. Glare would have its greatest impact on westbound travelers in the early morning hours, when the sun is rising in the east. Nonetheless, regardless of their position relative to the sun and the time of day, the panels would not be expected to cause visual impairment for motorists. In addition, it is important to note that, with the exception of Broadway from the project site west, the roads running through or adjacent to the site are all unimproved and carry very few vehicles. The lack of significant development to the east of the site results in minimal auto traffic near the site. Mitigation Measure AES-3 requires panels to incorporate anti-reflective and diffusion coating technologies that would reduce fugitive glare and spectral highlighting and increase the efficiency of the electrical-generation facility. With the implementation of this mitigation measure, impacts to motorists from glare are further reduced. The proposed project would result in less-than-significant impacts related to glare affecting motorists.

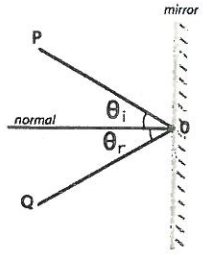



Graph 1 - Common Spectral Surfaces
Source: SunPower 2008

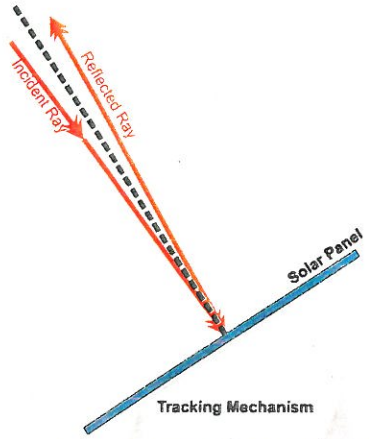



Graph 2 - (Detail) Common Spectral Surfaces with Highly Spectral Surfaces Removed
Source: SunPower 2008

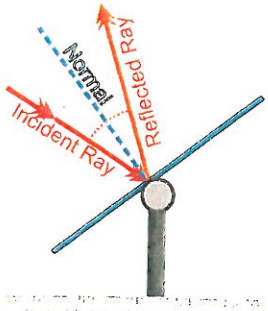
Figure 15
**Spectral Surfaces and their Reflective Properties at Incident Light Angles**



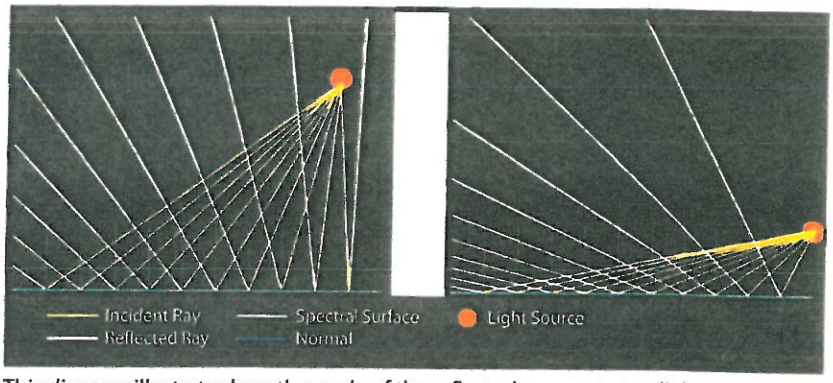

**The Law of Reflection** - which states that the direction of incoming light (the incident ray), and the direction of outgoing light reflected (the reflected ray) make the same angle with respect to the surface normal (perpendicular to the reflecting surface), thus the angle of incidence equals the angle of reflection; this is commonly stated as $\theta_i = \theta_r$.




Incident and reflected rays of light that would result from a optimally oriented solar panel on a variable tilt single axis tracking mechanism.




Incident and reflected rays of light that would result from the fixed tilt single axis tracker array.




This diagram illustrates how the angle of the reflected ray reacts to a light source moving to a lower horizontal azimuth. The conditions in the right illustration would increase the possibility of glare to a terrestrial-based viewer.

Figure 16

**The Law of Reflection and Its Application to Solar Panels**

As noted, the PV panels can reflect sunlight skyward toward the light source, creating a potential glare impact for aircraft in the area. The effect could be similar to what a motorist experiences when the sun is low in the sky and the car passes between the sun and a glass-fronted building that has been treated with an anti-reflective coating. If the motorist is heading directly toward the building, the glare would be in the motorist's eyes. Otherwise, the motorist would have to rotate his or her head to observe the glare off to the side. Water bodies have a similar glare effect when the incident sun angle is such that the reflected light strikes an aircraft on the opposite side of the water body from the sun. However, as noted above, the proposed PV panels have an anti-reflective coating; therefore, they would have a less intensive glare than water bodies. Because aircraft typically travel at a higher rate of speed than vehicles, the effect is momentary, lasting only as long as the angle between the sun, waterbody, and aircraft is maintained. Unless an aircraft were descending at an angle sloped directly at the solar array with the sun directly behind the aircraft, any glare that might occur from solar panels would be below the pilot's horizon. Further, the reflectance of the glass used in PV cells is about half that of standard residential and commercial glass.

Additionally, PV cells using technologies similar to those proposed on the project site routinely operate near glare-sensitive locations such as airports. For example, FedEx operates solar panels producing 0.9 MW of energy at its runway-adjacent facility at Oakland International Airport, and Denver International Airport has similarly placed panels producing 1.6 MW of energy. Glare resulting from the placement of these panels has not been a concern for pilots or other airport users. Based on these facts, glare impacts on aircraft would be less than significant and no further mitigation is required to reduce glare.

Other glare impacts could result if on-site structures, such as the switchyard buildings, are covered with reflective materials. Implementation of Mitigation Measure AES-3 would minimize such glare impacts to below a level of significance. Because of the inherently low reflectivity of PV panels and with implementation of Mitigation Measure AES-3, in addition to compliance with the standards of the Zoning Ordinance, General Plan, and Development Standards of San Bernardino County, glare impacts would be less-than-significant. No additional mitigation measures are proposed.

**Significance: Possible significant adverse impacts have been identified or are anticipated and the following mitigation measures are required as conditions of project approval to reduce these impacts to a level below significant:**

**AESTHETICS MITIGATION MEASURES:**

***AES-1*** *Building Materials. As appropriate, proposed on-site switchyard buildings shall use non-reflective materials and neutral colors as approved by the Planning Department.*

***AES-2*** *Lighting Requirements. The area of illumination from any lighting shall be confined to be within the site boundaries and to minimize impacts to night sky views from surrounding properties. On-site lighting shall be fully shielded, diffused, or directed in a manner to avoid glare directed at adjacent properties, roadways or any light spill into any wildland areas surrounding the site that might affect nocturnal animals. No light shall project onto adjacent roadways in a manner that interferes with on-coming traffic. All lighting shall be limited to that necessary for maintenance activities, security, and safety purposes. All signs proposed by this project shall only be lit by steady, stationary, shielded light directed at the sign, by light inside the sign or by direct stationary neon lighting.*

***AES-3*** *Anti-Reflective/Diffusion Coatings. Solar panels and hardware shall be designed to minimize glare and spectral highlighting. To the extent feasible, emerging technologies shall be utilized that introduce diffusion coatings and nanotechnological innovations that will effectively reduce the refractive index of the solar cells and protective glass. These technological advancements are intended to make the solar panels more efficient at converting incident sunlight into electrical power, but have the tertiary effect of reducing the amount of light that escapes into the atmosphere in the form of reflected light, which would be the potential source of glare and spectral highlighting.*

| | Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|---|---|---|---|---|
| **II.** | **AGRICULTURE AND FORESTRY RESOURCES** - In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Will the project: | | | | |
| a) | Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | ☐ | ☐ | ☐ | ☒ |
| b) | Conflict with existing zoning for agricultural use, or a Williamson Act contract? | ☐ | ☐ | ☐ | ☒ |
| c) | Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | ☐ | ☐ | ☐ | ☒ |
| d) | Result in the loss of forest land or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ |
| e) | Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ |

***SUBSTANTIATION:*** *(Check ☐ if project is located in the Important Farmlands Overlay):*

a) **No Impact**. The Farmland Mapping and Monitoring Program of the California Department of Conservation is charged with mapping Prime Farmland, Unique Farmland, Farmland of

Statewide Importance, and Farmland of Local Importance (Farmland) across the state. The project would not convert Farmland, as shown on the FMMP maps, to non-agricultural use, since the proposed project is not designated as such. There is no impact and no further analysis is warranted.

b) **No Impact**. The proposed project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. The current General Plan land use designations for the proposed project area are RC and RL, which allow the development of renewable energy generation facility with a CUP (Development Code Section 85.06). The proposed project area is not under a Williamson Act contract. There is no impact and no further analysis is warranted.

c) **No Impact**. The proposed project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. The proposed project area is currently vacant land, which has never been designated as forest land or timberland. No rezoning of the project site would be required as the proposed energy facility is compatible with the current zoning designations of RC and RL. There is no impact and no further analysis is warranted.

d) **No Impact**. The proposed project would not result in the loss of forest land or conversion of forest land to non-forest use. The proposed project site is vacant and covered with sparse desert vegetation. There is no impact and no further analysis is warranted.

e) **No Impact.** The proposed project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use. The current General Plan land use designations for the proposed project area are RC and RL, which allow the development of renewable energy generation facility with a CUP (Development Code Section 85.06). There is no impact and no further analysis is warranted.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**

| | Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|---|---|---|---|---|
| **III.** | **AIR QUALITY** - Where available, the significance criteria established by the applicable air quality management or air pollution control district might be relied upon to make the following determinations. Will the project: | | | | |
| a) | Conflict with or obstruct implementation of the applicable air quality plan? | ☐ | ☐ | ☒ | ☐ |
| b) | Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | ☐ | ☒ | ☐ | ☐ |
| c) | Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | ☐ | ☐ | ☒ | ☐ |
| d) | Expose sensitive receptors to substantial pollutant concentrations? | ☐ | ☐ | ☒ | ☐ |
| e) | Create objectionable odors affecting a substantial number of people? | ☐ | ☐ | ☒ | ☐ |

***SUBSTANTIATION:*** *(Discuss conformity with the Mojave Air Quality Management Plan, if applicable):*

a) **Less than Significant Impact.** Hans Giroux & Associates (HGA) prepared an Air Quality Impact Analysis (AQIA) for the project in March 2011. The AQIA evaluates emissions from construction and operations, focusing on criteria air pollutants, hazardous emissions, and greenhouse gases (GHG). The full report, with baseline emissions data, analysis methodologies and emissions modeling output, is included as Appendix B. To ensure a conservative analysis of construction-period air quality impacts, the AQIA assumes that both Phase 1 and Phase 2 of the project (located to the south and north of Broadway, respectively) would be constructed simultaneously. Thus, the AQIA projects impacts based on a 9-month construction period with a maximum of 88 construction workers onsite at any time. This differs from the construction phasing described in the Project Description, above, which assumes an 18-month construction period with a maximum of 44 construction workers.

The proposed project would not conflict with or obstruct implementation of the applicable air quality plan. The project site is in the Morongo Valley portion of the Mojave Desert Air Basin (MDAB) and under the air quality planning jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD). The Morongo Valley area is designated "non-attainment" for State and federal ambient air quality standards (AAQS) for ozone ($O_3$) and inhalable particulate matter ($PM_{10}$). The project area is also designated as a non-attainment area for the California annual $PM_{2.5}$ standard.

From 2003 to 2009, the State and federal 8-hour $O_3$ standards were exceeded an average

of 22 times per year at the Twentynine Palms monitoring station, while State $PM_{10}$ standards were exceeded a few times per year unless wind storms create high "natural" particulate levels (HGA, 2011, p. 9). The Mojave Air Quality Management Plan (AQMP) provides a program for obtaining attainment status for those monitored air pollution standards. The AQMP bases existing and future air pollution emissions on employment and residential growth projections, as derived from local and regional General Plans and other projections. While the proposed project is not identified specifically in the General Plan, it would not generate new homes or employment opportunities that will change the County's projections.

Attainment of ozone standards is most strongly linked to air quality improvements in upwind communities. $PM_{10}$, however, is affected by construction, by unpaved road travel, by open fires and/or by agricultural practices. Therefore, in order to limit the production of fugitive dust during implementation of the proposed project, construction activities would be conducted in accordance with MDAQMD Rules 403 - *Fugitive Dust* and 403.2 - *Fugitive Dust Control for the Mojave Desert Planning Area*. This includes using water trucks to minimize the production of visible dust emissions to 20 percent opacity in areas of where grading or vegetation removal occurs, within the staging areas, and on any unpaved roads utilized during project construction.

Over its lifetime, the proposed project would not violate the regulations set forth by the MDAQMD *Rule Book* or *CEQA and Federal Conformity Guidelines*. Electricity generation via the use of photovoltaic systems does not generate chemical emissions that would negatively contribute to air quality. The proposed project is designed to limit the amount of vegetation that would be removed and grading required for access, which would limit fugitive dust generated during the life of the project.

Given that the proposed project would not alter the population or employment projections considered during the development of the AQMP, and considering the minor emissions attributable to the proposed project during operation (refer to discussion in Item III.b below), impacts associated with AQMP consistency would be less than significant.

b) **Less than Significant Impact with Mitigation Incorporated.** The proposed project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Air quality impacts would include construction exhaust emissions generated from diesel- and gasoline-powered equipment construction equipment, vegetation clearing, grading, construction worker commuting, and construction material deliveries (including the delivery of solar panels from out-of-state locations). Fugitive dust emissions include $PM_{10}$ and are a potential concern because the project is in a non-attainment area for ozone and $PM_{10}$.

The AQIA calculated on-site grading and construction equipment emissions using the URBEMIS2007 computer model, while construction crew commuting and truck delivery emissions were calculated using EMFAC2007 roadway emissions factors. The AQIA uses the following MDAQMD-adopted numerical emissions thresholds as indicators of potential impacts:

| | | |
|---|---|---|
| Carbon Monoxide (CO) | 548 pounds/day | 100 tons/year |
| Nitrogen Oxides ($NO_x$) | 137 pounds/day | 25 tons/year |
| Sulfur Oxides ($SO_x$) | 137 pounds/day | 25 tons/year |
| Reactive Organic Gases (ROG) | 137 pounds/day | 25 tons/year |
| Particulate Matter ($PM_{10}$) | 82 pounds/day | 15 tons/year |
| Particulate Matter ($PM_{2.5}$) | 82 pounds/day | 15 tons/year |

Following is a summary of the AQIA's construction equipment fleet assumptions and emissions calculations for both phases of construction activity.

**Phases 1a and 2a (Assumed to Occur Simultaneously) : Grubbing and Grading, 3-Month Duration**

- 1 Rubber Tired Dozer
- 2 Tractor/Loader/Backhoes
- 1 Grader
- 1 Roller
- 1 Water Truck
- 24 Construction Workers @ 100 miles round trip

**Phases 1b and 2b (Assumed to Occur Simultaneously): Equipment Installation and Distribution Lines, 6-Month Duration**

- 1 Crane
- 1 Rough Terrain Forklift
- 1 Generator Set
- 2 Tractor/Loader/Backhoes
- 3 Welders
- 88 Construction Workers @ 100 miles round trip
- 240 Truck Deliveries @ 280 miles round trip (average 2 deliveries/day)

Based on an estimated 93,000 cubic yards of earthworks balanced on site, the AQIA calculated that only $PM_{10}$ would exceed the daily emissions threshold during Phase 1a and 2a construction activities. All other criteria pollutants would remain well below their respective thresholds (see Table 5 of the AQIA for detailed emissions calculations). With enhanced dust control mitigation measures applied (see Mitigation Measure AQ-2), $PM_{10}$ emissions would be reduced from 283 pounds per day to 21 pounds per day, which is below the threshold of 82 pounds per day. Although $PM_{2.5}$ emissions are less than significant without mitigation, the application of Mitigation Measure AQ-2 would further reduce those emissions by about 90 percent. As noted in Item III.a above, all required dust abatement measures would be consistent with MDAQMD Rule 403.2 - *Fugitive Dust Control for the Mojave Desert Planning Area.*

Phase 2 construction activities include materials delivery and equipment installation, during

which truck and vehicle trips would increase. Table 4, below, shows that increased engine exhaust emissions would not exceed daily emissions thresholds. Mitigation Measures AQ-1 and AQ-3 would further ensure that emissions from increased vehicle trips would have less-than-significant air quality impacts. Grading would not be conducted during Phase 2 activities, so $PM_{10}$ and $PM_{2.5}$ emissions would not exceed emissions thresholds.

On an annual basis, none of the criteria pollutants would exceed the MDAQMD thresholds when enhanced dust control mitigation measures are used. **Table 4**, below, provides detailed calculations and shows that emissions would not exceed thresholds even if both construction phases overlap (i.e., grading in one area and equipment installation in another part of the site).

**Table 4: Construction Activity Emissions (tons/year)**
***9-month duration***

| Activity | ROG | $NO_x$ | CO | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ |
|---|---|---|---|---|---|---|---|
| **Phases 1a and 2a (3 months)** | | | | | | | |
| *Equipment (Unmitigated)* | *0.15* | *1.15* | *0.66* | *0.00* | *9.19* | *1.97* | *113.48* |
| w/Fugitive Dust Mitigation* | 0.15 | 0.97 | 0.66 | 0.00 | 0.68 | 0.19 | 113.48 |
| Commuting | 0.03 | 0.03 | 0.28 | 0.00 | 0.00 | 0.00 | 39.65 |
| **Total Phases 1a/2a (Mitigated)** | **0.18** | **1.0** | **0.94** | **0.00** | **0.68** | **0.19** | **153.13** |
| **Phases 1b and 2b (6 months)** | | | | | | | |
| Equipment | 0.31 | 1.96 | 1.27 | 0.01 | 0.13 | 0.12 | 188.17 |
| Commuting | 0.11 | 0.10 | 1.01 | 0.00 | 0.02 | 0.01 | 145.40 |
| Delivery Trucks | 0.08 | 1.04 | 0.34 | 0.00 | 0.05 | 0.04 | 141.65 |
| **Total Phases 1b/2b** | **0.50** | **3.10** | **2.62** | **0.01** | **0.20** | **0.17** | **475.22** |
| ***Total Phases 1 and 2*** | ***0.68*** | ***4.1*** | ***3.56*** | ***0.01*** | ***0.88*** | ***0.36*** | ***628.35*** |
| MDAQMD Threshold | 25 | 25 | 100 | 25 | 15 | 15 | - |
| Exceeds Threshold? | No | No | No | No | No | No | - |

Source: HGA, 2011.

*enhanced fugitive dust control measures are incorporated into Mitigation AQ-2.

