

2.0 PROJECT DESCRIPTION

2.1 *Project Description*

The purpose of the Project is to construct and operate a solar complex. The need for ITP coverage under the FESA is necessary and is the intent of this MSHCP. Activities included in the MSHCP (Covered Activities) allow for: (1) pre-construction, construction, operations and maintenance, and decommissioning activities within Solar Sites; (2) management and maintenance activities associated with Movement Corridors and Conservation Sites, including monitoring and reporting activities; and (3) activities associated with implementation of the conservation program specified in this MSHCP. For the purposes of this MSHCP, the activities and their impacts described here represent the maximum scenario. It is anticipated that actual realized activities and their impacts will be less than have been indicated here.

The Project broadly includes pre-construction, construction, operation and maintenance, and decommissioning of PV power generating facilities (Solar Development Footprints) on 3,798.2 acres. Complete build-out of the Maricopa Sun Solar Complex will produce up to 700 MW of electricity. The Project is located in the southwest portion of unincorporated Kern County (see Figure 1-1). The Project includes all actions that are necessary to construct, operate and maintain, and decommission the solar power generating facilities, as well as those necessary to manage habitat and conserve native species.

2.1.1 PROJECT PHASING

Construction of the first solar development for the Maricopa Sun Solar Complex is planned to begin immediately after procurement of all permits (which includes this MSHCP) and approval of required plans. Construction of solar facilities on all Solar Sites is anticipated to be completed over an 8- to 10-year period from the commencement of the initial development. Unknown constraints could extend the development phase to a 10- to 15-year period. It is anticipated that development of each individual solar facility within the Maricopa Sun Solar Complex will take 9 to 18 months, depending on the size of the solar facility, weather conditions, labor and equipment availability, and time of year. There is a high potential for multiple solar developers to be installing solar facilities at various sites simultaneously. The operational life of each solar facility is anticipated to span a period of up to 25 years, during which time, routine operations and maintenance activities and repairs will be implemented. Decommissioning will occur prior to expiration of the MSHCP.

The establishment of conservation easements on conservation lands and the initiation of management actions on those lands will be phased to coincide with the development of Solar Sites. Phasing of the establishment of the conservation easements will be accomplished such that each solar development will be offset with compensation obligations prior to initiation of development. Detailed information on the phasing of conservation and solar development is provided in Chapter 8, Section 8.2.

2.2 *Permit Area*

The Permit Area of this MSHCP encompasses a total of 5,784.3 acres and is designated as (1) Solar Sites, which consist of 3,798.2 acres (Solar Development Footprint, mandatory setbacks, and Movement Corridors) and (2) Conservation Sites, which encompass 1,894.4 acres. The Permit Area is illustrated on Figure 1-2. Table 2-1 lists all lands within the Permit Area by site number and Assessor's Parcel Number and the acreage of each site; and includes locations of the sites within the Permit Area by their physical locations within the Public Land Survey System indicated by Township, Section and Range within the Mount Diablo Base and Meridian (MDBM) and San Bernardino Base and Meridian (SBBM). Appendix B contains detailed maps showing the parcel boundaries, locations of public easements, mandatory setbacks, Movement Corridors, and locations where species covered in this MSHCP (Covered Species) and other special status species were found on the sites and on lands adjacent to the sites.

The Permit Area, Solar Sites, Solar Development Footprints, Movement Corridors, and Conservation Sites are all integral components of the Maricopa Sun Solar Complex. These Project components are described as:

Permit Area: The Permit Area is the gross acreage of all parcels, which includes those parcels that will be developed into solar facilities (Solar Sites) and those that will be set aside as conservation areas. The Permit Area includes all existing public easements, movement corridors, setbacks, the Solar Development Footprints, and the Conservation Sites. The Permit Area totals 5,784.3 acres (Table 2-1).

Solar Sites: The Solar Sites are lands within the Permit Area on which solar facilities will be built and include the Movement Corridors. Acreages of Existing Public Easements occurring on each parcel have been subtracted from the acreages of the Solar Sites (Table 2-1). The Solar Sites encompass 3,798.2 acres. The Solar Sites will be placed into permanent conservation easements concurrently with the acquisition of grading or building permits (whichever is obtained first) for each Solar Site, and will be managed in perpetuity for the benefit of Covered Species once the Solar Site has been decommissioned.

Existing Public Easements: Existing Public Easements include lands within established public right-of-ways occurring along the Project boundary. Existing Public Easements include public roadways, transmission line corridors, and a railroad line. Fifty-foot setbacks are established between all Existing Public Easements and the Project boundary. The total acreage of all Existing Public Easements is 91.8 acres. Some impacts will be assessed within Existing Public Easements as described below (Section 2.3) and in Chapter 4.

Solar Development Footprints: The Solar Development Footprints are those specific portions of the Solar Sites on which solar facilities will be installed. The acreage of the Solar Development Footprints is equal to the Solar Sites minus Movement Corridors and mandatory setbacks (Table 2-1). The total acreage of the Solar Development Footprints is 3,700.5 acres.

**Table 2-1
Maricopa Sun Solar Complex: Permit Area**

MSHCP Site Number	APN	Township, Range, Section	Permit Area	Existing Public Easement	Solar Sites³	Setbacks	Solar Development Footprints⁴	Conservation Site Land	Movement Corridors⁵	Total Conservation Land⁶
Site 1-C	220-120-(14-15)	T.32S., R.25E., Sec.19 ¹	663.3	6.7	-	-	-	656.6	-	656.6
Site 2-S, 2-M	220-120-(18-19)	T.32S., R.25E., Sec.21 ¹	635.4	6.7	628.8	22.2	606.5	-	12.5	628.8
Site 3-C	220-110-10	T.32S., R.25E., Sec.22 ¹	80.4	-	-	-	-	80.4	-	80.4
Site 3-C2	220-110-08	T.32S., R.25E., Sec.23 ¹	177.2	24.3	-	-	-	152.9	-	152.9
Site 3-S, 3-M	220-110-08	T.32S., R.25E., Sec.23 ¹	468.8	8.4	460.4	23.6	436.8	-	7.8	460.4
Site 4-S, 4-M	295-040-(30-31)	T.32S., R.26E., Sec.19 ¹	652.5	-	652.5	6.1	646.4	-	6.1	652.5
Site 5-S	220-170-(01-02, 05, 07)	T32S., R.25E., Sec. 29 & 30 ¹	807.3	10.1	797.2	9.2	788	-	-	797.2
Site 6-S	220-130-01	T.32S., R.25E., Sec.27 ¹	320.9	16.7	304.2	6.1	298.1	-	-	304.2
Site 7-S, 7-M	220-130-(02,12)	T.32S., R.25E., Sec.25&26 ¹	481.2	9.6	471.6	13.9	457.7	-	7.4	471.6
Site 9-C	220-201-02, 220-050-42	T.12N., R.23W., Sec.29 ²	183.5	2.9	-	-	-	180.6	-	180.6
Site 10-C	220-201-05	T.12N., R.23W., Sec.33 ²	176.2	-	-	-	-	176.2	-	176.2
Site 15-S	295-130-25	T.32S., R.27E., Sec.33 ¹	489.9	6.4	483.5	16.5	467	-	-	483.5
Site 17-C	239-150-11	T. 11N., R.23W., Sec.13 ²	647.7	-	-	-	-	647.7	-	647.7
TOTAL			5,784.3	91.8	3,798.2	97.6	3,700.5	1,894.4	33.8	5,692.6

1 Mount Diablo Base and Meridian

2 San Bernardino Base and Meridian

3 Solar Sites = Permit Area - Existing Public Easement

4 Solar Development Footprint = Solar Site - Setback

5 Acreage of Movement Corridors is included in the acreage of associated Solar Sites

6 Total Conservation Land = Sum of all Solar Sites (including Movement Corridors) and Conservation Sites – Existing Public Easements

Movement Corridors: Movement Corridors are areas of land that were identified as being necessary for the movement of species between areas of natural habitat and to promote colonization within the region. These corridors of land will not be developed, will be managed to aid in the movement of species, and will be interspersed with developed parcels. Conservation easements on Solar Sites will be included with the associated Movement Corridor, but Movement Corridors will be managed for Covered Species immediately upon establishing the conservation easement. The total acreage of the Movement Corridors is 33.8 acres. These corridors are located along specified perimeters of the Solar Sites, but are not within the Solar Development Footprints (Figure 2-1). These corridors will be enhanced by installation of dens, perching posts, and changes in topographic relief to facilitate the movement of species and to provide connections between natural habitat patches. Movement Corridors and their role in the overall conservation strategy, including construction details such as their widths, fencing, enhancement and maintenance, and content are discussed in further detail in the Conservation Plan (Chapter 5).

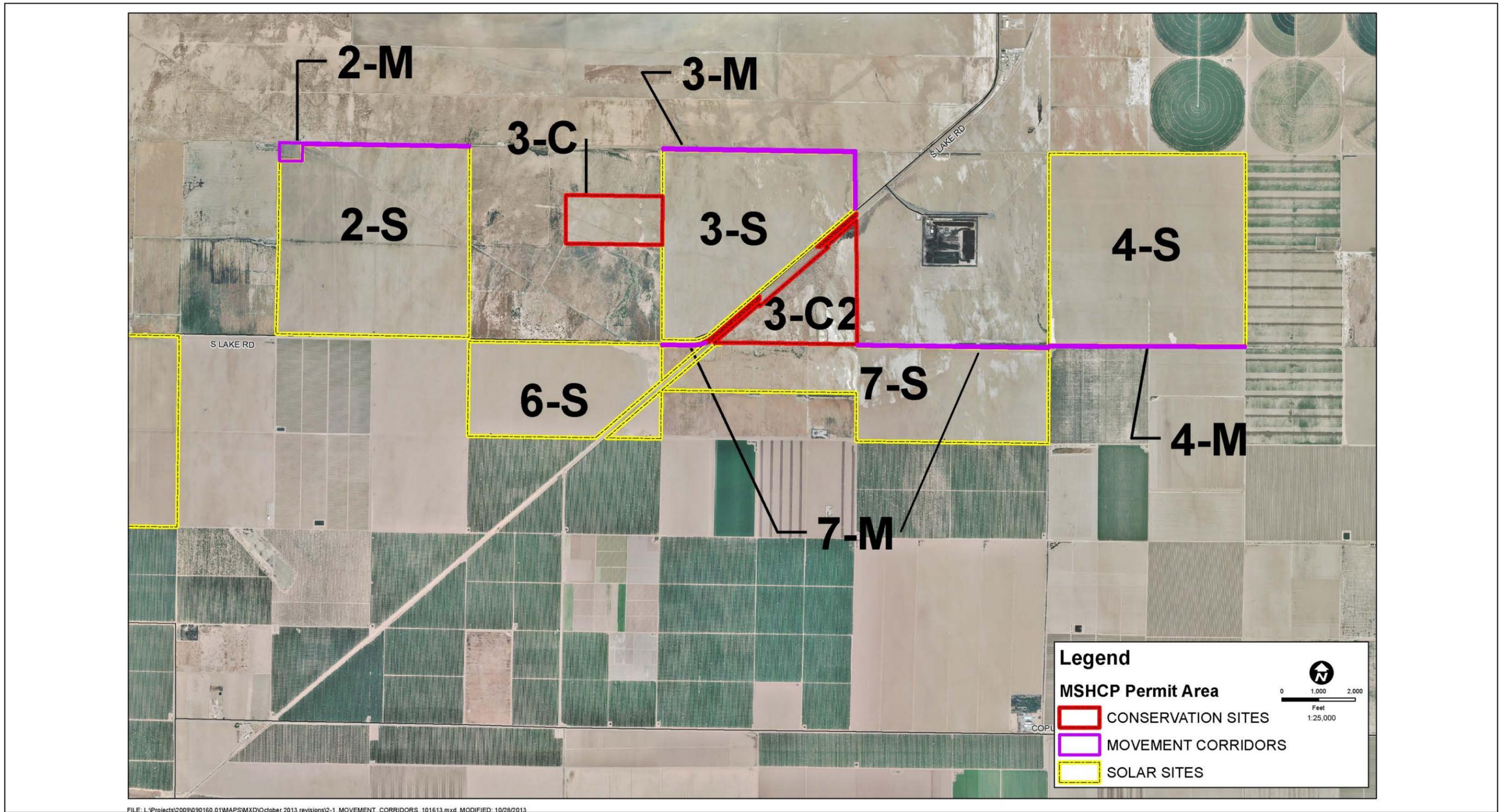
Conservation Sites: Conservation Sites are those lands identified in special studies and during environmental review of the Project as having value as habitat for Covered Species. Conservation easements will be recorded on these lands, which total 1,894.4 acres, to permanently protect the lands for the benefit of Covered Species. These parcels will remain in their native state, or if previously disked, will be enhanced to benefit species as described in detail in Section 5.3. These lands will be conserved and managed in perpetuity as mitigation for the Project's impacts to species.

Total Conservation Land: The Total Conservation Land is the sum of all acreages of Solar Sites (which includes Movement Corridors) and Conservation Sites that will be permanently conserved as mitigation for project impacts to species. These lands will be placed into conservation easements and managed in perpetuity for the benefit of Covered Species. The management of conservation easements for the benefit of Covered Species on solar development lands will take effect once the solar facilities are decommissioned (Table 2-1). All other conservation lands will be managed for the benefit of Covered Species immediately upon recordation of the conservation easements on those lands.

The project sites are primarily comprised of undeveloped and vacant agricultural land, and have minimal relief. Surrounding land uses are both active and inactive agricultural land. Surrounding land use designations include intensive and extensive agriculture designations, lands designated as flood hazard areas, lands designated for public facilities; lands designated for the protection of important watershed recharge areas or wildlife habitat, or having value as a buffer between resource areas and urban areas, and lands designated for industrial uses. The surrounding land use designations are shown in Figure 2-2.

