

R E P O R T

## ENVIRONMENTAL ASSESSMENT

# PROPOSED GEOTECHNICAL FIELD WORK FOR THE SDG&E OCOTILLO SOL PROJECT IMPERIAL COUNTY, CALIFORNIA

Prepared for:



Bureau of Land Management  
El Centro Field Office  
1661 South Fourth Street  
El Centro, CA 92243

**June 30, 2011**

Prepared by:

**URS**

4225 Executive Square, Suite 1600  
La Jolla, CA 92037  
(858) 812-9292 Fax: (858) 812-9293

**Section 1 Introduction/Purpose and Need.....1-1**

1.1 Introduction..... 1-1

1.2 Purpose and Need ..... 1-3

**Section 2 Description of the Alternatives .....2-1**

2.1 Alternative 1 – Proposed Action – Geotechnical Field Work .....2-1

2.1.1 Task 1 – Coordination/Mobilization and Desk Study.....2-1

2.1.2 Task 2 – Testing Field Investigation.....2-1

2.1.3 Task 3 – Geotechnical Analysis and Reporting .....2-4

2.2 Alternative 2 – No Action.....2-5

**Section 3 Affected Environment.....3-1**

3.1 Field Surveys .....3-1

3.2 Geology .....3-3

3.3 Biology .....3-4

3.4 Hydrology .....3-6

3.5 Wetlands/Riparian Zones.....3-7

3.6 Cultural Resources.....3-7

3.7 Paleontology .....3-9

3.8 Recreation.....3-9

3.9 Noise.....3-10

3.10 Air Quality .....3-10

3.11 Visual Resources .....3-11

**Section 4 Environmental Impacts and Mitigation.....4-1**

4.1 Elements of the Environment .....4-1

4.2 Cumulative Impacts .....4-9

4.3 Residual Impacts.....4-13

**Section 5 Consultation and Coordination.....5-1**

5.1 Consultation.....5-1

5.2 List of Preparers and Reviewers .....5-1

5.2.1 Lead Agency - Bureau of Land Management, El Centro Field Office .....5-1

5.2.2 Consultant - URS .....5-1

5.2.3 Applicant - SDG&E.....5-2

**Section 6 References .....6-1**

**Tables**

Table 2-1	Equipment Required for Geotechnical Field Work
Table 3-1	Previously Recorded Cultural Resources within the Approximately 350-Acre Study Area
Table 3-2	Cultural Resources within the Project Site
Table 4-1	Cumulatively Considerable Reasonable Foreseeable Future Actions
Table 4-2	Projects in Imperial County

**Figures**

Figure 1	Project Location Map
Figure 2	Geotechnical Field Work Plan
Figure 3	Study Area (350 Acres) Map
Figure 4	Biological Resources Map

## List of Acronyms and Abbreviations

---

ACEC	Area of Critical Environmental Concern
APCD	Air Pollution Control District
ATC	all-terrain carrier
BLM	Bureau of Land Management
BMPs	Best Management Practices
BUOW	Western burrowing owl
CDCA	California Desert Conservation Area
CDFG	California Department of Fish and Game
CEQ	Council on Environmental Quality
Class C; L; M or I	Controlled (C), Limited (L), Moderate (M), or Intensive (I)
CWA	Clean Water Act
dBA	A-weighted decibel
EA	Environmental Assessment
FEMA	Federal Emergency Management Agency
FLPMA	Federal Land Policy Management Act
Ft <sup>2</sup>	square feet
FTHL	Flat-tailed horned lizard
HP	horsepower
HVAC	Heating, Ventilating, and Air Conditioning
I-8	Interstate 8
ICC	Interagency Coordinating Committee
kV	kilovolts
L <sub>dn</sub>	day-night sound level
L <sub>eq</sub>	equalized sound level
LSA	LSA, Associates
MBTA	Migratory Bird Treaty Act
mg/l	milligrams per liter
mph	miles per hour
msl	mean sea level
MW	megawatts
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
NRA, Inc.	National Resources Assessment, Inc.
NRHP	National Registry of Historic Places
OHV	Off-Highway Vehicle
PM <sub>10</sub>	particulate matter
POD	Plan of Development
PV facility	Ocotillo Sol Project
PV	Photovoltaic
ROW	Right-of-Way
RPS	Renewable Portfolio Standard
RWQCB	Regional Water Quality Control Board
SCIC	South Coastal Information Center
SDG&E	San Diego Gas & Electric
SDNHM	San Diego Natural History Museum

## List of Acronyms and Abbreviations

---

SLF	Sacred Lands File
SQRU	Scenic Quality Rating Units
SVP	Society of Vertebrate Paleontology
SWPL	Southwest Power Link
TDS	total dissolved solids
U.S.	United States
URS	URS Corporation, Americas
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
VRM	Visual Resources Management
WECO	Western Colorado Off-Highway Vehicle Routes of Travel Designation Plan
WUS	Waters of the U.S.
ybp	years before present

## SECTION 1 INTRODUCTION/PURPOSE AND NEED

### 1.1 INTRODUCTION

San Diego Gas and Electric Company (SDG&E) has submitted right-of-way (ROW) application CACA-51625-01 to the United States Department of the Interior Bureau of Land Management (BLM) to conduct geotechnical field work (Geotechnical Field Work) to provide information to support the design, engineering, planning, and construction process, and to provide a construction cost estimate for a photovoltaic (PV) electric generation facility (PV facility) located in Imperial County, California. The potential environmental impacts associated with the proposed PV facility, identified as Ocotillo Sol Project (Ocotillo Sol), would be assessed in a separate document prepared pursuant to the National Environmental Policy Act of 1969 (NEPA). This Environmental Assessment (EA) is being prepared to assess the potential environmental impacts associated with the Geotechnical Field Work. The specific activities proposed in connection with the Geotechnical Field Work are described in this EA as the “Proposed Action.”

The BLM has determined that an EA is required to analyze and disclose the potential environmental and social consequences of conducting the Proposed Action. This EA has been prepared pursuant to the NEPA, Council on Environmental Quality (CEQ) implementing regulations (40 CFR 1500-1508), and the BLM NEPA Handbook (BLM Handbook H-1790-1).

The Proposed Action is comprised of:

- drilling seven geotechnical borings,
- completing geologic field mapping,
- performing electrical resistivity surveys, and
- collecting soil samples.

#### *Background*

The proposed Ocotillo Sol Project would be located on 115 acres of undeveloped public land administered by the BLM adjacent to the southern boundary of the SDG&E Imperial Valley Substation. This facility would consist of a 100-acre permanent project area and a 15-acre temporary laydown area for construction. ROW application (SF 299) CACA-51625 was filed in December 2009 (revised in August 2010) for the construction and operation of Ocotillo Sol which would generate 15-18 megawatts (MW) (nominal peak of 20 MW) of renewable energy. The generated renewable energy would be supplied to SDG&E’s customers and included in the SDG&E state-mandated renewable energy portfolio standard requirements.

The selection of the Ocotillo Sol site was based on its proximity to existing transmission infrastructure (i.e., the Imperial Valley Substation) and access roads, the abundance of solar resources in the Imperial Valley region of southern California, and the ability to minimize potential impacts to natural and cultural resources. Locating Ocotillo Sol adjacent to the existing Imperial Valley Substation allows SDG&E to consolidate the PV facility with existing SDG&E operations, and minimizes the length of new 12.47 kilovolt (kV) transmission infrastructure that would be required to interconnect with the existing transmission system.

### *Location*

The proposed Ocotillo Sol site, as shown on Figure 1, is located four miles south of Interstate 8 (I-8), 9 miles southwest of El Centro, and 82 miles east of San Diego. The Project Site is located south-southwest of the existing Imperial Valley Substation: San Bernardino, Meridian, California, Township 16½ South, Range 12 East, Section 3 portion of SW ¼, portion of SE ¼. Access to the Project Site would be from Highway 98 along an existing gravel site access road (Figures 1 and 2). The existing site access road from Highway 98 is referred to in the CA 5865 BLM ROW Grant associated with the SDG&E South West Power Link (SWPL) Transmission Line. This permit for the SWPL transmission line corridor refers to “ancillary facilities” which includes this site’s access road.

The regional setting includes large agricultural fields to the north and east and desert habitat to the west and south. The area in the vicinity of the Project Site is very sparsely populated. The Project Site is relatively flat and is located adjacent to several existing utility facilities, including the SDG&E Imperial Valley Substation and SWPL transmission line (and future Sunrise Powerlink alignment to the north) and a transmission corridor to the east.

The proposed geotechnical borings, electrical resistivity testing and collecting soil samples will occur within the 100-acre Project Site (refer to Figure 2 and Section 2.1.2 Task 2 – Testing Field Investigation). The pedestrian geologic field mapping will occur in and adjacent to the Project Site (refer to Section 2.1.2 Task 2 – Testing Field Investigation).

### *Legal Description*

The legal description of the area proposed for the Proposed Action is within Imperial County, California and is provided in the following headings in this section provided below. A map that depicts the township, range and sections is included as Figure 5.

- San Bernardino, Meridian, California.
- Township 16½ South, Range 12 East.
- Section 3 portion of SW ¼, portion of SE ¼.