The project would generate negligible air emissions during operations because the facility would be automated and would require minimal onsite personnel. Periodic repairs, equipment cleaning, and site monitoring would be conducted, but no permanent staff would be onsite. Solar panels and associated equipment would have an operating life of several

decades; therefore, replacement of panels would be very infrequent. The solar panels would be cleaned twice annually, with each cleaning expected to take five days and requiring a small work crew of fewer than 10 workers. Maintenance and security personnel would visit the site regularly (generally, every few days), averaging about 104 times per year (or less than one trip per day). Based on these factors, operational traffic associated with the project would be minimal.

The AQIA used those factors and commuting distances to calculate operational emissions for cleaning and security. **Table 5**, below, depicts annual operational activity emissions. The table shows that operational emissions are negligible. All criteria pollutants would be less than one percent of their respective MDAQMD daily and annual thresholds and are less than significant. No mitigation is necessary for operational air emissions.

Following the termination of operations, decommissioning activities, as discussed in the Project Overview section above, would result in ground-disturbing activities similar to those occurring during construction, but would be of a significantly shorter duration. Activities would include the removal and recycling of solar panels and associated equipment, and the restoration of disturbed soil and revegetation of the site with native vegetation. Accordingly, the emissions and applicable control strategies for decommissioning would be similar to those for construction.

**Table 5: Operational Activity Emissions (tons/year)**

| Activity | ROG | $NO_x$ | CO | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ |
|---|---|---|---|---|---|---|---|
| **Cleaning** | | | | | | | |
| 500 miles per day<br>5 days per cleaning = 2,500 miles per cleaning<br>2 cleanings per year = 5,000 miles per year | 0.00 | 0.00 | 0.02 | 0.05 | 0.00 | 0.00 | 2.75 |
| **Security/Maintenance** | | | | | | | |
| 100 miles per site visit<br>104 site visits/year = 10,400 miles per year | 0.00 | 0.00 | 0.04 | 0.11 | 0.00 | 0.00 | 5.73 |
| ***Total*** | **0.00** | **0.00** | **0.06** | **0.16** | **0.00** | **0.00** | **8.48** |
| MDAQMD Threshold | 25 | 25 | 100 | 25 | 15 | 15 | - |
| Exceeds Threshold? | No | No | No | No | No | No | - |

c) **Less than Significant Impact.** The proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). As previously discussed in Items III.a and III.b, the project's contribution to criteria pollutants during the temporary construction period would be localized and mitigated to below a level of significance. As also indicated, operational activities would generate insubstantial quantities of air pollutants that are not deemed cumulatively considerable. Since no other sources of potential long-term air emissions would result, impacts would be less than significant.

d) **Less than Significant Impact.** The proposed project would not expose sensitive receptors to substantial pollutant concentrations (see Items III.a through III.c regarding criteria pollutants). There are a limited number of sensitive uses in the project vicinity. Approximately ten single-family residences are located within approximately 1,000 feet of the project site, including one unit abutting the site to east on Broadway, one west of the site on Broadway, two units directly across from the project site on 4th Street, one on Sun Oro Road and six units on both sides of 4th Street. A larger cluster of residences is found ½ mile to the west of the site, in the Sunfair community adjacent to the Roy Williams Airport.

With regard to potentially hazardous air emissions, electricity generation via the use of photovoltaic systems does not generate chemical emissions that would negatively affect air quality. Further, the project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. There are no schools within the general vicinity of the proposed facilities. For those reasons, impacts are less than significant and an assessment of potential human health risks attributable to emissions of hazardous air pollutants is not required.

e) **Less than Significant Impact.** The proposed project would not create objectionable odors that would affect a substantial number of people. Electricity generation via the use of photovoltaic systems does not generate emissions that would negatively contribute to air quality or produce objectionable odors. Potential odor generation associated with the proposed project would be limited to short-term construction sources such as diesel exhaust; however, no significant odor impacts are anticipated due to the short-term duration of such emissions, as well as the intervening distance to sensitive receptors. Odor generation impacts would be less than significant and no further analysis is warranted.

SIGNIFICANCE: **Possible significant adverse impacts have been identified or are anticipated and the following mitigation measures are required as conditions of project approval to reduce these impacts to a level below significant:**

## AIR QUALITY MITIGATION MEASURES:

***AQ-1*** *AQ/Operational Mitigation. Operation of all off-road and on-road diesel vehicles/equipment shall comply with the County Diesel Exhaust Control Measures [SBCC §83.01.040 (c)], including but not limited to:*

*a) Equipment/vehicles shall not be left idling for periods in excess of five minutes.*
*b) Engines shall be maintained in good working order to reduce emissions.*
*c) Onsite electrical power connections shall be made available where feasible.*
*d) Ultra low-sulfur diesel fuel shall be utilized.*
*e) Electric and gasoline powered equipment shall substituted for diesel powered equipment where feasible.*
*f) Signs shall be posted requiring all vehicle drivers and equipment operators to turn off engines when not in use.*
*g) All transportation refrigeration units (TRUs) shall be provided electric connections.*

*[Mitigation Measure **AQ-1** – General Requirements/Planning]*

***AQ-2*** *AQ/Dust Control Plan. The developer shall prepare, submit and obtain approval from County Planning of a Dust Control Plan (DCP) consistent with MDAQMD guidelines and a letter agreeing to include in any construction contracts/subcontracts a requirement that project contractors adhere to the requirements of the DCP. The DCP shall include the following elements to reduce dust production:*

*a) Exposed soils and haul roads shall be watered three (3) times per day to reduce fugitive dust during all grading/construction activities. Inactive areas shall be treated with soil stabilizers such as hay bales or aggregate cover.*
*b) Street sweeping shall be conducted when visible soil accumulations occur along site access roadways to remove dirt dropped by construction vehicles.*
*c) Site access driveways and adjacent streets shall be washed daily, if there are visible signs of any dirt track-out at the conclusion of any workday.*
*d) Construction vehicle tires shall be washed prior to leaving the project site.*
*e) All trucks hauling dirt away from the site shall be covered, and speeds on unpaved roads shall be reduced below 15 miles per hour.*
*f) During high wind conditions (i.e., wind speeds exceeding 25 mph), areas with disturbed soil shall be watered hourly and activities on unpaved surfaces shall cease until wind speeds no longer exceed 25 mph.*
*g) Storage piles that are to be left in place for more than three working days shall either be sprayed with a non-toxic soil binder, covered with plastic or revegetated.*

*[Mitigation Measure **AQ-2** – Grading/Planning]*

***AQ-3*** *AQ – Installation. The developer shall submit for review and obtain approval from County Planning of evidence that all air quality mitigation measures have been installed properly and that specified performance objectives are being met to the satisfaction of County Planning and County Building and Safety. [Mitigation Measure **AQ-3** – Final Inspection/Planning]*

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|---|---|---|---|
| **IV. BIOLOGICAL RESOURCES - Will the project:** | | | | |
| a) Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | ☐ | ☒ | ☐ | ☐ |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? | ☐ | ☒ | ☐ | ☐ |
| c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc...) through direct removal, filling, hydrological interruption, or other means? | ☐ | ☐ | ☒ | ☐ |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | ☐ | ☒ | ☐ | ☐ |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | ☐ | ☐ | ☒ | ☐ |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan? | ☐ | ☐ | ☐ | ☒ |

***SUBSTANTIATION:*** *(Check if project is located in the Biological Resources Overlay or contains habitat for any species listed in the California Natural Diversity Database ☒): Category 2*

a) **Less than Significant Impact with Mitigation Incorporated.**

**Biological Resource Surveys**

PCR Services Corporation (PCR) conducted general biological investigations of two impact areas to identify and document any biological resources that might be adversely affected by construction or operation of the project. The first area, the Biological Resources Assessment (BRA) study area, included the 150-acre project site, portions of roadway frontages bordering the site, and a 15-foot buffer around those areas, for a total of 157.5 acres. This area was surveyed in December 2010. Additional areas, including buffers were surveyed as part of the focused surveys, which are described below and in the reports included as Appendix C.

In March and April 2011, PCR surveyed a second study area, the Supplemental BRA (Supplement) study area, to address potentially affected biological resources in the two alternative routes for the proposed generation-tie ("gen-tie") distribution line. This additional study area for the Supplement encompasses a 30-foot buffer around both routes and includes 7.8 acres for Alternative 1 and 13 acres for Alternative 2.

The purpose of the general surveys was to identify potential habitat for any threatened, endangered, or otherwise sensitive plant and wildlife species that may occur in the study areas. Appendix A, *Floral and Faunal Compendium*, of the BRA lists all plant and wildlife species observed by PCR biologists in both study areas. As a result of the initial surveys, follow-up focused surveys were conducted for several plant and wildlife species, as described separately below. PCR also identified biological resources by researching plant and wildlife databases and through literature reviews. The BRA and Supplement were prepared in May and June, respectively, and both reports, with detailed findings and recommendations, are included as Appendix C. In addition, the following reports, with detailed findings and recommendations, are included as Appendix C: Focused Desert Tortoise Survey, dated May 26, 2011, Desert Native Plant Assessment and Rare Plant Survey, dated May 19, 2011, Habitat Assessment: Burrowing Owl (Phase I and Phase II), dated May 19, 2011, and Focused Survey: Burrowing Owl Phase III, dated July 22, 2011. All six reports are summarized as applicable for Items IV.a to IV.f.

SCE will be the entity responsible for installing the gen-tie distribution line along an established route. Due to the presence of potentially suitable habitat in the Supplement study area, SCE will conduct surveys to determine presence or absence of special status plants (i.e., sensitive plant species and regulated desert native plant species), desert tortoise, and burrowing owl. SCE will take into consideration the survey findings when locating the poles in an effort to avoid impacts to sensitive biological resources in the Supplement study area. If avoidance is not possible, SCE will implement the mitigation measures in the Supplemental BRA, along with mitigation measures developed in consultation with the USFWS (desert tortoise), CDFG (desert tortoise, burrowing owl, and sensitive plants/communities), and County Building and Safety Division (regulated desert native plants).

### Plant Communities

The BRA and Supplement study areas support various plant communities. Maps, photographs and descriptions of each community, including the dominant and associated species for each, are provided in the BRA and Supplement. Three of the plant communities are considered sensitive and potential impacts are discussed separately under Item IV.b.

**Table 6**: Study Area Plant Communities

| Plant Community | Study Area Acreages | | |
|---|---|---|---|
| | BRA | Supplement (Alt 1) | Supplement (Alt 2) |
| Mojave Creosote Bush Scrub | 51.5 | 2.2 | 7.4 |
| Allscale Scrub | 28.7 | -- | -- |

| | | | |
|---|---|---|---|
| Big Galleta Grassland* | 37.8 | 3.5 | 2.2 |
| White Bursage Scrub* | 3.2 | 0.6 | 1.6 |
| White Bursage Scrub/Big Galleta Grassland* | 28.5 | -- | -- |
| Disturbed/Big Galleta Grassland | -- | -- | 1.8 |
| Ruderal | -- | 1.0 | -- |
| Disturbed/Developed | 7.8 | 0.5 | -- |
| **Total** | **157.5** | **7.8** | **13** |

* Indicates sensitive plant communities.

Source: PCR, 2011.

The plant communities discussed above are composed of numerous plant species. Plant species observations and identifications were completed during the field investigations for the BRA and Supplement study areas. Appendix A, *Floral and Faunal Compendium*, of the BRA lists all plant species observed in both study areas.

**Special Status Plants**

Sensitive Plant Species

Sensitive plants include those listed, or candidates for listing, by the USFWS and CDFG, and species considered sensitive by the CNPS (particularly Lists 1A, 1B, and 2).

No sensitive plant species were observed during the general biological field investigations for the BRA or Supplement study areas, and neither area is in a proposed or final critical habitat area for listed plants. However, due to the potential for sensitive plant species to occur in those areas, focused plant surveys were conducted in the BRA study area during the appropriate blooming period(s) in April and May 2011. Focused surveys were conducted for the following sensitive plant species:

- alkali mariposa lily (*Calochortus striatus*) (CNPS List 1B.2)
- foxtail cactus (*Coryphantha alversonii*) (CNPS List 4.3)e
- purple-nerve cymopterus (*Cymopterus multinervatus*) (CNPS List 2.2)
- Parish's club-cholla (*Grusonia parishii*) (CNPS List 2.2)
- Little San Bernardino Mountains gilia (*Linanthus maculatus*) (CNPS List 1B.2)
- spear-leaf matelea (*Matelea parvifolia*) (CNPS List 2.3)
- appressed muhly (*Muhlenbergia appressa*) (CNPS List 2.2)
- Latimer's woodland-gilia (*Saltugilia latimeri*) (CNPS List 1B.2)
- salt spring checkerbloom (*Sidalcea neomexicana*) (CNPS List 2.2)
- jackass-clover (*Wislizenia refracta ssp. refracta*) (CNPS List 2.2)

The focused surveys determined that none of the sensitive plants listed above occur in the BRA study area.

SCE will be the entity responsible for installing the gen-tie distribution line along an established route. Due to the presence of potentially suitable habitat in the Supplement study area, SCE will conduct focused surveys for sensitive plant species to determine presence or absence and will take into consideration the survey findings when locating the poles in an effort to avoid impacts to sensitive plants in the Supplement study area. If avoidance is not possible, the required mitigation measures would reduce impacts to a level that is less than significant.

Regulated Plant Species

Desert native plants are regulated under Division 23, California Desert Native Plants of the California Food and Agricultural Code (Section 80000 et seq.), which includes protection for several native plant species. This Act was passed by the State Legislature in 1981 to protect certain non-listed California desert native plant species from unlawful harvest on both public and privately owned lands in the desert regions of certain counties, including San Bernardino County. Under the Act, harvesting, transporting, selling or possessing these species for commercial purposes is prohibited unless a person holds a valid permit to do so.

In addition, the San Bernardino County Development Code, Title 8, Chapter 88.01, *Plant Protection and Management*, augments and implements provisions of the California Desert Native Plants Act. The County code requires compliance with the Act before the issuance of a development permit or approval of a land use application that would result in removal of the regulated species. The lists of plant species and families protected by the State Act and the County Code are provided in the *Desert Native Plant Assessment and Rare Plant Survey* in Appendix C. Desert native plant species with potential to occur in the BRA and Supplement study areas include barrel cactus, crucifixion thorn, desert holly, all species in the families Agavaceae, Cactaceae, and Fouquieriaceae. Therefore, surveys for regulated desert native plant species were conducted.

Of the regulated plant species, three specimens of teddy bear cholla (*Cylindropuntia bigelovii*), a succulent in the Cactus family, were located in the BRA study area. In addition, Mojave creosote bush was observed on-site; however, creosote rings were not observed.

Although teddy bear cholla is not a "sensitive" plant since it is not particularly rare or at risk, as a member of the Cactus Family, these plants are still subject to provisions of the California Desert Native Plant Protection Act and the San Bernardino County Code which implements the Act. Removal of plants protected or regulated under the Act will comply with the provisions of the Act before the issuance of a development permit or approval of a land use application. The required permit may be subject to one or more of the following conditions imposed by the applicable review authority:

- Establishment of criteria, methods, and persons authorized to conduct the proposed activities;
- Regulated trees and plants may be required to be transplanted and/or stockpiled for future transplanting;
- Posting and/or maintenance of a monetary security deposit where necessary to ensure the completion of the required measures;

- Provide "inch-for-inch" off-site replacement plantings.

**Sensitive Wildlife Species**

General Wildlife Inventory

The natural communities in the BRA and Supplement study areas serve as part of a functional habitat unit for a variety of wildlife species, both within the study areas and as part of the regional ecosystem. Wildlife species observations and identifications were completed during the field investigations for the BRA and Supplement study areas. Appendix A, *Floral and Faunal Compendium*, of the BRA lists all wildlife species observed in both study areas, including sensitive wildlife species. Sensitive wildlife species include those species listed as endangered or threatened under the FESA or CESA, candidates for listing by USFWS or CDFG, and special species of concern to the CDFG.

The BRA and Supplement both list sensitive wildlife species known to occur within the vicinity as a result of database records, but not expected to occur on-site due to lack of suitable habitat and/or because the study areas are outside of the distributional range for the species. The studies also list 14 sensitive wildlife species with a potential to occur within the study areas based on the presence of suitable habitat and a recorded occurrence within the vicinity (see Table 3 of the BRA). For 12 of those species, their habitat needs generally exist uniformly across the desert environment and focused surveys are not needed to establish their presence. However, the burrowing owl and desert tortoise have specific habitat needs that are not uniformly distributed throughout the desert. Due to the presence of potentially suitable burrowing owl and desert tortoise habitat on-site, focused surveys were conducted to establish presence or absence in the BRA and Supplement study areas. Both species are addressed in the following sections.

No other sensitive bird, reptile, or mammal species were detected during the survey efforts. No naturally occurring native fish populations or amphibians were observed in the study areas.

Desert Tortoise

Desert tortoise (*Gopherus agassizii*) is a Federal and State Threatened species. The BRA and Supplement study areas are not located in USFWS designated critical habitat for the desert tortoise. The nearest designated USFWS critical habitat is approximately 11.8 miles to the east-southeast of the study areas within Bureau of Land Management (BLM) lands. The study areas are not located within a Desert Wildlife Management Area.

The CNDDB and USFWS databases identify multiple occurrences of desert tortoise within a 10-mile radius of the study areas. The most recent occurrences in the vicinity were documented in 2008, with thirteen desert tortoises recorded approximately two to three miles to the east-southeast of the study areas, and one additional occurrence documented approximately six miles to the west-southwest (see map of occurrences in Figure 7 of the BRA).

In April 2011, PCR conducted focused surveys for the desert tortoise in the BRA study area, including associated areas and/or roadways where direct or indirect effects may occur. No

desert tortoise or sign of tortoise were observed. Although the findings of the desert tortoise surveys were negative, there is moderate potential for tortoises in the vicinity to wander onto the site during construction or project operation. Therefore, best management practices (BMPs)/project design features will be put into place during the construction phase and at project build-out to safeguard against impacts to the desert tortoise that may be in the vicinity. BMPs/project design features will include the following:

*Desert Tortoise Construction-Related Fencing:*

- Installation of temporary desert tortoise fencing (while not impacting other vegetation) prior to ground disturbance;
- Conduct a clearance survey prior to the installation of the fence;
- Provide biological construction monitoring during the installation of the tortoise fencing;
- Conduct a survey within the fenced area upon completion of the installed fence to ensure there are no tortoises within the work area; and
- Maintain the desert tortoise fence during the entirety of project construction.

*Desert Tortoise Fencing During Operations:*

Installation of eight-foot-tall fencing is proposed along the perimeter of the project site. Fencing would consist of seven feet of chain link topped with approximately one foot of three-strand barbed wire. Access gates would be provided at four locations (two locations on Broadway and one each at Sunflower Road and 4th Street).

