

5.18 CUMULATIVE IMPACTS

The analysis of cumulative effects of this Project is governed by both federal and State of California regulations. At the federal level, the National Environmental Policy Act of 1969 (NEPA) implementing regulations require that all federal agencies consider the cumulative effects of their actions on the environment. As defined under NEPA, “cumulative effects can result from individually minor but collectively significant actions taking place over a period of time (40 Code of Federal Regulations [CFR] 1508.7).” The Council on Environmental Quality’s regulations for implementing NEPA require that agencies analyze the direct, indirect, and cumulative effects of a proposed action and any reasonable alternatives to that proposed action (40 CFR 1502.16, 1508.25, and 1508.27[b][7]).

At the state level, the California Environmental Quality Act (CEQA) (California Public Resources Code [PRC] 21083) and associated CEQA Guidelines (California Code of Regulations [CCR] 15130) require that the discussion of cumulative effects be “guided by the standards of practicality and reasonableness” (PRC 21083[b]), and that “the discussion include a list of past, present, and reasonably anticipated future projects producing related or cumulative impacts” (CCR 15130[b][1][A]). The CEQA guidelines require that cumulative effects be discussed when they are significant, and that the discussions of cumulative effects reflect the severity of the effects and their likelihood of occurrence.

The terms below are used in this analysis to discuss effects as further outlined in Table 5.18-1, Definition of Direct, Indirect, and Cumulative Effects.

- **Direct Effects:** caused by the action and occurring at the same time and place (40 CFR 1508.8).
- **Indirect Effects:** caused by an action and are later in time or farther removed in distance but are still reasonably likely. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effect on air and water and other natural systems, including ecosystems (40 CFR 1508.8).
- **Cumulative Effects:** additive or interactive effects resulting from the incremental effect of the Project when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such actions (40 CFR 1508.7 and 1508.25(c)). Interactive effects may be either countervailing (the net cumulative effect is less than the sum of the individual effects) or synergistic (the net cumulative effects is greater than the sum of individual effects). This Application for Certification (AFC) addresses cumulative effects that are reasonably foreseeable rather than speculative.

- Reasonably Foreseeable Future Actions:** this term is used in concert with the Council on Environmental Quality (CEQ) definitions of cumulative effects, but the term itself is not further defined. Most regulations that refer to “reasonably foreseeable” do not define the meaning of the words, but do provide guidance on the term. For this analysis, reasonably foreseeable future actions or effects are those likely (or reasonably certain) to occur within the timeframe used for analyzing environmental consequences and are not purely speculative. Our determination of “reasonably foreseeable” is based on documents such as existing plans, permits, permit applications, announcements such as Federal Register notices, or other published NEPA documents.

**Table 5.18-1
Definition of Direct, Indirect, and Cumulative Effects**

Effect Issues	Direct Effect	Indirect Effect	Cumulative Effects
Nature of effect	Typical/inevitable/ predictable	Reasonably foreseeable/ probable	Reasonably foreseeable/ probable
Cause of effect	Project	Project’s direct and secondary effects	Project’s direct and secondary effects and effects of other activities
Timing of effect	Project construction and implementation	Some time after direct effects	At time of project construction or in the future
Location of effect	Within Project effect area	Within boundaries of systems (i.e., resources) affected by Project	Within boundaries of systems affected by the Project

Source: Oregon Department of Transportation and Federal Highway Administration, 2001.

The purpose of this section of the AFC is to identify past, present, and reasonably foreseeable actions in the vicinity of the SES Solar Two, LLC (Solar Two or Applicant) Project and its ancillary systems (Project) that could affect the same resources, and provide the following analysis:

- determine if the effects of the Project and the other actions would overlap in time or geographic extent,
- determine if the effects of the Project would interact with, or intensify, the effects of the other actions, and
- identify any potentially significant cumulative affects.

Where potentially significant effects have been identified, an assessment of cumulative affects is provided under each respective resource in Section 5.0, Environmental Information, of this AFC.

The Project would consist of up to 30,000 SunCatcher solar electric generating systems, with a capacity of up to 750 megawatts (MW). The SunCatcher system combines a mirrored concentrator dish with a high efficiency Stirling Cycle Engine specially designed to convert sunlight to electricity. The initial phase of Solar Two Project (Phase I) would consist of up to 12,000 SunCatchers configured in 200 1.5-MW solar groups of 60 SunCatchers per group that are capable of generating 300 MW of net electrical power. Ultimately, the Solar Two Project would be expanded to up to 30,000 SunCatchers configured in 500 1.5-MW solar groups of 60 SunCatchers per group with a nominal capacity of 750 MW at the interconnection point with the

San Diego Gas & Electric electrical grid. The Project would be owned and operated by Solar Two. The Project is located in Imperial County in Southern California, approximately 100 miles east of San Diego, 14 miles west of El Centro, and 4 miles east of Ocotillo, California. Other than the Solar Two Project interconnection transmission line that Solar Two would construct to the Imperial Valley Substation, no new transmission lines or off-site substations would be required for the 300 MW Phase I construction of the Solar Two Project.

The proposed land to be permitted includes approximately 6,500 acres of land requested to be authorized under a Right-of-Way grant from the Bureau of Land Management (BLM) to Applicant and approximately 360 acres of private land. The private lands may be purchased or leased by Solar Two. The amount of public land to be fenced and developed within the BLM acreage is estimated to be approximately 6,140 acres.

5.18.1 Affected Environment

Information on the Project includes consideration of movement and transportation of materials and energy. Cumulative effects on the social environment can encompass information needs related to human populations, economic and health indicators, and infrastructure requirements. For this reason, different spatial boundaries may exist for different resources included in the analysis.

Factors to consider include:

- the size and nature of the Project and its anticipated effects,
- the availability of existing data and knowledge about the Project and its environmental effects,
- the feasibility of collecting new data and knowledge,
- the size, nature, and environmental effects of past, existing, and future projects and activities in the area,
- the characteristics and sensitivity of the receiving environment (extent and degree of existing stress),
- relevant ecological boundaries (watersheds, major ecological features, etc.), and
- relevant jurisdictional boundaries.

The California Energy Commission's (CEC) Rules of Practice and Procedure and Power Plant Site Certification Regulations relative to cumulative effects differ by discipline. NEPA's regulations relating to cumulative effects do not define specific radii for cumulative effects to be assessed. For this Project, cumulative effects would be considered within a regional perspective, including all linears and ancillary features associated and considered part of the Project. This regional perspective employs study areas for cumulative effects that differ between each resource area and that are appropriate for each resource area. This approach is based on guidance from the CEC and BLM as further described below in Section 5.18-3, Cumulative Effects by Resource.

5.18.1.1 Environmental Setting and Past Actions

As described in greater detail in Section 5.9, Land Use, of this AFC, the existing land uses surrounding the Project consist mainly of agricultural, recreational, military, government (BLM), community, and small portions are designated as industrial and urban. Much of the land south of the U.S.-Mexico border that lies within the study area is agricultural. The City of Seeley is the nearest city, located 7 miles from the Project. The City of El Centro, population approximately 42,000, is located approximately 14 miles east of the Project (El Centro Redevelopment Agency 2008). Imperial County is known as a highly productive agriculture area, with more than 35 growers and shippers operating in El Centro. In addition to agriculture, the two large employment sectors in the El Centro labor market area include Government and Wholesale/Retail Trade. Ocotillo, population approximately 296, is a small desert town west of the Project area that covers approximately 8.9 square miles and has approximately 253 housing units (U.S. Census Bureau 2000).

The Project is situated primarily on undeveloped public land administered by the BLM. The site is roughly bounded on the north by Plaster City Off-Highway Vehicle (OHV) Open Area and bounded to the south by the Yuha Basin Area of Critical Environmental Concern (ACEC). The Yuha Desert OHV Recreation Area and the Plaster City OHV Open Area are also popular not only for OHV use but for primitive camping and day use areas. Just south of the Project area is the Yuha Desert Limited Use Area, where motorized vehicle travel is allowed, but is limited to approved routes of travel. No cross-country travel is allowed to protect sensitive wildlife, archaeological sites, and to prevent soil erosion and degradation of scenic quality. The BLM has designated 40,622 acres of the Yuha Basin as an ACEC. The area is managed under the BLM California Desert Conservation Area Resource Management Plan (CDCA Plan) (BLM 1980, as amended). The Project is enclosed by United States Highway (I-8) to the south and by Union Pacific Railroad (formerly the Arizona and San Diego Railroad) ROW and Evan Hewes Highway to the north. Two existing unpaved access roads traverse a portion of the site from the east off of Dunaway Road, and from a northwestern entrance off of Evan Hewes Highway.

The U.S. Naval Air Facility (NAF) El Centro is located approximately seven miles north of the Project, has two operating runways, and covers 2,700 acres inside the fence line and 54,000 acres of nearby training ranges. The 9,500-foot east/west runway handles 96 percent of the traffic. Facilities on-site include flight operations, logistics, billeting, messing, hangars, ramps, aircraft parking space, 101 housing units, administration and supply transport. The desert range is used for air-to-ground bombing, rocket firing, strafing, dummy drops and mobile land target training. Flight operations (i.e., landings and take-offs) on a typical day reach over 450 between 0700 and 2300. The base's economic effects in the surrounding communities exceeds \$115.5 million. In fiscal year 2006, 1,300 direct and indirect jobs were generated from this facility (NAF 2008).

The El Centro Border Patrol Station is responsible for patrolling 34 miles of linear border and 940 square miles of Imperial County, located west of the Calexico, California Port of Entry to the San Diego/Imperial County line. A part of the California-Mexico border lies in the southern portion of the 10-mile radius for this Project and is the responsibility of the El Centro Border Patrol Station (U.S. Customs and Border Protection 2008). A draft Environmental Assessment (EA) for the El Centro Sector Proposed Tactical Infrastructure was completed in 2007 and provides an assessment of cumulative effects of constructing a fence along the U.S.-Mexico border (DHS USBP 2007). The EA is discussed in more detail in the following section under reasonably foreseeable future actions.

Table 5.18-2, Past Actions Within the Project Vicinity, provides a list of past actions that have contributed to the existing environmental conditions within the 10-mile radius surrounding the Project and the resources that may have been affected.

**Table 5.18-2
Past Actions Within the Project Vicinity**

Action	Resource(s) Potentially Effected	Mechanism(s) of Potential Effect
OHV use	Air, Soil, Wildlife, Cultural, Paleontological, and Vegetation	Dust/particulates, erosion, noise, and disturbance
Naval flight operations; air-to-ground bombing; and rocket firing	Air, Wildlife and Human Health	Emissions, noise, and disturbance
Agriculture	Air, Soil, Wildlife, Water Resources, Vegetation, and Visual	Dust/particulates, erosion, noise, sediment runoff, disturbance, water pollution due to pesticides, and groundwater contamination
Highways and roads	Air, Soil, Wildlife, Human Health, Water Resources, Vegetation, Cultural, Paleontological, and Visual	Dust/particulates, erosion, noise, sediment runoff, disturbance, vehicular runoff (i.e., petroleum products), habitat fragmentation, and wildlife mortality/injury (i.e., vehicular collisions)
Urban development (i.e., housing, industry, urban infrastructure, and landfills)	Air, Soil, Wildlife, Human Health, Water Resources, Vegetation, Cultural, Paleontological, Visual, and Hazardous Materials	Dust/particulates, erosion, noise, sediment runoff, disturbance, vehicular runoff (i.e., petroleum products), habitat fragmentation, wildlife mortality/injury (i.e., vehicular collisions), and groundwater contamination

Source: URS Corporation, 2008.