2.3 Covered Activities

Solar electric generation will be the primary activity conducted at the Project's facilities. Activities covered by this MSHCP (Covered Activities) include those actions necessary to construct, operate, and maintain the Maricopa Sun Solar Complex and its facilities, as well as

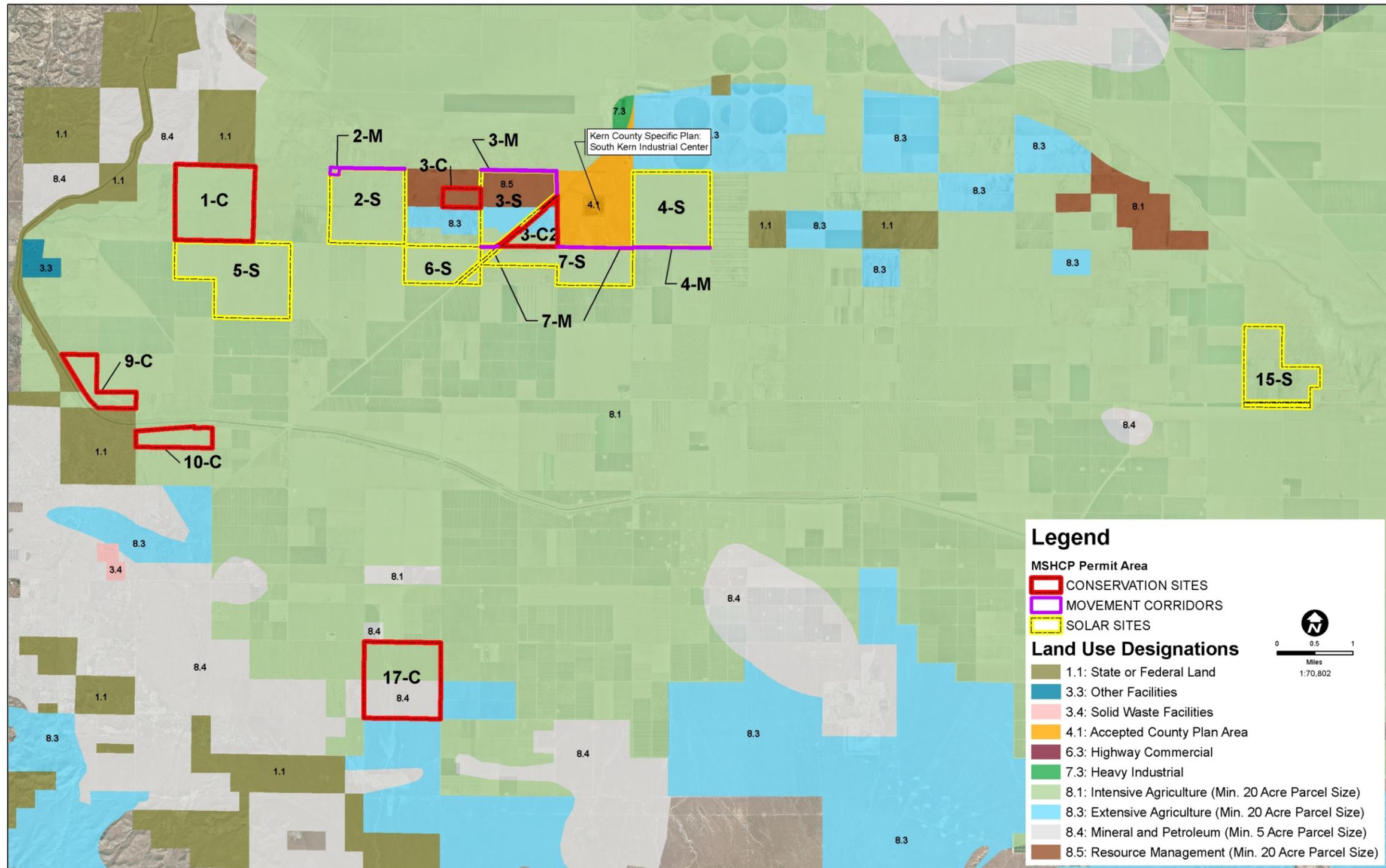


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MOVEMENT CORRIDORS WITHIN MSHCP PERMIT AREA,
MARICOPA SUN SOLAR COMPLEX, KERN COUNTY, CALIFORNIA

Figure
2 - 1



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LAND USE DESIGNATION MAP,
MARICOPA SUN SOLAR COMPLEX, KERN COUNTY, CALIFORNIA

Figure
2 - 2

activities necessary to remove those facilities during decommissioning and to conserve native species within the Permit Area. Many activities will be conducted during multiple phases of the Project, while other activities will be confined to a single phase. In each case, described activities represent the maximum possible activity level and resulting impacts. Actual activity and impact levels are anticipated to be less than described here.

A variety of activities must occur to prepare the Solar Sites for construction. Site preparation during the pre-construction phase consists of installation of exclusion and avoidance areas, surveying and staking the Solar Sites and site fencing, limited removal of existing vegetation, minimal site grading, compaction of soils, establishment of laydown and storage areas, and other activities that prepare the sites for the installation of solar facilities. Activities associated with the construction phase of the Project include some of the activities that also occur during the pre-construction phase, such as equipment and materials delivery, site grading and compaction, site fencing installation, waste management, and vegetation management. Activities associated specifically with construction will also occur, including construction of operations and maintenance buildings, and construction of solar arrays. During the operations and maintenance phase, on-site activities will be minimal, but could include site and fence inspections, meter reading, and PV panel cleaning. Tasks that will be performed during the decommissioning phase include removal of fencing, solar arrays and all other related facilities. Actions associated with conservation lands include habitat enhancement, vegetation control, barbed-wire fencing installation, and biological effectiveness studies.

Covered Activities are summarized by phase in Table 2-2 and described below. These activities are not necessarily listed in the order in which they will be performed. These descriptions provide the basis for the quantification of take and for developing the impacts assessment. Minimization, avoidance, and mitigation measures will be implemented to ensure that take of Covered Species is minimized to the extent possible. Examples of minimization, avoidance, and mitigation measures are pre-activity surveys conducted 14 days prior to the commencement of any project activities, daily pre- and post-activity sweeps conducted prior to commencement of and upon completion of all daily work, and daily monitoring of each work crew. Minimization, avoidance, and mitigation measures are discussed in detail in Section 2.3.5 and in Chapter 6. After MSHCP approval and ITP issuance, Covered Activities would be authorized to begin on the effective date listed on the permit.

2.3.1 PRE-CONSTRUCTION ACTIVITIES

Surveying and Staking

Prior to construction, site surveys will be performed to locate various property corners and property boundaries, and to complete topographic and elevation mapping. Surveying will also be needed to establish locations of solar arrays, staging areas, fencing, underground conduits, and other components of the Project. Surveying will be completed by car or truck and by walking. Surveyed areas will be delineated using stakes. This activity will occur on the Solar Sites, thus disturbances from surveying can be expected to occur on 3,798.2 acres. In addition, surveying and staking will be needed to establish the locations of perimeter fencing on the Conservation Sites. Disturbance associated with surveying and fence installation on the Conservation Sites is estimated at 10 feet wide by 92,947.3 feet, or 21.3 acres.

**Table 2-2
Occurrences of Covered Activities by Phase**

Activity*	Pre-construction	Construction	O&M**	Decommission
Clearing, grading, leveling, and Compacting	X	X		
Construction of O&M** buildings and metering stations		X		
Construction of solar arrays, modules, and electrical assemblies		X		
Delivery of materials and equipment	X	X	X	X
Demarcation of Solar Development Footprint	X			X
Drainage, erosion and dust control	X	X	X	X
Establishing and maintaining staging area(s)	X	X	X	
Geotechnical drilling and testing	X			
Grading and compacting of roadways	X	X	X	
Installation of fencing, gates, and parking areas	X	X	X	
Installation of signs	X	X	X	
Landscaping/site enhancement		X	X	
Managing waste (non-hazardous & hazardous)	X	X	X	X
Meter reading			X	
Monitoring alarms/security			X	
Operation and maintenance of solar modules			X	
Paving of access road(s) and building areas		X	X	
Post construction soil treatment		X	X	
Reconductoring and installation of overhead AC transmission line system		X		
Removal of access roads and fencing				X
Removal of buildings, foundation, and concrete pads				X
Removal of electrical cabling				X
Removal of solar systems				X
Surveying and staking	X	X		X
Testing, plugging and abandoning wells	X			
Vegetation and weed management			X	X
Habitat management, enhancement, and research***		X	X	X

* Activities not necessarily list in the order that they will occur

** O&M = operations and maintenance

*** Habitat management, enhancement, and research are independent of solar operations and are discussed the Habitat Management Plan (Appendix C).

Clearing, Grubbing, Grading, and Leveling

Clearing, grubbing, grading, and leveling will occur within all of the Solar Sites and will result in disturbance to 3,798.2 acres of land.

Each Solar Site will be cleared or grubbed of vegetation to prepare for grading activities. Vegetation clearing and grubbing are anticipated to be minimal, because of the lack of vegetation present on the sites due to repeated disking operations. Tools used for clearing may consist of chainsaws, wood chippers, stump grinders and other grubbing equipment, agricultural disks and ring-rollers, and other tools and equipment. Minimal site grading is anticipated for most areas, and will be dependent upon each specific site's topography.

Soil will not be imported or exported from any site. Importing soils can introduce noxious or invasive weeds and importing or exporting soils can change the surface soil types and character. These changes can alter the potential for the sites to recover after decommissioning and reduce their long-term value as conservation lands. The sites will not be laser leveled nor will vast amounts of soil be moved to accomplish leveling. During grading and compacting activities, water trucks will be operated to minimize airborne particles and dust.

After completion of grading, a ring roller will be used to provide a relatively level and compact surface for the Solar Sites. These activities will involve fueling construction equipment, which could require the transport, storage, and use of hazardous materials. Hazardous materials used in conjunction with clearing, grubbing and leveling activities will be used in conformance with applicable regulations.

Delivery of Materials and Equipment

Construction materials, including: concrete, pipe, fencing, wire and cable, fuels, reinforcing steel, building materials, and small tools and consumables will be delivered to the sites by truck. PV modules and other materials for the solar facilities will be manufactured off site, and will also be delivered by truck. Although the destination of the delivery of materials and equipment will be storage yards and staging areas established on each Solar Site, the distribution of materials and equipment to each solar array will occur over the entirety of the Solar Development Footprints. While most of the deliveries of materials and equipment will occur during the construction phase, these activities will also occur during the pre-construction phase. Because materials and equipment will be delivered to all Solar Development Footprints, this activity will result in disturbance to 3,700.5 acres of land.

Demarcation of Solar Development Footprint

The "no-construction areas" will be delineated by marking avoidance areas between the Solar Development Footprints that will be under construction and lands on which no construction will take place. These barriers will be established to keep construction activities confined to the Solar Development Footprints and to minimize and avoid impacts to adjacent native lands.

Temporary construction fencing will consist of T-post type structural members with ropes and flagging located greater than three feet above the ground. Alternatively, standard construction fencing consisting of orange plastic webbed fencing material may be used. Installation of this fencing will require setbacks of various distances at some locations, such as mandatory 50-foot setbacks from Existing Public Easements. Temporary construction fencing will be removed when construction activities are completed, or once permanent security fencing or barrier fencing is in place. Trucks, forklifts, and other equipment may be used to deliver and distribute fencing and materials to the various locations within each Solar Site.

Drainage, Erosion, and Dust Control

Prior to issuance of grading permits, the solar operator will submit a Stormwater Pollution Prevention Plan (SWPPP) to the Kern County Planning and Community Development Department. The SWPPP will describe Best Management Practices (BMPs) that will be implemented for the purpose of preventing construction pollutants from contacting stormwater, and for preventing products of erosion from moving off site and into receiving waters or onto adjacent habitat areas. Equipment to deliver and distribute the SWPPP materials around the project site will be as determined in the SWPPP. The requirements of the SWPPP will be incorporated into design specifications and construction contracts.

Although it is premature to develop individual site SWPPPs, because the Solar Site designs are not complete, recommended BMPs for the construction phase will include the following:

- Eliminating non-stormwater discharges;
- Preventing, controlling, and cleaning up spills;
- Cleaning vehicles and equipment routinely;
- Maintaining and repairing vehicles and equipment routinely;
- Following standard procedures for outdoor equipment operations;
- Ensuring proper waste handling and disposal;
- Following standard procedures for building and grounds maintenance;
- Following standard procedures for building repair and construction;
- Following standard procedures for parking/storage area maintenance;
- Stockpiling and disposing of demolition debris, concrete, and soil properly;
- Protecting existing storm drain inlets and stabilizing disturbed areas;
- Implementing erosion controls;
- Properly managing construction materials; and
- Managing waste, aggressively controlling litter, and implementing sediment controls.

The Developer will prepare a drainage plan that is designed to minimize runoff and surface water pollution, and will include engineering recommendations to minimize the potential for impeding or redirecting 100-year flood flows. The final design of the solar arrays will include 1.0 foot of freeboard between the calculated base flood elevation (BFE) and the bottom support rail of the solar panels or the finished floor of any permanent structures. Solar Sites may be graded to direct potential flood waters into channels adjacent to the existing and proposed right of ways, without increasing the water surface elevations more than one foot or as required by Kern County's Floodplain Ordinance. The drainage plan will be prepared in accordance with the Kern County

Grading Code and approved by the Kern County Engineering, Surveying and Permitting Services, Floodplain Management Section prior to the issuance of grading permits. A backhoe and other necessary equipment will be utilized (County of Kern 2010a).

Disturbance associated with installing flood control features will occur within the Solar Development Footprints and will be confined within the existing 3,700.5-acre disturbance footprint.

Fugitive dust will be managed using water delivered by spray trucks, and chemical dust preventatives such as lignin sulfate. Grizzlies, gravel pads, or other similar devices meeting the requirements of San Joaquin Valley Air Pollution Control Board Regulation 8041 will be provided to clean vehicle wheels and prevent track-out prior to exiting construction areas. The most prevalent means of dust control will be the application of water, but the longer term and more effective methods will be used on limited areas where there is a high volume of traffic and where dust management is more critical. Drainage, erosion, and dust control are anticipated to be needed within all areas of the Solar Development Footprints, thus 3,700.5 acres are anticipated to be impacted by these activities.

Establishing and Maintaining Staging Areas

Staging areas will be needed for construction management buildings or trailers, to receive shipments, and to inspect and store parts and materials for the solar facilities. During the pre-construction and/or construction phases on each Solar Site, a paved staging area not exceeding 5 acres total will be established inside of the Solar Development Footprint, resulting in a maximum total of 35 acres of staging areas for the seven Solar Sites. Staging areas may be enclosed with 8-foot tall perimeter security fencing (6-foot tall chain-link topped with 2 foot of barbed wire). If fenced, staging area fencing shall be permeable to wildlife to avoid entrapment in the event that staging area gates are left open during the day. Staging areas will be used for storage of construction materials, PV models, and for inspection and storage of parts and materials for the solar facilities. All materials (including pallets and recycle material) shall be spaced to prevent creating attractive sheltering areas for Covered Species (see mitigation measures in Section 2.3.5). The staging areas will be used throughout the construction phase and may remain in place and in use after completion of the construction phase. Alternatively, if no longer needed, staging areas may be decommissioned and replaced with solar arrays. If left in place during the operations and maintenance phase, the staging areas would be used as either parking lots, equipment storage areas, or shipping and receiving areas.

Vehicle tire grates, straw bales, and construction demarcation fencing will be installed prior to construction and as necessary at entrances to the staging areas to ensure compliance with environmental protection measures. Access roadbeds to the staging areas will typically be up to 20 feet wide and consist of compacted earth surfaced with gravel or compacted soil. These associated roadways are anticipated to be relatively short because the staging areas will be placed as close to existing paved access roads as possible. An average maximum distance of 0.25 mile of access road will be needed to each of the 7 staging areas. Thus a total of 35 acres of paved staging areas (up to 5 acres per site) and 6.3 acres (0.9 acres per site) of graveled or compacted soil roadways will be required.

This description is considered a maximum level of impact. The potential exists for fewer staging areas, replacing staging areas with solar arrays, no batch plants, non-paved surfaces, no fencing, and other reductions in staging area improvements and accoutrements.