As designed with BMPs/project design features, the project will not result in significant impacts to desert tortoise and no mitigation measures are required.

<u>Burrowing Owl</u>

Burrowing owl (*Athene cunicularia*) is a species of special concern and its burrow sites are protected. Based on Phase I Habitat Assessments conducted concurrently with the general biological surveys, PCR determined that suitable habitat for burrowing owl occurs throughout the BRA and Supplement study areas. Furthermore, the CNDDB identifies several occurrences of burrowing owl that have been documented in a 10-mile radius of the study areas. Most recently in 2005, four occurrences were documented approximately 3.3 to 3.8 miles west of the BRA study area (see map of occurrences in Figure 6 of the BRA).

Due to the potential for burrowing owl to occur in both study areas, protocol surveys were conducted during the peak breeding season (February 1 through August 31) prior to ground-disturbing activities. As noted previously, PCR found suitable habitat throughout the BRA study area in December 2010. A subsequent Phase II Burrow Survey in April 2011 found one collapsed burrow in the BRA study area, as evidenced by diagnostic sign including the presence of white wash and owl pellets.

Due to the presence of a collapsed BUOW burrow observed within the study area during the Phase II burrow surveys conducted in April 2011, Phase III BUOW Surveys, Census

and Mapping were conducted on June 27, 28, 29 and 30, 2011. During the Phase III survey, this same burrow was revisited, exhibiting the same conditions that were observed in April 2011. As in April 2011, no BUOWs were observed within the 157.5-acre study area during the Phase III surveys.

Within a 500-foot buffer area, two active BUOW burrow complexes (i.e., consisting of multiple burrows in close proximity to each other) were observed off-site during the Phase III surveys. Seven BUOW were observed associated with two of the burrows within those burrow complexes. In addition to the occupied/active burrows, two collapsed/inactive burrows were observed from a distance to the east of the study area within the 500-foot buffer area. No BUOW associated with those burrows were observed.

Results of the Phase III concluded that two occupied/active BUOW burrow complexes, two collapsed/inactive BUOW burrows and nine BUOWs, some of which were foraging, were observed within the 500-foot buffer surrounding the perimeter of the study area. Therefore, as recommended by the Burrowing Owl Consortium, the implementation of the following mitigation measures during construction shall be required:

- A 250-foot avoidance buffer shall be placed around the active BUOW burrows during construction activities.
- 6.5 acres of foraging habitat contiguous to the active BUOW burrows shall be avoided during construction activities.
- A pre-construction survey for BUOW should be conducted within 30 days of ground disturbing activities if individual BUOWs are identified.
- If construction is not initiated within 30 days of the last focused survey, another 30-day pre-construction survey shall be conducted.

b) **Less than Significant Impact with Mitigation Incorporated**. PCR reviewed the CDFG Vegetation Classification and Mapping Program's Natural Communities List (September 2010) for plant communities considered "rare and worthy of consideration" by the trustee agencies. The BRA study area supports three plant communities that are listed in the CNDDB as high inventory priority communities and are considered sensitive due to their decline in the region and/or their ability to support sensitive species: white bursage scrub (CNDDB Code 33.060.02), big galleta grassland (CNDDB Code 41.030.01), and white bursage scrub/big galleta grassland (CNDDB Code 33.060.04). The BRA study area supports 3.2 acres of white bursage scrub, 37.8 acres of big galleta grassland, and 28.5 acres of white bursage scrub/big galleta grassland. All three sensitive plant communities will be eliminated by project construction. The mitigation measure requiring restoration and revegetation upon site decommissioning will reduce impacts to sensitive plant communities in the BRA study area to a level that is less than significant.

c) **Less Than Significant Impact**. PCR assessed the BRA and Supplemental study areas to determine whether any waters and/or wetlands potentially under the jurisdiction of the U.S. Army Corps of Engineers (ACOE), California Regional Water Quality Control Board (RWQCB), and/or California Department of Fish and Game (CDFG) occur on-site. Formal

jurisdictional delineations were not conducted at the time of the general biological surveys.

No blue-line streams are found on the U.S. Geological Survey (USGS) 7.5-minute Sunfair or Joshua Tree North quadrangles in the vicinity of the project area. Further, no waters or wetlands subject to the jurisdiction of these regulatory agencies were identified in the BRA study area or within the Alternative 1 portion of the Supplement study area. Since no waters or wetlands subject to the jurisdiction of the regulatory agencies were identified, no impacts will occur in those areas.

A desert wash bisects the Alternative 2 route in the Supplement study area. The wash drains to the Coyote dry lakebed; therefore, it is not a federally-regulated "waters of the U.S." but it is likely regulated by the State (i.e., RWQCB and/or CDFG). Should Alternative 2 be implemented, SCE can avoid impacts to the wash by adjusting the pole placement and spacing. With incorporation of best management practices, the wash will be delineated/flagged such that impacts to it will be avoided and will remain less than significant.

d) **Less than Significant Impact with Mitigation Incorporated**. While some native wildlife species, especially those particularly tolerant of human disturbances, may occasionally breed on the site, no native wildlife have established nursery or breeding colonies on the site. No naturally occurring native fish populations are present within the project site because the project site has no standing water or significant hydrological drainages where water would be present for an extended period of time.

**Wildlife Corridors**

The BRA study area likely provides live-in habitat and local-level movement habitat for a variety of insect, reptile, bird, and mammal species, as well as habitat that likely serves more widespread regional movement. The BRA study area is within the Joshua Tree-Twentynine Palms Connection identified by South Coast Wildlands (SCW), and specifically lies within the westernmost branch of the Least Cost Corridor, which was established with bobcat as the focal species (Penrod et al. 2008 in PCR 2011f). This branch of the Least Cost Corridor is the widest and most permeable route of the three bobcat corridors mapped. It includes habitat around and to the west of Coyote Lake, and ranges from 1.9 to 3.1 miles (3 to 5 km) in width. The identification of "habitat linkages" by SCW neither constitute an adopted government plan nor does it result in any regulation of land uses within or adjacent to those identified areas. However, SCW's linkages proposal is discussed herein for informational purposes.

The BRA study area is north of SR-62, which is regularly traveled with vehicles passing through at a high rate of speed. Although wildlife are able to traverse the highway, SR-62 likely acts as a barrier that somewhat impedes wildlife movement and increases the risk of wildlife mortality. Similarly, the BRA study area includes existing hazards that potentially threaten wildlife movement in the area, including vehicles driving on existing roadways, airplane fly-overs, and off-road vehicles driving over the BRA study area and surrounding area.

The following project design features will minimize impacts to wildlife movement, specifically

bobcat, within the BRA study area:

- **Lighting:** The project has been designed to minimize night lighting. All outdoor lighting, including street lighting, will be provided in accordance with the Night Sky Protection Ordinance and will only be provided as necessary to meet safety standards. Outdoor lighting will be shielded or directed away from the Corridor to protect species from direct night lighting.
- **Noise:** The projected increases in noise will be reduced to the maximum extent practicable during construction activities. During all grading on-site, the construction contractors will equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards to reduce construction equipment noise to the maximum extent possible. The construction contractor will place all stationary construction equipment so that emitted noise is directed away from the Corridor. In addition, all construction work would occur during daylight hours only.
- **Human and Vehicular Disturbances:** Operations and maintenance of the solar facilities will only occur on occasion and during daylight hours. Vehicles will only be operated on existing roads and reduced speed limits will be observed to minimize the risk of wildlife-vehicle collisions.
- **Dust:** Standard construction-related BMPs, such as dust control, will be implemented.
- **Education/Outreach:** Develop a public education campaign which encourages both workers and local residents to understand how to minimize penetration of undesirable effects into natural areas (e.g., light and noise pollution, addressing what to do when encountering wildlife, reduced speed limits, predator-safe enclosures for pets, landscaping, and water conservation). Other forms of public education and outreach may include, but are not limited to, an adopt-a-corridor program, public education seminars, information brochures/flyers/posters, direct mail campaigns, public service announcements, local cable access commercials, wildlife corridor signs, and informational websites.

### Nesting Birds

The BRA and Supplement study areas have the potential to support nesting songbirds due to the presence of shrubs and ground cover, and due to use of the existing power poles and lines. Disturbing or destroying active nests during construction would be a violation of the Migratory Bird Treaty Act (MBTA). In addition, nests and eggs are protected under Fish and Game Code Section 3503. Thus, the removal of vegetation during the breeding season is considered a potentially significant impact. Nesting activity typically occurs from February 15 to August 31.

In order to avoid potentially significant impacts during construction, the project will be mitigated in one of two ways: 1) habitat avoidance by removing vegetation outside of the nesting season, or 2) if construction is to occur during the nesting season, avoidance of active nests as deemed appropriate by a qualified biologist during construction monitoring. The detailed mitigation measures at the end of this section would reduce this impact to a

level that is less than significant.

**Foraging Raptors**

Although there is no raptor nesting habitat on the project site, the BRA and Supplement study areas have support foraging habitat for a number of raptor species. However, in light of the amount of habitat that remains available for this species within the region, removal of foraging habitat represents a less than significant impact to regional raptor populations. Moreover, as a result of the available foraging habitat in the region, focused surveys are not needed.

e) **Less Than Significant Impact.** The San Bernardino County General Plan (Conservation Element and Open Space Element) sets forth the following policies relevant to the protection of natural resources:

1. Encourage the greater retention of existing native vegetation for new development projects to help conserve water, retain soil in place and reduce air pollutants.

   Project Consistency: As described further in the project description section above, the project would not require regular use of water during operations. Water use is limited to panel washing approximately two times per year, resulting in less than 2 acre-feet of water consumed. During construction, dust control measures (see Mitigation Measure AQ-2) would be employed to reduce fugitive dust during grading and other ground disturbance activities. During operations, potential sources of dust would be limited to onsite roadways within the site; however, these would consist of gravel, an aggregate base, or native materials with a soil stabilization material; therefore, dust and air pollutants would be contained and limited to less than significant levels. As described above in Section IV.b., the County's decommissioning requirements in Chapter 84.29 of the County's Development Code, Renewable Energy Generation Facilities, Decommissioning Requirements (Section 84.29.6060) state that native plants must be salvaged prior to construction and transplanted and the site must be revegetated subsequent to decommissioning with native plants.

2. Require future land development practices to be compatible with the existing topography and scenic vistas, and protect the natural vegetation.

   Project Consistency: The project site is relatively flat and does not contain scenic vistas. The project will not require will not significant manipulation of the existing site grades that will be inconsistent with the surrounding topography. See response to IV.e.1. above regarding protection of the natural vegetation.

3. Require retention of existing native vegetation for new development projects, particularly Joshua trees, Mojave yuccas and creosote rings, and other species protected by the Development Code and other regulations.

   Project Consistency: See response to IV.e.1. above regarding protection of the natural vegetation. The *Regulated Plant Species* subsection of Item IV.a previously

noted that all plants protected by the California Desert Native Plants Act are afforded removal and relocation protections under the County Development Code, Title 8, Chapter 88.01, *Plant Protection and Management*. Insofar as the project will comply with the County Development Code and any permit conditions, development of the proposed project would not conflict with the General Plan, local policies or ordinances protecting biological resources.

4. Reduce disturbances to fragile desert soils as much as practicable in order to reduce fugitive dust.

   Project Consistency: See response to IV.e.1. and 2. above regarding preventing fugitive dust emissions and the limited grading activities proposed onsite.

5. Ensure that Off-Highway Vehicle use within the plan area and in the surrounding region is managed to protect residential uses and environmentally sensitive areas.

   Project Consistency: Off-Highway Vehicle use will not be permitted on the project site; this will be enforced with the installation of security fencing around the project perimeter.

f) **No Impact.** The BRA and Supplement study areas are not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. The study areas are within the Western Mohave Plan boundary; however that plan currently applies only to the Federal Bureau of Land Management (BLM) lands and not to the study areas. The project and the gen-tie route alternatives will have no significant impacts relating to Habitat Conservation Plans, Natural Community Conservation Plans, and Recovery Plans. There would be no take of critical habitat and, therefore, no land use conflict with existing management plans would occur.

SIGNIFICANCE: **Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as conditions of project approval to reduce these impacts to a level below significant:**

**BIOLOGICAL RESOURCES MITIGATION MEASURES:**

***BIO-1: BURROWING OWL MITIGATION (BRA Study Area)***

- *A 250-foot avoidance buffer shall be placed around the active BUOW burrows during construction activities.*
- *6.5 acres of foraging habitat contiguous to the active BUOW burrows shall be avoided during construction activities.*
- *A pre-construction survey for BUOW should be conducted within 30 days of ground disturbing activities if individual BUOWs are identified.*
- *If construction is not initiated within 30 days of the last focused survey, another 30-day pre-construction survey shall be conducted.*

***BIO-2: SENSITIVE PLANT COMMUNITIES MITIGATION (BRA Study Area)***

*Since impacts to sensitive plant communities cannot be avoided, a Closure, Revegetation, and Rehabilitation Plan shall be prepared in compliance with the Chapter 84.29 of the County's Development Code, Renewable Energy Generation Facilities, Decommissioning Requirements (Section 84.29.6060). The decommissioning requirements stipulate that:*

- *Areas that had been graded shall be restored to original contours unless it can be shown that there is a community benefit for the grading to remain as altered.*
- *Succulent plant species native to the area shall be salvaged prior to construction, transplanted into windrows, and maintained for later transplanting following decommissioning.*
- *Shrubs and other plant species shall be revegetated by the collection of seeds and re-seeding following decommissioning.*

*Provided the restoration and revegetation is conducted in-kind, the decommissioning requirements will mitigate impacts to sensitive plant communities in the BRA study area to a level that is less than significant.*

***BIO-3: NESTING BIRD MITIGATION (BRA Study Area)***

*Impact avoidance for migratory bird species shall be accomplished in one of the following ways:*

1. *Efforts shall be made to schedule all vegetation removal activities and pole/line removal activities outside the nesting season to avoid potential impacts to nesting birds. The nesting season is typically February 15 to August 31. This would ensure that no active nests would be disturbed and that habitat and pole/line removal could proceed rapidly.*
2. *If initial vegetation and pole/line removal must occur during the nesting season, all suitable habitat and pole/lines shall be thoroughly surveyed for the presence of nesting birds by a qualified biologist before commencement of clearing. If any active nests are detected, a buffer of at least 300 feet (500 feet for raptors) shall be delineated, flagged, and avoided until the nesting cycle is complete as determined by the biological monitor to minimize impacts.*

| *Issues* | *Potentially Significant Impact* | *Less than Significant with Mitigation Incorporated* | *Less than Significant* | *No Impact* |
|---|---|---|---|---|
| **V. CULTURAL RESOURCES** - Will the project | | | | |
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? | ☐ | ☒ | ☐ | ☐ |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | ☐ | ☒ | ☐ | ☐ |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | ☐ | ☒ | ☐ | ☐ |
| d) Disturb any human remains, including those interred outside of formal cemeteries? | ☐ | ☒ | ☐ | ☐ |

***SUBSTANTIATION:*** *(Check if the project is located in the Cultural ☐ or Paleontologic ☐ Resources overlays or cite results of cultural resource review):*

a) **Less than Significant Impact with Mitigation Incorporated**. PCR Services Corporation (PCR) prepared a Phase I and II Cultural Resources Assessment (Cultural Assessment) for the 150-acre project site in February 2011. The purpose was to identify and document any cultural resources that might be located in the project's area of potential effect (APE) and to evaluate such resources pursuant to National Historic Preservation Act (NHPA) Section 106, CEQA, and the County's General Plan. The Cultural Assessment identified historic or archaeological properties by means of pedestrian survey and research in appropriate historical and archaeological archives. The full report, with detailed findings and recommendations, is included as Appendix D.

Phase I Literature Review and Records Search

As part of the Phase I assessment, PCR conducted a cultural resources records search and literature review at the California Historic Resources Information System (CHRIS) San Bernardino Archaeological Information Center (SBAIC) at the San Bernardino County Museum in Redlands, California. PCR also reviewed the California Points of Historical Interest (CPHI), the California Historical Landmarks (CHL), the National Register of Historic Places (National Register), the California Register of Historical Resources (California Register), and the California State Historic Resources Inventory (HRI) listings.

The records search revealed that no cultural resources studies have been conducted for the project site. Table 1 of the Cultural Assessment lists the archaeological resources in the site vicinity. Per the CPHI, CHL, California Register, National Register and HRI listings, no known archaeological or historical resources were recorded on the project site and only an isolate quartzite flake not warranting record status was identified within the half-mile search radius. Additional resources within several miles of the project site confirm the presence of past prehistoric occupation in the immediate vicinity. However, the proposed project would not impact any of those resources due to their extensive distance from the site.

Phase I NAHC Records Search and Consultation

The Cultural Assessment, at Section 4.1.4, *Ethnographic Context*, provides summary accounts of the several ethnographic groups claiming affiliation to the project study area. These Native American groups include the Serrano, Chemehuevi, and Cahuilla. Accordingly, PCR commissioned a Sacred Lands File (SLF) records search through the Native American Heritage Commission (NAHC), which is the State's trustee agency for the protection and preservation of Native American cultural resources. The SLF search did not indicate the presence of Native American or prehistoric cultural resources (including properties, places, or archaeological sites) within ½ mile of the project site.

However, the absence of listings in the SLF is not evidence that archaeological resources do not exist at the subsurface level. Thus, to avoid unanticipated discoveries of such potential resources during project construction, NAHC provided PCR a list of culturally affiliated tribes and individuals that may have knowledge of the religious and cultural significance of the historic properties in the APE. In compliance with State and federal mandates, PCR initiated consultation with all listed tribes and interested Native American consulting parties by requesting information regarding Native American or prehistoric resources (archaeological sites, sacred lands, or artifacts) that may be affected by the proposed project. As of February 24, 2011, PCR had received no responses from the Native American community. The NAHC SLF records search results letter, the Native American contact list, and other Native American consultation documentation are provided in Appendix B of the Cultural Assessment.

Phase I Pedestrian Field Survey

To identify any previously unrecorded archaeological resources and to determine the potential for buried archaeological deposits, PCR performed pedestrian field surveys of the project site on December 15 and 16, 2010. PCR identified 16 prehistoric archaeological resources (two sites and 14 isolates) on-site during the pedestrian surveys. Each is recorded on DPR Site Forms in Appendix C of the Cultural Assessment and described in Chapter 5.0 of that report. The resources primarily consist of medium- to low-density lithic scatters and isolated waste flakes (debitage), which are items produced as a direct result of prehistoric stone tool manufacture. All of the lithic material encountered includes cryptocrystalline silicates such as chert or chalcedony, quartz, and metavolcanic material such as medium-grained and fine-grained rhyolite.