Note:

OHV = off-highway vehicle

5.18.2 Environmental Consequences

5.18.2.1 Present and Reasonably Foreseeable Future Actions

Perhaps one of most notable aspects of this Project area is the number of renewable energy projects for which applications are currently being processed. According to the California Renewables Portfolio Standard, utilities such as San Diego Gas & Electric are required to achieve a 20 percent renewable energy portfolio by 2010. Current energy policy calls for more development of solar energy within the mainly agricultural Imperial Valley, promotion of sustainable business, and greater use of renewable forms of energy. According to the land use goals and policies of the Geothermal/Alternative Energy and Transmission Element and the General Plan, the Project Site is compatible for Solar Energy Conversion.

Within the CDCA and on BLM-administered public lands alone, over one hundred right-of-way applications are currently on file with the BLM for solar energy development. Besides solar, other renewable energy projects (e.g., wind, geothermal, biofuel, etc.) are also being considered in record numbers. Imperial County, wholly located within the CDCA, has been at the forefront of this development, seeing an influx of geothermal, solar, biofuel and other renewable projects within the last few years (see Figure 5.18-1, Cumulative Impacts Reasonably Foreseeable Projects Boundary Map).

Table 5.18-3, Pending BLM Applications Near the Project and Other Reasonably Foreseeable Future Projects Within the 10-Mile Boundary of Project Site, and Figure 5.18-2, Pending BLM Applications Near Project Area, show pending BLM applications near the Project area and other reasonably foreseeable future projects within the 10-Mile boundary of the Project Site.

**Table 5.18-3
Pending BLM Applications for Energy Projects Near the Project and Other Reasonably Foreseeable Future Projects Within 10-Mile Boundary of Project Site**

Serial #	Applicant or Holder/Billee	Applicant or Holder/Billee Address	Acres	Case Disposition	Date Application Received	Remarks	Update
CACA 047740	SES Solar Two, LLC	2920 East Camelback Road, Suite 150 Phoenix, AZ 85016	6,874	Pending	01/05	900-MW solar electric generation facility; second in line application filed (see CA49573)	5/9/08
CACA 048273	Bio Renewable Projects, LLC	1780 Kettner Boulevard, Suite 809 San Diego, CA 92101	608.95	Pending	07/06	20-MW photovoltaic system	5/9/08
CACA 049150	BCL & Associates, Inc.	15690 Vista Circle Desert Hot Springs, CA 92241	5,587.85	Pending	07/07	500-MW photovoltaic solar electric generation facility	5/9/08
CACA 049513	Skygen Solar, LLC	1 South Wacker Drive, Suite 2020 Chicago, IL 60606	1,040	Pending	12/07	---	5/9/08
CACA 049514	Skygen Solar, LLC	1 South Wacker Drive, Suite 2020 Chicago, IL 60606	920	Pending	12/07	---	5/9/08

**Table 5.18-3
Pending BLM Applications for Energy Projects Near the Project and Other Reasonably
Foreseeable Future Projects Within 10-Mile Boundary of Project Site**

Serial #	Applicant or Holder/Billee	Applicant or Holder/Billee Address	Acres	Case Disposition	Date Application Received	Remarks	Update
CACA 049573	Power Partners Southwest, LLC	700 La Terraza Boulevard, Suite 200 Escondido, CA 92025	6,874	Pending	09/07	Second in line after CA47740 (Stirling Energy Systems II)	5/9/08
CACA 049613	Optisolar, Inc.	31302 Huntwood Avenue Hayward, CA 94544	7,400	Pending	12/07	Photovoltaic Solar Project	5/9/08
CACA 049614	Power Partners Southwest, LLC	700 La Terraza Boulevard, Suite 200 Escondido, CA 92025	840	Pending	01/08	300-MW solar electric generation facility	5/9/08
CACA 049615	Pacific Solar Investments, Inc.	3850 Horizon Ridge Parkway, Suite 20 Henderson, NV 89052	28,186	Pending	09/07	1,500-MW solar trough project	5/9/08
CACA 045213	RES North America, LLC	3300 PGA Boulevard, Suite 550 Palm Beach Garden, FL 33410	1,960	Closed	02/03	Expired 09/2006; case closed 11/2006; Imperial Wind has submitted application for site (see CA48272)	5/14/08
CACA 046618	Clipper Windpower, Inc	6305 Carpinteria Avenue, Suite 300 Carpinteria, CA 93013	1,318	Pending	10/04	Wind energy and site testing and monitoring facilities, with installation of three met towers	5/14/08
CACA 046734	Bio Renewable Projects, LLC	1780 Kettner Boulevard, Suite 809 San Diego, CA 92101	4,480	Closed	11/04	Wind energy site testing and monitoring, one met tower	5/14/08
CACA 047518 ¹	Wind Hunter, LLC	821 East Dove Loop Road, Suite 2425 Grapevine, TX 76051	6,280	Pending	09/05	Wind energy site testing and monitoring, one 197 foot met tower	5/14/08
CACA 047751	Renewergy, LLC	30712 East Sunset Drive South Redlands, CA 92373	11,187	Authorized	12/05	Wind energy testing facilities, 3 met towers	5/14/08
CACA 048004 ¹	Renewergy, LLC	30712 East Sunset Drive South Redlands, CA 92373	3,219.63	Pending	04/06	Wind energy testing facilities, 4 met towers	5/14/08
CACA 048136	Superior Renewable Energy, LLC	1600 Smith Street, Suite 4240 Houston, TX 77002	187	Pending	06/06	One 164-foot met tower	5/14/08
CACA 048272	Imperial Wind, LLC	30712 East Sunset Drive South Redlands, CA 92373	1,960	Pending	07/06	CA45213 expired 09/06; CA048272 covers the CA45213 application; anticipated to merge with adjacent project (CA47751)	5/14/08
CACA 048789	Penn Energy Trust, LLC	C/O 620 Righters Ferry Road Bala Cynwyd, PA 19004	10,000	Closed	02/07	Wind monitoring and testing	5/14/08

**Table 5.18-3
Pending BLM Applications for Energy Projects Near the Project and Other Reasonably
Foreseeable Future Projects Within 10-Mile Boundary of Project Site**

Serial #	Applicant or Holder/Billee	Applicant or Holder/Billee Address	Acres	Case Disposition	Date Application Received	Remarks	Update
N/A	U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol	Sector Headquarters, 1111 North Imperial Avenue El Centro, CA 92243	324 to 810	Pending	2007	44.6 miles of tactical infrastructure along the U.S./Mexico international border; EA published in December 2007; 2007 DHS Appropriations Act (Public Law 33109-295) provided \$1,187,565,000 under the Border Security Fencing, Infrastructure, and Technology appropriation	4/10/08
N/A	San Diego Gas & Electric	P.O. Box 129831 San Diego, CA 92112-9831	N/A	Pending	N/A	150-mile transmission line between the cities of El Centro and San Diego; application filed with the California Public Utilities Commission	4/10/08

Source: BLM LR 2000 Database accessed 9 and 14 May 2008; U.S. Department of Homeland Security, U.S. Customs and Border Patrol, 2007; El Centro Sector Proposed Tactical Infrastructure Draft EA.

¹Projects within 10 miles of the Project Site.

Notes:

- # = number
- CBP = Customs and Border Patrol
- DHS = Department of Homeland Security
- EIS = Environmental Impact Statement
- EIR = Environmental Impact Report
- FTHL = flat tailed horned lizard
- MUC = multi-use corridor
- N/A = not applicable
- PBHS = Peninsular bighorn sheep
- USBP = U.S. Border Patrol

For the purposes of this Project, each resource (e.g., soils, noise, visual, water, etc.) was evaluated for cumulative effects on a regional scale in accordance with CEQA and NEPA guidance to gain a better understanding of how the influx of renewable energy project development, as well as other reasonably foreseeable projects, may cumulatively affect particular resources. For instance, for the purposes of analyzing potential effects to land use, rather than using the 1-mile radius (in accordance with CEC CEQA guidance) for identifying reasonably foreseeable future projects, the evaluation area was extended to 10 miles to evaluate land use on a more regional scale. This same regional approach was used when evaluating all resources within the study area. These are further discussed by resource area in Section 5.18.3, Cumulative Effects by Resource.

As described at the end of this section, the best available data were used for this assessment. Information from readily available databases from Imperial County, CEC, BLM, and other agencies involved in regional development was gathered and reviewed as part of this assessment.

While a regional cumulative effect review was conducted per resource area (as further discussed in Section 5.18.3, Cumulative Effects by Resource), a boundary needed to be included when considering reasonably foreseeable future projects. As discussed above, although there are hundreds of projects foreseen within the larger CDCA planning region, those considered here were, for purposes of this evaluation, considered within or near 10 miles of the Project. This method of comparison was used with guidance by both the CEC and BLM. Within this radius surrounding the Project (including linears and ancillary features also considered part of the Project), present and reasonably foreseeable future projects to be evaluated for cumulative effects are to include, but are not limited to, the following:

- projects currently under development or having filed a developmental permit through the City of El Centro or Ocotillo, or Imperial County within the 10-mile radius (Table 5.18-4, Imperial County Large-Scale Development Permits Within 10-Mile Boundary of Project Site), and
- BLM ROW permits filed within the approximate 10-mile radius (Table 5.18-5, BLM Right-of-Way Permits Within 10-Mile Boundary of Project Site).

**Table 5.18-4
Imperial County Large-Scale Development Permits
Within 10-Mile Boundary of Project Site**

Case/Permit	Location	Description of Proposed Development	Acreage
APN 051-330-019-000	Imperial County	Mount Signal Solar Power Station	N/A
N/A	East of Palo Verde and Molitar Road, South of I-8	Windzero - Training Facility for law enforcement, government, college, and public	N/A
APN 033-574-004-000	Ocotillo Townsite/ Imperial Highway (South of I-8)	Atlas Storage Facility - RV storage facility related to new water well on 5.3-acre parcel that is currently vacant land	5.3

Source: Personal communication with Hugo Valdez, Imperial County Planning and Development Services Department, 15 May 2008.