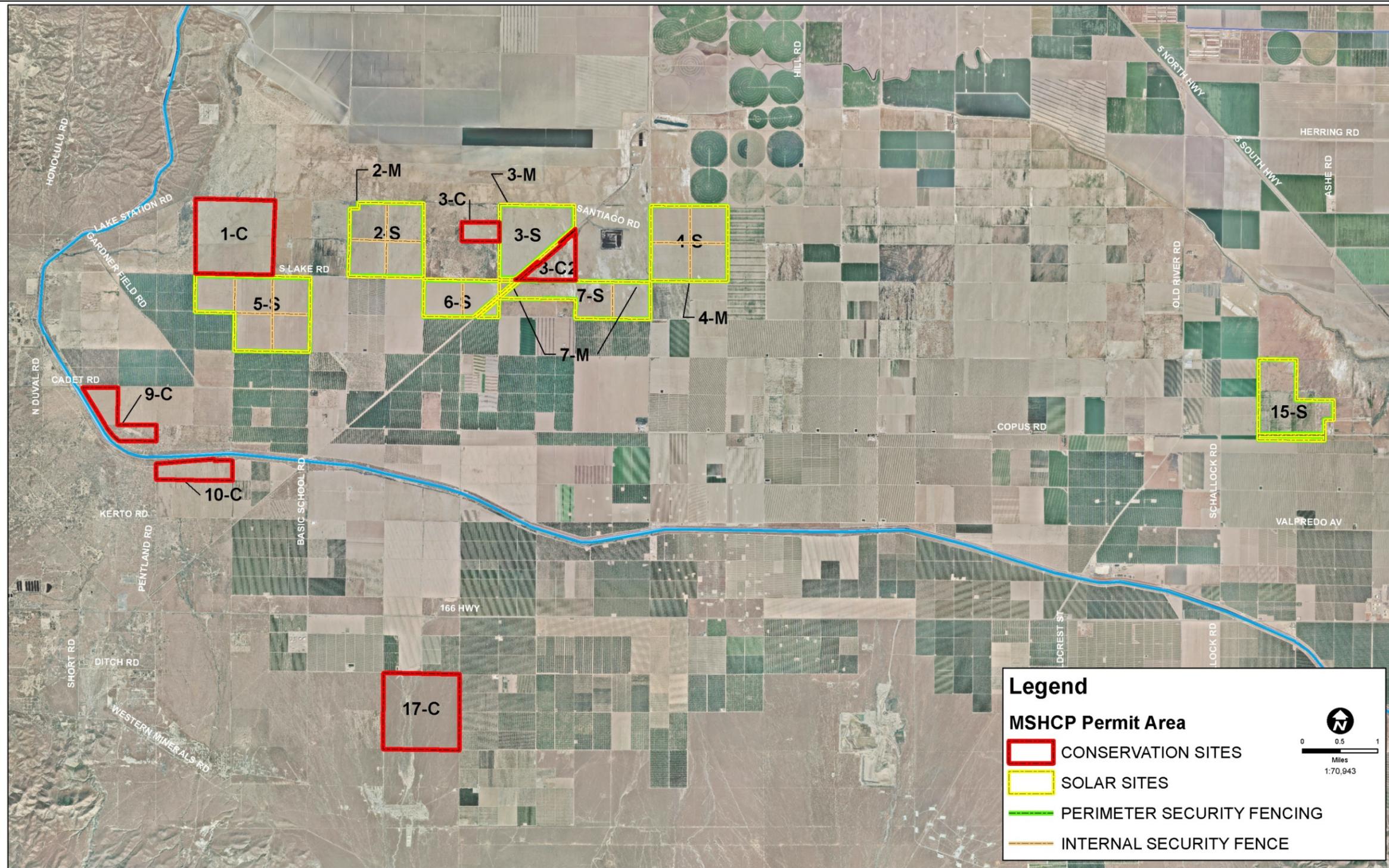
Installation of Fencing, Gates, and Parking Areas

Prior to construction, the Solar Sites will be enclosed with perimeter security fencing composed of up to 8-foot tall chain-link fencing topped with barbed wire for a total height of up to 10 feet. Perimeter security fencing will consist of a total of 165,273.2 linear feet (~31.3 linear miles). Depending on the preference of each individual Developer, security fencing may surround each individual development site. A maximum of additional fencing separating individual solar developments within the Solar Development Footprint will include 39,600 linear feet (7.5 linear miles). If each individual solar development does remain fenced throughout the course of the Project, a maximum of 204,863.2 linear feet (~38.8 linear miles) of security fencing will be in place at any given time on the Solar Sites.

The security fencing shall be permeable to movement of wildlife. The fencing will remain in place during the operation of the solar facilities to provide security, and will be removed during decommissioning, at which time the fencing will be replaced with permanent perimeter fencing constructed of three or four strand barbed wire as described for other conservation lands. Permanent barbed wire security fencing will only be installed along the perimeter of the Solar Sites for a maximum of 165,273.2 linear feet (~31.3 linear miles). The security fencing that will be installed is displayed on Figure 2-3 and the linear footage of this fencing is as listed in Table 2-3 below.

**Table 2-3
Maricopa Sun Solar Complex: Perimeter Security Fencing**

Solar Site Number	Linear Footage of Perimeter Fencing	Maximum Potential Linear Footage of Perimeter Fencing
Site 2-S	20,697.6	31,257.6
Site 3-S	19,324.5	19,324.5
Site 4-S	21,223.7	31,783.7
Site 5-S	26,441.7	39,641.7
Site 6-S	18,493.9	21,133.9
Site 7-S	28,400.1	31,040.1
Site 15-S	30,691.7	30,691.7
TOTAL	165,273.2	204,873.2



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LOCATIONS OF PERIMETER SECURITY FENCING INSTALLATION,
MARICOPA SUN SOLAR COMPLEX, KERN COUNTY, CALIFORNIA

Figure
2 - 3

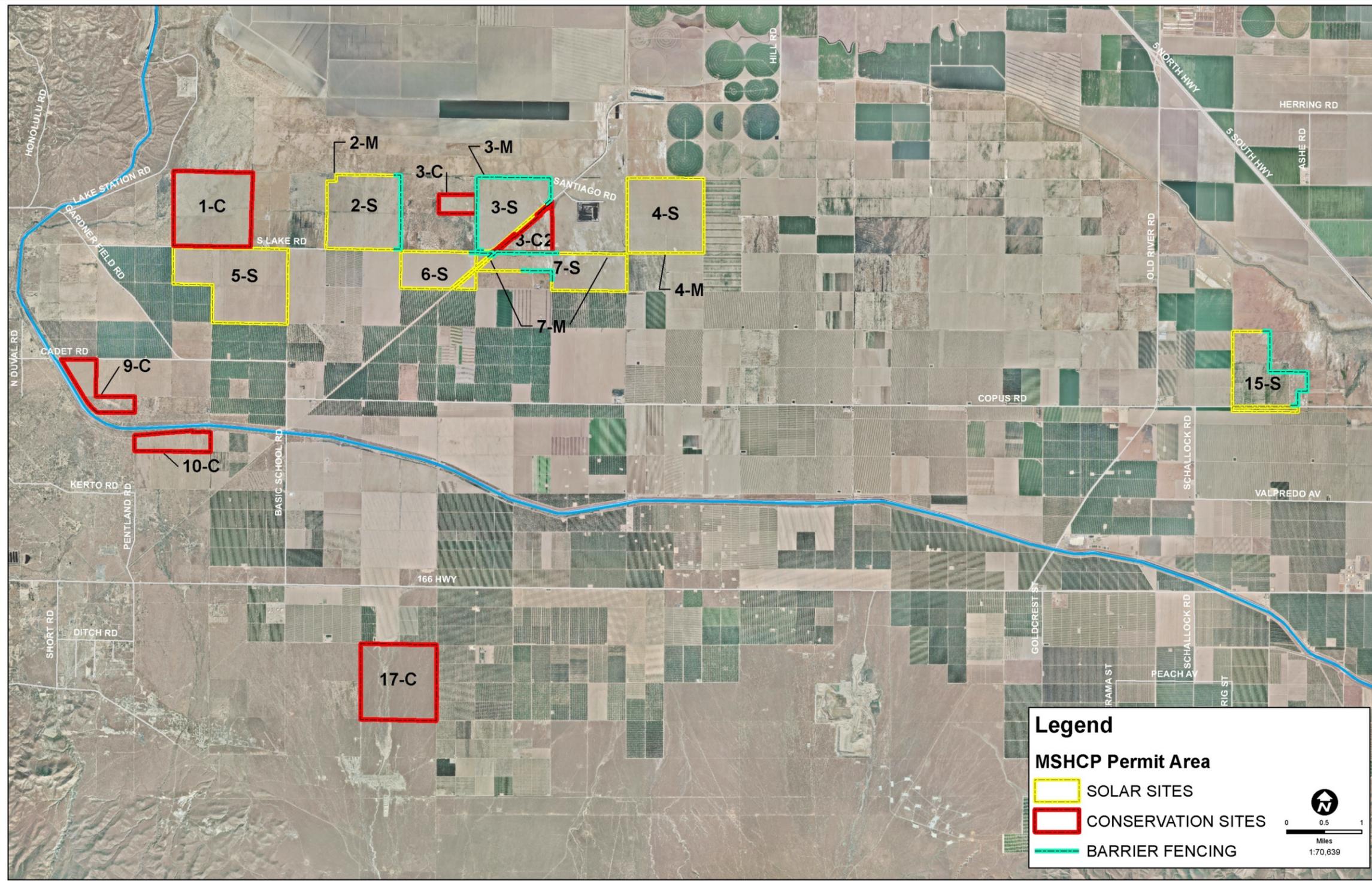
Security fencing will be designed to facilitate passage by San Joaquin kit foxes and other wildlife species and will include the following parameters:

- To enable kit foxes and other wildlife (e.g., American badger (*Taxidea taxus*) to pass through the project site after construction, the perimeter security fence shall leave a minimum 4- to 6-inch opening between the base of the fence and the ground surface. The bottom of mesh fencing materials or other materials having sharp edges shall be knuckled (wrapped back to form a smooth edge) to protect wildlife that passes under the fence. Where raised fencing cannot be installed, passageways having openings of 4 to 8 inches in diameter constructed of PVC pipe or other suitable materials shall be installed every 100 feet along the fence perimeter.
- Security fencing will be up to eight feet in height, including up to 2 feet of barbed wire across the top.
- The raised fence and/or the animal passageways shall be inspected and maintained to ensure proper functionality. If animal passageways are used, the perimeter security fence shall be inspected on a monthly basis throughout the project term, and all needed repairs shall be made within two weeks of the inspections. Where raised fencing is used, fencing shall be inspected every six months and all repairs shall be made within two weeks of the inspection. The results shall be included in the appropriate monthly and annual reports.
- Controlled access gates may be located at the project site entrances. Access to the secure areas may be controlled by keypad entry systems.

During construction, temporary impermeable fencing, also known as “barrier” fencing, will be installed between work areas and areas where Covered Species have been documented to occur to prevent species from becoming exposed to adverse effects from construction activities. Barrier fencing will be constructed of 36-inch-wide metal flashing buried six inches below grade. The barrier fencing will be supported on one side (on the construction side of the fence) by stakes, posts of reinforcing bar, or T-posts. The fencing will be affixed to the supports in a manner that will not allow Covered Species to climb the fence (i.e., bolts or fasteners must be a minimum of 18 inches apart). This barrier fencing will consist of a total of 38,442.5 linear feet (Table 2-4, Figure 2-4), but additional barrier fencing may be needed based upon the distribution of species at the time of construction, as determined during pre-activity surveys.

Table 2-4
MSHCP Complex: Barrier Fencing

Site Number	Linear Footage of Fencing
Site 2-S, 2-M	6,148.4
Site 3-S, 3-M	12,774.3
Site 7-S, 7-M	10,030.2
Site 15-S	9,489.6
TOTAL	38,442.5



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LOCATIONS OF BARRIER FENCING INSTALLATION ON THE COVERED LANDS,
MARICOPA SUN SOLAR COMPLEX, KERN COUNTY, CALIFORNIA

Figure
2 - 4

Parking for construction workers, as well as staging and laydown areas for construction materials, will be prepared within the fenced Solar Development Footprints. It is anticipated that no more than 1 acre will be needed for parking on each site during the pre-construction phase, and that no more than 2 acres of temporary parking areas will be needed during the construction phase. The paved staging areas will be used for parking during later project phases.

Geotechnical Drilling and Testing

Each site will be tested for geotechnical conditions (soil strength and compaction) by performing field density tests or other acceptable methods. A track-mounted drilling rig and a support truck will be used to accomplish boring. Typical boring holes will be drilled to a depth of 15 to 25 feet (depending upon soil type and soil depths), and will be 2 to 6 inches in diameter. On average, one bore hole will be located within each 10 acres of the Solar Development Footprint. Based on this spacing, 370 drill holes will be drilled. The total area of disturbance caused by these drilling activities is estimated at 7.4 acres, based upon an average 30-foot-by-30-foot disturbance area for each boring.

Grading and Compacting of Roadways

Temporary and permanent roadways will be prepared using standard grading and compaction techniques. Grading of roads will be minimized by following existing topography. Heavy earth-moving equipment that will be used in grading and compaction may include: graders, scrapers, dozers, sheep's foot rollers, vibrating rollers, backhoes, excavators, and other equipment as necessary. Access to each site will be by means of an apron from adjoining surfaced road ways. The aprons will be constructed of a surface that reduces dust (e.g., gravel) or will be treated with a dust suppressant such as a lignin sulfate product. If operating on soils that cling to the wheels of vehicles, a grizzly or other such device will be used on the road exiting the site immediately prior to the pavement to remove most of the soil material from vehicle tires. Roadways may ultimately be graveled or paved to reduce the need for upkeep by repeated grading and compacting.

Installation of Signage

Appropriate equipment and tools will be utilized for placing signs. A variety of signs at a variety of locations will be needed, including caution or warning signs for high-output electrical systems, vehicle speed limit signs, stop signs, yield signs, "no trespassing" signs, traffic directing signs, ESA designating signs, and other similar signs. Signs will be affixed to fences whenever possible, but some free-standing signs will be needed. Most signage will be within the existing 3,700.5-acre Solar Development Footprint, thus causing no additional ground disturbance. However, some signs will be placed at entrances to access roads and other locations outside of and within the Solar Sites, and not within existing disturbance areas. These additional free-standing signs will cause an additional disturbance area beyond the solar footprint of estimated to be 0.1 acre.

Managing Waste

Non-hazardous waste generated from the project, including paper/plastic, cardboard, wire, wooden spools, pallets, and other waste and packaging materials will be removed regularly from the Solar Sites. All food-related trash items, such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers and removed at least once a week from the Project site. All waste will be transported to the Taft Recycling and Sanitary Landfill, which is located at 13351 Elk Hills Road (approximately 15 miles from the Project site).

Hazardous materials may be used during activities that occur on site. Hazardous materials may include, but may not be limited to fuels, oils, lubricants, hydraulic fluids and solvents. The materials will be stored properly and Material Safety Data Sheets (MSDS) will be available on site. Hazardous materials and waste will be managed in accordance with federal, state and local regulations.

Testing, Plugging, and Abandoning Wells

There are three known previously plugged and abandoned oil wells located on the Solar Sites. The three oil wells are all located on Site 5-S and are shown on Figure 2-5, "Location of Oil Wells to be Abandoned." The associated API well numbers for these abandoned oil wells are: 02936401, 02935290, and 03011933.