### *Existing Access Roads for Ingress and Egress to Geotechnical Assessment Locations*

An SDG&E Grant of Easement (CA 5865) for ingress and egress over an existing road within Township 17 South, Range 12 East, and the Southeast Quarter of Section 4 and the Southwest Quarter of Section 3, Township 16 ½ South, Range 12 East, San Bernardino Meridian, in the County of Imperial, State of California, said road being approximately 4.2 miles in length and 20 feet in width beginning at the intersection of the existing access road to the Northeast with Highway 98, said intersection being approximately 5.7 miles Westerly from the Westside Main canal, thence Northerly approximately 0.6 miles to a curve concave Southeasterly, thence Northeasterly approximately 3.6 miles to the intersection with the existing access road from Dunaway Road to the Northwest. Said access road contains approximately 456,192 square feet.

An easement for ingress and egress over existing roads within Lot 11 and the South One-Half of Section 3, Township 16 1/2 South, Range 12 East, San Bernardino Meridian, in the County of Imperial, California, said roads being approximately 0.60 mile in length and 20 feet in width beginning at the intersection of the existing access road from Dunaway Road to the Northwest with the existing access road from Highway 98 to the Southwest; thence Southeasterly to the Southwest corner of the Imperial Valley Substation; thence Easterly along the Southerly boundary of said Substation to the Southeast corner of said Substation; thence Southeasterly through a curve concave Southwesterly; thence Southerly, parallel to and westerly of the Eastern transmission corridor to a point approximately 0.20 mile South of the Southerly boundary of said Substation. Said access roads contain approximately 63,360 square feet.

## **1.2 PURPOSE AND NEED**

BLM's purpose for the proposed action is to provide SDG&E with legal access across public land managed by the BLM. The need for this action is established by the BLM's responsibility under FLPMA, Title V to respond to a request for a Right-of-Way grant to conduct geotechnical field work (Geotechnical Field Work) to provide information to support the design, engineering, planning, and construction process, and to provide a construction cost estimate for a photo-voltaic (PV) electric generation facility (PV facility) located in Imperial County, California. The BLM will decide whether or not to grant the right-of-way, and if so, under what terms and conditions.

SDG&E's purpose for the Proposed Action is to generate information to support the design, engineering, planning, and construction process, and to develop a construction cost estimate for Ocotillo Sol. The information would be used by engineers to design the solar panel support structures and other elements and to advance efforts to develop, construct, and operate Ocotillo Sol. This EA examines potential effects the Proposed Action would have on the environment. The Proposed Action is independent from any BLM ROW application for future solar energy development, which would be the subject of a separate environmental analysis.

The information collected from the Proposed Action would be instrumental in supporting the generation of clean, renewable energy utilizing the abundant solar energy resources available in the Imperial Valley region of southern California.

With a growing population, California's demand for electricity is growing and expected to be under greater demand in the foreseeable future. Solar energy and other renewable energy sources can play a leading role in providing for these important demands. New requirements for utility companies to provide renewable energy options are driving the promotion of solar development.

California laws, orders, and policies require increasing the use of renewable energy and lowering greenhouse gas emissions. California's Renewable Portfolio Standard (RPS) is the most ambitious renewable energy standard in the country. California law requires electric corporations, including SDG&E, to increase eligible renewable energy resources by at least 1% of their electric retail sales annually, until they reach 20% by December 31, 2010, or effectively 2013 under flexible compliance provisions. SB X1-2 (Simitian) signed into law on April 12, 2011, increases the 20% renewable energy goal by 2010 to a 33% renewable goal by December 31, 2020.

The Global Warming Solutions Act of 2006 requires the California Air Resources Board to regulate sources of greenhouse gasses to meet a State goal of reducing greenhouse gas emissions to 1990 levels by 2020. The Governor's Executive Order (S-3-05) requires California to reduce its greenhouse gas emissions to 80% below 1990 levels by 2050.

The BLM is committed to promoting the National Energy Policy Act of 2005 and allowing for construction of renewable energy projects on public BLM lands where possible and appropriate. Therefore, the opportunity for innovative collaboration that the Proposed Action provides is a promising step towards meeting future energy demands with renewable energy sources.

### *Scope of this Environmental Analysis*

This EA examines the resources and locations that the Geotechnical Field Work could impact. As described in the Proposed Action, the Geotechnical Field Work would include drilling seven geotechnical borings, completing geotechnical field mapping, performing electric resistivity surveys, and collecting soil samples.

The geotechnical site assessment is independent from any ROW application for solar energy development. The authorization to conduct the Proposed Action establishes no right to development. SDG&E has submitted a separate ROW application to the BLM for the use of the land for future solar energy development, which will be subject to a separate environmental analysis.

The geotechnical investigations and project development are not connected actions under CEQ NEPA regulations (40 CFR 1508.25) because the authorization of Geotechnical Field Work does not automatically activate any energy development project.

### *Conformance with Land Use Plans*

The Proposed Action is subject to the 1980 California Desert Conservation Area (CDCA) Plan as amended. As part of 1976 Federal Policy Management Act (FLPMA), the CDCA Plan was developed to guide land use management of BLM lands within this portion of California. The Project Site is entirely located on BLM-administered public lands in Imperial County, and is managed under the CDCA Plan, as amended (BLM 1980). Most of the lands administered under the CDCA Plan have been designated as

one of four “multiple-use classes”: Controlled (C), Limited (L), Moderate (M), or Intensive (I). The class designations govern the type and degree of development or management activities allowed within the boundaries of the classes, and must meet the guidelines given for that class.

The entire Project Site is identified as Multiple Use Class L. Class L land “protects sensitive, natural, scenic, ecological, and cultural resource values,” and is “managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished.” Most land use activities are allowed in a Class L designation after NEPA requirements are met. The Proposed Action is a temporary use that would conform to the CDCA Plan after NEPA requirements are met.

### *Applicable Regulatory and Policy Requirements*

Title V of the FLPMA authorizes the BLM to issue a ROW grant for the Proposed Action. Part 2800 of Title 43 of the Code of Federal Regulations (CFR) contains the regulations relating to ROWs under FLPMA.

### *Scoping*

SDG&E and the BLM engaged in internal scoping for this EA for the Proposed Action to determine analysis in this EA. Internal scoping refined the purpose and need, cumulative effects analysis, and other features of the Proposed Action. External scoping for EAs is optional in accordance with 40 CFR 1501.7 and was not initiated prior to the EA for the Proposed Action. Additionally, due to the three-day duration and limited scale of the Proposed Action SDG&E determined that external scoping was not necessary.

## SECTION 2 DESCRIPTION OF THE ALTERNATIVES

### 2.1 ALTERNATIVE 1 – PROPOSED ACTION – GEOTECHNICAL FIELD WORK

The purpose of the Proposed Action is to provide information that would assist with permitting, developing, planning, and preliminary engineering design for the proposed Ocotillo Sol site. Specifically, potential seismic and geologic conditions would be evaluated to assist with designing the structures and foundations, performing the site grading, and completing other design elements. The Geotechnical Field Work would consist of drilling seven geotechnical borings, collecting soil samples, completing geologic field mapping, and performing electrical resistivity surveys. These activities would require up to two weeks to complete. This two-week period includes time to account for inclement weather and scheduling (field work is anticipated to be completed in three working days). Figure 2 shows the location of the proposed explorations. The Proposed Action can be divided into three tasks:

- performing coordination/mobilization activities and completing a desk study,
- conducting field investigation activities, and
- completing an analysis of the samples collected and preparing a report summarizing the results.

#### 2.1.1 Task 1 – Coordination/Mobilization and Desk Study

The desk study efforts would include reviewing published geologic maps, aerial photos, and topographic maps of the Proposed Action area. Information from previous geotechnical investigations conducted adjacent to the Project Site also would be obtained and reviewed. Coordination tasks would include boring location markout and utility clearance.

#### 2.1.2 Task 2 – Testing Field Investigation

A total of 7 geotechnical borings and 10 electrical resistivity surveys are planned within the boundaries of the proposed Project Site. Geotechnical laboratory testing would be performed on samples collected from the borings.

#### *Borings*

The borings would be advanced to depths of 30 feet in five borings and 50 feet in two borings. The geotechnical boring activity would consist of drilling small diameter (eight-inch) borings using hollow stem auger drill methods. To access the various locations and to provide the necessary information to support design, an all-terrain drill rig (all-wheel drive with oversized rubber tires) would be used. The ingress/egress routes shown on Figure 2, are preliminary and intended for review and possible modification during the environmental review process. Changes to the proposed route of the boring rig (temporary access route) would be made solely to reduce environmental impacts. The existing site access road would be utilized to the maximum extent feasible.

The following avoidance and minimization measures have been incorporated in the project description:

Monitoring of the temporary access route by a biologist, paleontologist, and an archaeologist to ensure that sensitive biological and cultural resources are avoided. Prior to vehicle access, a biological and cultural monitor would survey the temporary access route, which would be wide enough to accommodate the drill rig as well as the cones or flag to delineate access and work areas. The monitors also would oversee the movement of the drilling equipment and support vehicles from the access road to the test sites. Up to three vehicles, including the drill rig would use the temporary access route flagged by the monitors. Vehicle speeds would be limited to 5 miles per hour (mph). The use of flagging and monitors is included as part of the Proposed Action to ensure avoidance of sensitive resources and compliance with access requirements.