Notes:

- APN = area parcel number
- I-8 = Interstate 8
- N/A = not applicable
- RV = recreational vehicle

**Table 5.18-5
BLM Right-of-Way Permits Within 10-Mile Boundary of Project Site**

	Project Name/Applicant	Type of Entitlement/ Procedure	Location	Project Description	Acres	Status
1	Las Aldeas Specific Plan Westshore (Lerno) Development – Tom DuBose, Development Design and Engineering 1122 State Street, Suite D El Centro, CA 92243 760-353-8110	GPA No. 04-06 COZ No. 04-08 Tentative Sub. Map Annexation EIR No. 04-19	West of La Brucherie/east of Austin and north of West Evan Hewes Highway	2,708 residential lots 4.13 acres-general commercial 23.8 acres – mixed-use commercial 10.79 acres – light manufacturing 2 school sites	680+ acres	Preparation of Final EIR
2	Miller Burson Development Design and Engineering 1122 State Street, Suite D El Centro, CA 92243 760-353-8110	COZ No. 05-02 Annexation Tentative Sub. Map EIR No. 05-02	South of Ross Avenue/east of Austin	570 single-family lots, school site	160 acres	Responses to Draft EIR comments being prepared
3	Galey-Kennedy Investment 169 Saxony Road, Suite 214 Encinitas, CA 92024	Rancho Verde Sub COZ 07-04 MND No. 07-19	Southeast corner of 8 th Street (Clark Road) about 630 feet south of Horne Road	65 single-family lots	36+ acres	Preparation of MND
4	Bill & Joseph Colace, Jr. 551 West Main, Suite 2 Brawley, CA 92227	Tentative Sub. Map MND No. 06-12	1002 East Evan Hewes Highway	Create 15 parcels	N/A	Approved by City Council on 3-5-08
5	City of El Centro Circulation Element Update	GPA No. 07-03 EIR No. 07-12	City-wide	Update Circulation Element of the General Plan	City-wide	In the process of finalizing document
6	City of El Centro Sign Ordinance Update	EIR No. 07-11	City-wide	Bring Sign Ordinance up-to-date	City-wide	Scheduled for CC meeting on 3-19-08
7	City of El Centro Zoning Map Update	ZOTA No. 07-02 EIR No. 07-10	City-wide	Bring zoning map into conformity with the recently adopted Zoning Ordinance and General Plan	City-wide	Scheduled for 4-1-08 PC meeting
8	City of El Centro Housing Element Update	GPA No. 07-05 EIR No. 07-14	City-wide	Update Housing Element of the General Plan	City-wide	ND out for public review 3-5-08 to 3-24-08; PC hearing 3-24-08
9	City of El Centro Planning Department	Professional Services	City-wide	Planning and Environmental Services	City-wide	RFQ being prepared, tentatively scheduled for 5-7-08 City Council meeting
10	City of El Centro Parks Master Plan Update	GPA No. 07-04 EIR No. 07-13	City-wide	Preparation of Parks Master Plan	City-wide	Work-study session with CC, PC, and CSC scheduled for 3-31-08 at El Centro Community Center

**Table 5.18-5
BLM Right-of-Way Permits Within 10-Mile Boundary of Project Site**

	Project Name/Applicant	Type of Entitlement/ Procedure	Location	Project Description	Acreage	Status
11	David Ball CT Reality 1699 West Main Street El Centro, CA 92243	Lot Line Adjustment No. 08-01	1699 West Main Street	Reconfiguration of Lots 052-070-87, -88 and -89	N/A	2-4-08, Certificate of Compliance filed at County Recorder's Office
12	J. Carlos Romero Pulte Homes 1351 Pomona Road, Suite 200 Corona, CA 92882	Adm. Comm. No. 08-01	174 Charles Elmore Drive (Legacy Ranch Subdivision)	Reduction of rear yard building setback line from 25 feet to 22 feet for a 2-story building	N/A	2-4-08, Letter of approval sent to applicant.
13	Lotus Ranch Gary McPhetridge P.O. Box 3305 El Centro, CA 92244 760-352-3489	COZ No. 05-07 Annexation Tentative Sub. Map EIR No. 05-09	South of Interstate 8, between La Brucherie and Lotus Canal and Drain	658 single-family lot detention basins	213+ acres	5-24-07, On hold per applicant's request

Source: <http://www.blm.gov/lr2000/>, accessed 10 April 2008.

Notes:

- + = plus
- CC = City Council
- COZ = Change of Zone
- CSC = Community Services Commission
- EIR = Environmental Impact Report
- GPA = General Plan Amendment
- MND = Mitigated Negative Declaration
- N/A = not applicable
- No. = number
- PC = Planning Commission
- RFQ = Request for Qualifications
- ZOTA = Zoning Ordinance Text Amendment

5.18.2.2 *Incomplete and Unavailable Information*

The CEQ guidelines require that:

“When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking (40 CFR 1502.22).”

In the event there is relevant information, but “the overall costs of obtaining it are exorbitant or the means to obtain it are not known” (40 CFR 1502.22), the regulations instruct that the following items should be included:

- a statement that such information is unavailable,
- a statement of the relevance of such information to evaluate reasonably foreseeable significant adverse effects,

- a summary of existing information that is relevant to evaluating the adverse effects, and
- the agency's evaluation of adverse effects based on generally accepted scientific methods.

Efforts have been made to obtain all relevant information; however, some data gaps still exist related to the unpredictable nature of RFFAs or lack of adequate baseline information for a particular resource.

5.18.3 Cumulative Effects by Resource

5.18.3.1 *Air Quality*

Air pollutant emissions in the form of dust generated by exhaust from equipment and vehicles would occur during construction of the Project. Because a large area would be disturbed, emissions during this phase of the Project could approach "significance;" however, these emissions would be short term and would quickly be reduced as the construction phase of the Project is completed. During the operation and maintenance of the Project, emissions of air pollutants would come from vehicles (Ford F-150 pickups or the equivalent) moving about the site to conduct maintenance and cleaning of the solar collectors (dust and exhaust emissions), and from the periodic testing of three diesel emergency generator engines and three diesel fire water pump engine drivers that would be spread across the site. Because these are all intermittent sources and because the Project would have best management practices in place to reduce emissions, these effects are likely to be below a level of significance.

Diesel exhaust particulate matter is considered to be a toxic air contaminant by the State of California. Therefore, Solar Two would be required to conduct an air toxics health risk assessment for the emissions from these diesel engines, as described in Section 5.16, Public Health and Safety. Each engine would only be tested at most a few hours per month; thus, the expected health risks calculated for these emissions would be well below the significance thresholds for carcinogenic and non-carcinogenic effects on human health.

Past and present activities within the region that have contributed to effects on air quality include other construction projects (e.g., commercial and residential developments involving multiple acres), NAF El Centro flight operations (i.e., emissions from aircraft), infrastructure improvements (i.e., highway construction), and OHV use. Each of these activities is expected to continue in the future. The combination of past, present, and future activities are likely to contribute to increased particulates and emissions within the Project area. Although some cumulative effects on air quality are expected during the construction phase of the Project, these effects would be temporary and are anticipated to be negligible. Emissions would be substantially reduced during the operation and maintenance phase of the Project due to the minimal amount of activity and intermittent nature of the activities that would result in emissions. Therefore, in the long-term, negligible cumulative effects to air quality as a result of the daily Project operations are expected.

5.18.3.2 *Geologic Hazards and Resources*

Construction-related effects to the geologic or mineral resources primarily involve grading operations and operations for foundation support. Past and present construction activities (other than the Project) within the area have contributed to geological resources effects and these

effects are likely to continue as a result of future construction projects that involve soil disturbance. The proposed improvements include excavation of storm water holding ponds and minor grading for building pads, utility trenches, and for drainage of surface water flow. According to the Geotechnical Investigation (Appendix C, Civil Engineering Design Criteria), the Project slopes and temporary construction slopes should be stable. Site development is not anticipated to result in significant adverse effects to geologic or mineral resources. Potentially significant effects by geologic conditions on construction are not anticipated. With implementation of the mitigation measures outlined in Section 5.3, Geologic Hazards and Resources, effects to Project construction by the geologic environment are not expected to be significant.

Considering the combination of past, present, and future activities within the region, cumulative effects to geologic resources that have been identified as a result of long-term Project operations are anticipated to be negligible. Potential cumulative effects of geologic hazards on the Project and ancillary systems include seismic shaking. With implementation of the mitigation measures outlined in Section 5.3, Geologic Hazards and Resources, effects to Project operations from geologic hazards are expected to be reduced.

5.18.3.3 Soils

Past and present activities within the region have contributed to effects on soils, including erosion and disturbance. These activities primarily include residential and commercial development, development of infrastructure (i.e., roads and highways), and OHV use (both on trails and cross-country travel). The potential for reasonably foreseeable future large-scale developments (i.e., involving thousands of acres) is likely to result in long-term effects to soils within the study area. The extent and magnitude of effects caused by other future actions (as listed in Tables 5.18-3 through 5.18-5) would depend on mitigation measures employed during their construction.

The direct effects from the Project when considering mitigation are likely to be short term and minor, only lasting for the duration of the construction period. Potential cumulative effects to soils as a result of the Project in combination with past, present, and future actions would include erosion and sediment runoff during construction. The mitigation measures described in Section 5.18.4, Mitigation Measures, would be implemented to reduce soil effects to lower levels. An acceptable level of soil erosion, as used herein, is defined as that amount of soil loss that would not affect (i.e., limit) the potential long-term beneficial uses of the soil as a growth medium, or adversely affect water resources because of accelerated erosion and subsequent sedimentation.

Although the long-term contribution of the Project is likely to cause minimal effects in the region, the extent and magnitude of the overall cumulative effect is unknown, as the use of mitigation measures for other reasonably foreseeable future projects cannot be determined at this time. Cumulative effects during operation of the Project would be minor and are likely to result in a negligible amount of erosion due to infrequent vehicular travel throughout the Project Site.

5.18.3.4 Water Resources

The hydrology study area is approximately 20,000 acres (about 31.3 square miles) and includes the surrounding watershed in the Project vicinity. Past and present actions within the region that have effected water quality by increasing erosion, sediment runoff and pollutants include OHV

use, residential and commercial development, non-point source pollution from urban areas including El Centro and Ocotillo, agricultural runoff (i.e., pesticides and insecticides), and highway/roadway construction and runoff (i.e., petroleum products and heavy metals). Section 303(d) of the Clean Water Act requires California Regional Water Quality Control Boards (RWQCBs) to identify surface water bodies that do not comply with the applicable water quality standards. On the list of impaired water bodies is the Imperial Valley Agricultural Drains, the only listing within the study area. Major pollutants impairing these waters are silt, pesticides, salts, nutrients (mainly phosphorus), and other pollutants (Imperial County 2008).

Similar cumulative effects to water quality are likely to continue due to reasonably foreseeable future activities (as listed in Tables 5.18-3 through 5.18-5) though the extent and magnitude of these effects cannot be determined at this time. Best management practices to prevent spills and leaks of petroleum products from on-site vehicles would be implemented to reduce the potential for these materials from contaminating water resources within the Project vicinity. In addition, a Storm Water Pollution Prevention Plan (SWPPP) would be developed for the Project which would include specific best management practices to reduce the contribution of silts, salts and sediments from entering nearby waterbodies.

When combined with past, present and reasonably foreseeable future actions, erosion of soils during Project construction and contamination due to leaks or spills of hazardous materials is expected to be temporary and minor, and would result in a negligible contribution to cumulative effects to water resources within the Project vicinity. Given that the implementation of mitigation measures associated with reasonably foreseeable future projects are unknown, the extent and magnitude of the contribution of these other projects to cumulative effects on water resources in the region cannot be determined at this time. Considering the Imperial Valley Agricultural Drains are already significantly affected as indicted by the 303(d) listing, it is likely this waterbody would continue to be significantly effected on unless additional mitigation measures are implemented regionally. However, with respect to the contribution of the Project to cumulative effects on water resources, the Project Site would be designed to minimize effects on erosion and sedimentation below the Project Site and would therefore not be expected to have cumulative effects on the watershed when considered together with other foreseeable potential projects.