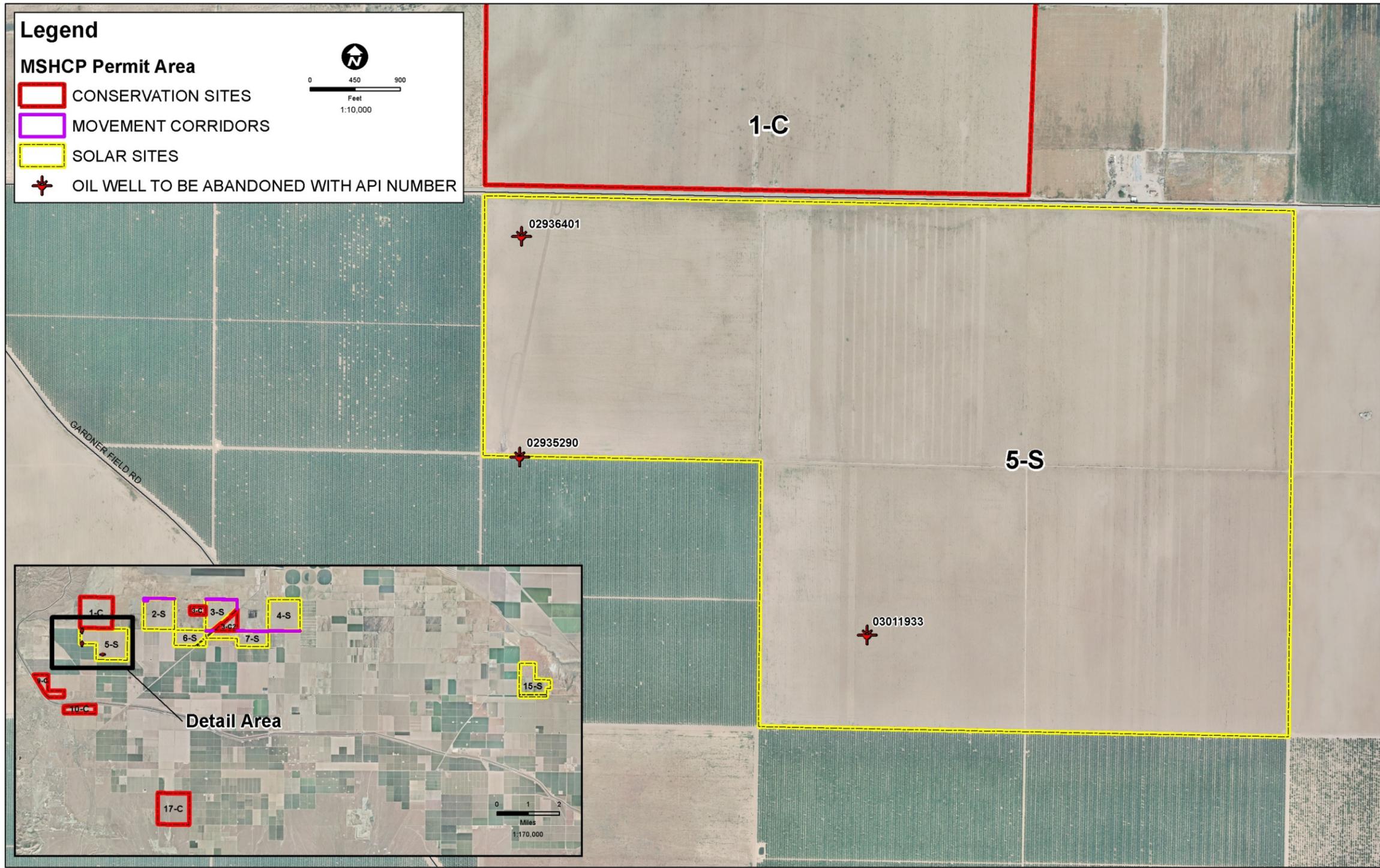
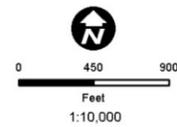
The following activities shall be performed on each of the three wells:

- The wells shall be leak-tested, which will require "pothole" excavation around each well casing, which will be accomplished with a back-hoe. An excavation of up to 20 to 30 feet in diameter and 10 to 20 feet deep may be necessary to access the steel plate across the casing that is usually located about 10 feet below grade. After the steel plate and casing are exposed, the plate will be removed. Depending on the condition of the cement in the well bore and annulus, a fresh cut to remove a small section of the casing may be required. Leak testing will then be conducted across the cement plug. Should the well pass the leak testing, no further action is required other than back-filling the excavation; and
- Should the leak test fail, remedial action will be required as directed by the California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) engineers. Typically, this requires the use of a drill rig to bore out the previous cement plugs and then reseat the well bore and annulus as required. This operation requires the associated oil well drilling equipment and supplies, just as a normal well drilling operation does. A well pad of up to 1.5 to 2 acres will be required to support the re-abandonment drilling operation, which could take from several days to several weeks depending on the complexity. Thus a total disturbance area of 6.0 acres is assumed (3 wells, each with a 2 acre disturbance area).

Legend

MSHCP Permit Area

- CONSERVATION SITES
- MOVEMENT CORRIDORS
- SOLAR SITES
- ✦ OIL WELL TO BE ABANDONED WITH API NUMBER



FILE: L:\Projects\2009\090160.01\MAPS\MXD\October 2013 revisions\2-5_ABANDONED_WELLS_101613.mxd MODIFIED: 10/28/2013



LOCATIONS OF OIL WELLS TO BE ABANDONED ON THE PERMIT AREAS,
MARICOPA SUN SOLAR COMPLEX, KERN COUNTY, CALIFORNIA

Figure
2 - 5

2.3.2 CONSTRUCTION ACTIVITIES

Construction of the Project will occur in a series of solar array blocks, each averaging approximately 8.64 acres. For this MSHCP, each block is assumed to be capable of producing roughly 1 MW of electricity (depending upon technology). However, because some land area will contain other project-related facilities, such as operations and maintenance buildings, meteorological stations, and staging areas, an average of 1 MW per 8.64 acres of total Solar Development Footprint may not be obtained.

An estimate of 12 large, heavy-haul truck trips will be needed over the course of construction for each 8.64-acre solar array block, resulting in approximately 5,134 truck trips over the course of constructing the 3,700.5 acres of Solar Development Footprint (3,700.5 acres/8.64 acres *12 trips \approx 5,134 trips).

In addition to truck trips, solar development will generate employee vehicle trips to and from the work sites in the morning and evening. Employees will be arriving from the surrounding cities of Bakersfield, Taft, and Maricopa and are projected to utilize ridesharing at an average rate of 2 occupants per vehicle. At an estimated rate of 200 construction and support employees per one square mile section (640 acres) of solar development, approximately 100 employee vehicle trips will occur twice daily (a.m. and p.m.) for a total of 200 vehicle trips per day per 640 acres of Solar Site development (pers. comm. SunPower Corporation). If all Solar Sites of the Maricopa Sun Solar Complex are under development at once, a maximum of 1,400 employee vehicle trips per day could occur (seven Solar Sites at 200 trips per day per Solar Site = 1400 trips per day). It is anticipated that multiple Solar Sites will be undergoing construction activities at any given time, and that it will take from 12 to 18 months to complete construction on any given site.

Temporary construction facilities will be located within staging areas. The staging areas described in this MSHCP represent a maximum possibility depending on construction activity needs. Actual staging areas may be considerably smaller. Construction materials will consist of concrete, pipe, wire and cable, fuels, reinforcing steel, and small tools and consumables. Concrete pads for solar panel drive motors may be installed, and electrical equipment will be set in trenches for the solar arrays.

A temporary concrete batch may be located within each Solar Site, on the staging areas, for mixing of aggregate and cement to create concrete. Concrete used in the foundations of solar panels will be batched within an hour after mixing is complete. Multiple temporary concrete batch plants will be used simultaneously during construction to reduce travel time between the locations of the concrete mixers and the foundations. The maximum area needed for concrete batch plants will not exceed 10 acres. Concrete batch plants may not be needed on each site, but are included in this discussion to establish maximum impact levels.

Various equipment will be utilized for the Project, including excavators, graders, lightweight trucks, dump trucks, flatbed trucks, support pick-up trucks, water trucks, concrete trucks, forklifts, end loaders, cranes, truck-mounted pole-hole auger, line truck with air compressor, scrapers, motor graders, backhoe/loaders, truck-mounted cranes, dozers, grade-all, pad drum

vibratory roller, conductor reel and pole trailers, bucket trucks, truck-mounted tensioner, and puller and trenchers.

The following descriptions of activities comprise the Covered Activities that will be implemented during the construction phase. Many of the activities occurring during the pre-construction phase will be continued during the construction phase. To reduce redundancy, those activities are not duplicated here, or if they are duplicated, the descriptions and activities differ between phases.

Construction of Operations and Maintenance Buildings, and Metering Stations

The Solar Sites will include a single operations and maintenance building adjacent to the solar fields. The building will include sufficient on-site parking as required in Section 19.82 of the Kern County Zoning Ordinance, and possible storage and equipment warehouse areas. The operations and maintenance buildings may also contain offices, storage space, bathrooms, and break areas. The total size of each operations and maintenance building will not exceed 1,800 square feet.

Septic systems will be installed to accommodate sanitary needs as required by the County Environmental Health Services Department. A backhoe will be used for septic tank and leach field installation. The Solar Sites will be designed for low water usage. Accordingly, septic tank capacity is assumed to not exceed 1,200 gallons with the leach field length not exceed 300 feet. One such septic system will be installed on each Solar Site. It is also assumed that vegetation will result from water released through leach fields.

A maximum of two meteorological monitoring stations, constructed on concrete pads, not to exceed 400 square feet in area (each), will be constructed on each project site to track insolation, temperature, wind direction, and speed. Construction materials and equipment, as well as trucks to facilitate construction, will be necessary. Trenching may be necessary for the installation of electrical conduits for the meteorological stations.

The ground disturbance created by installation of the operations and maintenance buildings, septic systems, meteorological stations, and related facilities will not exceed an estimated 35 acres. These disturbances will occur within the 3,700.5-acre Solar Development Footprint. The description above is included here to establish maximum impact levels. Actual impacts could be less than described here; for example, operations and maintenance buildings may not be permanent structures, but instead may be construction trailers that will not require leach fields, operations and maintenance buildings may not be needed on all Solar Sites, and meteorological stations may not be placed on concrete pads.

Construction of Solar Arrays, Modules, and Electrical Assembly

The solar fields will be constructed of either crystalline silicon or thin film PV (including concentrated PV) technology on tilted or horizontal single-axis trackers or fixed tilt supports. If tilted trackers are used, the PV modules will be mounted south-facing and tilted about 15 to 25 degrees from horizontal. Tilted tracker units will be arranged in east/west-oriented rows and be

self-tracking or connected by drive shafts to drive motors that rotate the solar panels from east to west to follow the sun throughout the day.

If tilted tracker units are used, the units will be mounted on precast or cast-in-place concrete ballasts, embedded foundations (i.e., piles, driven piers, or screw-type foundations), or other suitable structures to support the trackers. The foundations will be located at the foot of each tracker unit. The ballast foundations will be approximately 10 feet long by 2 feet wide and 1.5 feet high. The embedded foundations will be approximately 4.5 inches to 12 inches in diameter and up to 15 feet deep. The concrete electrical equipment pads that support the inverters and other electrical equipment will be approximately 15 feet by 60 feet; however, these dimensions will vary depending upon the number of inverters and other equipment per pad. The electrical equipment enclosures will be approximately 12 feet high. The highest point on the tilted tracker units (the uppermost solar panel) will be approximately 22 feet above the ground surface. The description above is included here to establish maximum impact levels; concrete pads may not be needed.

If horizontal trackers are used, they will be mounted horizontally (not tilted to the south), and arranged in north/south rows. These tracking units will be powered by a drive motor to track the east/west path of the sun on a single axis throughout the day. This tracking technology will generate about 30 percent more energy than a traditional fixed-tilt system. Concrete ballasts, embedded foundations, or other suitable structures will be used to support the trackers. The highest point for a horizontal tracker occurs during the morning and evening hours and is approximately 8 feet above the ground surface. The vertical support legs at each end of the trackers are driven into the ground; no concrete footing is required.

If used, the drive motors will be located approximately every 1,200 feet along each east/west row. The motors would be mounted on concrete foundations, approximately 8 feet by 12 feet in area and approximately 2 feet thick. The description above is included here to establish maximum impact levels; drive motors may not be placed on concrete pads.

If fixed-tilt panels are used, they will be constructed in east/west rows, and have foundations similar to those used for horizontal trackers. The fixed-tilt panels will be positioned to receive optimal solar energy, but the panels will not track the path of the sun. Fixed-tilt panels are approximately 6 feet off the ground at the highest point.

The wiring from the solar panels will deliver DC power along an underground trench or aboveground conduit to the inverters located on the electrical equipment pads. The inverters will convert the DC power to AC, which will then be stepped up to medium voltage via medium voltage transformer(s). The medium voltage transformers will deliver power along an underground or overhead collection system to the Project switchyard on Solar Site 2-S, and the power will be stepped up for interconnection to the electrical grid at the electrical transmission corridors.

Electrical wiring will run from the end of each row of panels to each combiner box (used to collect power from each string of solar panels), as well as from inverters to each tracker

motor. These wires range in size from 6 to 12 gauge, and will always be placed in conduits to prevent the possibility of electrocution to wildlife that may come in contact with wires.

Larger gauge cables, which run from combiner boxes to inverters (also known as, “home runs”), will only be placed in conduit where they enter or exit the ground. These vertical conduits generally run underground to about 2 feet below grade. At that point, cables will be directly buried up to approximately 2 to 3 feet below grade and will not be placed in conduit. Cables directly buried are wrapped in a PVC jacket, between 3 and 4 inches thick, which will avoid the possibility of burrowing wildlife species coming in contact with a cable and becoming electrocuted.

Delivery of Materials and Equipment

See description in Section 2.3.1, “Pre-construction Activities.”

Drainage, Erosion, and Dust Control

See description in Section 2.3.1, “Pre-construction Activities.”

Establishing and Maintaining Staging Areas

See description in Section 2.3.1, “Pre-construction Activities.”

The staging areas, consisting of up to a maximum of 35 acres of paved ground, and 6.3 acres of associated access roads will be installed during the pre-construction phase. The staging areas will be used throughout the construction phase and maintained as needed. Maintenance may consist of re-paving cracked and broken pavement, replacing damaged fences, continued dust control on access roads (including re-gravelling), and other related activities. These activities will be confined to the staging areas plus the graveled or compacted access roadways.

Installation of Fencing, Gates, Lighting, and Parking Areas

See description in Section 2.3.1 for pre-construction aspects of these Covered Activities.

These activities will begin during pre-construction and continue during construction. Security fencing may be installed during the construction phase along boundaries between individual solar developers’ solar facilities within the Solar Development Footprints, depending on the preference of each solar developer. If security fencing between solar developers arrays is installed, a total area of approximately nine acres (39,600 linear feet of internal fencing * 10-foot-wide fence removal disturbance area = 396,000 square feet or ~9 acres) will be affected entirely within the Solar Development Footprint.

Under approved conditions, such as during the use of hand-operated power tools, ancillary lighting will be used to adequately illuminate construction operations during periods of darkness. These light sources will be sited and designed so that light only illuminates intended equipment areas, and will be shielded so that lighting does not spill over onto adjacent areas. Maximum lighting will consist of vehicle-mounted lights used during agency-approved night construction

operations, vehicle-activated lights at each main gate, and lighting activated by motion detectors located at the operations and maintenance buildings and/or switchyards. It is anticipated that less lighting than described above will be required, but this description establishes a maximum values for the purpose of establishing maximum project impacts. The illumination value of project lighting will comply with the “Dark Skies Ordinance,” Section 19.81 of the Kern County Zoning Ordinance. All installed outdoor lighting will meet safety and security standards. Routine maintenance of lighting may include replacement of bulbs, wiring, and fixtures.

Grading and Compacting

The site access roads, inverter areas, and other plant areas will be prepared using standard grading and compaction techniques. Grading of roads will be minimized to the greatest extent possible. The Solar Sites will be graded to direct potential flood waters into channels adjacent to the existing and proposed right of ways, without increasing the water surface elevations more than one foot (Kern County Municipal Code, Section 17.48: Floodplain Management Code). Earth-moving equipment will be utilized. Site leveling of the Solar Development Footprint will be accomplished by disking the site with agricultural equipment and then rolling the site to provide a level surface for the safe installation of the solar equipment by construction personnel. A water truck will be utilized for on-site dust control on dirt roads and assisting in soil compaction throughout the duration of build-out of each parcel. In high traffic areas, dust may be controlled using lignin sulfate or other chemical dust suppressant. These activities will result in disturbance to 3,700.5 acres.