During the advancement of the borings, it is expected that the following vehicles would be present: the rig required for the geotechnical borings, the geologist's vehicle, and a vehicle for the biological and cultural monitors. The vehicles would approach the exploration location from a single direction, perform the work on the approved temporary access route, and continue in the same direction on the route to the next location. Vehicles would turn around to exit the site, following the same temporary access route used on the drive into the area. An appropriate turn-around area would be selected by the monitors.

The work areas shown on Figure 2 include space for the boring site, the drill rig, and sufficient room for equipment laydown (augers, drill rods, sampling equipment, etc.). The work area would encompass an area approximately 20 feet by 50 feet. Support vehicles would be parked along the temporary access route.

An engineering geologist would supervise the drilling, log the borings, and collect representative soil samples. Borings would be backfilled immediately upon completion of the drilling and sampling activities. The boring holes would be backfilled with the native soil removed from the hole during the augering process and with bentonite layers to minimize the movement of water through the backfilled soil.

The boring work would take two to three days to complete. Each boring location would be completed within the same day as the drilling occurs.

### *Collection of Soil Samples for Laboratory Testing*

Soil samples would be collected from the geotechnical borings in brass liners or sealed plastic bags and would be labeled. Disturbed and undisturbed soil samples collected would be returned to a laboratory for testing and evaluation by the project geotechnical engineer. The testing program would include evaluation of moisture, density, plasticity (Atterberg Limits), Expansion Index, grain size, corrosion, road subgrade characteristics, and shear strength. Thermal resistivity testing also would be performed to support the design of underground elements.

In addition to the above sampling activities, five, 9-ounce (oz.) grab samples would be collected from various geotechnical boring locations. Each sample would be collected using a trowel, and placed into two, 4 oz. laboratory-provided glass jars. The samples would be labeled, double wrapped in plastic bags, placed in an ice chest cooled to 4 degrees centigrade, and delivered to the SDG&E environmental laboratory for testing for Total Metals and Asbestos. The integrity of the samples would be maintained at

all times, with proper chain-of-custody observed and documented. A sample location diagram would be submitted with the sample chain-of-custody.

### *Geologic Field Mapping*

Engineering geologists would perform field mapping in and adjacent to the proposed Project Site. The focus would be on geomorphic evidence of possible fault-related features. The geologists would traverse the site on foot avoiding sensitive areas delineated by the biological and cultural monitors.

### *Electrical Resistivity Testing*

Resistivity data would be collected to assist in preparing the design of underground utilities. In-situ electrical resistivity surveys would be performed at representative locations across the proposed Project Site.

Resistivity testing would consist of laying out a linear array of four electrodes at a variety of spacings along a line up to 150 feet in length. A low-voltage electrical current would be applied to the ground at the outer electrodes, and measurements of voltage would be taken at the inner electrodes for the various electrode spacings. Ten lines would be prepared for testing. and the survey would require approximately 10 to 12 hours . The survey locations would be accessed with a minimum of disturbance (locations are shown on Figure 2). Ground disturbance during the electrical resistivity surveys would consist of driving four 12-inch-long metal nail-like electrodes into the ground to a depth of approximately six to eight inches. An initial set of voltage readings would be taken, the probes would then be removed, and rearranged at different spacing within the same 150-foot linear array, and additional voltage readings would be taken.

The electrical resistivity testing locations would be accessed by a small four wheel drive pick-up truck or passenger vehicle and on foot. The small motor vehicle would be driven on existing access roads or would follow the route taken by the boring rig. To access electrical resistivity testing locations that cannot be reached by existing access roads or by following the boring rig, the testing technician would carry the electrical resistivity testing equipment and access the testing location on foot.

Biological, cultural, and paleontological monitors would be on site to ensure that no sensitive species or resources are impacted. Five of the electrical resistivity tests located along the margins of the Project site would be accessed via the existing site access road. The other proposed locations would be along the temporary access route or would be accessed by parking on the temporary access route and walking to the testing site. The internal locations will be accessed by four-wheel drive vehicles using the same temporary access route proposed for the drill sites. Refer to specific locations on Figure 2.

### *Restoration*

Monitors would be present during the Proposed Action to ensure that impacts would be avoided or minimized. Upon completion of drilling activities, disturbed areas (drill sites, seismic resistivity sites and access routes) would be restored to pre-activity conditions by on-site biologists. The restoration efforts would be documented in the post-construction report that would be submitted to the BLM. Summaries of the various techniques that may be applied to the Project are provided below.

**Soil Salvage** - Soil salvaging would be conducted prior to drilling the seven small-diameter (eight-inch in diameter) geotechnical borings to allow the restoration of temporary boring locations. Prior to commencement of boring activity, the biological monitor would instruct crews to salvage the upper six to eight inches of topsoil and place it onto plastic in the boring location work area. The remaining soil would be stockpiled separately on plastic within the temporary work area. Salvaging topsoil would aid in the retention of beneficial soil mycorrhizal network, microorganisms, and native seed bank and assist in the establishment of native plants. Vegetation removed would be chopped with hand tools (i.e., loppers) and spread into the top soil. The salvaged topsoil would be stockpiled within temporary impact areas during geotechnical boring activity. The height of the salvaged topsoil stockpile would be limited to three feet because excessive height may cause the internal temperature of the pile to increase, thereby "cooking" any native seed and microbial material contained in the stockpile. The salvaged topsoil would be placed back into the boring hole immediately following completion of drilling activities; backfilling would be performed within several hours (within the same day) of boring activity. Immediate backfilling will help deter the establishment of invasive weeds; however if encountered, invasive weeds would be removed from the stockpile. To minimize compaction, no equipment would be allowed to travel over or park on the stockpile.

**Recontouring** - Landscape along all temporarily disturbed areas would be recontoured, where necessary, by using hand tools (e.g. shovel, grading rake) back to the height of the natural topography.

**Terra-forming** - Terra-forming would be applied to temporarily disturbed area, where necessary, using hand tools to create mounds, dunes, or other landforms to mimic the surrounding desert landscape.

**Decompacting** - Decompacting would be applied to temporarily disturbed areas, where necessary, using hand tools to loosen compacted soils and enable passive restoration.

### 2.1.3 Task 3 – Geotechnical Analysis and Reporting

The results of the Proposed Action would be presented in a preliminary geotechnical report. The data from the field and laboratory testing would be used to perform the engineering analyses.

#### *Expected Equipment and Personnel Details*

Table 2-1 provides a summary of equipment and staff needed at the proposed Project site. The drilling and electrical resistivity activities would require approximately three days and two days, respectively and performed concurrently.

**Table 2-1  
Equipment Required for Geotechnical Field Work**

Task	Equipment	Number of Geotechnical and Geological Personnel <sup>3</sup>	Number of Subcontractor Personnel <sup>3</sup>
Borings	<ul style="list-style-type: none"> <li>• All-terrain hollow stem auger truck-mounted drilling rig</li> <li>• Augers and rods</li> <li>• Flat-bed support truck</li> </ul>	1	2
Electrical Resistivity Testing	<ul style="list-style-type: none"> <li>• 4-wheel drive vehicle<sup>1</sup></li> <li>• Four electrodes (thin pins approximately 12 inches long) inserted into ground</li> <li>• Electrical current (car battery)</li> </ul>	0 <sup>2</sup>	1

## Notes:

1. Subcontractor personnel would have one 4-wheel drive vehicle.
2. Electrical resistivity testing would be performed concurrently with the borings; therefore, additional URS personnel would not be required on site.
3. Personnel estimate does not include cultural, biological, and paleontological monitors or observers from SDG&E or other parties.

## 2.2 ALTERNATIVE 2 – NO ACTION

Under the No Action Alternative, a temporary ROW permit would not be issued to SDG&E for the Proposed Action.

## SECTION 3 AFFECTED ENVIRONMENT

Discussion of the existing or affected environment is necessary to serve as the basis of comparison when analyzing the impacts of a project. The Proposed Action would be located within the Project Site. The Project Site was selected because it was determined to have the least environmental impacts based on several environmental resources surveys conducted within a larger approximately 350-acre study area (Study Area). The number of proposed geotechnical borings (7) and associated activities have been minimized and were designed to avoid or minimize adverse effects to significant environmental resources. The Proposed Action also would utilize the existing site access road to the extent possible. The following is a brief summary of field survey results conducted on the larger Study Area followed by an analysis of potential impacts from the Proposed Action within the Project Site.

### 3.1 FIELD SURVEYS

LSA Associates (LSA) was retained by SDG&E to conduct general biological surveys, plant and wildlife focused surveys, jurisdictional waters and wetland surveys and delineation, paleontological resources assessment, and Class I and III cultural inventories. These surveys covered the Project Site and the a larger Study Area, located adjacent to the eastern and western boundaries of the Imperial Valley Substation. These studies are documented in Appendix B of the Initial Plan of Development (POD) for the Ocotillo Sol Project submitted to the BLM on August 16, 2010. The confidential cultural resources report is on file with the BLM (LSA, *Final Class III Inventory Report Ocotillo Sol Project*, October 2010).