Water would be brought on-site and would be used for dust control and washing the mirrors on the SunCatchers. Some water would also be treated for drinking and sanitary purposes. Water used for washing or dust control would be de-mineralized creating mineral waste that would be contained on-site. Direct and therefore cumulative effects to water resources from the de-mineralization process are not anticipated because the mineral waste would be contained and not discharged. Sanitary wastewater would be discharged to a treatment plant/septic system that would be properly designed and operated to ensure the discharge does not degrade groundwater quality and no discharge to surface water would occur. Cumulative effects due to flooding of washes and stream crossings would be mitigated to ensure the Project has negligible effects on any sites downstream of the Project area. Some of the Project area is expected to be within the FEMA 100-year floodplain, but it is not likely to result in cumulative effects that cannot be mitigated.

5.18.3.5 Biological Resources

Potential effects to biological resources are discussed in detail in Section 5.6, Biological Resources. Past and present actions within the region that have effected biological resources through disturbance (e.g., noise), habitat degradation, habitat fragmentation, or potential mortality (e.g., vehicular collisions) include residential and commercial development, OHV use, agricultural activities including the use of pesticides, flight operations at NAF El Centro, and highway/roadway construction and non-point source runoff. These activities would continue in the reasonably foreseeable future and are likely to contribute to cumulative effects on biological resources. Cumulative effects on biological resources as a result of past, present and reasonably foreseeable future actions, in combination with the Project, would mainly result from loss of habitat, and habitat disturbance and degradation. While the contribution of the Project to cumulative effects is anticipated to be minor, the extent and magnitude of potential effects due to activities other than the Project are unknown.

Potential direct effects, including habitat disturbance during construction and mortality due to on-site vehicle use, to the flat-tail horned lizard and its habitat would occur as a result of the Project. Areas not directly used for construction of the SunCatcher clusters would be avoided and other BMPs would be implemented to reduce these potential effects. Disturbance during the construction phase of the Project may result in significant effects to habitat for this species.

Potential direct effects, due to habitat disturbance, to burrowing owls are possible as a result of the Project. Measures described in Section 5.6, Biological Resources, would be taken to minimize these effects. Initial disturbance of the site would occur outside the burrowing owl breeding season (1 February through 31 August) to ensure that no breeding birds, eggs, or chicks are harmed by construction activities. Although past effects have occurred, the cumulative effects from the contribution of this Project are expected to be minimal.

Disturbance to the Le Conte's thrasher, loggerhead shrike, and horned lark are possible as a result of the Project. Proposed site clearing activities would be conducted during the non-breeding season (July to January) within limited areas that would constitute only a very small portion of a bird territory or home range. While other past, present and future actions within the study area may result in effects to habitat for these species, the contribution of the Project to cumulative effects to these sensitive bird species would have the potential to be adverse, but are expected to be minimal.

No sensitive plant species were observed during 2007 general and focused surveys. A total of five special-status wildlife species were identified during biological surveys including the flat-tailed horned lizard, burrowing owl, loggerhead shrike, Le Conte's thrasher, and California horned lark. Species accounts are provided in more detail in Section 5.6, Biological Resources, for the five sensitive wildlife species detected during the 2007 general and focused surveys. No federally listed wildlife species were detected in the Project area or vicinity. Therefore, the contribution of the Project to cumulative effects to listed species is not anticipated.

The potential cumulative effects from noise on wildlife are expected to be minor as many of the species found on the Project Site are often found in disturbed or developed areas. The 56-foot tall receivers that are associated with the reflector bays may be used as perching sites for songbirds and raptors, but are not expected to present a substantial collision hazard. The 7.7-mile extension of the power line outside of the Project Site would not pose a collision

hazards due to low use by sensitive species deemed most at risk for collision with transmission lines. While other past, present and future actions within the study area may cause noise effects on wildlife, the contribution of the Project to cumulative effects is anticipated to be negligible.

Cumulative effects associated with staging and administration areas would be permanent given the disturbance to habitat in the Project area. The loss of flat-tailed horned lizard, raptor foraging, and burrowing owl habitat may result in a significant contribution to cumulative effects when considering other past, present and future actions within the study area. Approximately 6,033 acres of creosote bush scrub, and 0.2 acre of disturbed creosote bush scrub would be affected by the construction of the Project. Effects to 30.1 acres of disturbed habitat are also anticipated. Approximately 92.7 acres of Sonoran creosote bush scrub would be affected by construction of the proposed off-site transmission line and approximately 4.2 acres of Sonoran creosote bush scrub and 5.8 acres of developed land would be affected off-site by construction of the waterline. When combined with other past, present and reasonably foreseeable future actions, the Project may result in significant effects to vegetation due to disturbance and degradation.

Although the Project has the potential to impact biological resources, cumulative impacts are expected to be negligible. BLM, in consultation with the United States Fish and Wildlife Service and the California Department of Fish and Game, have identified areas of biological concern and have designated Desert Wildlife Management Areas and ACECs to avoid significant cumulative impacts to biological resources. The Project is outside these areas; therefore, it is not expected to continue to cumulative impacts.

5.18.3.6 Cultural Resources

As described in detail in Section 5.7, Cultural Resources, the Project has the potential to affect cultural resources eligible for the National Register of Historic Places (NRHP) and/or the California Register of Historic Resources (CRHR) within the Areas of Potential Effect (APE).

Direct effects from the Project could result from: vegetation clearing; grading of roads for the Main Services Complex and other structure sites; trenching for pipelines, electrical transmission lines, and drainage diversions; augering for foundations for electrical towers or poles and SunCatchers; and any other earth-moving activity that would disturb buried or previously undisturbed cultural resources such as prehistoric objects or sites, making those objects and their cultural resources unavailable for future scientific investigation. Clearing, grading, and deeper excavations at the Project Site could result in significant adverse effects to cultural resources. In addition, the construction of supporting facilities, such as construction offices, laydown areas, and parking areas, have the potential to cause adverse effects to cultural resources if they involve additional ground disturbance. Furthermore, past and present actions within the region, including highway/roadway construction, commercial and residential development, and OHV use have resulted in effects to cultural resources. However, the location and engineering of the Project Site has been specifically designed to avoid effects to cultural resources.

Because a properly designed and implemented mitigation program is used, these potential effects could be reduced such that significant effects are avoided. Assuming mitigation measures are implemented properly, the contribution of the Project is not anticipated to result in long-term cumulative effects. The potential effects of other reasonably foreseeable future projects are unknown as mitigation measures for such projects cannot be determined at this time.

5.18.3.7 Paleontological Resources

Paleontological resources, including an undetermined number of fossil remains and unrecorded fossil sites; associated specimen data and corresponding geologic and geographic site data; and the fossil-bearing strata, can be adversely affected by ground disturbance and earth moving associated with construction activities if proper mitigation measures are not employed. Construction-related effects to paleontological resources primarily involve terrain modifications (excavations and drainage diversion measures). Past and present activities within the region including highway/roadway construction, commercial and residential development, and OHV use have resulted in effects to paleontological resources. These activities are expected to continue in the reasonably foreseeable future.

Direct effects from the proposed Project could result from: vegetation clearing; grading of roads and the Main Services Complex and other structure sites; trenching for pipelines, electrical transmission lines, and drainage diversions; augering for foundations for electrical towers or poles and SunCatchers; and any other earth-moving activity that disturbed or buried previously undisturbed fossiliferous sediments, making those sediments and their paleontologic resources unavailable for future scientific investigation. Clearing, grading, and deeper excavations at the Project Site could result in significant adverse effects to paleontological resources. In addition, the construction of supporting facilities, such as temporary construction offices, laydown areas, and parking areas, have potential to cause adverse effects to paleontological resources if they involve additional ground disturbance. However, if a properly designed and implemented mitigation program is used, these potential effects could be reduced such that significant effects are avoided. Assuming mitigation measures are implemented properly, the contribution of the Project is not likely to result in long-term cumulative effects. The potential effects of other reasonably foreseeable future projects are unknown as mitigation measures for such projects cannot be determined at this time.

No effects on paleontological resources are expected to occur from the daily operation of the Project or any of its ancillary facilities. Thus, the contribution of the Project to cumulative effects are expected to be negligible.

5.18.3.8 Land Use

As described in detail in Section 5.18.1, Affected Environment, and Section 5.9, Land Use, land use within the region is dominated by agricultural, recreational, military, government (BLM), community, and small portions industrial and urban activities. Past and present activities including development (residential and commercial), OHV use, infrastructure development (highways and roads), and agricultural activities have resulted in changes to land use to what was comparatively an undeveloped region.

The potential environmental consequences, relating to land use, arise mainly due to the conversion of 6,140 acres in the agriculture zone of the Ocotillo/Nomirage Planning Area from Government Service BLM-administered public land and County Open Space use to solar electric generation. However, no sensitive land uses occur at the Project Site and currently the land is categorized within the CDCA. The existing character of the Project area and immediate surroundings of the Project Site would remain unchanged by the development of the Project. Solar energy conversion is an allowable use for the Project area, according to the Imperial

County Department of Planning and Building, pursuant to the goals and policies of the General Plan, Energy Element and Agriculture and Open Space Element, and the provisions of the Imperial County Land Use Ordinance (Imperial County 1998). Thus, the Project would not require variances in noise levels, use regulations, or land use ordinances. Compliance with land uses designations at the Project Site does include an amendment to the CDCA Plan (BLM 1980, as amended). For a discussion of the BLM amendment process see Section 5.9.3.1, Bureau of Land Management Land Use Plan Amendment.

Potential temporary effects may result from the construction laydown area that abuts Dunaway Road on parcel 034-360-078. While some temporary effects may be associated with noise and distracting views caused by construction activities, these activities are not expected to be significant. The proposed renewable energy installation and the opportunity to observe the development of a large solar array may be of educational benefit to the students and provide material for instruction and a field trip destination on Project completion. There are a few nearby residences to the east of the Project Site which are related to agricultural land uses, and should be accustomed to the use of industrial agricultural equipment and disturbance resulting from the agricultural uses of the surrounding areas.

The construction and operation of the Project does not diminish Imperial County's farmland, and is consistent with the goals, policies, and zoning ordinances outlined in the General Plan, and Land Use Ordinance. No Williamson Act lands are jeopardized, and the soils of the Project Site are not suitable for crop production. Additionally, the Project presents an opportunity to develop a portion of the vast sources of renewable energy available in the Imperial Valley. Given the heavy use of the Project area and areas surrounding the Project boundary for OHV use, the potential to displace these activities is high. Considering the number of other large development projects that are reasonably foreseeable within the study area including residential and commercial development as well as renewable energy projects, the availability of open space for OHV recreation could be cumulatively affected. The Project would result in the elimination of any open routes that cross the Project area and any access that they provided. As additional development occurs throughout the region, the likelihood of cumulative effects on OHV use increases. However, given the large open areas to the north and west of the Project, the contribution of the Project on OHV use within the study area is not likely to be considerable unless other areas close by were to be closed.