Reconductoring and Installation of Overhead Transmission Line Systems

Construction and upgrade of structures for AC collection and distribution systems will include layout, drilling, installing, and backfilling foundations, as well as activities associated with stringing of new transmission lines (Figure 2-6). Trucks, cranes, drills, and other heavy line equipment will be utilized to install the new structures, and lines may be installed by low-flying helicopter. Transmission Line system activities will be conducted either by Pacific Gas & Electric (PG&E) or by a private subcontractor (under contract to the Developer). Certain transmission activities occurring outside of the Solar Sites will be covered under a separate HCP held by Pacific Gas & Electric (Jones & Stokes 2006) as discussed below.

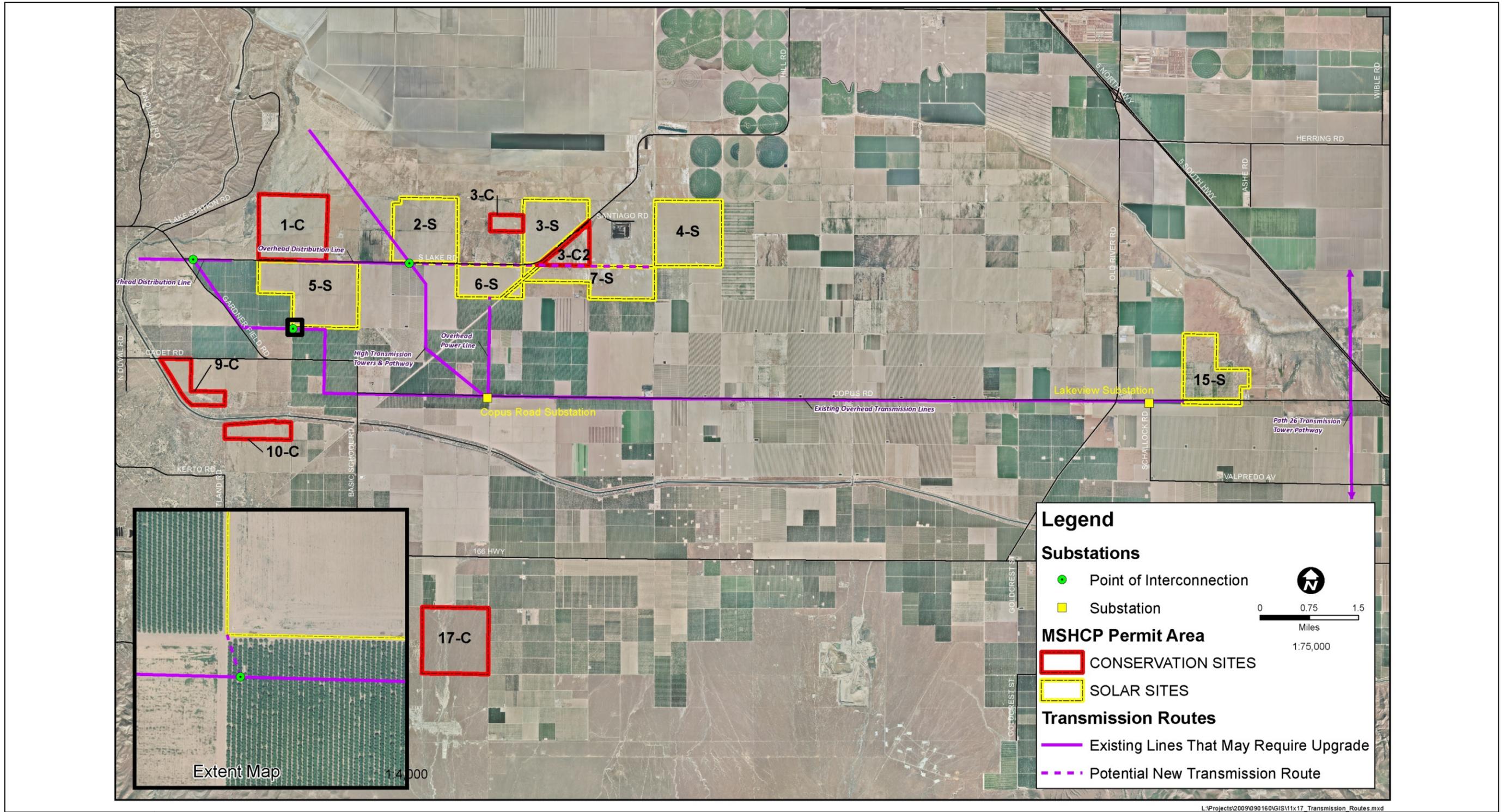
In addition to on-site substations, the following transmission related activities will be conducted by a private subcontractor under contract to the Developer and will be Covered Activities under the MSHCP:

- A short segment of new transmission line (gen-tie line) will be installed to connect Site 5-S to the existing 69kV Maricopa-Copus transmission line. Site 5-S will be connected to the existing transmission line just south of Site 5-S via an approximately 700 foot-long gen-tie line (Figure 2-6). A maximum of two new wooden pole installations and one replacement of a wooden pole at the point of interconnection (POI) with a tubular steel pole (TSP) will be required to accommodate the new gen-tie line. All pole replacements will occur within the PG&E ROW easement on lands owned by Maricopa Orchard, LLC. The ground disturbance associated with the installation of each new pole and the replaced pole would be a maximum of a 50-foot radius, for a total of 23,550 square feet or, 0.54 acres. One of the new poles

would be placed within the project site, which consists of disked lands. All other poles would be placed within an existing orchard, and the installation of these poles may require some orchard trees to be removed.

The following transmission related activities will be conducted by PG&E and will be Covered Activities under the PG&E HCP (Jones & Stokes 2006):

- Up to 10 wooden poles may need to be replaced along the existing Maricopa-Copus 69kV transmission line. Five of those poles would be located to the east of the POI, and five would be located to the west of the POI. The area of disturbance associated with those pole replacements would be a maximum radius of 50 feet around each pole, totaling 78,537 square feet or 1.8 acres. The five poles to the east of the POI are located within an existing orchard (with a 0.9 acre potential disturbance area) and some orchard trees may need to be removed



TRANSMISSION ROUTES, MARICOPA SOLAR SUN COMPLEX,
MARICOPA SUN SOLAR COMPLEX, KERN COUNTY, CALIFORNIA

Figure
2 - 6

to allow adequate work space for the pole replacements. The five poles to the west of the POI would be located within disked lands (with a 0.9 acre potential disturbance area).

- Utility upgrades associated with the development of a 400-acre solar development on Site 15 include: installation of 20 TSPs along Copus Road between the project site and the Lakeview substation or the installation of lattice steel towers (LSTs) as an alternate to the TSPs, pulling and tensioning at each TSP or LST location, potential underground installation of communications cable along the gen-tie route between the project site and Lakeview substation, expansion of the Lakeview substation, expansion of the Copus substation, and installation of telecommunications and related equipment at the Old River substation and Wheeler Ridge substations.
- Up to 20 TSPs or LSTs with 20-foot by 20-foot cement bases would be installed along 2,700 feet of Copus Road between the project site and the Lakeview substation. The towers would be placed on either the north or south side of Copus Road. Work areas would be confined to a maximum area of 50-foot radius around each tower, resulting in a maximum total disturbance area of 157,075 square feet or 3.6 acres. An additional 157,075 square feet, or 3.6 acres, is assumed to be needed for the pulling and tensioning sites.
- Communications cables may be installed underground between the project site and Lakeview substation. The cables would be installed along the 2,700 feet distance where TSPs or LSTs are installed. Underground installation of cables would require the excavation of a trench up to 4 feet deep and 2 feet wide, resulting in a disturbance area of approximately 10 feet wide by 2,700 feet long, or 0.62 acres. The trench would be installed either along the north side or south side of Copus Road, depending upon where the TSPs or LSTs are installed. Both the north and south sides of Copus Road between the project site and Lakeview substation are intensively cultivated agricultural lands. Alfalfa, asparagus, carrots, and other row crops are the primary agricultural crops along the north side of Copus Road, and grapes and alfalfa are the primary crops to the south of Copus Road. The land is cultivated up to the pavement edge of Copus Road on both sides of the road, but on the north side of the road there is sometimes a dirt road along the southern borders of fields with a narrow band of weedy vegetation between Copus Road and the dirt roads.
- Pacific Gas & Electric Company will also conduct various upgrades within their existing Copus, Maricopa, Midway, Lakeview, and Taft substations. These upgrades are generally related to communications and safety protocols required by PG&E. All upgrades will be conducted within the fenced footprints of these existing facilities and do not require the expansion of any substation. Because these upgrades will occur within existing fenced facilities that do not contain habitat that would support sensitive biological resources, significant impacts to biological resources will not occur.
- Upgrades to and expansion of the Lakeview substation may be required by the project. The footprint of the substation may need to be extended to the west by 300 feet and to the south by 200 feet, thus enlarging the substation by approximately 235,000 square feet, or approximately 5.4 acres. The removal and replacement of an existing control building, including concrete foundation, may be required. The installation of a 6 circuit breaker ring-

bus and upgrades of other equipment may be needed. Several entrances of existing lines into the substation will need to be reconfigured, resulting in the removal of up to five existing wooden poles and the installation of up to four new light duty steel poles and up to six new TSPs. The expansion areas of the Lakeview substation are completely within cultivated croplands consisting of grapes (to the south) and alfalfa (to the west). All pole replacements and new poles would be located within existing agricultural fields (alfalfa or asparagus) or along previously cleared dirt roads.

- Upgrades to and expansion of the Copus substation may be required by the project, which would include extending the substation footprint to the south by 100 feet and to the west by 150 feet, resulting in an enlargement of the existing footprint by approximately 72,500 square feet, or 1.7 acres. Fencing would need to be replaced, a small enclosure for telecommunications equipment may need to be installed, and a new control building may need to be located within the expanded footprint area. The expanded footprint and all associated upgrades would be located entirely within an existing citrus orchard.

Installing Signage

See description in Section 2.3.1, “Pre-construction Activities.” The installation of signage will be continued during the construction phase.

Landscaping/Site Enhancement

Drought-tolerant, native plants in pots that are a minimum size of 15 gallons will be planted along the security fence directly adjacent to local county roads to provide a visually appealing view from public roadways. Plants will be watered with drip irrigation or by water truck. The installation of landscaping will be performed within mandatory setback areas from existing public roadways and will result in impacts to an estimated 10.9 acres (20 foot-wide planting area * 4.5 miles of adjacent public roads = 10.9 acres).

Managing Waste

Hazardous and non-hazardous waste will be managed during the construction phase as described in Section 2.3.1, “Pre-construction Activities.”

Paving of Access Roads and Building Areas

With the exception of Site 4-S, each proposed Solar Site has existing paved road access from either South Lake Road (Sites 2-S, 3-S, 5-S, 6-S and 7-S) or Copus Road (Site 15-S). Paving of one access road to Site 4-S will occur. The access road to Site 4-S will encompass paving approximately 3,520 linear feet of roadway, measuring 20 feet wide. Paving of access driveways to each site will encompass paving driveway approaches 12 feet wide by 60 feet long, which will connect to the site’s parking lot, equipment areas, areas used for positioning of construction management crews, shipping and receiving areas, and/or storage and staging areas. The paving of access roads and access driveways will result in disturbance areas totaling approximately 1.7 acres (1.62-acre roadway to Site 4-S and 0.1 acres of paved driveways into the other six Solar

Sites). It is assumed that paved areas will consist of a 6-inch aggregate base with a 2-inch thick paved surface, resulting in an estimate of 1,822 cubic yards of materials.

Where paving is necessary, construction of paving may take up to two months to complete for each Solar Site, and will occur at the beginning of construction. Impervious surfaces within the Solar Sites will be limited to main access driveways, parking lots, equipment areas, shipping and receiving areas, storage and staging areas, and foundations for the Project's operations and maintenance buildings and inverters.

Post Construction Soil Treatment

After clearing, grading, earth moving, and/or excavating, and initial leveling has ceased, all inactive soil areas within the construction site will be either: (1) seeded using native plant species and watered until plant growth is evident; (2) treated with a dust palliative; or (3) watered twice daily until soil has sufficiently crusted to prevent fugitive dust emissions. After ground clearing activities are completed, avoidance area flagging and fencing will be placed where needed and removed in areas where construction is completed. Post-construction soil treatments will occur within the 3,700.5-acre Solar Development Footprint, and will not contribute additional disturbance acreage.

2.3.3 OPERATIONS AND MAINTENANCE ACTIVITIES

Solar equipment has a lifespan of up to 25 years, during which time operations and maintenance activities will be conducted. Operational activities are limited to monitoring facility performance, responding to utility needs for facility cleaning and adjustment, and on-site security.

Trucks (pick-up, flatbed), forklifts, and loaders may be used for routine and unscheduled maintenance, and water trucks will be used to wash solar panels and prevent excessive dust from vehicle traffic. Large, heavy-haul transport equipment will not be routinely needed, but may be used for specific equipment repair or replacement.

Long-term maintenance schedules will be developed to include periodic maintenance and equipment replacement in accordance with manufacturer recommendations. Moving parts, such as motors and tracking module drive equipment, motorized circuit breakers and disconnects, and inverter ventilation equipment, will be serviced on a regular basis, and unscheduled maintenance will be performed as necessary.

The primary water use during project operation will be for washing of the solar panels, with a minor amount of water use for watering landscape and for sanitary requirements. At times it may also be necessary to reduce dust emissions by spraying the ground with water from a water truck. It is presently expected that approximately 1 gallon will be required for washing each panel. The washing frequency may vary depending upon weather conditions, but it is estimated that the panels will be washed twice per year.

Fire protection measures will be dictated by Kern County Fire Department regulations. The operations and maintenance buildings will have fire retardant systems, and portable fire

extinguishers will be mounted outside inverter/electrical distribution containers or pads throughout the solar arrays. If required by the Fire Department, a 50,000-gallon process water tank (or larger as required to provide water for fire control) will be located on each project site.

The following list and descriptions of activities comprise the Covered Activities that will be implemented during the operations and maintenance phase. Some scheduled and unscheduled operations and maintenance activities will be conducted at night when it is possible to safely and cost efficiently power down the solar facilities. During the first year of operation of each individual solar facility, it is anticipated that up to six scheduled, on-site maintenance visits could occur. Maintenance activities for this first year include normal/expected startup issues and are not anticipated to involve any ground disturbing work. In all subsequent years of solar operation, up to four scheduled and eight unscheduled operations and maintenance visits to a solar facility are anticipated to occur. Maintenance activities will involve both scheduled preventative maintenance and unscheduled, unpredictable maintenance. The potential for minimal ground disturbance exists in the form of unearthing cabling for repairs and use of maintenance vehicles among solar arrays.

Many of the activities occurring during the operations and maintenance phase are similar to activities from the pre-construction phase. To avoid redundancy, recurring activities will not be described in detail here. Operations and maintenance activities having the potential to occur at night are noted below. These activities are not necessarily listed in the order in which they will be implemented.