Because the Proposed Action takes place within the previously-studied Project Site, the studies prepared in support of the Project are summarized in this EA to assess the potential impacts associated with the Proposed Action.

#### Biological Resources

Reconnaissance-level field surveys and a jurisdictional delineation were conducted concurrently by LSA on October 26 and 27, 2009 to determine the biological resources occurring, or potentially occurring, in the Study Area. During the field surveys, surveyors noted general site conditions, vegetation, potential United States Army Corps of Engineers (USACE) and California Department of Fish and Game (CDFG) jurisdictional areas, and suitability of habitat for various special-status species. Special attention was focused on special status plants and animals with the potential to occur on site as identified through literature review and database queries conducted prior to the field surveys. During the field surveys, data pertaining to habitat type and quality, wildlife and plant species observed, potential for special-status biological resources to occur, and other pertinent features or conditions of the site and adjacent lands were recorded (Figure 3).

Paleontological Resources

LSA conducted a paleontological resources study of the Study Area (LSA, *Paleontological Resources Assessment*, December 15, 2009). The study consisted of a review of geologic maps and literature for the Project and surrounding area and a paleontological locality search at the San Diego Natural History Museum (SDNHM) (San Diego Natural History Museum, *Paleontological Resources: Imperial Valley Photovoltaic Power Plant*, July 9, 2009).

Cultural Resources**Records Search Results**

LSA conducted a records search of the Study Area at the South Coastal Information Center (SCIC) located at San Diego State University campus. The records search area consisted of the Study Area and an additional one-mile radius surrounding the Study Area. The existing Imperial Valley Substation location had been surveyed previously (Bull 1980; Cultural Systems Research, Inc. 1982). A total of 15 previous cultural resource surveys had been conducted within the one-mile radius and 42 cultural resources had been identified within that radius. Of the 42 previously recorded cultural resources, 18 were located within the Study Area.

Table 3-1 summarizes the previously recorded cultural resources within the Study Area. The 18 previously recorded resources located within the Study Area consist of 14 isolates, 2 lithic artifact scatters, 1 historic artifact scatter, and 1 unknown site type (mapped location only, no site form). None of these resources have been evaluated for inclusion in the National Register of Historic Places (NRHP).

LSA contacted the Native American Heritage Commission (NAHC) on June 30, 2009, requesting a Sacred Lands File Search. The NAHC responded on July 1, 2009, indicating that, based on its search, there were no Native American cultural resources within one-half mile of the Study Area, but that there are many cultural resources in close proximity to the Study Area. As part of the Class III Inventory LSA contacted Native American groups to discuss the Proposed Action and cultural resources.

**Table 3-1  
Previously Recorded Cultural Resources within the Approximately 350-Acre Study Area**

Trinomial	Description
CA-IMP-4244	Lithic scatter with a sparse pebble cover. Functionally, the site may be a processing camp
CA-IMP-4353	Isolate: single potsherd and single flake
CA-IMP-4354	Lithic scatter, including a core, flakes, and projectile point (no sketch or identification)
CA-IMP-4503H	Historic refuse dump probably from the 1924 General Land Office survey
CA-IMP- 4504	Isolate: 2 potsherds
CA-IMP-4673	Isolate: 1 flake
CA-IMP-1402	Isolate: 2 potsherds

**Table 3-1**  
**Previously Recorded Cultural Resources within the Approximately 350-Acre Study Area**  
**(Continued)**

Trinomial	Description
CA-IMP-5586	Isolate: 1 basalt flake
CA-IMP-5587	Isolate: 1 basalt flake
CA-IMP-5589	No site record available
CA-IMP-5648	Isolate: 1 basalt secondary flake
CA-IMP-6680	Isolate: Green porphyry scraping tool
CA-IMP-6681	Isolate: Green porphyry flake
CA-IMP-6682	Isolate: Green porphyry scraping tool
CA-IMP-6683	Isolate: Heavily weathered scraping tool, patinated to bronze black color
CA-IMP-6684	Isolate: Green porphyry flake
*CA-BW-I-67	Isolate
*CA-BW-I-68	Isolate

\*Temporary Sunrise Powerlink Project numbers

### *Pedestrian Survey Results*

On April 5 through 9, 2010, LSA assessed an approximately 350-acre (324.25 acres intensive and 27 acres reconnaissance level) Study Area, which included the Project Site. Based on the results of the pedestrian survey, LSA identified 67 cultural resources, consisting of 25 archaeological sites and 42 archaeological isolates.

Native American monitors Frank Salazar III (Campo Kumeyaay Nation), Daniel Mason (Campo Kumeyaay Nation), and Gabe Kitchens (Red Tail Monitoring) accompanied the LSA survey crew at various times during the survey. They provided comments and insights, and also assumed responsibility for individual transects.

## **3.2 GEOLOGY**

The Project Site is located within the Colorado Desert Geomorphic Province (California Geologic Survey, 2002). This province is characterized by a low-lying desert basin that ranges in elevation from 245 feet below mean sea level (msl) to 2,200 feet above msl. It is dominated by the Salton Sea and the Salton Trough. The province is essentially a depressed block between the active branches of the alluvium-covered San Andreas Fault. It is characterized by beach lines of Ancient Lake Cahuilla as well as alluvial fans and alluvial valleys that ring the Salton Sea (California Geologic Survey, 2002). The Salton Trough is a landward extension of the Gulf of California and ranges from a width of several miles

at its northern end to almost 70 miles at the United States–Mexico Border. The Salton Trough is ringed by mountains, except on the south where the Colorado River Delta separates the Salton Trough from the Gulf of California. In the past, the Colorado River changed its course over time, and rather than flowing southward and into the Gulf of California, would flow northward and fill the Salton Trough with water up to 40 to 48 feet above msl before the water would breach the delta on the southern end and again flow into the Gulf of California.

Specifically, the Project Site is located within the Yuha Desert of the lower Imperial Valley. The elevation of the Project Site varies from 10 feet above msl to 20 feet below msl. This area would have been slightly below the maximum extent of the shoreline of Ancient Lake Cahuilla. Ancient Lake Cahuilla was an inland freshwater lake that is believed to have gone through several drying and filling sequences. Radiometric dates on Lake Cahuilla fossils and sediments range from 400 years before present (ybp) (Waters, 1983) to 19,500 ybp (Li, 2003). It should be noted that the present-day Salton Sea was filled accidentally after a levee breach occurred sometime between 1905 and 1907. Morten (1966) has mapped the Project Site as being within Quaternary lake deposits from Ancient Lake Cahuilla. These lake deposits are composed of interlayered, variable soils of coarse-grained (primarily sand) and fine-grained (silt and clay) materials. URS anticipates that groundwater is at a depth of approximately 30 feet based on previous borings performed at the adjacent electrical substation.

The Project Site is located in the Imperial Valley, which has historically high seismic activity occurrence along with several known faults. Active faults within 25 kilometers of the site include: the Laguna Salada-Elsinore, San Jacinto, Imperial, Yuha, and Yuha Wells faults. The Laguna Salada-Elsinore fault zone and the San Jacinto fault zone lie west and north of the site at distances of 14 and 20 kilometers, respectively.

The Project Site is in an area of undeveloped low-lying desert with sparse vegetation. An existing gravel SDG&E-authorized access road to the Imperial Valley Substation (CACA-5865) leads to the Project Site from the south. The Westside Main Canal runs generally north-south and is located to the east of the Project Site. Drainage within the general area typically flows in a northeasterly to easterly direction.

### *Topography*

The geomorphic surfaces in this portion of the Imperial Valley are characterized by typical gently sloping topography. The ground surface at the Project Site slopes gently from the northwest to the southeast from an elevation of approximately 15 to 20 feet above msl.

## **3.3 BIOLOGY**

### *Vegetation*

The Project Site is generally located in gently rolling, open desert scrub. Vegetation is comprised of a single vegetation community: Sonoran creosote bush scrub habitat as mapped according to the Holland Code (1986). Shrub density on the site is approximately 10 percent and the average shrub height is 45 centimeters (1.5 feet). LSA conducted a focused survey for sensitive plant species at the Project site (LSA, *Results of Focused Plant Survey at Ocotillo Sol Project Site in Imperial County*, June 18, 2010). LSA concluded that no sensitive or other special interest plant species were found on the Project site and

none are expected to occur. The surrounding area includes Burrobush Alliance, dominated by creosote bush (*Larrea tridentata*), burrobush (*Ambrosia dumosa*), Panamint cryptantha (*Cryptantha angustifolia*), desert plantain (*Plantago ovata*), and common Mediterranean grass (*Schismus barbatus*). A *Tamarix aphylla* Semi-Natural Non-Native Stand occurs just east of the existing substation. This vegetation type is dominated by athel (*Tamarix aphylla*), cryptantha, creosote bush, and common Mediterranean grass.

### *Wildlife*

There are two special-status wildlife species that have the potential to occur on the Project Site; Flat-tailed horned lizard (FTHL) and Burrowing owl (BUOW). The Project Site is presumed to be occupied by FTHL, and it contains habitat suitable to support special-status wildlife species such as BUOW.