The contribution of the Project to cumulative effects on land use during construction and operations is not expected to be significant. The potential effects of other reasonably foreseeable future projects are unknown because whether these reasonably foreseeable future activities comply with the Imperial County Land Use Ordinance, the CDCA, and other regional plans, must be further examined as more specific information on those projects becomes available.

5.18.3.9 Socioeconomics

The socioeconomic environment within the study area is dominated by small urban centers (El Centro and Ocotillo), military, recreational and agricultural activities. As described in more detail in Section 5.18.1, Affected Environment, the past contribution of jobs created (1,300 in 2006) from the NAF El Centro was significant for this area. Reasonably foreseeable future activities, including development (residential, commercial, roadway), other renewable energy projects, agriculture, and military activities would continue to provide job opportunities in the

region. The duration of jobs created by future projects cannot be determined at this time. Whether the work force supporting these projects would be housed locally or commute from other areas within the region is also unknown. Considering that past and present construction-related activities resulted in beneficial effects to the region, it is likely that future projects would also contribute beneficially to the socioeconomic environment in the region.

The primary socioeconomic effect to the area resulting from the Project would be from the introduction of permanent jobs. It is expected that during the construction phase there would be an average of 360 people per month, totaling 24,086 personnel months for the 40-month construction period. Monthly construction personnel would peak at a maximum of 731 people. Approximately 90 percent of the workforce would reside in southern California. The remainder may come from other areas in California, Arizona, or Oregon. It is anticipated that specialized trades and higher skill level construction personnel would commute to the construction site on a weekly basis and would reside in temporary housing or apartments during the week for the duration of the Project.

It is expected that the Project would be operated by a staff of approximately 180 full-time employees when it is fully operating. The Project would operate 7 days a week, with maintenance activities also occurring 7 days a week, 24 hours a day. The Project would not displace any current jobs, nor affect the surrounding agricultural enterprises. The increase in permanent employees is expected to have a considerable beneficial effect on the local economy by introducing jobs and potentially raising tax revenues, due to the construction and operational employees' economic activities. Furthermore, housing, local services, and emergency services are adequate for the Project; however, the build-out of other large-scale proposed wind and solar projects in the area (see Figure 5.18-2, Pending BLM Applications Near Project Area) could necessitate additional emergency medical services and expansion of local services. The Project Site is not located within any established communities of El Centro, and therefore would not divide an established community.

As previously described, the Project would result in the elimination of any open routes that cross the Project area and any access that they provided. Should other future projects within the area result in similar closures, there may be a reduction in recreational users visiting the area, which would then decrease the influx of recreational dollars. Should OHV closures occur throughout the region, this could result in a significant effect to socioeconomic resources due to a decrease in recreational dollars. Overall however, the contribution of the Project to cumulative effects within the region is likely to result in significant beneficial effects considering the number of full-time employees that would be needed to operate the Project. When considering the past, present and future contribution of agricultural, development and military activities to regional employment, in combination with the Project, significant beneficial cumulative effects are anticipated within the study area.

5.18.3.10 Traffic and Transportation

Construction of highways and roads, and past, present and future residential and commercial development have contributed to the existing traffic and transportation conditions within this relatively rural study area. Section 5.11, Traffic and Transportation, provides a more detailed description of these existing conditions as well as more information on potential effects from the Project. Based on the State Highway Level of Service Standard and the Caltrans Guide

requirements, the following conditions apply in the determination of significant State highway effects: Desired level of service (LOS) is LOS D. A significant effect occurs when pre-project (Base) LOS A, B, C, and D becomes LOS E or F with Project. The LOS criteria for the local circulation system are defined by the Imperial County General Plan Circulation and Scenic Highway Element and have set a standard of LOS C. Consequently, LOS A, B, and C are considered acceptable, whereas LOS D, E, and F are unacceptable.

The roadways that would experience short-term increases in traffic due to construction worker and truck deliveries would be I-8, United States Highway 98, Dunaway Road, Evan Hewes Highway, and Imperial Highway. The projected added trips along these roadways, however, would not result in degradation of their current LOS to unacceptable levels. Based on these findings, no significant traffic effects would occur in the traffic study area roadways during Project construction.

The Project is projected to be completed by 2017. During the normal operational phase of the Project, a planned 164-employee workforce would oversee its operation and maintenance. Occasional deliveries and maintenance-related trips are anticipated as part of the normal operations of the Project. Due to the minimal added trips associated with Year 2017 Project operations, there would be minimal increases in intersection delay. The minimal increases in intersection delay would not cause degradation of LOS to unacceptable levels or significant effect. Based on these findings, no significant traffic effects would occur at the traffic study area intersections during Project operations.

Based on traffic projections for the Project during both construction and operations, and given that the Project is somewhat removed from urban areas where traffic congestion may be higher, the contribution of the Project to cumulative effects on traffic and transportation circulation is not likely to be significant even considering the traffic that would be generated by the proposed Desert Springs Resort.

5.18.3.11 Noise

Past and present development (residential, commercial, and highway/roadway infrastructure), vehicles (i.e., from I-8 and State Highway 80 immediately adjacent to the Project), OHV use, and flight operations at NAF El Centro have contributed to the ambient noise conditions throughout the region. These activities are likely to continue in the reasonably foreseeable future and would contribute some noise in the study area. Noise would be produced at the Project Site during its construction and operation. As shown in Table 5.12-4, Estimated Construction Noise from Nearest 18-Megawatt Block to East Receiver (2828 Evan Hewes Road), and Table 5.12-5, Estimated Construction Noise from Nearest 18-Megawatt Block to West Receiver (1510 Painted Gorge Road), estimated SunCatcher block construction sound levels at either representative off-site sensitive receiver (east or west) would remain below 75 dBA (A-weighted decibel) L_{eq} (equivalent sound level) during construction activity. Since both of these noise-sensitive receivers are considerably more distant from the Main Services Complex than 1 kilometer, the resulting estimated levels would be much lower than 74 dBA L_{eq} . Therefore, the anticipated effects relating to Project construction noise are temporary and minor. Construction noise is temporary and would conclude on completion of Project construction.

The predicted operational noise levels would be in compliance with all applicable local LORS at sensitive receivers (limited to less than 50 dBA L_{eq} daytime/45 dBA L_{eq} nighttime) and at Project property lines (75 dBA hourly limit). Additionally, the calculated increase of ambient sound level generated by Project operation is calculated to be no more than +4 decibels, which is an increase of less than 5 dBA L_{eq} . Therefore, operational noise from the Project is anticipated to be relatively minor.

While operation of the Project would add noise to the ambient sound environment, the magnitude of the Project, particularly relative to noise from I-8 and State Route 80, is not considered a considerable contribution to cumulative effects as it would dissipate with increasing distance from the Project boundary.

5.18.3.12 Visual Resources

Visual resources are discussed in greater detail in Section 5.13, Visual Resources. Visual resources have been affected from past and present actions namely highway/roadway construction and residential and commercial development. The viewshed has already been modified with the presence of existing transmission lines, a substation, and property fencing in the immediate vicinity. As described in Section 5.13, the visual sphere of influence (VSOI) for the Project represents the area within which the Project could be seen and potentially result in significant effects to visual resources. The furthest distance at which potentially significant visual effects could occur was identified as 5 miles. Given the large scale of the Project, the lack of significant topographic features, and the limited degree of existing landscape modification within the VSOI, potentially significant effects on scenic attractiveness would be expected; however, landscapes inventoried within the VSOI are classified as retaining primarily low to borderline-moderate existing scenic integrity levels. It should be noted that the Project may draw positive visual interest to the area. As one of the first projects of its kind in California, the solar technology has the potential to become a tourist attraction, drawing visitors from the energy industry, environmental community, and government/political figures who seek direct personal experience of progressive renewable energy solutions.

Five sensitive viewing areas were identified as representative of viewers who would be most susceptible to visual effect within their viewshed as a result of the Project. At key observation point (KOP) #1, significant visual effects resulting from the Project would occur to recreational users of the Plaster City Open Area to the north. KOP #2 represents the nearest residence with a view from the east. Contingent on resident reaction to the Project, significant visual effects on these sensitive viewers due to the construction and operation of the Project may occur. The Project would not be clearly visible from KOP #3. This view is of the transmission corridor only and does not include the solar field. Effects of the Project on this view would have a small effect on the existing viewshed which already includes transmission lines and the Imperial Valley Substation. This is not expected to be a significant effect. KOP #4 represents elevated traveler views from I-8 approaching the Project from the nearby mountain range. Viewers at KOP #4 are likely to be significantly affected since they are at an elevated viewing position and would have a direct line-of-sight to the Project vicinity. However, due to the distance and color contrast in this view, some mitigation is possible that may partially ameliorate visual impacts. KOP #5 is the closest, unscreened view to the Project for travelers to and from El Centro, as well as Ocotillo Wells. The Project would be clearly visible and is expected to impact the visual resources at this viewing location. Visual effects related to lighting for construction activities would be

temporary and are considered less than significant. Lighting design for the Project would be consistent with CEC lighting requirements and local LORS. It is anticipated that landscaping would be incorporated into the Project so as not to add incrementally to the overall change in viewsheds.

Reasonably foreseeable future projects, particularly the proposed wind projects close to Ocotillo and the 150-mile transmission line between El Centro and San Diego (see Table 5.18-5, BLM Right-of-Way Permits Within 10-Mile Boundary of Project Site), would continue to result in long-term visual effects within the study area given these structures would be permanent. The areas within the VSOI are generally characterized by open expanses of grasslands, agricultural/dry-farming activities, and mountain ranges supported by small communities and other sparsely populated areas. Given how sparsely populated the area is and the vastness of the open areas, the contribution of the Project to visual effects is not likely to be significant.

5.18.3.13 Waste Management

Past, present, and future actions within the study area that have effected and that are likely continue to effect waste management include infrastructure development, creation of landfills, agricultural activities, and residential and commercial development. Section 5.14, Waste Management, of this AFC describes the potential effects and the criteria used to analyze effects from the generation, storage, and disposal of hazardous and non-hazardous wastes of this Project in more detail. No “Recognized Environmental Conditions” were identified on the Solar Two Project Site and no surrounding properties of potential concern were noted. The Class I and Class III landfills and soil and water recycling facilities in the area of the Solar Two Project have adequate recycling and disposal capacities for wastes originating from the Solar Two Project. When considering other past, present and future projects in the study area, the cumulative effects contributed from the Project Site are not expected to be significant given the best management practices and proposed management measures that would reduce the potential for effects from waste.

5.18.3.14 Hazardous Materials Handling

Similar to waste management, past, present and future actions within the study area that have affected or would affect waste management include infrastructure development, creation of landfills, agricultural activities, and residential and commercial development. Section 5.15, Hazardous Materials Handling, presents a detailed discussion of the potential effects from storage and use of hazardous materials during construction and operational phases of the Project. Design features have been incorporated into the Solar Two Project regarding the use of hazardous materials, specifically storage procedures, to keep maximum potential effects below defined thresholds of significance. Based on land uses in the surrounding area and the limited amount and type of hazardous materials to be used as part of the Solar Two Project, no significant contribution to cumulative effects from hazardous material handling would be expected from the Project when considering other past, present and future projects within the study area.