The first prehistoric archaeological site, P-36-023083 (CA-SBR-14526), consists of a medium-density lithic scatter that encompasses a 40-meter by 20-meter area. It includes a surface component that includes 61 flakes (debitage) and one edge-modified flake that may have been used as a tool (possibly as a graver or thumbnail scraper). Disturbances to the resource include bioturbation (rodent burrowing) and patches of vegetation.

The other prehistoric archaeological site, P-36-023085 (CA-SBR-14527), consists of a low-density lithic scatter and two fire-affected rock (FAR) features and encompasses a 50-meter by 50-meter area. It includes a surface component that includes 35 flakes and one core fragment. Disturbances to the resource include a light vegetation cover, modern debris items scattered throughout the site, and bioturbation.

The remaining 14 resources identified during the Phase I assessment include isolated finds that consist of similar chipped stone material found at P-36-023083 and P-36-023085, in addition to several fragments of prehistoric Tizon Brown Ware pottery. Both the Serrano and Cahuilla groups (and to a much lesser extent, the Chemehuevi) used pottery vessels to carry water and store other goods (PCR, 2011a). The Serrano village of *Mara* is located 10 miles east of the project site and it possibly indicates that early inhabitants of this village exploited the resources surrounding Coyote Lake, about a quarter mile east of the project, during seasons when it was filled with water. Regardless, the scattered and random nature of the isolated resources and the modern debris items across the project site is consistent with recent flood events that must have transported items out of context from their original location.

No historical resources (or "built-environment resources") were identified from the records search or the Phase I pedestrian field survey. A single-family residence is located immediately adjacent to the project site but historic aerial photography review confirms that the structure was built post 1995, which indicates it is not a potential historical resource given its relatively recent date of construction. As a result, the project would have no impact on historical built-environment resources.

Phase II Testing and Evaluation

The project would include the placement of 6-inch driven pipe piles up to approximately 6 to 10 feet underground. Given the large quantity of artifacts discovered on the surface during the initial Phase I field survey, the high potential to encounter buried resources and to evaluate the site pursuant to CEQA, PCR conducted a Phase II testing and evaluation assessment of select archaeological resources in January 2011. Archaeological sites P-36-023083 and P-36-023085 were selected over other resources because of their potential to answer research questions[1] (or "data potential") and their high potential to contain a subsurface prehistoric deposit. The purpose was to determine their eligibility for the National Register per Section 106, the California Register per CEQA (including qualification as a "unique archaeological resource"), and to determine whether the resources retain integrity. The complete eligibility and evaluation criteria are provided in Chapter 2.0 of the Cultural Assessment. The detailed Phase II testing methods and results are provided in Chapter 6.0 of the report.

The Phase II testing and evaluation determined that P-36-023083 and P-36-023085 are not eligible for listing in the California or National Registers, nor do they qualify as "unique archaeological resources" pursuant to CEQA. PCR's conclusion was based on the poor structural integrity[2] of the resources and the thorough Phase II testing and recordation efforts that have exhausted their research potential. Moreover, PCR has collected all the artifacts from the resources, which would limit many of the impacts to the resources from the proposed project. Therefore, impacts to the resources are not considered a significant

[1] Research questions may relate to topics such as chronology, subsistence, settlement patterns and lithic technology. A recovered resource may or may not meet the data requirements necessary to address those questions.
[2] "Poor structural integrity," referring to physical characteristics, means that the resource does not retain enough of its historic character or appearance to be recognizable as a historical resource and to convey the reason for its significance.

effect on the environment and no further work is recommended at the resources.

The scattered and random nature of the other 14 isolated resources and the lack of solid data concerning their origin has diminished their research potential. Those resources are unlikely to retain additional buried components with potential to provide information about the prehistory of the region. As noted, PCR recorded all of the resources on DPR Site Forms and has collected the resources, thus limiting all impacts to the resources. As a result of these factors, the 14 isolate resources are not eligible for listing in the California or National Registers, nor do they qualify as "unique archaeological resources" pursuant to CEQA. Therefore, impacts to the resources are not considered a significant effect on the environment and no further work is recommended at the resources.

Despite the lack of impacts to known resources, the Phase II assessment confirmed that there is a high potential to encounter unknown archaeological resources at depth across the project site during construction-related excavation activities. To identify, evaluate, and recover buried archaeological resources that may be accidentally encountered during excavation activities, PCR provided mitigation measures that, when implemented, would reduce impacts to potential historic resources to a level that is less than significant. See mitigation measures CR-1 and CR-2 below.

As noted previously, the project site has no "built-environment" historical resources, such as buildings or structures; therefore, no impact would result.

b) **Less than Significant Impact with Mitigation Incorporated**. The proposed project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5 (see Item V.a above). The Cultural Assessment (PCR, 2011a) has determined that the known archaeological resources in the project area are not unique archaeological or historical resources; therefore, the effects of the project on those resources are not considered a significant effect on the environment. (CEQA Guidelines §15064.5(c)(4)). However, mitigation measures provide that the applicant shall retain a qualified archaeologist to monitor all ground-disturbing activities and excavations on the project site. In the event of the discovery of buried cultural resources, the project archaeologist would temporarily redirect activities from the vicinity of the find in order to evaluate the significance of the resource and to provide proper management recommendations. See mitigation measures CR-1 and CR-2 below.

c) **Less than Significant Impact with Mitigation Incorporated**. PCR Services Corporation (PCR) prepared a Paleontological Resources Assessment (Paleontological Assessment) for the 150-acre project site in February 2011. The purpose was to identify any onsite paleontological resources and to determine the potential for disturbance of undiscovered resources during construction, pursuant to CEQA and the County's General Plan. The Paleontological Assessment details the results of a records search at the San Bernardino County Museum (SBCM), a geological literature review, and a pedestrian survey of the entire site. The full report is included as Appendix E.

Geologic Setting

The project site topography is flat, with a gentle slope to the northeast. Elevations range from 2,370 feet above mean sea level (AMSL) in the northeastern portion of the site to 2,400 feet AMSL in the southwestern portion. There are no unique geologic features on or adjacent to the project site.

The site is in the Mojave geomorphic province, which is characterized by eroded mountains separated by wide alluvial valleys and an abundance of playas associated with numerous drainage basins, including the Twentynine Palms Basin (PCR, 2011b). This basin, which includes the project site, dips to the east and is composed alluvial depositional valleys separated by eroding hills.

The sediments overlying the project site are mapped as Quaternary alluvium (Rogers, 1967 in PCR, 2011b). However, older alluvial deposits have been observed in some areas of the Copper Mountains less than a mile to the east (*ibid.*). These deposits are usually inferred to be of Pleistocene age, between approximately 10,000 and 2.6 million years ago. Additionally, the paleontological resources record search conducted by SBCM concluded the study area to be overlain by Quaternary alluvium, with Pleistocene deposits underneath (see Appendix B of the Paleontological Assessment).

Pedestrian Survey and Records Search Results

PCR paleontologists found no signs of surficial paleontological resources on the project site during their pedestrian survey conducted in February 2011. Similarly, the records search for fossil localities within a few miles of the project site resulted in no known localities. However, many scientifically important vertebrate fossils have been reported from Pleistocene sediments in the area, including ground sloths, saber-tooth cats, pumas, mammoths, badgers, horses, bison, big horn sheep, camels, llamas, deer, pronghorn, and gophers (PCR, 2011b).

The documented older alluvium in the area, numerous scientifically important Pleistocene fossils recovered from the region, and presence of a modern ephemeral dry lake (Coyote Dry Lake) just east of the project site suggests a high potential to retain buried paleontological resources at depth. The close proximity of Coyote Dry Lake increases the likelihood for the recovery of Pleistocene fossils for the following reasons: 1) Lacustrine (lake) environments have a high potential for fossil preservation if deposition is significant enough; 2) During times of increased precipitation, dry lakes are considered oases, attracting animals that live in an otherwise harsh environment; 3) During the last glacial maximum (approximately 21,000 years before present), the size of Coyote Lake was presumably larger because of increased precipitation and overall cooler climatic conditions in California. Furthermore, the general trend toward finer-grained sands, silts, and clays at depths greater than two meters (5.5 to 6 feet), as evidenced by the 25 borings conducted by Wood Rodgers, Inc. (2011a), indicates the possible presence of older (fossiliferous) alluvial sediments and lacustrine (lake) sediments at these depths.

The project-related ground-disturbing activities, such as grading and trenching, have the potential to impact buried paleontological resources. Therefore, the project would, at a minimum, be subject to mitigation measure PR-1, which involves pre-grading preparation of

a paleontological monitoring plan by a qualified, County-approved paleontologist.

If grading or excavation activities reach depths of two meters or more (5.5 to 6 feet), then mitigation measures PR-2 to PR-3 would be implemented to identify, evaluate, and recover paleontological resources. The mitigation measures are consistent with the recommendations set forth by the SBCM, and their implementation would reduce impacts to non-renewable paleontological resources to a level that is less than significant.

d) **Less than Significant Impact with Mitigation Incorporated.** The surface and subsurface investigations did not encounter any human remains (PCR, 2011a). The project site is not located on or near a known cemetery, and no human remains are anticipated to be disturbed during the construction phase. Mitigation Measure CR-3 ensures that, in accordance with applicable regulations, construction activities would halt in the event of discovery of human remains, and consultation and treatment would occur as prescribed by law.

SIGNIFICANCE: **Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as conditions of project approval to reduce these impacts to a level below significant:**

**CULTURAL RESOURCES MITIGATION MEASURES:**

***CR-1*** *Construction Monitoring. A qualified archaeologist shall be retained by the Applicant/landowner and approved by the reviewing agencies prior to the commencement of the project. The archaeologist shall monitor all ground-disturbing activities and excavations on the project site. [Mitigation Measure **CR-1** – Grading/Planning]*

***CR-2*** *Resource Evaluation and Disposition. If archaeological resources are encountered during implementation of the Proposed Project, ground-disturbing activities shall be temporarily redirected from the vicinity of the find. The archaeologist shall be allowed to temporarily divert or redirect grading or excavation activities in the vicinity in order to make an evaluation of the find and determine appropriate treatment that may include the development and implementation of a data recovery investigation or preservation in place. All cultural resources recovered will be documented on California Department of Parks and Recreation Site Forms to be filed with the California Historic Resources Information System (CHRIS) San Bernardino Archaeological Information Center (SBAIC) at the San Bernardino County Museum in Redlands, California. The archaeologist shall prepare a final report about the find to be filed with the Applicant/landowner and the CHRIS-SBAIC. The report shall include documentation and interpretation of resources recovered. Interpretation shall include full evaluation of the eligibility with respect to the National Register of Historic Places and California Register of Historical Resources and CEQA. The Applicant, in consultation with the Lead Agency and archaeologist, shall designate repositories in the event that resources are recovered. [Mitigation Measure **CR-2** – Grading/Planning]*

***CR-3*** *Human Remains. If human remains are encountered unexpectedly during construction excavations and grading activities, State Health and Safety Code Section 7050.5 requires*

*that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the person(s) thought to be the Most Likely Descendent of the deceased Native American, who shall then help determine what course of action shall be taken in dealing with the remains. The landowner shall then undertake additional steps as necessary in accordance with CEQA Guidelines Section 15064.5(e) and PRC Section 5097.98. [Mitigation Measure **CR-3** – Grading/ Planning]*

***PALEONTOLOGICAL RESOURCES MITIGATION MEASURES:***

***PR-1*** *Pre-Construction Responsibilities. A qualified paleontologist shall be retained by the Applicant and approved by the County of San Bernardino prior to the implementation of the Proposed Project to execute a paleontological monitoring plan. A qualified paleontologist is here defined as a paleontologist meeting the qualifications established by the Society of Vertebrate Paleontologists. The paleontologist shall:*

1. *Review the grading study and coordinate with project engineers to become familiar with the proposed depths and patterns of grading across the project site.*
2. *Enter into a repository agreement with an accredited institution (such as the San Bernardino County Museum) before grading operations commence to ensure that an appropriate facility has been selected to curate any fossils encountered during the monitoring program.*

*[Mitigation Measure **PR-1** – Grading/Planning]*

***PR-2*** *Construction Monitoring. A paleontological monitor, supervised by the paleontologist, shall monitor all project-related ground-disturbing activities that reach two meters (5.5 to 6 feet) or more in depth. Pile driving is not considered a ground-disturbing activity for the purposes of this mitigation measure. If fossils are found during ground-disturbing activities, the paleontological monitor shall be empowered to halt those activities within 25 feet of the find to allow evaluation of the find and determination of appropriate treatment. [Mitigation Measure **PR-2** – Grading/Planning]*

***PR-3*** *Resource Collection and Disposition. The paleontological monitor and/or the paleontologist shall collect all significant fossils encountered. All significant fossils shall be stabilized and prepared to a point of identification and permanent preservation. The paleontologist shall prepare a final report on the monitoring. If fossils were identified, the report shall contain an appropriate description of the fossils, treatment, and curation. A copy of the report shall be filed with the Applicant, the County of San Bernardino, and the San Bernardino County Museum, and shall accompany any curated fossils. [Mitigation Measure **PR-3** – Grading/Planning]*

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|---|---|---|---|
| **VI. GEOLOGY AND SOILS** - Will the project: | | | | |
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map Issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | ☐ | ☐ | ☒ | ☐ |
| ii. Strong seismic ground shaking? | ☐ | ☐ | ☒ | ☐ |
| iii. Seismic-related ground failure, including liquefaction? | ☐ | ☐ | ☒ | ☐ |
| iv. Landslides? | ☐ | ☐ | ☐ | ☒ |
| b) Result in substantial soil erosion or the loss of topsoil? | ☐ | ☐ | ☒ | ☐ |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off site landslide, lateral spreading, subsidence, liquefaction or collapse? | ☐ | ☐ | ☒ | ☐ |
| d) Be located on expansive soil, as defined in Table 181-B of the California Building Code (2001) creating substantial risks to life or property? | ☐ | ☐ | ☒ | ☐ |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? | ☐ | ☐ | ☐ | ☒ |

***SUBSTANTIATION:*** *(Check ☐ if project is located in the Geologic Hazards Overlay District):*

a) i) **Less than Significant Impact.** The proposed project site is not located within an Alquist-Priolo Earthquake Fault Zone. While the potential for onsite ground rupture cannot be totally discounted (e.g., unmapped faults could conceivably underlie the project corridor), the likelihood of such an occurrence is considered low due to the absence of known faults within the site.

The site is approximately 0.7 mile north of the Pinto Mountain fault zone and 1.6 miles southwest of the Coyote Mountains fault zone. The proposed project would not include any habitable structures. Nonetheless, the design of any structures onsite would incorporate measures to accommodate projected seismic loading, pursuant to existing California Building Code (CBC) and local building regulations. Specific measures that may be used

for the proposed project include proper fill composition and compaction; anchoring (or other means of for securing applicable structures); and the use of appropriate pipeline materials, dimensions and flexible joints. Based on the incorporation of applicable measures into project design and construction, potential project impacts associated with strong seismic ground shaking would be less than significant.

ii) **Less than Significant Impact.** The project site is within a seismically active region and is potentially subject to strong ground acceleration from earthquake events along major regional faults. The San Andreas Fault (located 23 miles southwest of the site) as a whole is capable of generating significant seismic activity but it has not been particularly active along its southern segment. The Coyote Mountains and Pinto Mountain faults are closer to the project site, but are capable of producing much smaller earthquakes than the San Andreas fault. With the application of the California Building Code and local building requirements, potential project impacts associated with strong seismic ground shaking would be less than significant.

iii) **Less than Significant Impact.** Liquefaction is the phenomenon whereby soils lose shear strength and exhibit fluid-like flow behavior. Other types of seismic-related ground failure include ground rupture (as discussed in Section VI.a.i), landslides (as discussed in Section VI.a.iv), dynamic ground subsidence (or settlement), and lateral spreading.

Loose granular soils are most susceptible to liquefaction, and the phenomenon is generally restricted to saturated or near-saturated soils at depths of less than 50 feet. The soils underlying the site include Quaternary alluvial deposits, which are composed of loose to medium-dense sands underlain by complex interbeds of fine sand, silt, and clay. No groundwater was encountered during site explorations; a review of groundwater level measurements from well logs indicates that the groundwater level in the area is approximately 200 feet in depth. Due to the depth of groundwater below the site, the site is not considered to be susceptible to liquefaction. The potential project impacts associated with liquefaction would be less than significant and no further analysis is warranted.

iv) **No Impact.** The proposed project would not have any risks associated with landslides. Landslides are the downslope movement of geologic materials. The stability of slopes is related to a variety of factors, including the slope's steepness, the strength of geologic materials, and the characteristics of bedding planes, joints, faults, vegetation, surface water, and groundwater conditions. The project area is relatively flat terrain where landslides have not historically been an issue; therefore, no significant impacts are anticipated with respect to seismic-related (or other) landslide hazards, and no further analysis is warranted.

b) **Less than Significant Impact.** Construction activities could result in substantial soil erosion if the sites are not properly designed. The potential impacts of soil erosion would be minimized through implementation of Development Code requirements. Specifically, the applicant would prepare a Stormwater Pollution Prevention Plan (SWPPP) in compliance with the requirements of the National Pollutant Discharge Elimination System (NPDES) General Construction Permit. The SWPPP would prescribe temporary Best Management Practices (BMPs) to control wind and water erosion during and shortly after construction of

the project. The preliminary Water Quality Management Plan (WQMP) in Appendix B of the Hydrology Study (Wood Rodgers 2011b) specifies permanent BMPs to control erosion and sedimentation once construction is complete (see Section IX.c for related discussion). The impact on soil erosion is less than significant and no further analysis is warranted.

c) **Less than Significant Impact.** The Geotechnical Investigation (Wood Rodgers 2011a) indicates that site soils typically consist of loose to medium dense blends of sand and silt. Clay soils are encountered around depths of 15 to 20 feet. From a geotechnical standpoint, the site is well-suited for standard spread foundations or pier foundations to support the structures associated with the proposed solar array. During construction, the geotechnical engineer would provide on-site observation of site preparation and grading, fill placement and foundation installation, thus ensuring that geotechnical conditions are as anticipated and that the contractor's work meets with the criteria in the approved plans and specifications.