#### Flat-tailed horned lizard (*Phrynosoma mcallii*)

The Project Site is located within the Yuha Desert Management Area for the FTHL. FTHL is found only on dunes and sandy flats in the lower deserts, from the Coachella Valley south to the head of the Gulf of California, and into extreme northeastern Baja California and southeastern Arizona. It is found from below sea level up to approximately 600 feet above msl. The species is listed as a Species of Special Concern by the CDFG.

Following agency protocols, LSA and Natural Resources Assessment, Inc. (NRA, Inc.) conducted focused surveys for this species in September 2009. Signs of FTHL were observed within the Project Site as documented in the Flat-tailed Horned Lizard Technical Report (NRA., *Flat-tailed Horned Lizard Survey*, Revised December 2, 2010). Additionally, as mentioned in a brief addendum/memorandum to the FTHL Technical Report, a partial FTHL carcass was observed incidentally on March 31, 2010 within a burrow (potentially suitable for BUOW); however, it is possible that the lizard carcass was transported to the burrow from an undetermined location within the Project Site vicinity. Suitable habitat is present throughout the Project site and the species is assumed to be present.

#### Burrowing owl (*Athene cunicularia*)

The BUOW is found in western North America from Canada to Mexico, and from California east to Texas and Louisiana. The BUOW is protected by international treaty under the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703–711) and is protected under Sections 3503 and 3800 of the California Fish and Game Code as a Species of Special Concern. Sections 3503, 3503.5, and 3800 of the California Fish and Game Code prohibit the take, possession, or destruction of birds, their nests, or eggs. The United States Fish and Wildlife Service (USFWS) list the BUOW as a Bird of Conservation Concern for Coastal California and Sonoran and Mojave Deserts.

LSA conducted surveys for this species on the Project Site in October 2009 and May 2010 (LSA, *Letter Report Summary of the Breeding Season Burrowing Owl Surveys, Ocotillo Sol Project, Imperial County California*, June 3, 2010). Survey visits included a preliminary burrow survey in October 2009, followed by subsequent focused breeding season surveys in May 2010. Two potential BUOW burrows, one occupied burrow, and two degraded burrows were observed within the Project Site during both the fall 2009 and spring 2010 surveys. Results for breeding season surveys are provided on Figure 4.

### *Yuha Basin Area of Critical Environmental Concern*

The Project Site is located within the Yuha Basin ACEC (ACEC, No. 64). Pursuant to the CDCA Plan, the goals of ACECs are to: (1) identify and protect significant natural and cultural resources, (2) provide for other uses in the designated areas, compatible with the protection of these resources, and (3) systematically monitor the preservation of these resources and the compatibility of other allowed uses with these resources. Every effort is made to protect natural resources without unnecessarily or unreasonably restricting users of public lands from uses that are compatible with that protection.

## **3.4 HYDROLOGY**

### *Hydrological Setting*

The Project Site lies within the Yuha Desert, which is part of the Sonoran Desert. The Yuha Desert lies within the Lower Colorado River Valley region of the desert. This region is one of the most arid parts of the Sonoran Desert with an average annual precipitation of approximately 3 inches and over 350 days of sunshine. Winter temperatures are in the mid-70s (degrees Fahrenheit) to mid-80s with overnight lows in the mid-40s to low-50s. During summer days, the dry desert heat can push temperatures up to 115 degrees, while the temperatures at night stay in the mid-70s to low-80s.

### *Surface Water*

Surface water in the Project Site vicinity trends from southwest to northeast. The closest named drainage is Pinto Wash, located approximately 540 feet outside the boundaries of the Project Site (Figure 3). The Project Site is not located within a Federal Emergency Management Agency (FEMA)-designated Zone 'A' 115-year floodplain (0.1-percent annual chance floodplain) as shown on FEMA Flood Insurance Rate Map 06025C2050C. No surface water was present on the Project Site during site surveys. No Waters of the United States (WUS) are present on site as delineated by LSA.

### *Groundwater*

The following is based on information contained in the California Department of Water Resources *Bulletin 118*. The Project Site lies within the Imperial Valley Groundwater Basin, which is bounded on the east by the Sand Hills and on the west by the impermeable rocks of the Fish Creek and Coyote Mountains. To the north, the basin is bounded by the Salton Sea, which is the discharge point for groundwater in the basin. The physical groundwater basin extends across the border into Baja California, where it underlies a contiguous part of the Mexicali Valley. Major hydrologic features include the New and Alamo Rivers, which flow north toward the Salton Sea. The All-American Canal (three branches) and the Coachella Canal also cross over the basin. The basin has two major aquifers, separated at depth by a semi-permeable aquitard that averages 60 feet thick and reaches a maximum thickness of 280 feet. The aquifers consist mostly of alluvial deposits of late Tertiary and Quaternary age. Average thickness of the upper aquifer is 200 feet, with a maximum thickness of 450 feet. The lower aquifer averages 380 feet thick with a maximum thickness of 1,500 feet. As much as 80 feet of fine-grained, low-permeability prehistoric lake deposits have accumulated on the nearly flat valley floor and cause locally confined aquifer conditions.

Groundwater within the basin generally flows toward the axis of the valley and then northwestward toward the Salton Sea. Water levels vary widely within the basin due to differing hydraulic heads and the localized confining clay beds in the area. Groundwater levels remained stable within the majority of the basin from 1970 to 1990, because of relatively constant recharge and an extensive network of subsurface drains.

The basin may have saturated sedimentary deposits as thick as 20,000 feet. A large portion of this groundwater is undesirable because of high total dissolved solids (TDS) concentrations. Water quality varies extensively throughout the basin. TDS content ranges from 498 to 7,280 milligrams per liter (mg/L) in the basin (Loeltz et al., 1975). California Department of Health Services data from five public supply wells show an average TDS concentration of 712 mg/L and a range from 662 to 817 mg/L. In general, groundwater beneath the basin is unusable for domestic and irrigation purposes without treatment. TDS values typically exceeding 2,000 mg/L are reported from a limited number of test wells drilled in the western part of the basin. Groundwater in areas of the basin has higher-than-recommended levels of fluoride and boron.

### 3.5 WETLANDS/RIPARIAN ZONES

Due to the hydrologic regime of the Project Site and surrounding area, there are no wetlands characteristics present on the Project Site. The nearest riparian zone to the Project Site is Pinto Wash, located approximately 540 feet to the southeast (Figure 3). The predominant vegetation type in Pinto Wash is the *Larrea tridentata* Alliance, which is dominated by creosote bush, Panamint cryptantha, and common Mediterranean grass. The Smoketree Alliance occupies a smaller portion of Pinto Wash, and is dominated by smoketree (*Psoralea argophylla*), cryptantha (*Cryptantha* sp.), common Mediterranean grass, and sand verbena (*Abronia villosa* var. *villosa*). Pinto Wash is potentially a federal and state jurisdictional water, and the Project Site was specifically designed and situated to avoid impacts to this area. A jurisdictional delineation report prepared by LSA (LSA, *Preliminary Jurisdictional Delineation Report of U.S. Army Corp of Engineers, Regional Water Quality Control Board, and California Department of Fish and Game Jurisdiction*, July 2010).

### 3.6 CULTURAL RESOURCES

The information provided in this section draws extensively on the *Final Class III Inventory Report Ocotillo Sol Project* (October 2010) prepared by Dr. Fredrick Lange, Brooks Smith, and Roderic McLean with LSA. The following data reflect the results and recommendations as they pertain specifically to the Project Site.

Of the 67 cultural resources identified in the Study Area, 10 of these occur within the Project Site. These include nine prehistoric isolates and one prehistoric archaeological lithic artifact scatter (Table 3-2). Based on the results of the survey combined with a geomorphic and regional analysis of archaeological resources within the area, LSA, BLM, and SDG&E concur that these 9 archaeological isolates and one archaeological site (LSA-SGE0905-S-09) are not recommended as eligible for the NRHP.

**Table 3-2  
Cultural Resources within the Project Site**

Resource Name	Description	Date Recorded	Landform	Potential for Buried Resources
LSA-SGE0905-Iso-23	Isolate: 1 secondary quartzite flake	4/7/2010	Lake bottom with small to medium-sized stabilized dunes	Low
LSA-SGE0905-Iso-24	Isolate: 1 chert point fragment	4/7/2010	Lake bottom with small to medium-sized stabilized dunes	Low
LSA-SGE0905-Iso-25	Isolate: 1 secondary volcanic ash flake	4/7/2010	Lake bottom with small to medium-sized stabilized dunes	Low
LSA-SGE0905-Iso-26	Isolate: 2 secondary andesite flakes	4/7/2010	Lake bottom disturbed by modern activities	Low
LSA-SGE0905-Iso-30	Isolate: 1 secondary andesite flake	4/7/2010	Lake bottom disturbed by modern activities	Low
LSA-SGE0905-Iso-31	Isolate: 1 secondary andesite flake	4/7/2010	Lake bottom with small to medium-sized stabilized dunes	Low
LSA-SGE0905-Iso-33	Isolate: 1 ceramic sherd, 1 secondary andesite flake	4/8/2010	Lake bottom with small to medium-sized stabilized dunes	Low
LSA-SGE0905-Iso-41	Isolate: 1 primary andesite porphyry flake	5/4/2010	Lake bottom with small to medium-sized stabilized dunes	Low; appears to be surface scatter
LSA-SGE0905-Iso-42	Isolate: 1 ceramic sherd	9/29/2010	Lake bottom with small to medium-sized stabilized dunes	Low
LSA-SGE0905-S-09	4 flakes. Single-Use Location (per Rockman 2008)	4/9/2010	Lake bottom with small to medium-sized stabilized dunes	Low; appears to be surface scatter

cm=centimeter

Additionally, LSA and SDG&E made a joint visit to the Project Site, which focused on a careful on-ground review of the cultural resources in and adjacent to the Project Site. During this site visit, the archaeological site and isolates were reviewed and concurrence was reached regarding the existing eligibility recommendations.