5.18.3.15 Public Health and Safety

The details of the public health analysis are contained in Section 5.16, Public Health and Safety. Past and present activities that may have effected public health and safety within the study area include industrial activities (i.e., the gypsum quarry and plant in Plaster City), construction projects (i.e., diesel engine emissions) and the agricultural activities throughout Imperial County (e.g., use of pesticides and herbicides). These activities are likely to continue in the reasonably foreseeable future and may pose minor risks to public health and safety. Sources of uncertainty in HRAs include emissions estimates, dispersion modeling, exposure characteristics, and extrapolation of toxicity data in animals for application to humans. For this reason, assumptions used in HRAs are designed to provide sufficient health protection to avoid underestimation of health risk to the public. Some sources of uncertainty that are applicable to this HRA are discussed in more detail in Section 5.16, Public Health and Safety.

No sensitive receptors were identified within 3 miles of the Project. The nearest sensitive receptor identified was the Westside Elementary School, approximately 4 miles to the east of the Project. The nearest resident is located approximately 2,500 feet northwest of the northwestern corner of the property line. The Imperial County Public Health Department and the Imperial County Air Pollution Control District were consulted to determine if any health studies related to respiratory illnesses, cancers, or related diseases had been conducted within a 6-mile radius of the Project Site. An extensive internet search was also conducted. No such health studies were identified for the areas within a 6-mile radius of the Project.

Due to the relatively short duration of the Project's construction phase (i.e., approximately 35 months), considerable, long-term public health effects are not expected. To ensure worker safety during actual construction, safe work practices would be followed. Project operations were evaluated to determine whether particular substances would be used or generated that may cause adverse health effects if released to the air. The only stationary Project sources of TAC emissions are the emergency diesel internal combustion engines that would be used as drivers for the fire water pump and power generator. The fire water pump and power generator would normally be operated for short periods (15 minutes per engine per week) in testing mode to ensure their operability if needed. The PM₁₀ emissions were calculated based on a vendor guaranteed emission factor and are presented in Table 5.16-1, Emission Rates from Normal Testing of the Diesel Emergency Fire Water Pump and Emergency Generator Engines. Detailed emissions calculations can be found in Appendix R, Public Health and Safety Data. Based on the risk assessment methodology described in the foregoing subsections, the maximum incremental cancer risk resulting from the diesel emergency fire water pump and emergency generator engines particulate emissions was estimated to be 0.01 in 1 million. The maximum cancer risk was predicted to occur at the nearest property line, approximately 358 meters source of the sources. Cancer risk was not calculated at any of the sensitive receptors since the risk at the point of maximum effect would be well below the significance threshold.

The estimated chronic THI would be well below the significance criteria of 1. Thus, it is concluded that the Project's emissions from the diesel emergency fire water pump and emergency generator engines would not pose a considerable non-cancer health risk to any population that would potentially be exposed to these emissions.

When considering other past, present and reasonable foreseeable future activities within the study area, the contribution of the Project to cumulative effects are expected to be negligible given the direct effects of the Project are likely to be below the level of significance.

5.18.3.16 Worker Safety

Section 5.17, Worker Safety, provides detail on safety and health issues, and outlines systems and procedures that would be implemented to provide occupational safety and health protection for the Project workers in accordance with all applicable worker health and safety laws, ordinances, regulations, and standards (LORS). Construction, operation, and maintenance activities may expose workers to the hazards identified in Section 5.17, Worker Safety. Construction and Operation. Past and present activities that may have effected public health and safety within the study area include industrial development (i.e., the gypsum quarry and plant in Plaster City), construction projects (i.e., diesel engine emissions) and the agricultural activities throughout Imperial County (e.g., use of pesticides and herbicides). These activities are likely to continue in the reasonably foreseeable future and may pose minor risks to worker safety. Exposure to these hazards can be minimized through adherence to appropriate engineering design criteria and administrative controls, use of applicable personal protective equipment, and compliance with all applicable health and safety LORS. Given the comprehensive health, safety, and fire prevention program and an accident/injury prevention program that would be implemented, the contribution to cumulative effects from the Project on worker safety are not likely to be significant.

5.18.4 Mitigation Measures

Mitigation measures for potential direct, indirect and cumulative effects on each of the following resources are discussed in greater detail in Sections 5.2 through 5.17 of the AFC. For more information on mitigation measures, please refer to those sections.

5.18.4.1 Air Quality

Since diesel exhaust particulate matter is considered to be a toxic air contaminant by the State of California, Solar Two would be required to conduct an air toxics health risk assessment for the emissions from these diesel engines to comply with Public Health and Safety requirements as described in Section 5.15, Hazardous Materials Handling, of the AFC. To monitor these emissions, each engine would be tested a few hours per month to measure potential carcinogenic and non-carcinogenic effects on human health.

5.18.4.2 Geologic Hazards and Resources

The Project shall be designed in accordance with applicable building codes' seismic design criteria. Seismic design criteria, including site-specific response spectra, are provided in Appendix C, Civil Engineering Design Criteria.

5.18.4.3 Soils

The following mitigation measures would be implemented to reduce potentially significant soils effects to negligible levels.

- Conduct grading operations consistent with the Imperial County Grading Ordinance.
- Prepare and implement a detailed Erosion Control Plan before construction, which may be a component of the SWPPP (see Mitigation Measure Water-4).
- Limit soil erosion/dust generation by wetting active construction areas (including roads) with water or by applying dust palliatives (soil binders).
- Stabilize disturbed areas that would not be covered with structures (e.g., buildings) or pavement following grading and/or cut-and-fill operations. Linear utility routes would be allowed to naturally revegetate.
- Clear vegetation only to the extent necessary during construction activities.
- Segregate and stockpile removed topsoil for reuse if practicable.
- Implement drainage control measures and grade Project Site to direct surface water into the retention basins.
- Conduct post-construction monitoring of areas that were disturbed during the construction phase.

5.18.4.4 Water Resources

To prevent violations of surface water quality, groundwater quality, and sediment management standards, the measures noted below would be implemented.

A SWPPP would be developed for the Project and would include best management practices for reducing soil erosion and sedimentation, and protecting water quality.

5.18.4.5 Biological Resources

Mitigation measures for biological resources are discussed in detail in Section 5.6, Biological Resources. In general, the Project would be designed to minimize ground disturbances and resulting environmental effects wherever practicable. The number of roadways would be kept to a minimum, paved roadways would be specifically located to provide main routes for quick access to the site for construction, maintenance, and operations. In addition, access from the main paved roads to the individual SunCatchers would be on unpaved solar field access routes between alternate rows of SunCatchers. Culverts would be installed in a limited number of locations, as necessary, for crossing of natural washes. Site layout for the Project would be based on avoiding major washes and minimizing surface disturbing activities. Additionally, sensitive habitat areas would be avoided wherever possible.

5.18.4.6 Cultural Resources

Mitigation measures for cultural resources are described in detail in Section 5.7, Cultural Resources. These measures would reduce potential effects to cultural resources to a less than significant level. Additionally, due to the fact that there is a high probability for buried resources in the area, archaeological monitoring will be conducted during all ground-disturbing activities within the Project Site. Should a potentially eligible cultural resource be encountered, evaluation of this resource to determine significance is required. The mitigation measures and procedures described below would apply to any cultural resources located within the identified Project APE. With implementation of the mitigation measures listed below, effects to cultural resources would be reduced to a less than significant level.

Appropriate mitigation measures for the NRHP eligible resources affected by the Project will be detailed in a Historical Resources Treatment Plan referenced in the mitigation measures portion of this section. There is also the possibility that further NRHP eligible cultural resources could be discovered within the APE during the construction phase of this Project, and appropriate mitigation measures (as set forth in this section) will be employed to ensure site avoidance and/or proper treatment of cultural resources.

Mitigation measures include data recovery, avoidance, preconstruction assessment and construction training, archaeological monitoring, Native American monitoring, resource recording and evaluation, and laboratory analysis and curation.

5.18.4.7 Paleontological Resources

Mitigation measures for paleontological resources are discussed in detail in Section 5.8, Paleontological Resources. In general, the mitigation measures proposed below are consistent with SVP standard guidelines for mitigating adverse construction-related effects on paleontological resources (SVP 1995, 1996), and fulfill the requirements of the BLM (1998).

Before construction, a qualified paleontologist should be retained to both design a monitoring and mitigation program and implement the program during all Project-related ground disturbance. The paleontological resource monitoring and mitigation program should include:

- preconstruction coordination,
- construction monitoring,
- emergency discovery procedures,
- sampling and data recovery, if needed,
- preparation, identification, and analysis of the significance of fossil specimens salvaged, if any,
- museum storage of any specimens and data recovered, and
- reporting.

Before the start of construction, the paleontologist should conduct a field survey of exposures of sensitive stratigraphic units that would be disturbed and any fossils discovered should be salvaged. Earth-moving construction activities should be monitored wherever these activities would disturb previously undisturbed sediment. Monitoring would not need to be conducted in areas where sediments have been previously disturbed or in areas where exposed sediments would be buried, but not otherwise disturbed.

Before the start of construction, construction personnel involved with earth-moving activities should be informed: that fossils may be discovered during excavating; that these fossils are protected by laws; on the appearance of common fossils; and, on proper notification procedures. This worker training should be prepared and presented by a qualified paleontologist.

Implementation of these mitigation measures would reduce the potentially significant adverse environmental effect of Project-related ground disturbance and earth-moving on paleontological resources to an insignificant level by allowing for the salvage of fossil remains and associated specimen data and corresponding geologic and geographic site data that otherwise might be lost to earth-moving and to unauthorized fossil collecting.

With a well designed and implemented paleontological resource monitoring and mitigation plan, Project construction could actually result in beneficial effects on paleontological resources through the discovery of fossil remains that would not have been exposed without Project construction and, therefore, would not have been available for study. The salvage of fossil remains as part of Project construction could help answer important questions regarding the geographic distribution, stratigraphic position, and age of fossiliferous sediments in the Project area.

5.18.4.8 Land Use

Mitigation measures designed for other resources as described throughout this section would reduce effects to land use. The proposed land use is classified as a Permitted Use subject to a Conditional Use Permit according to Planning and Building Department of Imperial County, and the Project is compatible with surrounding development; therefore, no mitigation measures relating to land use controls are recommended at this time.

5.18.4.9 Socioeconomics

Although socioeconomic resources within the region may potentially be affected due to a reduction in recreational users and the subsequent reduction in recreational dollars in the area, no mitigation measures are identified for socioeconomic resources.

Several benefits to the socioeconomic environment of Imperial County may be realized through the development of the Project. For this reason, mitigation measures are assumed to be inherent in the nature of the Project. The Project will result in increased jobs, increased revenue from sales tax, and decreased reliance on imported energy.