Overall, adherence to the Geotechnical Investigation (Wood Rodgers 2011a) recommendations and implementation of San Bernardino County Development Code grading standards, as applicable, would minimize the potential impact of on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. General Plan Geologic Hazards Overlay mapping (FI23 C, Sunfair) for the project area indicates that the area is not subject to landslide or liquefaction risks. The impact of geologic instability is therefore less than significant and no further analysis is warranted.

d) **Less than Significant**. Expansive (or shrink-swell) behavior is attributable to the water-holding capacity of clay minerals and can adversely affect the structural integrity of facilities. In general, compliance with Building Code requirements would minimize potential impacts to project facilities. The surface soils are typically granular blends of sand and silt and considered non-critically expansive. Prior to placing any fills or constructing any overlying improvements, exposed soils would be scarified, moisture conditioned, and compacted according to the Geotechnical Investigation (Wood Rodgers, 2011a) specifications. The investigation also notes that the surface soils are typically loose to medium dense, and that a potential exists for increased subsidence in site grades due to compaction efforts. Deeper pockets and zones of loose soils were also noted during Wood Rodgers' investigation; therefore, sand shifting or rutting under construction traffic should be anticipated and planned for by the contractor in establishing a bid and when considering grading and construction methods.

The lack of housing or permanent employees on the site ensures that risks to human safety would be minimal. Therefore, impacts would be less than significant and no further analysis is warranted.

e) **No Impact.** The project does not propose to use septic tanks or alternative wastewater disposal systems; therefore, no impacts are would occur. No further analysis is warranted.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|---|---|---|---|
| **VII GREENHOUSE GAS EMISSIONS** - Will the project: | | | | |
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | ☐ | ☐ | ☒ | ☐ |
| b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases? | ☐ | ☐ | ☒ | ☐ |

***SUBSTANTIATION:***

a) **Less than Significant Impact.** The project would not generate greenhouse gas (GHG) emissions, either directly or indirectly, that may have a significant impact on the environment. In September 2006, the State enacted the Global Warming Solutions Act (Assembly Bill 32), which was created to address greenhouse gases emitted by human activity and implicated in global climate change. The Act requires that the greenhouse gas (GHG) emissions in California be reduced to 1990 levels by 2020. This is part of a larger plan in which California hopes to reduce its emissions to 80 percent below 1990 levels by 2050. This reduction shall be accomplished through an enforceable statewide cap on GHG emissions that shall be phased in starting in 2012 and regulated by the California Air Resources Board (CARB). With this Act in place, CARB is in charge of setting specific standards for different source emissions, as well as monitoring whether they are being met.

Additionally, through the California Climate Action Registry (CCAR, now called the Climate Action Reserve), general and industry-specific protocols for assessing and reporting GHG emissions have been developed. GHG sources are categorized into direct sources (i.e., from the project site itself and from activities directly associated with operations) and indirect sources (i.e., not directly associated with the project, but impacted by its operations). Direct sources include combustion emissions from on-and off-road mobile sources, and fugitive emissions. Indirect sources include off-site electricity generation and non-company owned mobile sources.

As discussed in Section III (Air Quality) of this document, the proposed project's primary contribution to air emissions is attributable to construction activities, including the delivery of PV panels, support structures and other project equipment to the site. Project construction would result in GHG emissions from construction equipment, panel and project equipment deliveries, and construction workers' personal vehicles traveling to and from the site. Construction-related GHG emissions vary depending on the level of activity, length of the construction period, specific construction operations, types of equipment, and number of personnel.

The primary emissions that would result from the proposed project occur as carbon dioxide ($CO_2$) from gasoline and diesel combustion, with more limited vehicle tailpipe emissions of nitrous oxide ($N_2O$) and methane ($CH_4$), as well as other GHG emissions related to vehicle cooling systems. Although construction emissions are a one-time event, GHG emissions such as $CO_2$ can persist in the atmosphere for decades.

Pursuant to Section 15064.4 of the State CEQA Guidelines, the treatment of GHG emissions follows a process of quantification of project-related GHG emissions; determination of significance; and specification of any appropriate mitigation if impacts are found to be potentially significant. The AQIA used the URBEMIS2007 computer model to quantify GHG emissions, as is common practice for infrastructure/combustion quantification. During project construction, the URBEMIS2007 computer model predicts that the indicated activities could generate the following annual $CO_2$ emissions.

**Table 7**: Annual $CO_2$ Construction Emissions (tons/year)

| Activity | Metric Tons $CO_2$ per Year |
|---|---|
| Phase 1a/2a | 139 |
| Phase 1b/2b | 432 |
| Total | 571 |

Source: Giroux & Associates, 2011, Table 9.

Equipment exhaust also contains small amounts of methane and nitric oxides which are also GHGs. Non-$CO_2$ GHG emissions represent approximately a one percent increase in $CO_2$-equivalent emissions from diesel equipment exhaust. For screening purposes, the temporary construction activity GHG emissions were compared to the chronic operational emissions in the ARB's interim thresholds. The screening level operational threshold is 7,000 metric tons (MT) of $CO_2$-equivalent ($CO_2e$) per year. Construction activities generating a total of 571 MT per year are well below this threshold and are considered less than significant.

During its operational life, the project would offset its operational GHG emissions since development of renewable energy resources is an integral component of the California AB 32 implementation strategy. Operational travel for cleaning of the panels and security would create a very small amount of annual $CO_2$. The AQIA calculates those emissions at about 9 metric tons of $CO_2$ per year.

For comparison, the AQIA estimated GHG emissions from conventional combustion power plants producing the same electrical energy as the proposed facility (i.e., 47,000 kilowatt hours annually). GHG emissions from the most efficient combined cycle gas turbine power plant and a coal-fired power plant are estimated to produce approximately 16,450 and 47,000 metric tons of $CO_2e$, respectively. The project contribution of 9 MT of $CO_2$ per year represents a substantial net reduction (displacement) of 16,440 to 46,990 MT $CO_2e$ per year in the region when compared to the estimated annual GHG emissions for the operation of gas turbine and coal-fired power plants. Therefore, project operational GHG impacts are

considered beneficial.

b) **Less than Significant Impact.** The proposed project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. Currently, neither the MDAQMD nor the County has adopted any plan, policy or regulation intended to reduce greenhouse gas emissions. See also Item VII.a.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required**

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|---|---|---|---|
| **VIII HAZARDS AND HAZARDOUS MATERIALS - Will the project:** | | | | |
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | ☐ | ☐ | ☒ | ☐ |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | ☐ | ☐ | ☒ | ☐ |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | ☐ | ☐ | ☐ | ☒ |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, will it create a significant hazard to the public or the environment? | ☐ | ☐ | ☐ | ☒ |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, will the project result in a safety hazard for people residing or working in the project area? | ☐ | ☒ | ☐ | ☐ |
| f) For a project within the vicinity of a private airstrip, will the project result in a safety hazard for people residing or working in the project area? | ☐ | ☐ | ☐ | ☒ |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | ☐ | ☐ | ☐ | ☒ |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | ☐ | ☐ | ☒ | ☐ |

***SUBSTANTIATION:***

a) **Less than Significant Impact.** The proposed project is not expected to result in impacts from hazards and hazardous materials with respect to creating a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. This is because the proposed project would not involve the routine transport, use, or disposal of hazardous materials as defined by the Hazardous Materials Transportation Uniform Safety Act. During construction, the proposed project would involve the transport of general construction materials (i.e., concrete, wood, metal, fuel, etc.) as well as the

materials necessary to construct the proposed PV arrays. Construction activities would involve the use of hazardous materials such as fuels and greases for the fueling and servicing of construction equipment. Such substances may be stored in temporary storage tanks/sheds that would be located on the project site. Although these types of materials are not acutely hazardous, they are classified as hazardous materials and create the potential for accidental spillage, which could expose workers. The use, storage, transport, and disposal of hazardous materials used in construction of the facility would be carried out accordance with federal, state, and County regulations. No extremely hazardous substances (i.e., governed under Title 40, Part 335 of the Code of Federal Regulations) are anticipated to be produced, used, stored, transported, or disposed of as a result of project construction. As needed, Material Safety Data Sheets for all applicable materials present on-site would be made readily available to on-site personnel as required by the SBCFD Hazardous Materials Division. During construction of the facility, non-hazardous construction debris would be generated and disposed of in local landfills. Sanitary waste would be managed using portable toilets, with waste being disposed of at approved sites.

The PV panels and inverters would produce no waste during operation. PV panels are in a solid and non-leachable state; broken PV panels would not be a source of pollution to stormwater.

There are no designated truck routes on or immediately adjacent to the proposed project site. The closest route is SR-62, located approximately 1.5 miles to the south and accessible via Broadway and Sunfair Road.

The project would be required to comply with federal, state, and county laws, ordinances, and regulations; therefore, the project would result in less-than-significant impacts related to the creation of significant hazards through the routine transport, use, or disposal of hazardous materials.

b) **Less than Significant Impact.** The proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. With the exception of construction-related materials such as fuels, lubricants, adhesives, and solvents, the proposed project would not generate or require the use or storage of significant quantities of hazardous substances. The toxicity and potential release of these materials would depend on the quantity of material, type of storage container, safety protocols used on the site, location and/or proximity to residences, frequency and duration of spills or storage leaks, and the reactivity of hazardous substances with other materials. Therefore, a complete list of all materials used on-site, how the materials would be transported, and in what form they would be used would be recorded to maintain safety and prevent possible environmental contamination or worker exposure. Compliance with regulations and standard protocols during the storage, transportation, and usage of any hazardous materials would ensure no substantial impacts would occur. The PV panels used in the proposed project are environmentally sealed collections of PV cells that require no chemicals and produce no waste materials. There is no a battery backup component, thus minimizing the need for transporting, using, or disposing of the hazardous materials that

may be associated with the project. As such, there is a less-than significant impact associated with creating a significant hazard to the public or the environment.

c) **No Impact.** There are no existing or proposed schools within one-quarter mile of the proposed project site. The nearest schools are Copper Mountain Head Start, approximately 1.75 miles to the southeast, and Joshua Tree Elementary School, approximately four miles to the southwest. Additionally, operations and maintenance of the project would not produce hazardous emissions. No significant adverse impacts related to hazardous emissions or the handling of hazardous materials near schools would result from implementation of the project.

d) **No Impact.** The project site is not located on a known site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The proposed project would not create a significant hazard to the public or the environment. Therefore, the project would result in a less than significant impact associated with hazardous materials sites.

e) **Less than Significant Impact with Mitigation Incorporated.** The proposed project area is located ½ mile northeast of the Roy Williams Airport (Hi Desert Airport). Development near the airport is governed by the 1992 Hi-Desert Airport ACLUP. The project site is within Safety Review Area 3 (AR3), the least restrictive of the airport's three Safety Review Areas. The ACLUP states that the development of utilities is "normally acceptable" within Safety Review Area 3. The project would not include housing or any permanent employees onsite. Therefore, there would not be any significant impacts related to residents or workers located in the vicinity of an airport. Mitigation Measure AR3 is incorporated to ensure compliance with applicable ACLUP standards. Among the requirements of Mitigation Measure AR3 is AR3(b), which prevents projects from emitting glare, electronic interference, smoke, or storing or dispense hazardous materials in such a manner that would endanger aircraft operations or public safety in the event of an aircraft accident. As discussed in Section I (Aesthetics), the project would not cause glare impacts that would affect aircraft operations. Mitigation Measure AES-3 also requires panels to incorporate anti-reflective and diffusion coating technologies that would reduce fugitive glare and spectral highlighting.

The proposed project site lies under Military Special Use Airspace associated with the Marine Corps Air Ground Combat Center (MCAGCC). The project is required to strictly adhere to San Bernardino County's Glare and Outdoor Lighting Ordinance to ensure that lighting from the project does not interfere with MCAGCC nighttime training activities. Implementation of requirement (c) of Mitigation Measure AR3 will further reduce hazard impacts to a level below significant.

f) **No Impact.** The proposed project area is not located within the vicinity of a private airstrip; therefore, it would not result in a safety hazard for people residing or working in the project area. The nearest private airstrip is the Cones Field, located approximately 11 miles to the east of the project site. There is no impact and no further analysis is warranted.

g) **No Impact.** Activities associated with the proposed project would not impede existing

emergency response plans for the project site and/or other land uses in the project vicinity. The project would not result in any closures of existing roadways that might have an effect on emergency response or evacuation plans in the vicinity of the project site. In addition, all vehicles and stationary equipment would be staged off public roads and would not block emergency access routes. The project would pave an approximately ¼-mile segment of Broadway, which would facilitate local evacuation using that route. Accordingly, implementation of the proposed project would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. There is no impact and no further analysis is warranted.

h) **Less than Significant Impact.** The project site is not within an area of high or very high fire hazard, as determined by CAL FIRE. However, any development, along with the associated human activity, in previously undeveloped areas increases the potential of the occurrence of wildfires in the region. Although vegetation on the project site consists of native grasses and shrubs, species of non-native plants (noxious weeds) included on the weed list of the California Department of Food and Agriculture (CDFA 2010) may occur in the project area. In addition to posing a major threat to biological resources, the spread of noxious weeds can result in increased fire frequency by providing sufficient fuel to carry fires. As a condition of project approval, the developer shall comply with San Bernardino County weed abatement regulations [SBCC§ 23.031-23.043] and periodically clear the site of all non-complying vegetation, including weeds such as Russian thistle (tumbleweed, *Salsola tragus*), London rocket (*Sisymbrium itio*), redstem filaree (*Erodium cicutarium*), foxtail chess (*Bromus madritensis)* and cheatgrass (*Bromus tectorum*). The project shall also conform to the requirements of the Safety Element of the General Plan and the applicable portions of the San Bernardino County Code (primarily Title 2, Division 3, "Fire Protection and Explosives and Hazardous Materials"). Through compliance with these standards, the risks associated with wildfires on the project site are reduced to below a level of significance. No further analysis is warranted.

SIGNIFICANCE: **Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as conditions of project approval to reduce these impacts to a level below significant:**

## HAZARDS AND HAZARDOUS MATERIALS MITIGATION MEASURES:

***AR3*** *Operational Requirements. The project is within Airport Safety Review Area Three (AR3) for the Roy Williams Airport (Hi Desert Airport); therefore, the following standards and criteria shall apply in addition to any standards required by the applicable Airport Comprehensive Land Use Plan (ACLUP) during all operations of the project.*

a) *All land uses shall be consistent with the County General Plan and any applicable, adopted ACLUP.*
b) *All structures and land uses shall be operated in a manner not to reflect glare, emit electronic interference, produce smoke, or store or dispense hazardous materials in such a manner that would endanger aircraft operations or public safety in the event of an aircraft accident.*
c) *Lighting shall comply with San Bernardino County Development Code section 83.07.040 – Glare and Outdoor Lighting – Mountain and Desert Regions.*
d) *Structures and the normal, mature height of any vegetation shall be maintained not to exceed the height limitations established in Federal Aviation Regulations (FAR) Part 77, unless otherwise provided by Form 7460-1)*
e) *The developer/property owner shall provide in all lease and rental agreements, and separately to all renters, tenants, lessees, or buyers, information that the site is subject to aircraft overflight from the appropriate airport; is subject to the potential noise and vibration problems associated with aircraft operations and military training activities; and is subject to an Avigation and Noise Easement.*

*[Mitigation Measure **AR3**] - General Requirements / Planning*

| | Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|---|---|---|---|---|
| **IX** | **HYDROLOGY AND WATER QUALITY** - Will the project: | | | | |
| a) | Violate any water quality standards or waste discharge requirements? | ☐ | ☐ | ☒ | ☐ |
| b) | Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level, which will not support existing land uses or planned uses for which permits have been granted)? | ☐ | ☐ | ☒ | ☐ |
| c) | Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that will result in substantial erosion or siltation on- or offsite? | ☐ | ☐ | ☒ | ☐ |
| d) | Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which will result in flooding on- or offsite? | ☐ | ☐ | ☒ | ☐ |
| e) | Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff? | ☐ | ☐ | ☒ | ☐ |
| f) | Otherwise substantially degrade water quality? | ☐ | ☐ | ☒ | ☐ |
| g) | Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | ☐ | ☐ | ☐ | ☒ |
| h) | Place within a 100-year flood hazard area structure which would impede or redirect flood flows? | ☐ | ☐ | ☒ | ☐ |
| i) | Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | ☐ | ☐ | ☒ | ☐ |
| j) | Inundation by seiche, tsunami, or mudflow? | ☐ | ☐ | ☐ | ☒ |

***SUBSTANTIATION:***

a) **Less than Significant Impact.** Wood Rodgers, Inc. prepared a Preliminary Hydrology Study and Storm Water Management Plan (Hydrology Study) for the 150-acre project site in March 2011. The purpose was to analyze off-site and on-site hydrology and drainage issues for the pre- and post-development scenarios. The study developed peak flow rates using the San Bernardino County Hydrology Manual. The full report, with detailed hydrologic modeling calculations, findings and recommendations and preliminary Water Quality Management Plan, is included as Appendix F.

The project would not violate any water quality standards or waste discharge requirements. During the construction period, potential erosion/sedimentation and hazardous materials impacts would be avoided or reduced below a level of significance through conformance with applicable elements of the National Pollutant Discharge Elimination System (NPDES) statewide Construction General Permit (2009-0009-DWQ, as amended November 2010). The project would implement a Stormwater Pollution Prevention Plan (SWPPP) that will describe the various structural and nonstructural water quality management measures to be used. Measures may include installation of filters, straw bale barriers, silt fences, stockpile coverings, and sediment basins.

The WQMP portion of the Hydrology Study identifies long-term Site Design, Source Control, and Treatment Control Best Management Practices (BMPs) to minimize or avoid water quality impacts. Site Design BMPs are proposed to minimize stormwater runoff by minimizing the project's impervious footprint. The site design allows off-site runoff to flow through the site to preserve the natural flow patterns in the area. Impervious areas on the project site are limited to equipment pads, solar panel foundations and a paved portion of Broadway, totaling less than one percent of the total project footprint. The combination of minimizing impervious area and smoothing existing surface soils throughout the site (which allows water flows to spread over a larger area onsite) minimizes offsite stormwater runoff and is consistent with Site Design BMP goals.

Source Control BMPs are proposed to reduce the potential for stormwater runoff and pollutants from coming into contact with one another. Source Control BMPs that are applicable to the project include education of property owners and creating a spill contingency plan. The education and spill contingency components apply to the long-term operations and maintenance of the project. Related activities would include cleaning, drive motor repair, tracker repair, electrical connection repair, and panel replacement. Panel cleaning is expected to be conducted twice each year and water used would not contain any cleaning agents or other additives that would result in a violation of water quality standards or waste discharge requirements.

Treatment Control BMPs in the form of infiltration trenches would be designed downstream of impervious equipment pads.