### 3.7 PALEONTOLOGY

Sediments from Ancient Lake Cahuilla can produce fossil invertebrates such as clams and snails, and also vertebrates such as fish, birds, reptiles, and occasionally mammals. No extinct taxa have been reported from these sediments. However, the remains do provide important information to scientists about the conditions that existed when the area was a lake and provided habitat for animals that, although extant elsewhere, no longer exist in the area. The State of California and the BLM regard Lake Cahuilla sediments to have sensitivity for paleontological resources.

According to the locality search letter from the San Diego Natural History Museum (SDNHM), dated July 9, 2009, the Project Site is mapped within sediments of Holocene to Pleistocene (Quaternary) lake deposits. The SDNHM does not have any records of paleontological resources within one mile of the Project Site; however, the SDNHM has records of six localities within 1.25 to 4 miles south of the Project Site within Holocene (less than 10,000 years old) Ancient Lake Cahuilla lakebed deposits that are similar to the sediments present within the Project Site. At these localities, fossils of freshwater snails and clams were collected during paleontological monitoring for the Sempra-Intergen Project. Based on the fossil records from similar sediments in Imperial County, the SDNHM believes that Quaternary lake deposits have a moderate paleontological sensitivity (Deméré and Walsh 1993). Any fossils recovered from these sediments would be significant to the scientific community. Given that Lake Cahuilla sediments can be of either Holocene or late Pleistocene age, this moderate rating would be considered “high” by the guidelines of the Society of Vertebrate Paleontology (SVP, 1995). In the Potential Fossil Yield Classification System, the sensitivity of Lake Cahuilla sediments would be rated 4a, “high” (BLM, 2007).

### 3.8 RECREATION

The project area is located within the Yuha Area of Critical Environmental Concern (ACEC) which is a limited use area. The BLM is currently working with the State of California Department of Parks and Recreation to provide a variety of motorized-vehicle use opportunities and facilities through the State OHV Grant Fund. The primary thrust of this program is to make areas suitable for motorized-vehicle recreation available to the public. Use of the State OHV funds in the CDCA would be consistent with the objectives of the Motorized Vehicle Access Element of the multiple-use guidelines of the Plan. The Motorized Vehicle Access Element provides a system and set of rules governing access to the CDCA.

Furthermore, the California Desert Conservation Area Plan Amendment for the Western Colorado Off-Highway Vehicle Routes of Travel Designation Plan (October 2002) states the following:

*Routes in the Yuha Basin ACEC will be designated as limited: only street legal vehicles will be allowed on the routes in the Yuha Basin ACEC, except for the routes that are identified as part of the Back Country Discovery Route (Route 346) or De Anza National Historic Trail (Routes 274 and 308) which will be designated as open. Camping will only be allowed in designated camping areas. Camping next to roads, in areas that are not designated as camping areas will not be allowed. The Yuha Basin ACEC has received heavy impact, in the past, due to off route travel and Off-Highway Vehicle (OHV) play. The Yuha Basin ACEC is for on-route touring and limited camping; off route play is not allowed. BLM will increase law enforcement in this ACEC, using a zero tolerance policy for off route travel. BLM will also prioritize signing open routes, signing camping areas, developing an education program, and rehabilitating the current damage due to off route travel. These proposals are intended to reduce the current impacts within the Yuha Basin ACEC from off route travel to the Flat-tailed horned lizard, its habitat and to cultural resources.*

The Project Site is not located within areas proposed for recreational uses.

### 3.9 NOISE

The closest noise-sensitive receiver to the Project Site, at a distance of approximately 6,000 feet (1,800 meters), appears to be a residence situated at the northwest corner of the intersection of Liebert and Mandrapa roads. Daytime and nighttime ambient noise measurements collected near this location during a previous URS-conducted noise study (URS, 2008) ranged from 58 to 60 dBA  $L_{eq}$  (A-weighted decibel, equalized sound level). A number of sound sources contributed to the sound levels recorded, including turbulent water flow from the nearby Western Main channel, dog barks, bird calls, wind-induced foliage movement, aircraft overflights, wind, and occasional passage of trucks.

### 3.10 AIR QUALITY

The Project Site is located in the Salton Sea Air Basin within the Imperial County Air Pollution Control District (APCD). The Imperial County APCD currently is in non-attainment for both state and federal 24-hour and annual average particulate matter ( $PM_{10}$ ) standards and moderate non-attainment for 1997 8-hour ozone standards.

Air quality is generally fair to good within the Project Site. Light to moderate winds sweep the valleys, resulting in clear views of the mountains across the valley; however, high winds produce dust that may obscure views and contribute to  $PM_{10}$  levels. Winter inversions hold smoke in the valleys, further degrading air quality.

A conformity determination is required for each pollutant where the total of direct and indirect emissions in a non-attainment or maintenance area caused by the Federal action would equal or exceed any of the rates as specified in the regulations.

### 3.11 VISUAL RESOURCES

The Project Site is located on undeveloped desert landscape within the Yuha Desert. Portions of the surrounding viewshed have been extensively modified by existing transmission lines and the Imperial Valley Substation. However, less developed, open desert views may be experienced from the site. The BLM contracted the consulting firm, Otak, Inc. (Otak) to conduct a multi-state visual resource inventory (VRI). Otak conducted an in-depth statewide VRI in September of 2010. The Visual Resources Management (VRM) classification for the Yuha Desert is rated as a Class III. The objective of this class is to partially retain the existing character of the landscape. The level of change to the landscape can be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the natural landscape—form, line, color, and texture.

## SECTION 4 ENVIRONMENTAL IMPACTS AND MITIGATION

### 4.1 ELEMENTS OF THE ENVIRONMENT

Elements of the environment have been reviewed to determine if they would be affected by either of the alternatives. “Critical” elements are subject to requirements specified in statute, regulation, or by executive order and have been considered in the development of this EA.

The “critical” elements are: Air Quality, ACEC, Cultural Resources, Paleontology, Farmlands - Prime/Unique, Floodplains, Native American Religious Concern, Threatened or Endangered Species of Plants and Wildlife, Invasive Species, Wastes - Hazardous or Solid, Water Quality (Surface or Ground), Wetlands/Riparian Zones, Wild and Scenic Rivers, Wilderness, Environmental Justice, and Noise.

The analyses of impacts associated with elements of the environment, including the critical elements, are addressed under three categories:

- resources that are not present in the Project area and not affected by one of the alternatives,
- resources that are present in the Project area but would not be affected by one of the alternatives, and
- resources that are present and that may be affected by one of the alternatives (Resources with the Potential for Impacts).

#### *Uses or Resources That Would Not Be Affected by the Proposed Action*

Farmlands - Prime/Unique. The Proposed Action would not take place in designated or proposed Prime or Unique Farmlands. This element is not considered further in this document. This Proposed Action would have no impact on Prime or Unique Farmlands.

Wild and Scenic Rivers. There are no waterways designated under the Federal Wild and Scenic Rivers Act of 1968 in or near the Proposed Action. This element is not be considered further in this document. The Proposed Action would have no impact on Wild and Scenic Rivers.

Wilderness. The Proposed Action is not in or near a designated Wilderness Area or Wilderness Study Area. This element is not be considered further in this document. The Proposed Action would have no impact on Wilderness areas.

Wetlands/Riparian Zones. The Project Site is not located in wetland or riparian areas. Therefore, this element is not be considered further in this document. The Proposed Action would not impact wetland or riparian zones.

Floodplains. The ephemeral washes in the Project Site represent the greatest hazard areas for flooding, based on topography and FEMA estimates. However, there are no proposed boring locations in identified floodplain areas. Therefore, this element is not considered further in this document. Due to the limited nature of the geotechnical investigation, the Proposed Action would not impact floodplains in the Project site.

Wastes - Hazardous or Solid. The Project Site is located on undeveloped public land in Imperial County. There would be no hazardous or solid waste generated by the Proposed Action. The machinery would be operated using fuels and oils; however, fuels and oils would not be added to the machinery on the Project Site. Rather, any fueling or maintenance of vehicles and machinery would be done off-site. No spills or leaks of hazardous materials or fuels are expected. No hazardous or solid wastes would be stored on the Project Site, therefore, this element is not considered further in this document. The Proposed Action would not introduce hazardous wastes to the Project Site.

Environmental Justice. There are no residences in or near the Project Site. Therefore, the Proposed Action would not detrimentally affect minority or low-income populations. This element is not considered further in this document.