Delivery of Materials and Equipment

This activity is described in Section 2.3.1, “Pre-construction Activities.” During the operations and maintenance phase, the delivery of materials and equipment will occur as much as six times per year and could occur day or night. Examples of delivery activities include, delivery of oil for transformers, delivery of materials for solar panel maintenance, delivery of materials for electrical wire repair or replacement, and, delivery of materials for other unforeseen maintenance and repairs.

Drainage, Erosion and Dust Control

These activities are described in Section 2.3.1, “Pre-construction Activities.” The maintenance of drainage and erosion features and dust control measures will be continued throughout the operations and maintenance phase of the project.

Maintaining Staging Areas

This activity is described in Section 2.3.1, “Pre-construction Activities.” Maintenance of staging areas may continue throughout the operations and maintenance phase of the project, or staging areas may be removed and replaced with solar arrays.

Fencing, Gates, and Parking Areas

These activities are described in Section 2.3.1, “Pre-construction Activities.” Maintenance of fencing, gates, and parking areas will be continued throughout the operations and maintenance phase of the project. These activities may include re-contouring parking surfaces, and repairs and maintenance of security fencing around parking areas, staging areas and operations and maintenance buildings.

Managing Waste

Hazardous and non-hazardous waste will be managed during the operations and maintenance phase. Very little activity is expected on any of the solar facilities during the operations and maintenance phase, so little waste material is expected to be generated. As with other phases of the Project, daily waste management will occur when workers are present on site and waste will be deposited in the appropriate closed containers. Hazardous waste will be removed from the solar facilities immediately after a spill or upon the finding of the waste, and non-hazardous waste will be removed at least once a week.

Meter Reading

Routine physical meter reading may be required to confirm automated readings. Meter reading will involve one vehicle driving on to the Solar Sites. Vehicle use for meter reading will be limited to the access roads and operations and maintenance structure sites (e.g., operations and maintenance building/trailer, substation).

Monitoring Alarms/Security

The Solar Sites may be fenced with an eight-foot high, galvanized chain link fence with barbed wire along perimeters to provide site security during construction and operational phases of the Project. The fence will include vehicle access gates that will remain locked when not in use. Security personnel will be on site to provide 24-hour security. Security personnel may use pick-up trucks or all-terrain vehicles to routinely traverse the site and inspect the site perimeter. Site security may also include the installation of closed circuit security cameras and motion activated lighting. Alarms and security fencing will be maintained as needed.

Operation and Maintenance of Solar Modules

Solar modules will operate 7 days a week, 365 days a year. The system may be solid state with no moving parts, or tracking arrays equipped with motors and other moving parts.

Operations and maintenance activities will be performed during day and night time hours depending on the need to power down the solar facility to perform the needed activity. Solar module operation activities will consist of responding to automated alarms based on monitored data (actual vs. expected tolerances for system output and other key performance metrics), communicating with customers, solar module washing, vegetation and weed management, security activities; and installation, maintenance, and operation of automated panel cleaning systems. Maintenance activities will include repairs to transformers, water/oil separator systems,

electrical equipment, panels and inverters, as well as roads and fences. Solar facility equipment will also need replacing and/or upgrading including, panels, inverters, transformers, wiring, cabling, power lines, mounting hardware, monitoring systems and panel cleaning systems as needed. Visual inspections of transformers, water/oil separator systems, PV panels, inverters, structures, cabling and wiring will also be performed and will not involve ground disturbance.

Solar Panel Cleaning

During the operations and maintenance phase, regular maintenance of the solar panels will involve cleaning and testing of proper function. Cleaning of the solar panels will involve the use of water trucks driving between solar panels throughout the Solar Development Footprint. It is anticipated that cleaning will be conducted by eight water trucks at a time, each of which can make eight trips per day to accomplish cleaning of all 4,411,902 solar panels over all Solar Sites (2 gal/solar panel/year for a total of 8,823,804 gals of water/year at 4,000 gal/truck capacity). Cleaning will be conducted at an estimated frequency of twice per year for a total of 128 truck trips per day for 35 days per year to accomplish cleaning of the entire Project.

Routine maintenance of the solar facilities will involve infrequent use of heavy equipment, including forklifts, heavy haul trucks and vegetation removal equipment. These maintenance activities will be conducted during day or night depending on the need to power down the solar facility of safety and cost efficiency. Night time maintenance activities will occur very infrequently (at most up to six times in the first year, and four times per year in subsequent years), but when they do occur they will present an increased risk to San Joaquin kit fox and Tipton kangaroo rats. Measures are in place to ensure potential impacts to Covered Species due to night activities are avoided or minimized to the extent possible (Section 2.3.5).

Vegetation and Weed Management

During the initial ground clearing and grubbing activities, existing weedy vegetation that develops in low amounts between disking events will be removed from the Solar Development Footprint areas. In scattered localities, low growing tamarisk is present and will need to be removed more aggressively by removing plants by the roots. Other invasive species will be chemical and mechanical means best suited for the species being controlled. Vegetation removal will occur throughout the Project, including on Conservation Sites during and beyond the 35-year permit period.

Residual water that is shed from the PV arrays during cleaning, or inadvertently applied beyond the limits of the PV arrays, will likely stimulate underlying vegetative growth. These areas that become routinely saturated are anticipated to support a relatively vigorous herbaceous layer. Vegetation and weed management will occur during the operations and maintenance phase to maintain access to PV arrays and keep PV panels from becoming obstructed by vegetation.

During the Project's operations and maintenance phase, the solar panels will be cleaned at an estimated frequency of twice a year, and maintained on an infrequent and unscheduled basis. This activity will necessitate having adequate access to the panels, which will be ensured by mowing or scraping access routes between the rows of panels. Because maintenance of access routes requires removal or disturbance of vegetation, they will be only wide enough to

accommodate a single maintenance vehicle. Limiting the installation and maintenance of access roads on the Solar Sites will allow vegetation under and around the solar panels, as well as outside the immediate Solar Development Footprint, to become established.

Vegetation removal could occur twice a year corresponding to the timing of PV array cleaning and to ensure that the arrays remain free of obstruction. If an usual growth of vegetation threatens to obscure solar panels, an additional round of vegetation removal may be required.

Vegetation and weed management on the Movement Corridors and Conservation Sites will be guided by the conservation program (Chapter 5) and the Habitat Management Plan (Appendix C).

2.3.4 DECOMMISSIONING ACTIVITIES

Solar equipment has a lifespan of up to 25 years. At the end of the Project operational term, the Project will be decommissioned and deconstructed. Prior to any decommissioning activities, surveys will be conducted to assess the extent to which Covered Species have occupied the Solar Development Footprint. All minimization, avoidance, and mitigation measures appropriate for presence of Covered Species, such as avoidance barriers, pre- and post-activity sweeps, and monitoring, will be implemented prior to and during decommissioning activities. Minimization, avoidance, and mitigation measures are discussed in Section 2.3.5.

Removal of the solar equipment will have little impact on the land. The PV arrays supporting solar equipment consist of foundation posts embedded in the ground or attached to -concrete ballasts and removal will involve the use of hydraulic cranes to directly uproot foundations without significant ground disturbance. Minimization measures will be implemented, further reducing potential for impact.

Upon completion of operations, the solar operator will be responsible for decommissioning. In the event the solar field is not in operational condition for a period of 12 consecutive months, it will be deemed abandoned and will be removed at the expense of the solar developer. Removal will occur within 60 days from the date that the Kern County Planning and Community Development Department sends a written notice to the property owner, solar field owner, and/or the solar operator.

The following list and descriptions of activities comprise the Covered Activities that will be undertaken during the decommissioning phase. Some of these activities are similar to those described in the pre-construction phase. To avoid redundancy they will not be described in detail here. These activities are not necessarily listed in the order in which they will be implemented.

Drainage, Erosion, and Dust Control

These activities are described in Section 2.3.1, “Pre-construction Activities.” Drainage and erosion control features will be left in place and will not be removed by decommissioning activities. Although most of these features will be composed of earthen berms, there will be some culverts and pipes that will be left abandoned and in-place. Keeping these features in-place

will aid in management of these lands as Conservation Sites by reducing and minimizing periods of flooding and erosion events. Dust control during decommissioning activities will be consistent with those activities and methods previously described.

Managing Waste

Hazardous and non-hazardous waste will be managed during the decommissioning phase as described in Section 2.3.1, “Pre-construction Activities.”

Removal of Access Roads and Fencing

All paved and graveled access roads, parking and staging areas, and access driveways will be removed. It is estimated that 1,822 cubic yards of materials will need to be removed from paved roadways, and 37,268 cubic yards of material will be removed from paved staging and parking areas. An additional 6,708 cubic yards of aggregate will be removed from graveled roads. All perimeter security fencing will be removed and replaced with permanent perimeter fencing constructed of 3- or 4-strand barbed wire or equivalent (e.g. hog fencing). Heavy equipment, large trucks, cranes, backhoes, and other large equipment, as well as various hand tools, will be used during removal of roads and security fencing, and installation of perimeter fencing. All materials removed will be recycled. It is assumed that a total of 4,580 truck trips will be required to remove this material.

Removal of Buildings, Foundations, and Concrete Pads

An operations and maintenance building will be installed on each of the seven Solar Sites. Each building will have a maximum size of 1,800 square feet. Removal of these buildings will be accomplished by use of a front-end loader and dump truck. It is estimated that a total of 600 cubic yards of material consisting of cement foundations, roofing materials, and wooden structural components will be removed from each Solar Site, totaling 4,200 cubic yards of material from all sites.

All leach fields and septic tanks will be left in place, as their removal would involve greater ground disturbance. Leaving this material in the ground will not constitute a significant increase of foreign material. All trenches or holes will be filled with soil from the project site.

Heavy equipment, large trucks, cranes, backhoes, and other large equipment, as well as various hand tools, will be used during removal of buildings. It is assumed that a total of 700 truck trips will be required for the removal of building materials. After demolition is complete, soils will be leveled using heavy machinery including disks, graders, and/or ring-rollers. Existing topography will not be changed during demolition activities or subsequent grading.

Removal of Electrical Cabling

All underground conduits housing electrical cabling will be left in place, but the conduits will be cut off below ground level, and all trenches or holes will be filled with soil from the project site. Electrical cabling contained within the conduits will be removed.

Removal of Solar Systems

Solar infrastructure removal will include the removal of rack systems, tracking systems and motors, PV panels, inverter/transformer and control room structures, electrical conduits and wiring, switch yards, inverter pads, and pads such as tracking motor pads. Concrete pads and foundations will be broken up into smaller pieces and hauled away from the project site for disposal.

Removal of infrastructure and facilities will be conducted in a manner that minimizes ground disturbance and dust, and disturbed soil from removal of support structures and trenches will be replaced. Heavy equipment, large trucks, cranes, backhoes, and other large equipment, as well as various hand tools, will be used during removal of solar facilities and related structures and equipment. It is assumed that a total of 5,140 truck trips will be required for the removal of the solar systems, electrical cabling, and solar related infrastructure. After demolition is complete, soils will be leveled using heavy machinery including disks, graders, and/or ring-rollers, but existing topography will not be changed.

Vegetation and Weed Management

During the decommissioning phase, all planted ornamental vegetation and irrigations systems will be removed. In areas where ground disturbance results from decommissioning activities, vegetation will be replanted using native species as described in the Conservation Sites Management Plan (Appendix C).

2.3.5 PRESERVATION, ENHANCEMENT, MINIMIZATION, AVOIDANCE, AND MITIGATION

Activities to preserve, manage, and enhance habitat, and to avoid and minimize impacts to Covered Species are Covered Activities. As such, they are incorporated into this MSHCP. Habitat management, enhancement, and monitoring activities will be conducted during all phases of the Project and will be conducted on Solar Sites and Conservation Sites as indicated within the descriptions below. Assurance of compliance with the MSHCP will be achieved through biological and Project monitoring carried out by a USFWS (and CDFW) approved, third-party biological monitor (Monitoring Agent).

On-site Habitat Preservation

Movement Corridors totaling 33.8 acres will be preserved. Currently, these Movement Corridors consist of disked lands that have little value for wildlife. Movement Corridors are intended to provide wildlife with a safe means for moving past the Project area. The Corridors provide habitat with escape cover and foraging that can be successfully used by wildlife, particularly the San Joaquin kit fox. By enhancing the habitat within the Movement Corridors, not only would movements of the San Joaquin kit fox be facilitated, but habitat would be provided to encourage use and dispersal by all other Covered Species (Tipton kangaroo rat, Nelson's antelope squirrel, western burrowing owl, and blunt-nosed leopard lizard) and other local wildlife.

Habitat Enhancements

Movement Corridors will be included in the conservation easements placed on the Solar Sites before construction begins. Management will follow the Habitat Management Plan (Appendix C), and will be for the benefit of Covered Species immediately upon recordation of the conservation easement.

Habitat enhancements will be provided within the Movement Corridors to facilitate their use by Covered Species. Enhancements will be installed during the construction phase, and will be monitored and maintained during the operations and maintenance phase. During the decommissioning phase, Movement Corridors and their enhancements will be protected from impacts that could result from decommissioning activities.

Habitat enhancements provided within the Movement Corridors are as follows:

Raised earthen berms will be created to provide refugia for small mammals during flooding events, and to provide burrowing, denning, and perching opportunities for a variety of species. San Joaquin kit fox dens, including escape dens and pupping dens, and burrowing owl perches will be installed. The raised earthen berms will be created along Movement Corridors. All berms will be created using topsoil from the project site. A general access dirt road may be maintained alongside a drainage ditch created at the base of the berm. The berms will be linear to facilitate construction by mechanical means, but they will not necessarily be continuous; gaps will be provided at strategic locations to allow flood waters to pass without causing undue damage to the berms.

- ***San Joaquin Kit Fox (*Vulpes macrotis mutica*) Dens***

Dens will be placed at a rate of eight per mile along Movement Corridors. One in ten dens will be designed as a natal den (or pupping den), while the remainder will be of the more simple refuge den design. Dens will be constructed following standardized configurations as detailed in Appendix D.

- ***Burrowing Owl (*Athene cunicularia*) Perches***

T-posts will be driven into the top of the earthen berms at a rate of eight per linear mile along Movement Corridors. A two-foot-long section of t-post will be welded at a right angle to the top of the main t-post to provide a suitable perching surface. Burrowing owls are expected to use artificial dens constructed for kit fox, so additional burrows specifically constructed for the burrowing owl will not improve the Movement Corridors for that species.

- ***Restoration of Vegetation Using Native Species***

There is sufficient evidence to conclude that lands along the Movement Corridors will not need to be restored; in periods between disking, many of the sites naturally revegetate with a variety of native species including alkali seepweed (*Sueada* sp.), saltbush (*Atriplex* sp.), cheeseweed (*Isocoma acradenia*), and various other native and non-native annuals. Initial revegetation is likely to consist of weedy and somewhat invasive species such as London rocket (*Sisymbrium ireo*) and five-hooked bassia (*Bassia hyssopifolia*), although over time these would diminish as

other species become established. The natural revegetation of these areas, even with weedy species, is anticipated to support native wildlife species, including the Covered Species. Nonetheless, there may be specific instances where seeding will be needed to re-establish a semblance of native habitat.

The desired vegetative cover is from 500 to 1,200 pounds of residual dry matter, consisting of a minimum of five native species per acre. All Movement Corridors will be evaluated annually for a period of three years. If, after three years, the species composition and vegetation cover is less than desired, as outlined in the Habitat Management Plan (Appendix C), a revegetation program will be developed and implemented at that time.

Long-term management of these lands through managed grazing and restoration, where needed, will be implemented as described in Chapter 5. Enhancements, management, and monitoring of the Conservation Sites will follow the Conservation Sites Management Plan (Appendix C).