Implementation of the construction and post-construction BMPs would ensure that water quality impacts are less than significant. Please also see Items IX.c and IX.d below.

b) **Less than Significant Impact**. The proposed project is expected to obtain water supplies from the Joshua Basin Water District (District), which included the proposed project in the demand forecasts within the District's Draft Urban Water Management Plan (UWMP) dated May 13, 2011. Although the draft UWMP has not as yet been adopted by the District's board, it includes sufficient discussion regarding the water system's total projected water supplies to determine that there would be adequate water supplies available to meet the projected water demand associated with the project, in addition to the system's existing and planned future uses, including agricultural and manufacturing uses. Water will only be required by the proposed project site for periodic use (approximately two times per year) and will be provided by the District through existing water pipelines through or near the project. The project will not house permanent employees, nor consist of onsite restrooms. Therefore, since the project would not use substantial amounts of groundwater or create large, impermeable surfaces, it would not cause depletion of groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Groundwater aquifer volume and recharge would not be significantly impacted by the implementation of the project.

c) **Less than Significant Impact.** The Hydrology Study serves as the basis for the analysis of potential erosion and siltation impacts.

The existing site is vegetated with widely spaced desert shrubs and grasses. As described in Item IX.d below, the off-site watersheds to the west/southwest have soils and groundcover similar to those on-site. In a storm event, off-site runoff sheet flows and enters the site along the western border. The flat slopes both on- and off-site, combined with broad sheet flow and a lack of defined drainage channels, generally results in low flow velocities and low potential for erosion and debris flows. The Hydrology Study found little evidence of erosion due to large flows approaching the site, even though channels, culverts, or other drainage improvements are absent along the few paved roadways in the upstream, off-site watersheds. This supports the study's assumption that sheet flow is typical and non-erosive during storm events.

When the project is implemented, most of the existing on-site ground cover would be removed as a result of surface smoothing and construction. Despite the minor grading, surface runoff and infiltration conditions would not change significantly since existing vegetation cover is relatively sparse, native site soils would be used to create the proposed site surface, and impervious surface construction would be minimized.

Runoff originating on- and off-site would be allowed to sheet flow across the site as it does in existing conditions. Longitudinal site slopes are in the range of approximately 1 to 2 percent and produce flow velocities of approximately 2 to 4 feet per second. Solar panels would be constructed atop piles driven between 6 and 10 feet underground. Such piles would not be significantly impacted by scour from water flows; however, occasional maintenance may be necessary after large storm events to repair any erosion damage and to clear fencing of windborne and waterborne debris. If deemed necessary by project engineers during the design phase, additional scour protection methods may be included,

such as additional embedment depth for piles, excavation around the piles and placement of either lean concrete or well graded rip rap in an inverted cone configuration, or placement of rock rip rap or concrete above the ground surface to protect the pile and redirect surface flows. Alternative methods including the use of geotextiles or soil reinforcement scour mats could also be investigated during final design.

During operation, rainwater would drain freely from the tracker panels to the ground. Based on the limited volume of water falling from each panel, the height of the fall (8-12 ft), and the soil conditions, it is not expected that erosion beyond an immediate micro level would occur. It is expected that water would fall from the PV panels and pond at a drip point before infiltrating or gradually migrating into the existing drainage patterns. If, over time, minor erosion is noted at the drip points, small gravel pads can be added to help dissipate the energy of the falling water, which would prevent the piles from being undermined in future storm events.

Based on these factors, the proposed project would have a less than significant impact on existing drainage patterns, and site development would not result in substantial erosion or siltation on- or off-site.

d) **Less than Significant Impact.** The Hydrology Study serves as the basis for the analysis of drainage patterns and potential flooding impacts.

The project site is undeveloped with desert grasses and shrubs providing limited ground cover. The site is flat and has an overall gradient toward the northeast with slopes approximately 1 to 1.5 percent. Offsite stormwater approaches the site as sheet flow from seven watersheds totaling about 952 acres and located west/southwest of the site. The off-site watersheds are primarily vacant land with similar groundcover conditions as the site and a slightly steeper gradient averaging approximately 1.5 to 2 percent. Using those parameters for the 100-year storm event, Appendix A of the Hydrology Study estimates flow velocities of about 2 to 4 feet per second, and flow depths ranging from about 6 inches to 12 inches.

Since an increase in impervious surface area could change drainage patterns and flow volumes, the project is designed to minimize impervious coverage in several ways. First, site roadways would be constructed using pervious materials, and to minimum widths necessary to meet access requirements. To provide direct emergency access to the site, the project would pave a small portion of East Broadway (less than 8,000 square feet; not to exceed 26 feet in width) from the current edge of pavement to the site's access points. No paved sidewalks or formal parking areas are proposed. Additionally, impervious concrete within the 27,900-square-foot switchyard would be limited to small footings or pads for equipment; most of the switchyard ground would consist of native, pervious materials. Finally, the proposed solar panels would not create a contiguous impermeable surface. Solar panels drain similar to rooftops and would drain to existing permeable surface soils, and then infiltrate into the surface similar to existing site conditions. The solar panels would be elevated, so they would have minimal impact on existing surface drainage characteristics. The panels would be supported by driven piles, which would contribute to negligible increases in overall impervious site coverage (a total of approximately 3,500

square feet of impervious surface, or 0.05 percent of the project site).

The Hydrology Study (p. 7) has determined that combined (off-site plus on-site) peak flows at concentration points in the proposed condition are generally consistent with the flows at the same locations in the existing condition. Although some post-development flows would increase, the proposed grading plan would convey sheet flow runoff at shallower flow depths due to the smoothing out of any existing cross-sectional areas that currently act as broad, shallow channels. The numerous panel foundations would also provide some level of flow impedance to passing sheet flows. Essentially, flow spread would increase, while depths and velocities would typically decrease through the site after development (Wood Rodgers, 2011b, p. 8).

One developed parcel (0607-251-29) along the eastern boundary of the project site at Broadway would receive increased runoff from the project site. Currently, the primary structure on that parcel lies in the pathway of the main flow. The post-development flow approaching that parcel would increase by approximately 7.5 cubic feet per second (cfs), or about 4 percent, in the 100-year storm event. However, the proposed grading plan provides for a reduction in depth of flow and velocity, while also routing the flow path farther south of the primary structure on that parcel (see Figures 5 and 6 of the Hydrology Study). Although total post-development flows increase, the primary structure on the parcel is expected to experience decreased flow. Since minor flow increases are not anticipated to negatively impact downstream parcels or structures, the County Department of Public Works has determined that detention of post-development flows is not necessary.

The project would not substantially increase the rate or amount of surface runoff in a manner that would result in on- or offsite flooding, and project-related impacts on existing drainage patterns would be less than significant (see discussion in Item IX.c).

e) & f) **Less than Significant Impact.** The Hydrology Study, including the preliminary WQMP, serves as the basis for the analysis of stormdrain system capacity and pollutant concentrations. The study determined that stormwater storage and infiltration characteristics would not change substantially with project development, due primarily to the project's minimal impervious footprint and perpetuation of existing flow paths through the site.

Per the San Bernardino County Hydrology Manual, the Hydrology Study calculated on-site and off-site peak flow rates for existing and proposed conditions. For both conditions, the Hydrology Study found that the project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwaters drainage systems. The Hydrology Study runoff flow calculations, including the WQMP water quality BMPs, are based on the design assumptions that no stormdrain pipes or imperviously lined swales are proposed or necessary; all impervious surfaces drain to native soils for infiltration; and post-development drainage patterns, flow discharges, and soil infiltration characteristics would be substantially similar to pre-development conditions (see Item IX.d).

As noted previously, impervious areas are limited to small equipment pads, six-inch diameter pipe piles (solar panel foundations), and the paving of a portion of Broadway. The WQMP indicates that downstream infiltration trenches would capture the increased

stormwater runoff from those surfaces.

Since the project would not exceed stormdrain capacities or provide substantial additional sources of polluted runoff, impacts would be less than significant.

g) **No Impact.** The proposed project is a solar energy generation facility, and would not include any housing. Therefore, there would be no impact related to the placement of housing within a FEMA-delineated 100-year flood zone. No further analysis is warranted.

h) **Less than Significant Impact.** The proposed project is in Zone X on FEMA map number 06071C8175H and not within a 0.2 percent annual chance (100-year) flood hazard area. The nearest FEMA-delineated 100-year floodplain is approximately ¼ mile east, on the site of Coyote Lake. There would be no impact related to impedance or redirection of flood flows within that 100-year flood zone, and no special consideration has been included in the site design to meet FEMA flood mitigation requirements.

Although the County's flood zone elevation requirements are generally dictated by the FEMA boundary, project design could be modified to address flood hazard potential identified by the U.S. Army Corps of Engineers' (ACOE) "Special Flood Hazard Study Lake Level Frequency Analysis Copper Dry Lake," prepared in 1979. That study, along with a subsequent re-evaluation by Wood Rodgers, preliminarily identified 100-year ponded water surface elevations ranging from 2,366 to 2,368 feet AMSL. At those water surface elevations, an updated flood inundation boundary could cover approximately 7 acres at depths up to 4 or 5 feet in the northeast corner of the project site. However, the extent of that potential inundation boundary has not been verified and the County has not indicated the need for design requirements beyond the FEMA flood zone boundary.

All required equipment pads, maintenance, and storage areas would be located outside of the 100-year inundation boundary. Since solar panels might be located within the inundation boundary, the arrays would be elevated above flood inundation level, which involves deepening footings and using taller piles to raise the panels. Should the County determine during the grading plan review that significant enough risk exists to warrant the additional precaution, electrical wiring configurations might also be elevated to protect from water damage, and remote inverter pads might be installed outside of the inundation limits. Those design provisions would ensure that impacts remain less than significant.

i) **Less than Significant Impact.** The project would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, because the project site is not within any identified path of a potential inundation flow that might result in the event of a dam or levee failure or that might occur from a river, stream, lake or sheet flow situation. There is no impact and no further analysis is warranted.

j) **No Impact.** The project site would not be subject to inundation by seiche, tsunami, or mudflow A tsunami is a series of ocean waves generated in the ocean by an impulsive disturbance. Due to the inland location of the proposed project, tsunamis are not considered a threat. A seiche is an oscillating surface wave in a restricted or enclosed body of water

generated by ground motion, usually during an earthquake. Inundation from a seiche can occur if the wave overflows a containment wall or the banks of a water body. No impacts are expected to occur because the project is not adjacent to any marine or inland water bodies. The soils in the project area are moderately well-drained, the terrain is relatively flat, and mudflows have not historically been an issue in the proposed project area. No further analysis is warranted.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|---|---|---|---|
| **X. LAND USE AND PLANNING** - Will the project: | | | | |
| a) Physically divide an established community? | ☐ | ☐ | ☐ | ☒ |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | ☐ | ☐ | ☐ | ☒ |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | ☐ | ☐ | ☐ | ☒ |

***SUBSTANTIATION:***

a) **No Impact.** The project would not physically divide an established community, because the project is located in an unincorporated part of the County that has sparse residential development and would occupy an area that is currently vacant. The project would not require the abandonment or relocation of any public rights-of-way, nor would it create an impediment for residents in the project area. Therefore, there would be no impact related to the dividing of an established community. No further analysis is warranted.

b) **No Impact**. The current General Plan land use zoning designations for the proposed project area are RC and RL, which allow development of electrical power generation with a CUP; therefore, there is no impact associated with a conflict with the General Plan land use zoning designation for the site. The project site is also partially within Safety Review Area 3 of the Hi-Desert Airport ACLUP. The ACLUP states that the development of utilities is "normally acceptable" within Safety Review Area 3; therefore, there is no impact associated with a conflict with the ACLUP. There are no other applicable plans adopted for the purpose of avoiding or mitigating an environmental effect that govern land use at the site. There is no impact and no further analysis is warranted.

c) **No Impact**. The project area is within the boundaries of the West Mojave Plan. The West Mojave Plan is a federal land use plan amendment to the Bureau of Land Management's California Desert Conservation Area (CDCA) Plan that presents a comprehensive strategy to conserve and protect sensitive plants and animals and the natural communities of which they are a part. The West Mojave Plan is applicable only to BLM-administered public lands within the West Mojave Plan area. Although the study area is within the West Mojave Plan area, it is not encompassed within BLM lands; therefore, future development would not be subject to the requirements of the West Mojave Plan. In addition, although the project area was within a "Special Review Area" under the original draft of the West Mojave Plan, specifically for desert tortoise and the little San Bernardino County Mountains gilia, compliance with the Special Review Area requirements are not applicable since that portion of the Plan was not adopted. Although not required pursuant to the adopted West Mojave Plan, surveys for those two

sensitive species were conducted in compliance with CEQA and Federal regulations, and the findings were negative.

A West Mojave Habitat Conservation Plan (HCP) for private lands is in preparation, and has not yet been approved by local or State agencies. Should the West Mojave HCP for development on private lands be adopted prior to implementation of the project, any future development would have to be consistent with its conditions.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|---|---|---|---|
| **XI. MINERAL RESOURCES** - Will the project: | | | | |
| a) Result in the loss of availability of a known mineral resource that will be of value to the region and the residents of the state? | ☐ | ☐ | ☐ | ☒ |
| b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | ☐ | ☐ | ☐ | ☒ |

***SUBSTANTIATION:*** *(Check ☐ if project is located within the Mineral Resource Zone Overlay):*

a) **No Impact.** The USGS Mineral Resources Spatial Data Mapper indicates that no metallic or nonmetallic mineral resources have been mapped on the proposed project area. In addition, no active mines or mining claims are located on or in the immediate vicinity of the project site. Implementation of the proposed project would not result in the loss of any known mineral resources on the proposed site. No further analysis is warranted.

b) **No Impact.** The proposed project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan (see discussion in Item XI.a). There is no impact and no further analysis is warranted.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|---|---|---|---|
| **XII. NOISE** - Will the project result in: | | | | |
| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | ☐ | ☒ | ☐ | ☐ |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | ☐ | ☐ | ☒ | ☐ |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | ☐ | ☐ | ☐ | ☒ |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | ☐ | ☒ | ☐ | ☐ |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, will the project expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☒ |
| f) For a project within the vicinity of a private airstrip, will the project expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☒ |

***SUBSTANTIATION:*** *(Check if the project is located in the Noise Hazard Overlay District ☐ or is subject to severe noise levels according to the General Plan Noise Element ☐):*

a) **Less than Significant Impact with Mitigation Incorporated**. Sensitive noise receptors in the vicinity of the project site include fewer than ten residences along 4th Street, three on Broadway, and one on Sun Oro Road. Other residences in the Sunfair community are more than ¼ mile from the project site and would not be subject to any noticeable noise impacts from the site. Without mitigation, noise generated from the proposed project could temporarily exceed standards established in the General Plan or Noise Ordinance, or applicable standards of other agencies. Specifically, construction of the proposed project may potentially create some elevated short-term construction noise impacts from construction equipment between the hours of 7 a.m. and 7 p.m. Section 83.01.080(g)(3) specifically exempts "temporary construction, maintenance, repair, or demolition activities" from County noise standards, when such activities occur between 7 a.m. and 7 p.m., excluding Sundays and federal holidays." Additionally, with implementation of Mitigation Measure N-1, no significant impacts are anticipated. The mitigation measure ensures that noise generation from construction equipment/vehicle operation would be limited to daytime hours and would be localized, temporary, and transitory in nature.

Operation of the proposed project would not generate audible levels of noise or perceptible levels of vibration in the surrounding community. Onsite noises would be limited to small

motors that rotate the photovoltaic panels on the single-axis tracking system, noise from inverters and pad-mounted transformers, and maintenance activities (including occasional cleaning, drive motor repair, tracker repair, electrical connection repair, and panel replacement). The small motors used to rotate the panels would produce very low levels of noise, operate only during daylight, and be imperceptible from nearby residences. Similarly, the proposed inverters and pad-mounted transformers are small in scale and located over 200 feet from nearby residences, minimizing potential noise impacts. Maintenance activities would be infrequent and only during daylight hours. The project would not include dwellings or other development, nor would it have the potential to generate any significant number of additional vehicle trips after construction is completed.

Based on this analysis, it is concluded that the proposed project would not have a substantial adverse effect on noise during operations; impacts would be less than significant and no mitigation measures are required.

b) **Less than Significant Impact**. Groundborne vibration and groundborne noise could originate from earth movement during the construction phase of the proposed project as well as from the operation and maintenance of the facilities. Operation of the proposed project would introduce noise that would be associated with the moving parts of the tracker panels as well as general maintenance activities associated with the facility. Noise from these operational generators would be minimal in nature and would not create a significant noise impact within the surrounding area. The project would be expected to comply with all applicable requirements for long-term operation, as well as with measures to reduce excessive groundborne vibration and noise, to ensure that the project would not expose persons or structures to excessive groundborne vibration. Impacts would be less than significant.

c) **Less than Significant Impact**. The proposed project would not create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. The project would result in temporary noise increases during construction but would not create any substantial permanent increase in the ambient noise levels. Operational-period activities would include the occasional use of vehicles and the use of equipment that produce minimal noise levels at site boundaries.

Inverters would be distributed throughout the solar field. The final inverter design has not yet been determined; however, uncontrolled inverter noise is expected to be up to 75 dBA immediately adjacent (3 – 5 feet away) to the inverters. Noise would only be produced by inverters during daytime hours, when the PV panels are producing electricity. Transformers would likely be located with the inverters. A typical inverter transformer in such an installation would be a 1,000 kVA liquid-immersed distribution transformer, which would result in average sound levels of 58 dBA at the source based on National Electrical Manufacturers Association (NEMA) requirements. While no specific transformer model has been selected, any transformer used onsite would follow the NEMA requirements, resulting in an average sound level of 58 dBA. The combined noise level of each inverter and transformer pair would drop to 42 dBA at 100 feet, a distance which is within project

boundaries. Therefore, the combined noise of the inverters and transformers would be well below the Development Code's standard for stationary noise sources in residential areas of 55 dBA between 7 a.m. and 10 p.m. and 45 dBA between 10 p.m. and 7 a.m. (Table 83-2). Because the inverters would not be operating outside of daytime hours, operational noise impacts would be further reduced during nighttime hours. Therefore, the project would not have a substantial adverse effect related to a substantial permanent increase in ambient noise levels and no mitigation measures are required.

d) **Less than Significant Impact with Mitigation Incorporated**. The proposed project is adjacent to mostly undeveloped and/or vacant lands; therefore, noise generated during construction of the proposed project could potentially result in some temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. Specifically, construction of the proposed project may potentially create some elevated short-term construction noise impacts from construction equipment. Mitigation Measure N-1 would ensure that impacts are below a level of significance by limiting noise-generating activities to the hours of 7 a.m. to 7 p.m., requiring the muffling of construction equipment where feasible, and requiring that stationary construction equipment be placed in a manner so that emitted noise is directed away from sensitive receptors.