### ***Uses or Resources That Are Present in the Project Area But Would Not Be Affected by the Proposed Action***

#### Water Quality (Surface or Ground)

10 gallons of water per boring and two gallons of water per electrical resistivity site would be used during the drilling operations. This water would be discharged to the ground surface where it would rapidly evaporate. No water is expected to reach surface water streams or groundwater. Additionally, in accordance with standard operating procedures and protocols, SDG&E would implement construction Best Management Practices (BMPs) in order to avoid and minimize potential impacts to water quality. With implementation of SDG&E's standard operating procedures and protocols and implementation of BMPs, the Proposed Action would have negligible effects to surface water or ground water quality.

#### Geology

Borings would be backfilled immediately upon completion. The holes would be backfilled with the native soil removed from the hole during the augering process, which has been stored on plastic to prevent cross-contamination, and bentonite layers to minimize water movement through the backfill. Impacts of the Proposed Action would have negligible effects to geologic resources.

#### Visual Resources

The Proposed Action would be temporary and completed within a few days. Two four-wheel drive vehicles and one drilling rig would be visible for a short period of time. Nothing would physically remain on the Project Site after the Proposed Action is completed. The degree of change expected would be negligible and therefore be consistent with the designated VRM Class III.

The Proposed Action would have no effect on visual resources.

#### Recreation

The Proposed Action would be temporary and completed within a few days. Because the Proposed Action is on public land in the Yuha ACEC, OHV activities are limited to three open routes of travel, the Back Country Discovery Route and two routes associated with the Juan Bautista de Anza trail. Neither of

these open routes of travel are on the Project Site. Therefore, the Proposed Action would have a negligible effect on recreation. Uses or Resources That are Present and that May Be Affected by the Proposed Action

### *Uses or Resources That Are Present in the Project Area and May be Affected by the Proposed Action*

#### *Air Quality*

As vehicles and machinery travel across the Project Site, there would be some disturbance of soils, creating some dust or PM<sub>10</sub>. Testing activity would generate low levels of emissions associated with use of gasoline and diesel-powered equipment (trucks, vehicles and machinery.) Fugitive PM<sub>10</sub> would be controlled by the latest approved Imperial County APCD methods. The pertinent APCD guidelines, which would be followed during the Proposed Action, are summarized below.

- Mobile equipment would meet California standards.
- Dust would be controlled during all operations by travelling at no more than 5 mph and by ceasing work under high wind conditions. The Proposed Action would not produce a substantial amount of dust as there are no intensive dirt-moving activities required.

Following these guidelines, the Proposed Action would have negligible effects on air quality.

#### *Area of Critical Environmental Concern (ACEC)*

The BLM designated the Yuha Basin as an ACEC because of the dense concentrations of archaeological sites in this region and because it is the habitat of the FTHL, a BLM sensitive species. The entire Yuha Basin ACEC is designated a Class L (limited) multiple use area in the CDCA Plan, in which electric generation plants have been identified as allowable uses, and wind and solar facilities “may be allowed after NEPA requirements are met”. The Proposed Action would enable the development of a solar facility and is therefore consistent with the uses allowed within the ACEC. In addition, the Proposed Action is temporary in nature, utilizes existing access roads, and does not conflict with sensitive resources within the ACEC. Specifically, avoidance and minimization measures for cultural resources and impacts to the FTHL have been incorporated in the project description (refer to Biological Resources and Cultural Resources sections) in accordance with SDG&E standard operating procedures and protocols and the *FTHL Rangewide Management Strategy, 2003 revision*. Therefore, the Proposed Action is consistent with the provisions of the ACEC and is anticipated to have negligible environmental effects.

#### *Noise*

Noise levels from the anticipated drilling activities, considered “construction” and of a temporary nature (i.e., as opposed to the “operation” of stationary equipment installed at a site, such as heating, ventilating, and air conditioning (HVAC) for a building, or transformers for a power generation project), were estimated at the identified closest residential receiver. At approximately 6,000 feet (1,800 meters) north of the closest boring sites, the estimated engine noise level from the simultaneous operation of a drilling rig (comparable to a Diedrich D-90 all-terrain carrier (ATC) or a Foremost Explorer 1500, with a 470

horse power (HP)-rated diesel engine), support truck (280HP-rated diesel engine), and personnel-carrying pickup truck (280HP-rated diesel engine) would be no greater than 39 dBA  $L_{eq}$ . This estimated noise level is less than all of the following impact indicators and guidance thresholds:

- Imperial County nighttime residential noise limit of 45 dBA hourly Leq;
- Imperial County construction noise limit of 75 dBA hourly Leq;
- Existing ambient level range of 58-60 dBA Leq; and,
- Environmental Protection Agency and Housing and Urban Development outdoor guidance level of 55 dBA day-night sound level ( $L_{dn}$ ), which would equate to 49 dBA  $L_{eq}$  for a continuous sound source.

Because none of these noise thresholds would be exceeded, the Proposed Action would have negligible effects on noise from either daytime or nighttime drilling operation at the Project Site.

#### Biological Resources

Due to the nature of the Proposed Action, long-term adverse impacts to vegetation and wildlife within the Project Site from the Proposed Action are expected to have negligible impacts. The Proposed Action may result in short-term temporary impacts to wildlife at the seven boring locations and 10 electrical resistivity locations. All of the boring locations and electrical resistivity test locations have been located to avoid and minimize environmental impact to wildlife and vegetation at these locations.

The work areas, associated with the Proposed Action, shown on Figure 2 include space for the boring site, the drill rig, and sufficient room for equipment laydown (augers, drill rods, sampling equipment, etc.). The work area would encompass an area approximately 20 feet by 50 feet. Support vehicles would be parked along the temporary access route and would include the driller's support vehicle and the geologist vehicle. In accordance with SDG&E protocols and standard operating procedures, Geotechnical Field Work and access would be monitored by a biologist to ensure that sensitive biological resources are avoided to the maximum extent practicable (Figure 4) and by an archeologist to ensure avoidance of cultural resources.

Prior to drill rig and support vehicle access, a biological, paleontological, and archaeological monitor would survey the temporary access route wide enough for the drill rig, cone or flag to delineate access and work areas, and oversee the movement of the drilling equipment and support vehicles into the test sites. Up to three vehicles, including the drill rig would use the route flagged by the monitors. Vehicle speeds would be limited to 5 mph. Any sensitive resources would be flagged and avoided to the maximum extent practicable.

Special Status Species

The FTHL survey (NRA, *Flat-tailed Horned Lizard Survey*, December 2, 2010) found evidence of horned lizards (i.e., scat), but no individuals were observed during the focused surveys. Since the FTHL and the desert horned lizard (*Phrynosoma platyrhinos*) produce similar scat and tracks, and the Proposed Action is located within the known range of both species, the sign could belong to either of the two species, or to both. During the rare plant survey on March 31, 2010, a FTHL carcass was found within an inactive burrow (LSA, *Results of Focused Plant Survey at Ocotillo Sol Project Site in Imperial County*, June 18, 2010). There were no breeding burrowing owls detected within the Project Site in 2010; however, burrows were detected and burrowing owls were found to use the larger Survey Area during the 2009/2010 winter season (LSA, 2010). Two potential burrowing owl burrows and one occupied burrow were detected within the Project Site.

Flat-tailed Horned Lizard

The Proposed Action has a low potential for impacts to the FTHL and their habitat. Evidence of FTHL have been detected in the Project Site and may inhabit lands proposed for geological testing. Mortality due to roadkill, being flattened by a vehicle or equipment, is the most likely potential impact to horned lizards. However, the following measures in according to the *FTHL Rangewide Management Strategy 2003 Revision*, have been incorporated into the project description to minimize potential impacts to FTHL and/or its habitat. As a result the potential impact to FTHL habitat would be negligible.

- Prior to implementation of the Proposed Action, SDG&E would submit a worker education program to the BLM. An approved worker education program would be presented to field personnel prior to the Proposed Action.
- The area would be surveyed for FTHL the day of disturbance and any horned lizards that are detected would be removed from harm's way and into an adjacent area of suitable habitat. A location out of direct sun exposure is best, such as under/within the shade of a bush and near a food source (active harvester ant mound).
- A qualified biological monitor would be present in each area of active surface disturbance throughout the work day for the duration of the Proposed Action. The biological monitor shall meet the requirements set forth in Appendix 6 of the Strategy. The monitor shall ensure that the project complies with the FTHL avoidance measures and shall have the authority and responsibility to halt activities that are in violation. The monitor shall inspect the construction areas periodically for the presence of FTHLs and shall inspect the borings prior to backfilling. The monitor shall also work with the geotechnical supervisor to take steps to avoid disturbing the lizards and their habitat.
- The biological monitor is the designated field contact representative (FCR). The FCR shall be responsible for ensuring compliance with protective measures for the FTHL and other sensitive biological resources and shall act as the primary resource agency contact. The FCR shall have the authority to halt construction activities if the project is not in compliance with mitigation required by BLM

- Test areas shall be staked or otherwise marked, and all work shall be restricted to these areas. The biological monitor would conduct pre-activity surveys at all locations to be accessed prior to beginning work on each location.
- Only qualified biologists shall conduct surveys and handle FTHLs. Any worker who discovers FTHLs shall avoid disturbing the animals and shall immediately notify their construction supervisor and the biological monitor.
- The biological monitor shall keep a record of all sightings of FTHLs and fresh FTHL scat. Sightings shall be documented in the post construction report.
- The area of vegetation and soil disturbance shall be minimized to the extent possible. When possible, the equipment and vehicles would use previously disturbed areas. The top soil from the boring locations shall be stockpiled and restored following completion of the work.
- Clearing or damage to vegetation would be avoided or minimized to the extent possible. Vegetation that is disturbed would be trimmed down and left in place to regrow.
- Existing roads or tracks shall be used to the extent possible for travel. New tracks or routes will be minimized. If turn-around areas are required for vehicles, the biological and cultural monitors will assist with selecting the location.
- In wet or soft conditions, off-road work would be limited to the drilling rig, and no tracked vehicles would be used. Ruts deeper than three inches caused by vehicle tire tracks in areas outside of previously disturbed areas would be smoothed to existing grade by hand.
- All trash and materials from testing would be removed.
- No pets or dogs would be allowed on site.
- Vehicle speeds would be kept to 5 mph or below on site.