Third-party Biological Consultant

Prior to the start of any Covered Activities, the qualifications of all third-party biological monitors (biological monitors) that will be involved with the Project will be submitted to the USFWS for their review and approval. The biological monitors will be given the authority to stop any work that may result in the take of listed species. The Project lead biological monitor will be the contact for any employee or contractor who may inadvertently kill or injure a Covered Species; or anyone who finds a dead, injured, or entrapped individual of a Covered Species. The Project lead biological monitor will possess a working cellular telephone whose number shall be provided to the USFWS. In the event of take of an individual (capture or kill) of a Covered Species, the Project lead biological monitor will contact the USFWS by phone within 24 hours of the incident and by written communication within 5 working-days of the incident.

Pre-activity Surveys

Pre-activity surveys are a requirement under this MSHCP to provide information used to minimize or avoid the impacts of solar facility development, operations and maintenance, and decommissioning on Covered Species. Pre-activity surveys will be conducted by biological monitors affiliated with a third-party biological consultant and approved by the USFWS prior to the start of any biological monitoring.

Pre-activity surveys will be conducted no more than 14 days prior to the inception of any project-related activity that involves on-site work (e.g., staking and surveying, compacting, grading, routine and/or unscheduled maintenance, decommissioning, etc.). In the event a break in work occurs for a period of 14 days or more, pre-activity surveys will need to be repeated before work may resume in that specific area. Portions of the Permit Area that are not scheduled for development will not require pre-activity surveys until such time as they are scheduled for development.

Biological monitors will conduct transect surveys with transects spaced 100 feet apart and with the assistance of binoculars to ensure 100 percent coverage of the Solar Site. Biological monitors will focus on detection of Covered Species or their sign, but will also note the presence of other

plant and wildlife species. If individuals or sign of Covered Species are detected, the biological monitor will document the observation with the following data:

- Species
- Type of observation (individual[s], sign, or other)
- Written location and GIS waypoint of observation
- General physical conditions of observation (e.g., size of burrow, condition of burrow, number of openings of burrow, etc.)
- Time of observation
- Date of observation
- Any ongoing work in the vicinity of the observation (in the event that the pre-activity survey is being performed due to a 14-day break in work)
- Photographs of the individual or sign, as possible

Appropriate measures, as outlined in this MSHCP (this Chapter and Chapter 6), will be implemented to ensure that project impacts are minimized or avoided to the extent possible. Such measures may involve establishing an Ecologically Sensitive Area (ESA) and associated buffers to separate Covered Species from project activities, restriction of high impact activities that generate significant ground vibration or noise at or above 120 dBA (A-weighted), and a reduction in speed limits in the vicinity of the ESA. The presence of the ESA will be reported and uploaded to the geo-database as described in Chapter 6.

Pre- and Post-activity Sweeps

Daily pre- and post-activity sweeps are a requirement under this MSHCP to provide information used to ensure project impacts to Covered Species are minimized or avoided to the extent possible. Sweeps will be performed by biological monitors immediately prior to commencement of daily work (pre-activity), and immediately after daily work has been completed (post-activity).

Pre-activity sweeps will involve a morning tailboard meeting with the construction foreman to inform the biological monitor of the location of planned work for the day. The biological monitor will then arrive at the work location to perform the pre-activity sweep no more than 30 minutes prior to work crews arriving. Pre-activity sweeps will be performed in daylight and biological monitors will plan for enough time to complete thorough sweeps before work crews arrive. A pre-activity sweep will involve a thorough inspection of the work site focusing on the following:

- Detecting any new sign of Covered Species (e.g., newly constructed burrows, dens or nest, scat, tracks)
- Detecting individuals of Covered Species
- Inspecting all staged materials and vehicles for the presence of Covered Species that may have taken up shelter in the material or vehicle overnight
- Verifying proper installation of BMPs according to SWPPP guidelines
- Identifying any ESAs already present in the area and ensuring that buffers are well demarcated
- Identifying any potential hazards to Covered Species that need to be addressed

Once a pre-activity sweep has been completed, information from the sweep will be documented in the daily report and the crew foreman will be notified of any findings and/or ESA(s) present in the work area. If any Covered Species or ESAs are present, the biological monitor will provide an on-site tailboard meeting to inform work crews of the species discovered/present, the need to delay or stop work in the event that the individual is present, and/or the ESA avoidance buffer(s) established in the area.

Post-activity sweeps will involve a detailed inspection of the work site as soon as possible upon completion of work. Post-activity sweeps will be performed before work crews leave for the day so that crews will be available to address any remedial actions necessary. Post-activity surveys will involve the following inspections of the work site:

- Presence of any trash items
- Presence of any vehicle or other equipment spills or discharge
- Verify correct installation of BMPs according to SWPPP requirements
- Proper upkeep of ESA buffers, if present

The biological monitor is responsible for ensuring that any and all issues discovered during the post-activity sweep are reported to the crew foreman, and that the issue is corrected before crews leave for the day. Findings of post-activity sweeps will be documented in daily reports.

Construction Monitoring

Daily construction monitoring is a requirement under this MSHCP to ensure project impacts to Covered Species are minimized or avoided to the extent possible. During all phases of the Project, a biological monitor will accompany work crews as they conduct work on site. Biological monitors will be responsible for assisting work crews in avoiding ESAs, and will watch for potential impacts to Covered Species during work activities. The biological monitor will have the authority under this MSHCP to stop work in the event that a Covered Species is detected in proximity of the work site or in the event that an ESA is, or is threatened with being encroached on. If work must be stopped, the construction supervisor and Project lead biologist will be notified to assess the severity of the situation. Work may continue once it has been determined that no take will occur by proceeding. Daily reporting for construction monitoring will be as outlined in Chapter 7.

General Minimization, Avoidance, and Mitigation Measures

All minimization and avoidance measures described under this MSHCP will be followed to ensure take of Covered Species is minimized, avoided, and mitigated to the extent possible. The following general minimization and avoidance measures (GM) will be implemented during all project activities to minimize potential incidental take of Covered Species:

GM-1: Where Covered Activities will occur, pre-activity surveys (see Pre-activity Surveys, this section) shall be conducted by authorized biological monitors (Monitoring Agent) no more than 14 days prior to the beginning of such activities. Immediately prior to project activities, additional pre-activity sweeps shall be conducted to ensure the work

sites are free of Covered Species. If discovered, Covered Species shall always be avoided to the extent possible. A biological monitor shall be on site at all times during project activities (discussed in Section 2.3.2) to ensure that impacts of Covered Activities on Covered Species are minimized or avoided to the extent possible.

- GM-2: An Employee Education Program (EEP) shall be developed and implemented in which individuals, including employees of contractors and subcontractors, who work on the project sites, are informed about the sensitive biological resources (including Covered Species) associated with the Project. This program shall be developed by a Monitoring Agent and shall consist of an on-site or training center presentation, including a slide show and written materials for each participant. The program shall discuss the locations and types of sensitive biological resources on and near the Solar Sites, Conservation Sites, and Movement Corridors; present an overview of the laws and regulations governing the protection of biological resources and the reasons for protecting these resources; discuss the various protection measures to be implemented; and identify official points of contact should questions or issues arise. Workers shall also be trained and directed to recognize Covered Species (live or dead), and they shall coordinate with Project biologists to assure accurate records of the locations of any Covered Species (live or dead) observed in the vicinity of the Permit Area.

Each participant shall be required to sign a statement declaring that the individual employee understands and shall abide by the guidelines set forth in the program materials. A list of all participants shall be maintained and provided to wildlife agency representatives upon request. The program shall be presented annually and as needed to ensure that all workers receive training prior to being allowed to work on the sites, and to ensure compliance with all protection measures. Separate trainings will be conducted for the construction, operations and maintenance, and decommissioning phases.

- GM-3: An SWPPP shall be prepared for all Solar Sites. The plan(s) shall include specific measures to be performed during construction periods that shall prevent discharge into sensitive biological resource areas, including wetlands, sensitive natural communities, and habitats occupied by Covered Species. Specific measures may include installation of hay bales, detention basins, or other means of intercepting excess runoff from the construction areas. Prior to final adoption, the SWPPPs shall be reviewed by the Project's Monitoring Agent to ensure that adequate measures are included. The SWPPP will not include lands or activities not covered in this MSHCP.
- GM-4: Project-related vehicles shall observe a 10-mph speed limit in all project areas, except on county roads and State and federal highways. Nighttime construction traffic shall be prohibited except under prior agency approval. Off-road traffic outside of designated driving areas shall be prohibited.
- GM-5: Covered Activities shall generally be restricted to daylight hours to avoid impacts to Covered Species. During the operations and maintenance phase it will be necessary for some activities to occur at night. Vehicle use during hours of darkness shall be limited to only those vehicles necessary to perform the given work or to conduct necessary

deliveries. Biological monitors shall be required to escort all personnel and their transport vehicles after dark. Speed limits shall be reduced to 5 miles per hour during all night time activities on the project site.

- GM-6: Due to noise susceptibility of Covered Species, noise levels at a distance of 300 feet from the edge of work areas shall be measured with noise meters. Noise measurements need only be taken in construction areas that are located within 300 feet or less of areas known to be occupied by Covered Species. Biological monitors shall be responsible for ensuring that crews are informed of Covered Species occupied areas and that noise measurements have been taken prior to the start of work activities.

Measured noise levels may not exceed 120 decibels on the A-weighted scale (dBA) for a period of more than one hour within any eight-hour period. Where noise exceeds these levels, construction personnel shall erect temporary noise barriers to reduce noise levels to 120 dBA or less. This measure shall be implemented during all phases of the Project.

- GM-7: All materials staged on the project site, and especially in staging areas, shall be spaced so as to not provide areas suitable for Covered Species to seek shelter. At no time shall materials be haphazardly piled on the project sites. All materials shall be inspected thoroughly by the biological monitor prior to being moved.

- GM-8: Covered Species may be attracted to den-like structures such as pipes, culverts, pallets, wire bales, and construction equipment. All materials and equipment that are stored on a construction site shall be securely capped or covered to prevent use by Covered Species. Materials and equipment should be thoroughly inspected for Covered Species before being buried, capped, or otherwise used or moved in any way. If Covered Species are discovered within staged materials or equipment, all activity in the immediate area shall stop until the Covered Species has left the material or equipment, and the biological monitor has determined that it is safe to resume work.

- GM-9: Perimeter security fencing shall be designed to be permeable to Covered Species and shall be inspected throughout the life of the Project. The perimeter security fence shall leave a minimum 4 to 6 inch opening between the base of the fence and the ground surface. The bottom of the fencing materials or other materials having sharp edges shall be knuckled (wrapped back to form a smooth edge) to protect wildlife that passes under the fence. Raised fencing shall be inspected at six-month intervals and any repairs necessary to maintain the permeability of the fencing shall be made within two weeks of being reported. Where raised fencing cannot be installed, passageways having openings of 4 to 8 inches in diameter constructed of PVC pipe or other suitable materials shall be installed every 100 feet along the fence perimeter. Perimeter security fencing designed with wildlife pass-through channels shall be inspected once per month. All fencing maintenance/repairs shall be made within two weeks of being reported. Wildlife pass-through channels that are found to be blocked shall be cleared as soon as possible to prevent interference with permeability of the fencing. No Project

fencing shall be fitted with slats, which may entrap wildlife attempting to pass through it.

- GM-10: Temporary impermeable fencing or “barrier” fencing will be installed between work areas and areas where Covered Species have been documented to occur to prevent species from becoming exposed to adverse effects from Covered Activities. Occurrence of Covered Species will be documented during pre-project reconnaissance and protocol level surveys, pre-activity surveys, pre- and post-activity sweeps, and during on-going biological monitoring. Barrier fencing will be constructed of 36-inch-tall metal flashing buried six inches below grade. The barrier fencing will be supported on one side (on the construction side of the fence) by stakes, posts of reinforcing bar, or T-posts. The fencing will be affixed to the supports in a manner that will not allow Covered Species to climb the fence (e.g., bolts or fasteners must be a minimum of 18 inches apart).
- GM-11: All trash generated, including packaging materials from equipment and supplies, food-related trash items (such as used sandwich wrappers, cans, bottles, and food scraps), and un-used or discarded equipment and supplies, shall be disposed of in covered containers and removed from the Permit Area at least weekly.
- GM-12: Dogs and other pets shall not be allowed within the Permit Area.
- GM-13: No firearms shall be permitted in the Permit Area. Exceptions include those carried by agents of public law enforcement and security personnel.
- GM-14: Trapping and holding (or relocating) Covered Species, which will involve handling, could be required to avoid lethal take of Tipton kangaroo rats or Nelson's antelope squirrels during the operations and maintenance and decommissioning phases of the Project. Trapping shall only be conducted by a USFWS-approved biologist with appropriate trapping/handling permits. Blunt-nosed leopard lizards and San Joaquin kit fox shall be avoided entirely through implementation of avoidance measures outlined below. The trapping and relocation of Covered Species shall adhere to methodologies specified in the Relocation Plan for the Tipton kangaroo rat and Nelson’s antelope squirrel (Appendix F).
- GM-15: No plants or wildlife shall be taken (i.e., collected or removed), except as necessary for Covered Activities and then only by a biologist with the appropriate permit. Salvage of native species that are to be removed is encouraged, but shall only be performed by a biologist or other personnel trained to identify sensitive species and with the appropriate permit to remove those species. Relocation of wildlife shall only be performed by biologists approved by the USFWS, and under the guidance of the project lead biologist, under the conditions specified in this MSHCP and in the Relocation Plan for the Tipton kangaroo rat and Nelson’s antelope squirrel (Appendix F).
- GM-16: All trapping and relocations shall be conducted with prior approval of the USFWS, shall only be performed by USFWS-approved biologist with appropriate animal handling permits, and shall be followed up with a written report within five business days.

GM-17: Any incidence of take of individuals of Covered Species shall be reported to the USFWS by phone within 24 hours and in writing within five working days. Take of individuals includes capture (accidental entrapment and intentional trapping) and lethal take.

MINIMIZATION AND AVOIDANCE OF HABITAT DISTURBANCE

Solar Sites will be kept relatively clear of vegetation so that the sites are suitable for solar use. Management of vegetation within the Solar Development Footprints will include mowing and grazing on an as-needed basis to lessen the risk of fire and to facilitate solar operations. Vegetation and habitat within the Solar Development Footprints will not be managed specifically for the benefit of Covered Species, but it is anticipated that Covered Species may become established within some portions of some or all of the Solar Development Footprints over time, and while operations and maintenance activities are occurring. The Solar Development Footprints will be monitored to gauge the distribution and occurrence of Covered Species, and to ensure maximum avoidance of Covered Species during operations.

Within Movement Corridors and Conservation Sites, habitat will generally improve for Covered Species through the cessation of disking and management of vegetation density. As discussed further in Section 5.3, vegetation density should be managed to maintain a 20 percent or less cover of shrubs, and a cover of annual forbs and grasses that is between 500 and 1,200 pounds per acre of residual dry matter. In addition to providing habitat for Covered Species, preventing vegetation from becoming “dense” will reduce fire risks and the potential for vegetation to interfere with project operations. Mowing (and managed grazing if appropriate) will be used to maintain vegetation in a condition that optimizes its habitat value for Covered Species (as discussed further in Section 5.3) and is suitable for project operations. As discussed under Adaptive Management Strategy (Section 6.4), vegetation management may be adjusted in response to the results of biological monitoring.