During operations, noise from the facility would occur periodically due to occasional maintenance activities, twice-annual washings, and periodic visits by security staff. These activities would produce limited amounts of noise from pickup trucks and other light vehicles; such impacts would be temporary. Additionally, operating vehicles would only be located at any single point on the site for a very limited duration. Maintenance, repair, and washing activities would occur exclusively during daylight hours. Further, because the nearest residential structures to the project are at least 100 feet away, noise produced by vehicles would be reduced significantly prior to reaching sensitive land uses.

Because these impacts are a result of temporary maintenance activities, and with implementation of Mitigation Measure N-1, which limits these temporary activities to the hours of 7 a.m. to 7 p.m., excluding Sundays and Federal holidays, they fall under the exemption provided by Section 83.01.080(g)(3) of the Development Code. Therefore, with implementation of Mitigation Measure N-1, temporary or periodic noise impacts would be less-than-significant.

e) **No Impact.** The proposed project area is located ½ mile northeast of the Roy Williams Airport (Hi Desert Airport). Development near the airport is governed by the 1992 Hi-Desert Airport ACLUP. The project site is within Safety Review Area 3, the least restrictive of the airport's three Safety Review Areas. The ACLUP states that the development of utilities is "normally acceptable" within Safety Review Area 3. The project would not include housing nor any permanent employees onsite. Therefore, because the site would not include residents or permanent employees, the project would not expose people residing or working in the project area to excessive noise levels. The project would not have a substantial adverse effect related to the exposure of residents or workers on the project site to

excessive noise levels related to Roy Williams Airport, and no mitigation is required.

f) **No Impact.** The proposed project area is not located within the vicinity of a private airstrip. The nearest private airstrip is Cones Field, located approximately 11 miles to the east of the project area. Due to the distance of the airstrip from the project site, there would be no noise impacts from the airstrip on workers in the area.

SIGNIFICANCE: **Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as conditions of project approval to reduce these impacts to a level below significant:**

**NOISE MITIGATION MEASURES:**

***N-1*** *Noise Mitigation. The developer shall submit for review and obtain approval of an agreement letter that stipulates that all construction contracts/subcontracts contain as a requirement that the following noise attenuation measures be implemented:*

*a) Noise levels of any project use or activity shall be maintained at or below adopted County noise standards (SBCC 83.01.080). The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only.*
*b) Exterior construction activities shall be limited between 7 a.m. and 7 p.m. There shall be no exterior construction activities on Sundays or National Holidays.*
*c) Construction equipment shall be muffled per manufacturer's specifications. Electrically powered equipment shall be used instead of pneumatic or internal combustion powered equipment, where feasible.*
*d) All stationary construction equipment shall be placed in a manner so that emitted noise is directed away from sensitive receptors nearest the project site.*

*[Mitigation Measure **N-1**] Grading/Planning*

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|---|---|---|---|
| **XIII. POPULATION AND HOUSING** - Will the project: | | | | |
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | ☐ | ☐ | ☐ | ☒ |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |

***SUBSTANTIATION:***

a) **No Impact.** The proposed project will not induce substantial population growth in the area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). Construction is anticipated to take approximately 18 months, with a peak workforce of 88 construction workers on the site. These workers would commute to the site from nearby communities such as Joshua Tree, Twentynine Palms, and Yucca Valley, as well as from larger population centers a greater distance away, such as Palm Springs and Banning. There would be no permanent staffing onsite during operations. Accordingly, the proposed project would not result in any impacts to housing or related infrastructure, nor would it require construction of additional housing. The project would not result in a substantial adverse effect related to substantial population growth in the area, and no mitigation measures are required.

b) **No Impact.** The proposed project would not displace existing housing. There would be no impact related to displacement of housing.

c) **No Impact.** The proposed project would not displace local residents. There would be no impact related to the displacement of people.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|---|---|---|---|
| **XIV. PUBLIC SERVICES** | | | | |
| a) Will the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: | | | | |
| Fire Protection? | ☐ | ☐ | ☒ | ☐ |
| Police Protection? | ☐ | ☐ | ☒ | ☐ |
| Schools? | ☐ | ☐ | ☐ | ☒ |
| Parks? | ☐ | ☐ | ☐ | ☒ |
| Other Public Facilities? | ☐ | ☐ | ☐ | ☒ |

***SUBSTANTIATION:***

a) **Fire - <u>Less than Significant Impact.</u>** The proposed project area is serviced by the SBCFD. The nearest fire station is Panorama Heights Station 35, located 1.7 miles southeast of the project site. This station houses one Type II/III Engine Company and one Water Tender. Joshua Tree Station 36 is located 4.7 miles southwest of the project site, in Joshua Tree. This station houses one Type I Engine Company, one Squad vehicle, and one reserve engine. The proposed project would not substantially impact service ratios, response times, or other performance objectives related to fire protection. However, during construction, some public services including fire protection may be required; these would be short-term requirements and would not require increases in the level of public service offered or affect the agency's response time. The project would incorporate perimeter and internal access driveway systems that are accessible to emergency equipment. In addition to the site's two main access points off of Broadway, emergency access would be available from Sunflower Road and 4th Street. Entry gates would include knox locks or similar devices to allow 24-hour access for emergency responders.

Any development, along with the associated human activity, in previously undeveloped areas increases the potential of the occurrence of wildfires. Comprehensive safety measures that comply with federal, state, and local worker safety and fire protection codes and regulations would be implemented for the proposed project that would minimize the potential for fires to occur during project construction and operations. Because of the low probability and short-term nature of potential fire protection needs during construction, the

proposed project would not result in significant impacts associated with fire protection.

**Police Protection – Less than Significant Impact.** The proposed project area and other unincorporated portions of the County are served by the SBCSD. The proposed project would not impact service ratios, response times, or other performance objectives related to police protection. However, during construction, some public services including police protection may be required. These would be short-term requirements and would not require increases in the level of public service offered or affect the agency's response times. In order to protect against theft and vandalism, the proposed project would employ its own security patrol crews to survey the project site during construction and operation of the project. Additionally, the project would incorporate security fencing, entry lighting, and security camera systems.

**Schools – No Impact.** Long-term operation of the proposed facilities would place no demand on school services because it would not involve the construction of facilities that require such services and would not involve the introduction of a temporary or permanent human population into this area. There would be no impact on schools and no further analysis is warranted.

**Parks – No Impact.** Long-term operation of the proposed facilities would place no demand on parks because it would not involve the construction of housing and would not involve the introduction of a temporary or permanent human population into this area. There would be no impact on parks and no further analysis is warranted.

**Other Public Facilities – No Impact.** The proposed project would not result in an increased resident population or a significant increase in the local workforce. Based on these factors, the proposed project would not result in any long-term impacts to other public facilities and no further analysis is warranted.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|---|---|---|---|
| **XV. RECREATION** | | | | |
| a) Will the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility will occur or be accelerated? | ☐ | ☐ | ☐ | ☒ |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | ☐ | ☐ | ☐ | ☒ |

***SUBSTANTIATION:***

a) **No Impact.** The proposed would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. No new residences or recreational facilities would be constructed as part of the proposed project and the proposed project would not induce population growth in adjacent areas. No significant adverse impacts on recreation would result from implementation of the project and no further analysis is warranted.

b) **No Impact.** The proposed project does not include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment. No new residences or recreational facilities would be constructed as part of the proposed project. The proposed project would not induce population growth in adjacent areas and would not increase the use of recreational facilities in surrounding neighborhoods. No significant adverse impacts on recreation would result from implementation of the project and no further analysis is warranted.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|---|---|---|---|
| **XVI. TRANSPORTATION/TRAFFIC** – Will the project: | | | | |
| a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and greenways, pedestrian and bicycle paths, and mass transit. | ☐ | ☐ | ☒ | ☐ |
| b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. | ☐ | ☐ | ☒ | ☐ |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | ☐ | ☐ | ☐ | ☒ |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | ☐ | ☐ | ☐ | ☒ |
| e) Result in inadequate emergency access? | ☐ | ☐ | ☒ | ☐ |
| f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? | ☐ | ☐ | ☐ | ☒ |

***SUBSTANTIATION:***

a) **Less than Significant Impact.** A Trip Generation Analysis was prepared for the project by RGP Planning & Development Services in July 2011 (see Appendix G). The Trip Generation Analysis reveals that the proposed project would not result in any decline in the performance of the area's circulation system. During construction, a maximum of 59 passenger car equivalent (PCE) trips per day would occur, including a combination of passenger vehicles and large trucks. This number of trips would have a minimal impact on access routes to the project site, including SR-62, Sunfair Road, and Broadway. During operations, the project would be unmanned and would generate approximately 2 round-trips per week for security and maintenance purposes.

Due to the rural nature of the project area, alternative means of transportation, including mass transit and pedestrian and bicycle routes, are generally unavailable, and would therefore not be negatively impacted by the project. Because the site would be

unmanned, there would be no increase in demand for alternative means of transportation.

Therefore, the proposed project would not conflict with any applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system. No significant adverse impacts on transportation or traffic would result from implementation of the project and no further analysis is warranted.

b) **Less than Significant Impact.** As noted under impact a), above, the Trip Generation Analysis prepared for the project reveals that the proposed project would not result in any decline in the performance of the area's circulation system during either the construction or operational periods. The proposed project would therefore not conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. The proposed project would result in a less-than-significant increase in traffic in relation to the existing traffic load and capacity of the street system. At the initiation of project construction, equipment that may include water trucks, backhoes, and loaders would be mobilized to the project site using Broadway. This equipment would then be stored onsite for the duration of construction and used as construction progresses. Regular deliveries of materials (including solar panels) and commuting trips by workers would also use Broadway; however, as calculated in the Trip Generation Analysis, construction-period would have a minimal impact on area roadways. During operations, the project would be unmanned and would generate very few trips per week for security and maintenance purposes. Based on these facts, no significant adverse impacts on transportation or traffic would result from implementation of the project and no further analysis is warranted.

c) **No Impact.** The proposed project would not affect air traffic patterns. The project site is ½ mile northeast of Roy Williams Airport. The only substantial aboveground modifications would be solar panels and associated equipment with a maximum height of approximately 12 feet, and power distribution lines with a height of approximately 35 feet. The proposed distribution lines are similar in height to existing lines in the region, including lines near the airport, and would have no impact on airport operations.

Potential impacts associated with reflectivity and glare are discussed in Section I, above. Based on the analysis provided in Section I, the project would result in less-than-significant impacts related to glare. Therefore, no significant adverse impacts on air traffic patterns would result from implementation of the project and no further analysis is warranted.

d) **No Impact.** The proposed project would not include design features that could affect traffic safety, nor would it cause incompatible uses to be present on local roads. Project gates would be inset in accordance with County design standards to prevent vehicle stacking into public roads. No new roads are proposed as part of this project, and no significant increase in traffic is projected during project construction or operations. Therefore, no significant adverse impacts related to roadway design features or incompatible uses would result from implementation of the project and no further analysis is warranted.

e) **Less than Significant Impact**. The proposed project would not result in inadequate emergency access to the project area. During project construction, public roads would remain open and available for use by emergency vehicles and other traffic. The proposed project would not result in any roadway closures in the vicinity of the project site. The project site would have four access points from three roadways (Broadway, 4th Street, and Sunflower Road) to ensure adequate emergency access to the site. Access points would be equipped with knox locks or similar devices to permit emergency responders to enter the site 24 hours per day. Perimeter and internal drives would be included to allow access to all points within the project site.

f) **No Impact.** Due to the rural nature of the project area, no public transit, bicycle, or pedestrian facilities presently exist or are planned for implementation in the vicinity of the project site. The nearest such facilities (including public transit services and a planned bikeway) are 1.5 miles south of the project site, on SR-62. Services on SR-62 would not be impacted by the project. No alternative transportation policies, plans, or programs have been designated for the proposed project area. Because the project would be unmanned during operations, project implementation would not result in an increase in demand or decline in performance for public transit, bicycle, or pedestrian facilities in the region. Therefore, the proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance of safety of such facilities. No significant adverse impacts would result from implementation of the project and no further analysis is warranted.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|---|---|---|---|
| **XVI. UTILITIES AND SERVICE SYSTEMS** - Will the project: | | | | |
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | ☐ | ☐ | ☐ | ☒ |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | ☐ | ☐ | ☐ | ☒ |
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | ☐ | ☐ | ☐ | ☒ |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded, entitlements needed? | ☐ | ☐ | ☐ | ☒ |
| e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | ☐ | ☐ | ☐ | ☒ |
| f) Be served by a landfill(s) with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | ☐ | ☐ | ☒ | ☐ |
| g) Comply with federal, state, and local statutes and regulations related to solid waste? | ☐ | ☐ | ☒ | ☐ |

***SUBSTANTIATION:***

a) **No Impact**. The proposed project would not exceed wastewater treatment requirements of the Colorado River RWQCB. During construction, wastewater would be contained within portable toilet facilities and disposed of at an approved site. No employees would be permanently stationed at the site, and no permanent restrooms are planned. The project would discharge uncontaminated water that is used to clean the solar panels, with no toxicants or cleaning agents used. The County General Plan defers to applicable RWQCB water control requirements, and the proposed project's water discharge does not require treatment or permitting according to the regulations of the Colorado River RWQCB.

b) **No Impact.** The proposed project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. The project would require minimal water use, consisting of less than two acre-feet of water for panel cleaning (one acre-foot per wash, with two washes per year). Because the site would not contain a permanent workforce, no toilet facilities would be required and there would be no

demand for wastewater service.

c) **No Impact**. The proposed project would not require the construction or expansion of storm water drainage facilities. The proposed project would discharge uncontaminated water that is used to clean the solar panels, with no toxicants or cleaning agents used. The insubstantial quantity of discharged water generated by cleaning (less than one acre-foot) would be absorbed into the soils onsite. Only a small percentage of the project site would be covered impervious surfaces with implementation of the project.

d) **No Impact**. It is expected that less than two acre-feet of water would be required to wash the panels each year (less than one acre-foot per wash, two washes per year). Water would be obtained from an existing utility line below Broadway. Water service in the area is provided by the JBWD from local groundwater supplies. According to the Water Supply Assessment (WSA) prepared by Kennedy/Jenks in May 2011 (Appendix H) and approved by JBWD in June 2011, adequate water supplies are available from existing entitlements and no new entitlements are required to service the project. The WSA demonstrates that there is sufficient water supply to serve the proposed project and the existing and other planned projects in both normal and dry year forecasts. Because there are adequate existing entitlements to water supplies, and the project would require a small annual water supply (equivalent to fewer than five single-family homes), there are no impacts associated with the need for new or expanded water supply entitlements.

e) **No Impact**. The proposed project would not require or result in the construction of new wastewater treatment facilities or the expansion of existing wastewater treatment facilities. Accordingly, no impacts are anticipated from implementation of the proposed project.

f) **Less than Significant Impact**. Less than significant impacts related to landfill capacity are anticipated from the proposed project. The proposed project largely consists of short-term construction activities (with short-term waste generation limited to minor quantities of construction debris) and would not result in long-term solid waste generation. Solid wastes associated with the proposed project would be disposed as appropriate in local landfill or at a recycling facility. The nearest active landfill is the Landers Sanitary Landfill, located 8.5 miles northwest of the project site.

The panels and tracking system would eventually need to be disposed (decommissioned). Most parts of the proposed PV system are recyclable. Panels typically consist of silicon, glass, and a metal frame. Tracking systems (not counting the motors and control systems) typically consist of aluminum and concrete. All of these materials can be recycled. Concrete from deconstruction would be recycled through local recyclers. Metal and scrap equipment and parts that do not have free flowing oil would be sent for salvage. Equipment containing any free flowing oil would be managed as hazardous waste and be evaluated before disposal at a properly-permitted disposal facility. Oil and lubricants removed from equipment would be managed as used oil and disposed in accordance with applicable State hazardous waste disposal requirements.

g) **Less than Significant Impact**. The proposed project would comply with all federal, state, and local statutes and regulation related to solid waste. The project would consist of short-term construction activities (with short-term waste generation limited to minor quantities of construction debris) and thus would not result in long-term solid waste generation. Solid wastes produced during the construction phase of this project, or during future decommission activity would be disposed of in accordance with all applicable statutes and regulations. Accordingly, anticipated impacts from the proposed project related to landfill capacity are less than significant.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|---|---|---|---|
| **XVII. MANDATORY FINDINGS OF SIGNIFICANCE:** | | | | |
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | ☐ | ☒ | ☐ | ☐ |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | ☐ | ☐ | ☒ | ☐ |
| c) Does the project have environmental effects, which would cause substantial adverse effects on human beings, either directly or indirectly? | ☐ | ☐ | ☒ | ☐ |

***SUBSTANTIATION:***

a) **Less than Significant Impact with Mitigation Incorporated.** As discussed in Section IV. above, without mitigation, the project could result in significant impacts to burrowing owl and native desert plant species. These species are commonly found throughout the region, including in the Joshua Tree National Park, which contains almost 793,000 protected acres and ensures a significant amount of preserved habitat for these and other species. Mitigation Measures BIO-1 through BIO-3, are incorporated to reduce biological impacts on the project site to below a level of significance. With the implementation of these mitigation measures, implementation of the proposed project would not degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife populations to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.

b) **Less than Significant Impact.** Cumulative impacts are defined as two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the development when added to the impacts of other closely related past, present, and reasonably foreseeable or probable future developments. Cumulative impacts can result from individually minor, but collectively significant, developments taking place over a period. The *CEQA Guidelines*, Section 15130 (a) and (b), states:

*(a) Cumulative impacts shall be discussed when the project's incremental effect is cumulatively considerable.*

*(b) The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided of the effects attributable to the project. The discussion should be guided by the standards of practicality and reasonableness.*

There is currently only one significant project proposed in the vicinity of Cascade Solar. In February 2011, the Department of the Navy issued a Draft Environmental Impact Statement (EIS) for Land Acquisition and Airspace Establishment to Support Large-Scale MAGTF (Marine Air-Ground Task Force) Live-Fire and Maneuver Training at the Marine Corps Air Ground Combat Center. Under this EIS, nearly 168,000 acres are proposed for military use. This project is considered part of the cumulative impact scenario because of its large size; however, the nearest boundary of the proposed expansion is over 10 miles from the project site. Therefore, the two projects would not combine to create cumulatively considerable impacts. Further, the implementation of mitigation measures in this IS/MND would result in all project-level impacts for the Cascade Solar project being less-than significant, further reducing the possibility of cumulatively considerable impacts resulting from implementation of the two projects. Cumulative impacts would therefore be less than significant.