5.18.4.10 Traffic and Transportation

The State Highway LOS Standard Based on the Caltrans Guide for the Preparation of Traffic Impact Studies, states “Caltrans endeavors to maintain a target LOS at the transition between LOS ‘C’ and LOS ‘D’ on State Highway Facilities. If an existing State highway facility is operating at less than the appropriate target LOS, the existing LOS should be maintained.” The LOS criteria for the local circulation system are defined by the Imperial County General Plan Circulation and Scenic Highway Element and have set a standard of LOS C. Consequently, LOS A, B, and C are considered acceptable. As a form of mitigation, the Project has been designed in accordance with these standards. No additional mitigation is required.

5.18.4.11 Noise

The Imperial County Noise Ordinance sound level limits described in detail in Section 5.12, Noise, would be imposed for the Project to mitigate any potential effects due to Project construction or operations. Specific mitigation measures are described in more detail in Section 5.12. The mitigation measures listed below are recommended.

- Construction noise emissions shall comply with the local LORS regarding hours of construction activity and permitted noise levels affecting adjacent uses.
- All noise-producing Project equipment and vehicles using internal combustion engines shall be equipped with mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed “package” equipment (e.g., arc-welders, air compressors, etc.) shall be equipped with shrouds and noise control features that are readily available for that type of equipment.
- All mobile or fixed noise-producing equipment used by the Project, which is regulated for noise output by a local, state, or federal agency, shall comply with such regulation while in the course of Project activity.
- The use of noise-producing signals, including horns, whistles, electronic alarms, sirens, and bells, will be for safety warning purposes only.
- No construction-related public address, loudspeaker, or music system shall be audible at any adjacent noise-sensitive land use.
- The contractors shall implement a noise complaint process and hotline number for the surrounding community. The Applicant will have the responsibility and authority to receive and resolve noise complaints.

- Within 30 days of Phase I of the Project going on-line, the Applicant shall conduct an occupational noise survey to verify modeled noise levels and identify any additional noise hazard areas in the facility. The survey shall be conducted by a qualified person in accordance with the provisions of Title 8 CCR, Sections 5095-5099 (Article 105) and Title 29, CFR, Section 1910.95. The survey results shall be used to determine the magnitude of employee noise exposure. Areas above 85 dBA that may be accessed by any personnel shall be posted as high-noise-level areas. Hearing protectors shall be furnished and their use required in the posted areas.
- The Applicant shall prepare a report of the survey results and if necessary, identify proposed measures that would be employed to comply with the applicable state and federal regulations. Within 30 days after completing the survey, the Project owner shall submit the noise survey report to the Construction Project Manager. The Applicant shall make the report available to the Occupational Health and Safety Administration and the California Occupational Health and Safety Administration upon request.

5.18.4.12 Visual Resources

Mitigation measures for visual resources are described in detail in Section 5.13, Visual Resources. In general, mitigation measures include the measures listed below.

- Use of native limited-height landscaping materials around facility perimeter to ensure proposed landscaping does not further obstruct views of distant hillsides.
- Suggested off-site planting on adjacent residential properties (if landowner is interested) to assist with screening.
- External lighting design/installation that incorporates commercially available fixture hoods/shielding, with light directed downward or toward the area to be illuminated.
- Light fixtures shall not cause obtrusive spill light beyond the Project boundary.
- All lighting shall be of minimum necessary brightness consistent with operational safety and security.
- Direct lighting will not illuminate the nighttime sky.

5.18.4.13 Waste Management

The minimal effects anticipated from the generation, storage, and disposal of hazardous and non-hazardous wastes of this Project would be mitigated by following State and Federal Standards for handling these materials.

5.18.4.14 Hazardous Materials Handling

Design features regarding the use of hazardous materials, specifically storage procedures, have been incorporated into this Project to keep maximum potential effects below defined thresholds of significance.

5.18.4.15 Public Health and Safety

The criteria pollutant and TAC emissions from the Project's sources, the diesel emergency fire water pump and emergency generator engines, would be mitigated by using clean EPA Tier 3 diesel engines. A discussion of the emission limits pertaining to the Project's emergency diesel engines is included in Section 5.2, Air Quality.

The HRA presented in the foregoing subsections shows that the health effects of the Project as proposed would be well below the significance thresholds identified in Section 5.16, Public Health and Safety, therefore, no further mitigation of emissions from the Project is required to protect public health.

5.18.4.16 Worker Safety

Environmental consequences related to worker safety are not foreseen at this time; therefore, additional measures beyond those proposed herein are not considered necessary. No significant unavoidable adverse effects to worker safety are anticipated from the Project. Additional measures may be necessary should the Project change in a manner that effects worker safety.

5.18.5 Compliance with LORS

LORS compliance information is provided for each resource in Sections 5.2 through 5.17. This section addresses compliance related to cumulative effects analysis.

5.18.5.1 Federal

As described earlier in this section, the analysis of cumulative effects is guided by NEPA of 1969 and CEQ's implementing regulations

5.18.5.2 State

At the state level, CEQA (PRC 21083) and associated CEQA Guidelines (CCR 15130) require that the discussion of cumulative effects be "guided by the standards of practicality and reasonableness" (PRC 21083[b]), and that "the discussion include a list of past, present, and reasonably anticipated future projects producing related or cumulative impacts" (CCR 15130[b][1][A]).

5.18.5.3 Local

There are currently no local compliance standards for analyzing cumulative effects. Table 5.18-6, Summary of LORS – Cumulative Impacts, provides a list of LORS applicable to the project.

**Table 5.18-6
Summary of LORS – Cumulative Impacts**

LORS	Requirements	Conformance Section	Administering Agency	Agency Contact
Federal Jurisdiction				
NEPA	To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.	Pub. L. 91-190, 42 U.S.C. 4321-4347, 1 January 1970, as amended by Pub. L. 94-52, 3 July 1975, Pub. L. 94-83, 9 August 1975, and Pub. L. 97-258, § 4(b), 13 September 1982	Council on Environmental Quality	James L. Connaughton, Council Chair
State Jurisdiction				
CEQA	Develop and maintain a high-quality environment now and in the future, while the specific goals of CEQA are for California's public agencies to: <ol style="list-style-type: none"> 1. identify the significant environmental effects of their actions; and, either 2. avoid those significant environmental effects, where feasible; or 3. mitigate those significant environmental effects, where feasible. 	Chapter 4.5, Streamlined Environmental Review, Article 3	State of California Office of Planning and Research	Cynthia Bryant, Deputy Chief of Staff and Director
Local				
N/A				

Source: National Environmental Policy Act of 1969, 42 USC §4331; Council on Environmental Quality Regulations for Implementing NEPA, 40 CFR 1500; California Environmental Quality Act, California Public Resources Code 21083.

Notes:

- CEQA = California Environmental Quality Act
- LORS = laws, ordinances, regulations, and standards
- N/A = not applicable
- NEPA = National Environmental Policy Act of 1969

5.18.5.4 Agencies and Agency Contacts

Agencies with jurisdiction to issue applicable permit and/or enforce LORS are shown in Table 5.18-7, Agency Contact List for LORS.

**Table 5.18-7
Agency Contact List for LORS**

	Agency	Contact	Address	Telephone
1	CEQ	Horst Greczmiel, CEQ Associate Director for NEPA Oversight	722 Jackson Place, N.W. Washington, DC 20503	N/A
2	State of California OPR	Cynthia Bryant, Deputy Chief of Staff and Director	1400 Tenth Street Sacramento, CA 95814	N/A
3	Bureau of Land Management	Steven J. Borchard	22835 Calle San Juan De Los Lagos Moreno Valley, CA 92253	951-697-5204
	Bureau of Land Management	Alan Stein	22835 Calle San Juan De Los Lagos Moreno Valley, CA 92553	951-697-5382
	Bureau of Land Management	Gregory P. Miller	22835 Calle San Juan de Los Lagos Moreno Valley, CA 92553	951-697-5216
	Bureau of Land Management	Gregory Thomsen	22835 Calle San Juan De Los Lagos Moreno Valley, CA 92253	951-697-5237
	Bureau of Land Management	Thomas Zale	1661 South 4 th Street El Centro, CA 92243	760-337-4420
	Bureau of Land Management	Lynda Kastoll	1661 South 4 th Street El Centro, CA 92243	760-337-4421

Source: <http://www.nepa.gov/ntf/contactus.html>; <http://www.opr.ca.gov/>.

Note:

- CEQ = Council on Environmental Quality
- N/A = not applicable
- NEPA = National Environmental Policy Act of 1969
- OPR = Office of Planning and Research

5.18.5.5 Permits Required and Permitting Schedule

No permits for cumulative effects are required for the Project.

5.18.6 References

- BLM (Bureau of Land Management). 1980 reprinted 1999. California Desert Conservation Area Resource Management Plan including 147 amendments made during 1980-1999, BLM, El Centro, California
- Bureau of Land Management, & Mineral Legacy Rehost 2000 System.
<http://www.blm.gov/lr2000/>, accessed 10 April 2008.
- _____. <http://www.blm.gov/landandresourcesreports/rptapp/menu.cfm?appCd=2>, accessed 9 May 9 (solar) and 14 May 2008 (wind).
- Canter, L.W. and J. Kamath. 1995. Questionnaire Checklist for Cumulative Impacts. Environmental Impact Assessment Review, Vol. 15: 311-339
- CEQ (Council on Environmental Quality). 1994. Cumulative Effects Analysis: Handbook for NEPA Practitioners. Washington, D.C.
- _____. 1997. Considering Cumulative Effects Under the National Environmental Policy Act). Council on Environmental Quality, Executive Office of the President, Washington D.C.
- DHS (U.S. Department of Homeland Security), U.S. Customs and Border Patrol (USBP). December 2007. El Centro Sector Proposed Tactical Infrastructure Draft Environmental Assessment. Prepared by U.S. Department of Homeland Security, U.S. Customs and Border Patrol (USBP).
- El Centro Redevelopment Agency. 2008.
<http://www.cityofelcentro.org/redevelopment/dems.html>, accessed 9 April 2008.
- Environmental Protection Agency. 1992. A Synoptic Approach to Cumulative Impact Assessment: A Proposed Methodology. EPA, Corvallis.
- Imperial County, University of California Cooperative Extension.
http://ceimperial.ucdavis.edu/Custom_Program275/Water_Quality_in_the_Imperial_Valley.htm, accessed 10 April 2008.
- Imperial County Land Use Ordinance. 1998. www.co.imperial.ca.us, accessed 10 April 2008.
- Kastoll, Lynda. BLM El Centro. April 2008. Personal communication via Anne Southam, URS Corporation.
- NAF (Naval Air Facility). El Centro.
<https://www.cnic.navy.mil/elcentro/AboutCNIC/index.htm>, accessed 9 April 2008.
- Oregon Department of Transportation and Federal Highway Administration. April 2001. A Guidebook for Evaluating the Indirect Land Use and Growth Impacts of Highway Improvements, Final Report APR 327.
- Spaling, H. 1994. Cumulative Effects Assessment: Concepts and Principles. Impact Assessment, Vol. 12, No. 3: 231-252.
- Spaling, H. and B. Smit. 1995. A Conceptual Model of Cumulative Environmental Effects of Agricultural Land Drainage. Agriculture, Ecosystems & Environment, Vol. 53, No. 2: 99-108.