SPECIES-SPECIFIC MINIMIZATION AND AVOIDANCE

The following avoidance and minimization measures will be implemented during Covered Activities to minimize potential incidental take of individual Covered Species:

Minimization and Avoidance Measures for San Joaquin Kit Fox

To protect the San Joaquin kit fox, standard protection measures (USFWS 2011) shall be implemented prior to and during all project activities. These protection measures will incidentally reduce the potential for project impacts to the American badger. Protection measures specific to the San Joaquin kit fox (SJKF-1 through SJKF-10) will be implemented during pre-construction, construction, operations and maintenance, and decommissioning:

SJKF-1: Pre-activity surveys shall be conducted no more than 14 days prior to the beginning of project activities, or any project activity likely to impact the San Joaquin kit fox. If any evidence of site occupation by Covered Species or other special-status species is

observed, an exclusion zone shall be established by an approved biological monitor. Exclusion zones shall be placed in accordance with USFWS recommendations at the following radii:

- Potential Den: 50 feet
- Known Den: 100 feet
- Natal/Pupping Den (Occupied and Unoccupied): Contact USFWS

If dens must be removed, they must be monitored for a minimum of three consecutive nights using cameras or tracking medium to determine kit fox use. If there is no kit fox activity for three consecutive nights, dens may be collapsed. If dens are actively being used by kit fox, no collapse of the den is permitted until all individuals have vacated the den. Destruction of natal dens and other “known” kit fox dens must not occur until authorized by USFWS. Once kit foxes have been confirmed to have vacated the den, and USFWS approval has been obtained, dens may subsequently be hand excavated by a trained wildlife biologist. Replacement dens must be constructed in suitable habitat outside of the construction area.

SJKF-2: To prevent inadvertent entrapment of San Joaquin kit foxes or other animals during the construction phase of the project, all excavated, steep-walled holes or trenches more than five feet deep shall be covered at the close of each working day by plywood or similar materials. Holes and trenches less than five feet deep may either be covered or be provided with escape ramps at a rate of one ramp every 100 feet. Escape ramps may be constructed of earth fill or wooden planks with a slope no steeper than 45 degrees. If wooden planks are used, perpendicular grooves or rungs shall be provided to aid in traction. All holes and trenches, whether covered or uncovered, more than 2 feet deep shall be inspected daily for trapped animals regardless of whether or not work is occurring in that area. Before holes or trenches are filled, they shall be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the procedures described under SJKF-5 and SJKF-6, below, shall be followed.

SJKF-3: The Project Administrator shall appoint a representative to be the point of contact for any employee or contractor who might inadvertently kill or injure a kit fox, or who finds a dead, injured or entrapped individual. The point of contact’s name and telephone number shall be provided to the USFWS. If any kit fox is inadvertently injured or killed during construction or operations, all work shall be immediately stopped until the cause of injury is determined, and a plan to avoid any additional injury has been implemented in consultation with the project lead biologist and the USFWS.

SJKF-4: In the case of trapped animals, escape ramps or structures shall be installed immediately to allow the animal(s) to escape, or the USFWS shall be immediately contacted for advice.

SJKF-5: Any solar operator, or representative, contractor or subcontractor of a solar operator who inadvertently kills or injures a San Joaquin kit fox shall immediately report the incident to their point of contact. The point of contact shall contact the USFWS and

CDFW immediately in the case of a dead, injured or entrapped kit fox. The CDFW contact for immediate assistance is State Dispatch at (916) 445-0045. State Dispatch shall contact the local warden or biologist.

SJKF-6: The Sacramento Fish and Wildlife Office and CDFW shall be notified via phone within 24 hours and in writing within three working days of the accidental death or injury to a San Joaquin kit fox during Covered Activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal, and any other pertinent information.

SJKF-7: Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. EPA, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the USFWS. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to kit fox.

SJKF-8: Upon completion of the project, all areas subject to temporary ground disturbances including, for example, storage and staging areas, temporary roads, and pipeline corridors, should be re-contoured, if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas will be determined on a site-specific basis in consultation with the USFWS, CDFW, and revegetation experts.

Minimization and Avoidance Measures for the Tipton Kangaroo Rat and Nelson's Antelope Squirrel

To ensure that incidental take of Tipton kangaroo rat and Nelson's antelope squirrel are avoided to the extent possible, the following minimization and avoidance measures (TNM-1 through TNM-4) shall be implemented prior to any pre-construction, construction, operation and maintenance, or decommissioning activities:

TNM-1: All areas of the project sites where there is a potential for Tipton kangaroo rat burrows and Nelson's antelope squirrel burrows to occur, as determined by a biological monitor, shall be inspected for the presence of burrows within 14 days prior to start of any project activity (see "Pre-activity Surveys," this Section). Occupancy by Tipton kangaroo rats and Nelson's antelope squirrel will be determined by trapping in the vicinity of observed burrows, or more conservatively, may be assumed based on the presence of burrows fitting the description for the species. Occupancy by Covered Species is determined by pre-project biological surveys, pre-activity surveys, pre-activity sweeps, and on-going biological monitoring. Biological monitors will coordinate with construction foremen during pre-activity sweeps to identify activities involving high levels of noise that will occur in close proximity to known locations of

Covered Species, and will ensure measurements are taken to monitor noise levels. Activities involving noise levels at or above 120 dBA will require the use of noise buffers or will be limited to less than one hour duration.

- TNM-2: Given current site conditions (Chapter 3), it is not anticipated that the Tipton kangaroo rat, Nelson's antelope squirrel, or other special-status species will occur on the Solar Sites during the pre-construction or construction phases of the Project. If they do become present, ESA buffers shall be established and biological monitors shall ensure that project activities avoid impacting the species. In the event that project activities must occur within areas that have become occupied by Tipton kangaroo rats or Nelson's antelope squirrels, the Relocation Plan (Appendix F) shall be implemented upon prior approval by the USFWS. The Relocation Plan shall be carried out by a permitted and USFWS-approved biologist and all results shall be provided to the USFWS in writing within five business days.
- TNM-3: Tipton kangaroo rats and Nelson's antelope squirrels will be temporarily housed when feasible, to avoid additional stress and disruption to other Tipton kangaroo rat populations through relocation. Temporary housing will be feasible if the duration of project activities resulting in the need for trapping does not exceed ten days. If temporarily housed, Tipton kangaroo rats and Nelson's antelope squirrels shall be held in ventilated containers of at least 12 inches long by 12 inches wide by 4 inches high. The containers shall be partially filled with substrate material and shall be kept in the shade or indoors where ambient temperature shall not exceed 95° Fahrenheit (F), or be allowed to drop lower than 68°F. Likewise, temperatures shall not exceed 95°F during transport. Appropriate food items shall be provided. If relocation becomes necessary, the animals shall be relocated in accordance with the Relocation Plan (Appendix F).
- TNM-4: During operations and maintenance and decommissioning, no small mammal burrows shall be removed without first being inspected by a qualified biological monitor. If removal is unavoidable, then trapping will occur at each burrow for a minimum of four nights. Trapping and potential relocation shall proceed as discussed above and outlined in Appendix F. Once the animals have been removed, all burrows shall be excavated by hand under the direct supervision of a qualified lead biologist and in compliance with USFWS requirements.

Minimization and Avoidance Measures for Burrowing Owls

To ensure protection of the western burrowing owl, the standard protection measures provided in (CDFW) March 7, 2012 *Staff Report on Burrowing Owl Mitigation* shall be implemented (CDFG 2012). Under this MSHCP, buffer distances have been reduced from those recommended in CDFG 2012 to ensure protection of the western burrowing owl while limiting interference with the progression of development. Measures to protect western burrowing owls shall be implemented prior to any pre-construction, construction, operation and maintenance, or decommissioning activities. These measures (WEBO-1 and WEBO-2) are summarized as follows:

WEBO-1: Pre-activity surveys of the project area and a 500-foot perimeter of the project area shall be conducted no more than 14 days prior to the start of project activities. If more than 14 days lapse between the time of the pre-activity survey and the start of ground-disturbing activities, another pre-activity survey must be completed (see “Pre-activity Surveys,” this Section).

**Table 2-5
Recommended Restricted Activity Dates and
Standard Buffer Distances – Burrowing Owls**

Location	Time of Year	Level of Disturbance*		
		Low	Medium	High
Breeding burrow/nest	Feb 1-Aug 31	250 ft	500 ft	500 ft
Non-breeding burrow	Sept 1 – Jan 31	160 ft	250 ft	500 ft

* Levels of disturbance are defined as follows:

Low disturbance – Light vehicle (pick-up trucks or similar) traffic at intervals of 12 or fewer per day.

Medium disturbance – light vehicle traffic and construction work consisting of fewer than 10 workers using hand tools with noise levels greater than 95 dbA for a period of 1 hr. or more, measured 100 feet from work area.

High disturbance – Heavy equipment operations, greater than 10 workers per day, noise levels exceeding 95 dbA for over 1 hr in duration.

WEBO-2: If burrowing owls are present on the construction sites (or within 250 feet of the construction sites) during the breeding season (April 15 through July 15), and appear to be engaged in nesting behavior, a fenced ESA buffer shall be installed between the nest site or active burrow and any earth-moving activity or other potential disturbance according to the buffer recommendations presented in Table 2-5. This buffer may be removed once it is determined by the lead biologist that the young have fledged and are no longer dependent on the nest or burrow for survival. Typically, the young fledge by August 31. Actual fledging dates may be earlier or later, and shall be determined by the lead biologist. Standard buffer distances shall be maintained as recommended in CDFG 1995. These buffer distances may be reduced on a case-by-case basis and with the guidance of the lead biologist and prior approval by the USFWS. The standard buffer distances shall only be reduced to a size that retains “no disturbance” to burrowing owls.

Minimization and Avoidance Measures for Blunt-nosed Leopard Lizard

To ensure that there is no lethal take of a blunt-nosed leopard lizard, the following minimization and avoidance measures (BNLL-1 through BNLL-4) shall be implemented prior to any pre-construction, construction, operation and maintenance, or decommissioning activities:

BNLL-1: Barrier fencing shall be provided during all phases of construction between project activity sites and native habitat areas adjacent to those sites (see Figure 2-4). The fencing shall be buried a minimum of six inches below grade and extend a minimum of 36 inches above grade. This barrier fencing shall be constructed of metal flashing,

plastic sheeting, or other materials that cannot be climbed by blunt-nosed leopard lizards, and will be supported on one side (on the construction side of the fence) by stakes, posts of reinforcing bar, or T-posts. The fencing will be affixed to supports in a manner that will prohibit blunt-nosed leopard lizards from climbing the fence. (i.e., bolts or fasteners must be a minimum of 18 inches apart).

BNLL-2: The fencing shall be inspected by a qualified biological monitor on a weekly basis to ensure fence integrity. Any needed repairs to the fence shall be made on the day of their discovery. Fencing shall be installed and maintained during all phases of construction, but is only required when project activities occur within 200 feet of habitat suitable for supporting the blunt-nosed leopard lizard. Fencing may be removed once construction activities are complete.

BNLL-3: Annual surveys shall be conducted on all developed Solar Sites during the blunt-nosed leopard lizard adult activity period (April 14 to July 15) to identify areas inhabited by the species.

BNLL-4 In areas identified as occupied by blunt-nosed leopard lizards, Covered Activities will be restricted to the species active period to ensure that no blunt-nosed leopard lizards aestivating in burrows are crushed. Environmentally Sensitive Areas shall be established and signs shall be posted indicating increased sensitivity of the area. A biological monitor shall be required to accompany all work crews in the vicinity of ESAs. No ground disturbing activities shall occur within identified ESAs. Qualified biological monitors shall inspect ESAs during the adult and juvenile activity period to ensure that all blunt-nosed leopard lizard avoidance measures are being adhered to.

BNLL-5: All vehicular traffic occurring during construction and during operations and maintenance activities, and occurring on all dirt and graveled roads in areas identified as occupied by blunt-nosed leopard lizards shall be limited to 5 mph or less to reduce the potential for mortalities of blunt-nosed leopard lizards from vehicular strikes. Vehicles entering a blunt-nosed leopard lizard occupied area shall require accompaniment by a biological monitor.

2.3.6 MANAGEMENT ACTIVITIES ON CONSERVATION SITES

Continued and appropriate management of Conservation Sites will be conducted by third-party land managers. Conservation Sites will be held in perpetuity, and conservation easements will be recorded on designated lands. The management of Conservation Sites will be conducted by a qualified land management trust or by a qualified biological consulting firm approved by the USFWS. Management of the sites will include a wide variety of activities, including studies to determine the effectiveness of the MSHCP. These activities are described in detail in Chapter 5 and 8, and include required, optional, and possible actions that will be implemented within Conservation Sites.

Management of the Conservation Sites may include a range of the following activities: annual monitoring of Covered Species; studies associated with the Habitat Management Plan; reporting

of findings to agencies; and habitat enhancements to increase sustainability of Covered Species. Habitat management will include: appropriate fencing where no fencing exists, or repair of existing fencing to prohibit trespassing, unauthorized off-road vehicles, and trash dumping; trash removal and signage installation; vegetation improvements appropriate for Covered Species (for example, enhance saltbush, improve grasslands through managed grazing, utilize natural revegetation, etc.); limitation of road use and abandonment of roads no longer needed; and implementation of adaptive management actions in accordance with the Conservation Site Management Plan (Appendix C).

Annual monitoring of Covered Species and their habitat on the Conservation Sites will include the following types of survey activities: vegetation sampling; small mammal trapping; bird surveys; reptile surveys; track and camera stations; and spotlighting. As described further in Chapter 6, annual monitoring for both Covered Species and other special status species will be conducted.

The specific methodologies and frequencies of the conservation plan activities and management of Covered Activities that will occur within Conservation Sites are further discussed in Chapter 5.

2.4 *Activities/Lands Not Covered*

The MSHCP covers all lands and activities for which ITP coverage is needed over the permit term for pre-construction, construction, operations and maintenance, and decommissioning of the Project. Certain activities may occur in the Permit Area over the permit term that are not appropriate for coverage under this MSHCP due to a variety of factors including lack of information, speculative nature of the activities, and other future foreseeable or unforeseeable activities. The activities listed below are not covered under this MSHCP.

2.4.1 MINERAL DRILLING ACTIVITIES

Conditions of Project approval and mitigation measures for the Project allow for mineral rights interests to be served by reserving a maximum of 5 separate 10-acre drilling site areas per 640 acres, and allowing for routes of ingress and egress thereto. The locations of the drilling islands have not yet been identified. Activities associated with the exploration and/or development of potential future drilling sites for the purposes of oil and gas exploration and production by mineral rights owners will be subject to separate incidental take authorization and environmental review, and are not covered by this MSHCP.

2.4.2 UTILITY INSTALLATION, MAINTENANCE, AND REPLACEMENT

Public and private easements exist within the Permit Area. These easements contain existing roads, transmission lines, and pipelines. The installation of utilities unrelated to the Project, and the maintenance or replacement of those existing utilities will be subject to separate incidental take authorization and environmental review, and are not covered by this MSHCP.

2.5 Covered Persons/Entities

Persons covered under this MSHCP (Covered Persons) will be Maricopa Sun, LLC, which will be the project administrator for the Permit. Project Developers and their subcontractors, property owners, solar field owners and operators: and persons involved with Conservation Site management and their contractors, subcontractors, agents, successors, appointees, and representatives will be required to adopt and implement the terms and conditions of the Section 10(a)(1)(B) permit and associated MSHCP, including participation in educational programs and funding mechanisms established in support of the MSHCP, as a condition of sale, lease, or other involvement within the Permit Area.