For the analysis of cumulative effects on sensitive plant communities, sensitive wildlife species and wildlife corridors, PCR defined a geographic region bounded on the north by the MCAGCC, and the south, southwest and east by the extent of the known desert tortoise range as noted in the West Mojave Plan. This area defined a meaningful, regional ecological and biological unit upon which to base the cumulative impact analyses that were summarized previously for sensitive wildlife species (desert tortoise and burrowing owl – see Item IV.a), sensitive plant communities (see Item IV.b), and wildlife movement (see Item IV.d).

Potentially affected biological resources were categorized and addressed in accordance with their sensitivity (i.e., scarcity), significance (i.e., importance to habitat functions and values), and role in ecosystem sustainability (i.e., contribution to biological diversity). In this manner, all resources potentially affected are considered; however, focus is placed on those resources upon which cumulative impacts potentially have the greatest cause-and-effect implications.

The extensive cumulative impacts methodology, analyses, and conclusions are provided in Chapter 5.0 of the BRA. In summary, potentially significant cumulative impacts are anticipated for the same resource areas subject to project-specific effects (i.e., sensitive plant communities, desert tortoise, burrowing owl, and wildlife movement). However, the project mitigation measures and design features are sufficient to reduce the project's incremental contributions to levels that are less than significant.

c) **Less than Significant Impact.** As described in Sections I through XVI, above, prior to mitigation, the project has potentially significant impacts in the areas of aesthetics, air quality, biological resources, cultural resources, hazards and hazardous materials, and noise. With the implementation of the mitigation measures provided in this Initial Study,

these impacts are reduced to below a level of significance. There are no project impacts which remain significant and unavoidable following implementation of mitigation measures. In addition, for environmental issue areas that were not found to be significantly impacted by the project and therefore do not include mitigation measures, the implementation of project design features and County policies, standards, and guidelines would ensure that there would be no substantial adverse effects on human beings, either directly or indirectly.

**Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as conditions of project approval to reduce these impacts to a level below significant:**

***XVIII. MITIGATION MEASURES:***

(Any mitigation measures which are not "self-monitoring" shall have a Mitigation Monitoring and Reporting Program prepared and adopted at time of project approval. Condition compliance will be verified by existing procedure [CCRF].)

**AESTHETICS**

***AES-1*** *Building Materials. As appropriate, proposed on-site switchyard buildings shall use non-reflective materials and neutral colors as approved by the Planning Department.*

***AES-2*** *Lighting Requirements. The area of illumination from any lighting shall be confined to be within the site boundaries and to minimize impacts to night sky views from surrounding properties. On-site lighting shall be fully shielded, diffused, or directed in a manner to avoid glare directed at adjacent properties, roadways or any light spill into any wildland areas surrounding the site that might affect nocturnal animals. No light shall project onto adjacent roadways in a manner that interferes with on-coming traffic. All lighting shall be limited to that necessary for maintenance activities, security, and safety purposes. All signs proposed by this project shall only be lit by steady, stationary, shielded light directed at the sign, by light inside the sign or by direct stationary neon lighting*

***AES-3*** *Anti-Reflective/Diffusion Coatings. Solar panels and hardware shall be designed to minimize glare and spectral highlighting. To the extent feasible, emerging technologies shall be utilized that introduce diffusion coatings and nanotechnological innovations that will effectively reduce the refractive index of the solar cells and protective glass. These technological advancements are intended to make the solar panels more efficient at converting incident sunlight into electrical power, but have the tertiary effect of reducing the amount of light that escapes into the atmosphere in the form of reflected light, which would be the potential source of glare and spectral highlighting.*

**AIR QUALITY**

**AQ-1** *AQ/Operational Mitigation. Operation of all off-road and on-road diesel vehicles/equipment shall comply with the County Diesel Exhaust Control Measures [SBCC §83.01.040 (c)], including but not limited to:*

- *Equipment/vehicles shall not be left idling for periods in excess of five minutes.*
- *Engines shall be maintained in good working order to reduce emissions.*
- *Onsite electrical power connections shall be made available where feasible.*
- *Ultra low-sulfur diesel fuel shall be utilized.*
- *Electric and gasoline powered equipment shall substituted for diesel powered equipment where feasible.*
- *Signs shall be posted requiring all vehicle drivers and equipment operators to turn off engines when not in use.*
- *All transportation refrigeration units (TRUs) shall be provided electric connections.*

*[Mitigation Measure **AQ-1** – General Requirements/Planning]*

**AQ-2** *AQ/Dust Control Plan. The developer shall prepare, submit and obtain approval from County Planning of a Dust Control Plan (DCP) consistent with MDAQMD guidelines and a letter agreeing to include in any construction contracts/subcontracts a requirement that project contractors adhere to the requirements of the DCP. The DCP shall include the following elements to reduce dust production:*

- *Exposed soils and haul roads shall be watered three (3) times per day to reduce fugitive dust during all grading/construction activities. Inactive areas shall be treated with soil stabilizers such as hay bales or aggregate cover.*
- *Street sweeping shall be conducted when visible soil accumulations occur along site access roadways to remove dirt dropped by construction vehicles.*
- *Site access driveways and adjacent streets shall be washed daily, if there are visible signs of any dirt track-out at the conclusion of any workday.*
- *Construction vehicle tires shall be washed prior to leaving the project site.*
- *All trucks hauling dirt away from the site shall be covered, and speeds on unpaved roads shall be reduced below 15 miles per hour.*
- *During high wind conditions (i.e., wind speeds exceeding 25 mph), areas with disturbed soil shall be watered hourly and activities on unpaved surfaces shall cease until wind speeds no longer exceed 25 mph.*
- *Storage piles that are to be left in place for more than three working days shall either be sprayed with a non-toxic soil binder, covered with plastic or revegetated.*

*[Mitigation Measure **AQ-2** – Grading/Planning]*

**AQ-3** *AQ – Installation. The developer shall submit for review and obtain approval from County Planning of evidence that all air quality mitigation measures have been*

*installed properly and that specified performance objectives are being met to the satisfaction of County Planning and County Building and Safety. [Mitigation Measure **AQ-3** – Final Inspection/Planning]*

## BIOLOGICAL RESOURCES

### BIO-1: BURROWING OWL MITIGATION (BRA Study Area)

- *A 250-foot avoidance buffer shall be placed around the active BUOW burrows during construction activities.*
- *6.5 acres of foraging habitat contiguous to the active BUOW burrows shall be avoided during construction activities.*
- *A pre-construction survey for BUOW should be conducted within 30 days of ground disturbing activities if individual BUOWs are identified.*
- *If construction is not initiated within 30 days of the last focused survey, another 30-day pre-construction survey shall be conducted.*

### BIO-2: SENSITIVE PLANT COMMUNITIES MITIGATION (BRA Study Area)

*Since impacts to sensitive plant communities cannot be avoided, a Closure, Revegetation, and Rehabilitation Plan shall be prepared in compliance with the Chapter 84.29 of the County's Development Code, Renewable Energy Generation Facilities, Decommissioning Requirements (Section 84.29.6060). The decommissioning requirements stipulate that:*

- *Areas that had been graded shall be restored to original contours unless it can be shown that there is a community benefit for the grading to remain as altered.*
- *Succulent plant species native to the area shall be salvaged prior to construction, transplanted into windrows, and maintained for later transplanting following decommissioning.*
- *Shrubs and other plant species shall be revegetated by the collection of seeds and re-seeding following decommissioning.*

*Provided the restoration and revegetation is conducted in-kind, the decommissioning requirements will mitigate impacts to sensitive plant communities in the BRA study area to a level that is less than significant.*

### BIO-3: NESTING BIRD MITIGATION (BRA Study Area)

*Impact avoidance for migratory bird species shall be accomplished in one of the following*

*ways:*

- *Efforts shall be made to schedule all vegetation removal activities and pole/line removal activities outside the nesting season to avoid potential impacts to nesting birds. The nesting season is typically February 15 to August 31. This would ensure that no active nests would be disturbed and that habitat and pole/line removal could proceed rapidly.*
- *If initial vegetation and pole/line removal must occur during the nesting season, all suitable habitat and pole/lines shall be thoroughly surveyed for the presence of nesting birds by a qualified biologist before commencement of clearing. If any active nests are detected, a buffer of at least 300 feet (500 feet for raptors) shall be delineated, flagged, and avoided until the nesting cycle is complete as determined by the biological monitor to minimize impacts.*

## CULTURAL AND PALEONTOLOGICAL RESOURCES

***CR-1*** *Construction Monitoring. A qualified archaeologist shall be retained by the Applicant/landowner and approved by the reviewing agencies prior to the commencement of the project. The archaeologist shall monitor all ground-disturbing activities and excavations on the project site. [Mitigation Measure* ***CR-1*** *– Grading/Planning]*

***CR-2*** *Resource Evaluation and Disposition. If archaeological resources are encountered during implementation of the Proposed Project, ground-disturbing activities shall be temporarily redirected from the vicinity of the find. The archaeologist shall be allowed to temporarily divert or redirect grading or excavation activities in the vicinity in order to make an evaluation of the find and determine appropriate treatment that may include the development and implementation of a data recovery investigation or preservation in place. All cultural resources recovered will be documented on California Department of Parks and Recreation Site Forms to be filed with the California Historic Resources Information System (CHRIS) San Bernardino Archaeological Information Center (SBAIC) at the San Bernardino County Museum in Redlands, California. The archaeologist shall prepare a final report about the find to be filed with the Applicant/landowner and the CHRIS-SBAIC. The report shall include documentation and interpretation of resources recovered. Interpretation shall include full evaluation of the eligibility with respect to the National Register of Historic Places and California Register of Historical Resources and CEQA. The Applicant, in consultation with the Lead Agency and archaeologist, shall designate repositories in the event that resources are recovered. [Mitigation Measure* ***CR-2*** *– Grading/Planning]*

***CR-3*** *Human Remains. If human remains are encountered unexpectedly during construction excavations and grading activities, State Health and Safety Code*

*Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the person(s) thought to be the Most Likely Descendent of the deceased Native American, who shall then help determine what course of action shall be taken in dealing with the remains. The landowner shall then undertake additional steps as necessary in accordance with CEQA Guidelines Section 15064.5(e) and PRC Section 5097.98. [Mitigation Measure **CR-3** – Grading/ Planning]*

**PR-1** *Pre-Construction Responsibilities. A qualified paleontologist shall be retained by the Applicant and approved by the County of San Bernardino prior to the implementation of the Proposed Project to execute a paleontological monitoring plan. A qualified paleontologist is here defined as a paleontologist meeting the qualifications established by the Society of Vertebrate Paleontologists. The paleontologist shall:*

1. *Review the grading study and coordinate with project engineers to become familiar with the proposed depths and patterns of grading across the project site.*
2. *Enter into a repository agreement with an accredited institution (such as the San Bernardino County Museum) before grading operations commence to ensure that an appropriate facility has been selected to curate any fossils encountered during the monitoring program. [Mitigation Measure **PR-1** – Grading/Planning]*

**PR-2** *Construction Monitoring. A paleontological monitor, supervised by the paleontologist, shall monitor all project-related ground-disturbing activities that reach two meters (5.5 to 6 feet) or more in depth. Pile driving is not considered a ground-disturbing activity for the purposes of this mitigation measure. If fossils are found during ground-disturbing activities, the paleontological monitor shall be empowered to halt those activities within 25 feet of the find to allow evaluation of the find and determination of appropriate treatment. [Mitigation Measure **PR-2** – Grading/Planning]*

**PR-3** *Resource Collection and Disposition. The paleontological monitor and/or the paleontologist shall collect all significant fossils encountered. All significant fossils shall be stabilized and prepared to a point of identification and permanent preservation. The paleontologist shall prepare a final report on the monitoring. If fossils were identified, the report shall contain an appropriate description of the fossils, treatment, and curation. A copy of the report shall be filed with the Applicant, the County of San Bernardino, and the San Bernardino County Museum, and shall accompany any curated fossils. [Mitigation Measure **PR-3** – Grading/Planning]*

## HAZARDS AND HAZARDOUS MATERIALS

**AR3** *Operational Requirements. The project is within Airport Safety Review Area Three (AR3) for the Roy Williams Airport (Hi Desert Airport); therefore, the following standards and criteria shall apply in addition to any standards required by the applicable Airport Comprehensive Land Use Plan (ACLUP) during all operations of the project.*

*a) All land uses shall be consistent with the County General Plan and any applicable, adopted ACLUP.*

*b) All structures and land uses shall be operated in a manner not to reflect glare, emit electronic interference, produce smoke, or store or dispense hazardous materials in such a manner that would endanger aircraft operations or public safety in the event of an aircraft accident.*

*c) Lighting shall comply with San Bernardino County Development Code section 83.07.040-Glare and Outdoor Lighting – Mountain and Desert Regions.*

*d) Structures and the normal mature height of any vegetation shall be maintained not to exceed the height limitations established in Federal Aviation Regulations (FAR) Part 77, unless otherwise provided by Form 7460-1)*

*e) The developer/property owner shall provide in all lease and rental agreements, and separately to all renters, tenants, lessees, or buyers, information that the site is subject to aircraft overflight from the appropriate airport; is subject to the potential noise and vibration problems associated with aircraft operations and military training activities; and is subject to an Avigation and Noise Easement. [Mitigation Measure **AR3**] - General Requirements/Planning*

## NOISE

**N-1** *Noise Mitigation. The developer shall submit for review and obtain approval of an agreement letter that stipulates that all construction contracts/subcontracts contain as a requirement that the following noise attenuation measures be implemented:*

*a) Noise levels of any project use or activity shall be maintained at or below adopted County noise standards (SBCC 83.01.080). The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only.*

*b) Exterior construction activities shall be limited between 7 a.m. and 7 p.m. There shall be no exterior construction activities on Sundays or National Holidays.*

*c) Construction equipment shall be muffled per manufacturer's specifications. Electrically powered equipment shall be used instead of pneumatic or internal combustion powered equipment, where feasible.*

*d) All stationary construction equipment shall be placed in a manner so that emitted noise is directed away from sensitive receptors nearest the project site.*

*[Mitigation Measure **N-1**] Grading/Planning*

## GENERAL REFERENCES

Alquist-Priolo Special Studies Zone Act Map Series (PRC 27500)

California Department of Conservation. (2009, September). *San Bernardino County Important Farmland 2008*. Map. Farmland Mapping and Monitoring Program. Accessed February 16, 2011 from http://www.conservation.ca.gov/dlrp/FMMP/Pages/Index.aspx

California Department of Transportation. (2007, December 7). California Scenic Highway Mapping System: San Bernardino County.

CEQA Guidelines, Appendix G

California Standard Specifications, July 1992

County of San Bernardino. (2007, March 13). *County of San Bernardino 2007 Development Code*. Amended September 25, 2010. at http://www.co.san-bernardino.ca.us/landuseservices/DevCode/Default.asp

County of San Bernardino. (2007, March 13). *County of San Bernardino 2007 General Plan*. http://www.co.san-bernardino.ca.us/landuseservices/general_plan/Default.asp

County of San Bernardino Hazard Overlay Map FI23

County of San Bernardino Identified Hazardous Materials Waste Sites List, April 1998

County of San Bernardino, Countywide Integrated Waste Management Plan, March 1995

San Bernardino County Stormwater Program, Model Water Quality Management Plan Guidance, June 2004

County of San Bernardino Road Planning and Design Standards

Environmental Impact Report, San Bernardino County General Plan, 2007

Federal Emergency Management Agency Flood Insurance Rate Map and Flood Boundary Map.

Joshua Basin Water District. Draft 2010 Urban Water Management Plan, May 2011.

Mojave Desert Air Quality Management District (MDAQMD), 2009, California Environmental Quality Act (CEQA) and Federal Conformity Guidelines.

Soil Survey Staff, Natural Resources Conservation Service. U.S. Department of Agriculture. Web Soil Survey. http://websoilsurvey.nrcs.usda.gov/ accessed December 10, 2010.

## PROJECT-SPECIFIC REFERENCES

GeoTek, Inc. (2010, November 30). Phase I Environmental Site Assessment.

Hans Giroux & Associates. (2011, March 22). Air Quality Impact Analysis, Cascade Solar Facilities, County of San Bernardino, California.

Kennedy/Jenks Consultants. (2011, May 30). Final Water Supply Assessment Report, Cascade Solar Project.

PCR Services Corporation. (2011a, March). Phase I and II Cultural Resources Assessment of the Proposed Cascade Solar Project, San Bernardino County, California.

PCR Services Corporation. (2011b, March). Paleontological Resources Assessment of the Proposed Cascade Solar Project, San Bernardino County, California.

PCR Services Corporation. (2011c, April). Supplemental Biological Resources Assessment – Cascade Energy Generation-Tie Distribution Line Routes, Unincorporated San Bernardino County, California.

PCR Services Corporation. (2011d, May 19). Habitat Assessment: Burrowing Owl – Cascade Solar Project, Unincorporated San Bernardino County, California. Phase I and Phase II Surveys.

PCR Services Corporation. (2011e, May 19). Desert Native Plant Assessment and Rare Plant Survey – Cascade Solar Project, Unincorporated San Bernardino County, California.

PCR Services Corporation. (2011f, May 26). General Biological Resources Assessment and Jurisdictional Determination, Unincorporated San Bernardino County, California.

PCR Services Corporation. (2011g, May 26). Focused Desert Tortoise Survey – Cascade Solar Project, Unincorporated San Bernardino County, California.

PCR Services Corporation. (2011h, July 22). Focused Survey: Burrowing Owl Phase III – Cascade Solar Project, Unincorporated San Bernardino County, California.

RGP Planning & Development Services. (2011, July 20). Cascade Solar Trip Generation. Technical letter.

Wood Rodgers, Inc. (2011, January 28). Geotechnical Investigation for Cascade Solar Project – Axio Power, San Bernardino County, California.

Wood Rodgers, Inc. (2011, March). Preliminary Hydrology Study and Storm Water Management Plan, Cascade Solar I & II, San Bernardino County, California.

## LIST OF APPENDICES

Appendix A SunPower Technical Notification: SunPower Solar Module Glare and Reflectance

Appendix B Air Quality Impact Analysis

Appendix C Biological Reports

- General Biological Resources Assessment and Jurisdictional Determination (May 2011)
- Supplemental Biological Resources Assessment – Generation-Tie Distribution Routes (June 2011)
- Focused Desert Tortoise Survey (May 26, 2011)
- Desert Native Plant Assessment and Rare Plant Survey (May 19, 2011)
- Habitat Assessment: Burrowing Owl (Phase I and Phase II) (May 19, 2011)
- Focused Survey: Burrowing Owl Phase III (July 22, 2011)

Appendix D Phase I and II Cultural Resources Assessment

Appendix E Paleontological Resources Assessment

Appendix F Preliminary Hydrology Study and Storm Water Management Plan

Appendix G Trip Generation Letter

Appendix H Water Supply Assessment