SVP (Society of Vertebrate Paleontology). 1995. Assessment and mitigation of adverse impacts to nonrenewable paleontologic resources – standard guidelines: Society of Vertebrate Paleontology News Bulletin, vol. 163, p. 22-27.

_____. 1996. Conditions of receivership for paleontologic salvage collections: Society of Vertebrate Paleontology News Bulletin, vol. 166, p. 31-32.

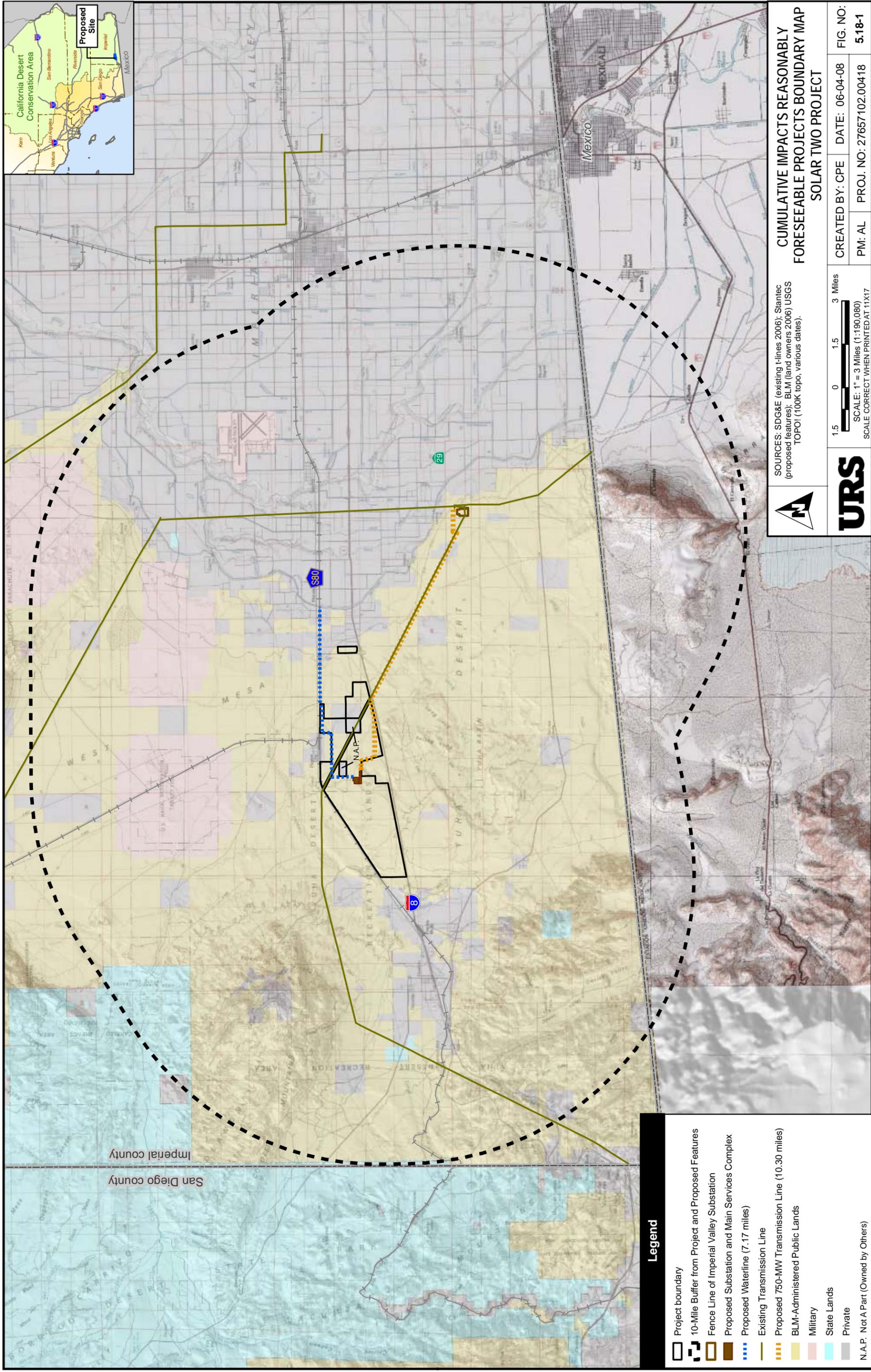
URS Corporation. 2008. Field work, observations, research, and modeling.

U.S. Census Bureau, Census 2000 Summary File 1.

http://factfinder.census.gov/servlet/GCTTable?_bm=y&-geo_id=04000US06&_box_head_nbr=GCT-PH1&-ds_name=DEC_2000_SF1_U&-_lang=en&-format=ST-7&-_sse=on, accessed on 14 April 2008.

U.S. Customs and Border Protection, El Centro Station,

http://www.cbp.gov/xp/cgov/border_security/border_patrol/border_patrol_sectors/elcentro_sector_ca/stations/elcentro.xml, accessed 4 April 2008.



CUMULATIVE IMPACTS REASONABLY FORESEEABLE PROJECTS BOUNDARY MAP
SOLAR TWO PROJECT

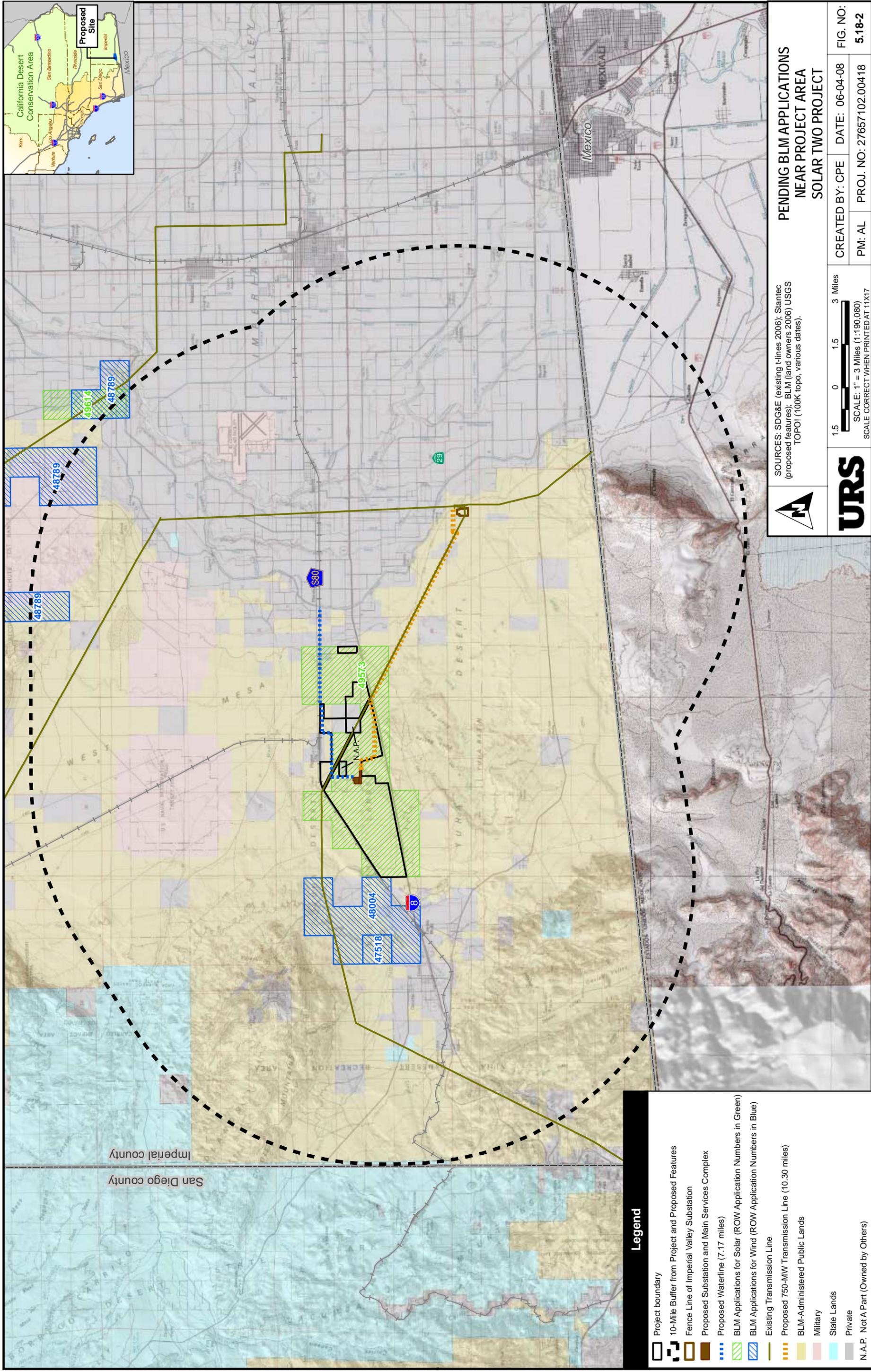
CREATED BY: CPE DATE: 06-04-08 FIG. NO.: 5.18-1
 PM: AL PROJ. NO: 27657102.00418

SOURCES: SDG&E (existing t-lines 2006); Stantec (proposed features); BLM (land owners 2006) USGS TOPOI (100K topo, various dates).

1.5 0 1.5 3 Miles
 SCALE: 1" = 3 Miles (1:190,080)
 SCALE CORRECT WHEN PRINTED AT 11X17

URS

- Legend**
- Project boundary
 - 10-Mile Buffer from Project and Proposed Features
 - Fence Line of Imperial Valley Substation
 - Proposed Substation and Main Services Complex
 - Proposed Waterline (7.17 miles)
 - Existing Transmission Line
 - Proposed 750-MW Transmission Line (10.30 miles)
 - BLM-Administered Public Lands
 - Military
 - State Lands
 - Private
 - N.A.P. Not A Part (Owned by Others)



SOURCES: SDG&E (existing t-lines 2006); Stantec (proposed features); BLM (land owners 2006) USGS TOPOI (100K topo, various dates).



1.5 0 1.5 3 Miles
 SCALE: 1" = 3 Miles (1:190,080)
 SCALE CORRECT WHEN PRINTED AT 11X17

**PENDING BLM APPLICATIONS
 NEAR PROJECT AREA
 SOLAR TWO PROJECT**

CREATED BY: CPE DATE: 06-04-08 FIG. NO:
 PM: AL PROJ. NO: 27657102.00418 **5.1B-2**

- Legend**
- Project boundary
 - 10-Mile Buffer from Project and Proposed Features
 - Fence Line of Imperial Valley Substation
 - Proposed Substation and Main Services Complex
 - Proposed Waterline (7.17 miles)
 - BLM Applications for Solar (ROW Application Numbers in Green)
 - BLM Applications for Wind (ROW Application Numbers in Blue)
 - Existing Transmission Line
 - Proposed 750-MW Transmission Line (10.30 miles)
 - BLM-Administered Public Lands
 - Military
 - State Lands
 - Private
 - N.A.P. Not A Part (Owned by Others)