#### Burrowing Owl

The Proposed Action could result in impacts to BUOW and their habitat. BUOW have been detected in the Project Site and are known to use the areas proposed for geological testing. However, the following measures incorporated into the project description would ensure that Proposed Action would have a negligible effect on BUOW:

- Pre-construction surveys for BUOW shall be conducted no more than 30 days prior to initiation of construction activities. Surveys shall be focused exclusively on detecting BUOW, and shall be conducted from two hours before sunset to one hour after or from one hour before to two hours after sunrise. The survey area shall include the boring locations and approximate route of boring rig, and surrounding 500-foot survey buffer.

- During the BUOW nesting season (February 1 to August 31), the qualified monitor shall establish and mark a 250 foot non-disturbance buffer circle around the burrow. The buffer shall be staked and roped-off prior to initiating any activity onsite including geotechnical boring. No activity shall take place within the avoidance buffer area to ensure that disturbance to nesting birds does not occur to ensure compliance with the Migratory Bird Act. Any disturbance to nesting BUOW would require prior consultation, approval and mitigation in accordance with California Fish and Game requirements.
- Disturbing nesting BUOW that may cause changes of behavior, plugging the burrow entrance or causing the burrow to collapse could effectively destroy the nest, and as such, require a State permit.

If an active, non-breeding BUOW burrow is detected the geotechnical boring should be located at a 160-foot radius as determined by a qualified biologist, from the occupied burrow to create and mark a non-disturbance buffer around the burrow. The non-disturbance buffer would be established with flagging by the biological monitor prior to any geotechnical activities.

#### Other Special Status Bird Species

Potential impacts to special status bird species other than BUOW are anticipated to be negligible. If feasible, SDG&E would avoid construction during the nesting or breeding season. When it is not feasible to avoid construction during the nesting or breeding season, SDG&E would perform a site survey in the area where the work is to occur. This survey would be performed to determine the presence or absence of nesting birds or other species in the work area. If an active nest is identified, a biological monitor will establish and mark a 200 foot setback buffer. The biological monitor will monitor the nest to ensure that the birds are not disturbed. If the birds are federal or state-listed species, SDG&E would stop work temporarily and consult with the BLM, USFWS and CDFG as necessary to determine the construction buffer. Monitoring of the nest would continue until the birds have fledged. All nesting activity observed within the area of the Proposed Action will be documented and reported to the BLM at the end of the Proposed Action in the post-construction report.

No impacts to vegetation are expected because the Proposed Action does not include any grading or removal of plant species. Based on the negative results of the rare plant survey, no special status plant species are expected to occur on the Project Site and no impacts to special status plant species are expected with the Proposed Action.

The following measures have been incorporated into the project description to ensure that impacts on biological resources will have reduced effects.

- Worker Education Program: SDG&E would train field personnel. The training shall cover the following: 1) the potential presence of sensitive species and their habitats; 2) the requirements and boundaries of the Proposed Action (e.g., areas delineated by flags or cones); 3) the importance of complying with avoidance measures; 4) environmentally responsible construction practices; and 5) identification of sensitive resources in the field, if present.
- General entry and exit points for geotechnical activities and their work areas would be marked with traffic cones or flagging to avoid additional disturbance.

- All activities must comply with the MBTA. Active nests (i.e., nests with eggs or chicks) are protected year-round by the MBTA. Project related activities that would require disturbance, removal of an active nest, or that caused a breeding bird to leave the nest for prolonged lengths of time are not permitted.
- The drilling rig would have balloon tires. Support vehicles would have standard tires. In wet or soft conditions, off-road work would be limited to the drilling rig, and no tracked vehicles would be used.

#### Cultural Resources

Based on survey results, 10 cultural resources occur within the Proposed Action location. These include 9 prehistoric isolates and one prehistoric archaeological lithic scatter site (Table 3-2). The one prehistoric archeological site within the Proposed Action location is a low density surface scatter of artifacts with a low potential for buried components; therefore, subsurface testing of this site is not recommended. Based on the results of the survey combined with a geomorphic and regional analysis of archaeological resources within the area, LSA, BLM, and SDG&E concur that these 9 archaeological isolates and one archaeological site (LSA-SGE0905-s-09) are not recommended as eligible for the NRHP. The Proposed Action has been designed to avoid all 10 of the cultural resources located within the Proposed Action location.

Even though the overall potential for buried resources is low, monitoring of ground-disturbing activities by a qualified archaeologist and Native American monitor have been incorporated in the project description to ensure avoidance of resources. The archeological and Native American monitors shall have the authority to halt the Proposed Action immediately if a previously undiscovered cultural resource (not consisting of an isolate) is identified in the area of the Proposed Action. Should a resource be identified, the BLM archaeologist shall be notified immediately.

The following APMs have been incorporated into the Proposed Action to ensure that impacts on archeological resources would have reduced effects.

- A qualified archaeological monitor would accompany geotechnical crews and would conduct a pre-activity survey at all locations to be accessed during the Proposed Action prior to beginning work on each location.
- Where ground disturbing activities are conducted, the archaeological monitor would examine backdirt or drilling spoils for the presence of subsurface cultural resources.
- Existing roads or tracks would be used to the maximum extent possible. New tracks or routes would involve minimal disturbance. If turn-around areas are required for vehicles, the biological and cultural monitors would assist with selecting a location.

Paleontological Resources

Borings would have a negligible effect on paleontological resources. The test borings would be monitored to identify and recover any paleontological resources encountered intact, as well as their stratigraphic context. Where ground disturbing activities are conducted, a paleontological monitor would examine test borings for paleontological resources. If vertebrate or invertebrate fossils are detected they would be analyzed and prepared for curation.

**4.2 CUMULATIVE IMPACTS**

Cumulative impacts are defined in 40 CFR 1508.7 as the effects that could result from incremental impacts of an action when added to past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time. Analyses of cumulative effects consider geographic (space) limits, time (temporal) limits, and the characteristics of the resource being evaluated. The geographic area of cumulative effect varies by resource; therefore, the geographic scope for this Proposed Action will be identified by each resource with the potential for cumulative impacts.

Direct effects of the Proposed Action are temporary and only expected to last for the duration of the geotechnical activities. The time limit for the Proposed Action was determined to be an approximately three-day period during summer or fall of 2011. As such, the actions that have the potential to be cumulatively considerable would be limited to those under construction during the same time period as the Proposed Action. Each element of the environment that is present and may have cumulative effects from the Proposed Action is evaluated below for cumulative effects. Each element of the environment that is analyzed below is based on potential resources, ecosystems, and human communities that may have potential to be affected by the Proposed Action and that have the potential to combine with reasonably foreseeable future actions. This may be different depending on the geographic boundary within which each resource may be affected.

Table 4-1, below, contains a list of projects in Imperial County that could be in construction during summer or fall of 2011 and therefore could represent cumulatively considerable reasonably foreseeable future actions. This list was compiled from Chapter 5 “Cumulative Impacts” of the *Imperial Solar Energy Center South Final EIR/EA*, and is current as of April 2011. This list represents the most current list of projects in the vicinity of the Proposed Action and was determined to be suitable based on consultation with the BLM. This list was supplemented through coordination with the BLM, Imperial County, and U.S. Border Patrol. Table 4-2, below, contains a list of all projects in Imperial County and the reason they were not analyzed as reasonably foreseeable future actions with the potential for cumulative effects. Projects that are in the application stage, early stages, or are known not to be in construction during summer or fall of 2011 will not be evaluated for cumulative effects. This chapter includes analysis of cumulative effects on elements of the environment for cumulatively considerable reasonably foreseeable future projects that may occur during summer or fall of 2011.

Prime or Unique Farmland, Wild or Scenic Rivers, Recreation Areas, Wilderness Areas or Wetland/Riparian Areas, Hazardous or Solid Wastes, Floodplains, Environmental Justice, Geology, and Hydrology

Prime or Unique Farmland, Wild or Scenic Rivers, Recreation areas, Wilderness areas or Wetland/Riparian areas do not occur on the Project Site and will not be impacted by the Proposed Action. The analysis of effects of the Proposed Action on hazardous or solid wastes, floodplains, environmental justice, geologic resources, and hydrology (surface/ground) revealed that these elements would not be affected by the Proposed Action. Because the Proposed Action would have no effect on these resources, the Proposed Action cannot contribute to cumulative impacts to hazardous or solid wastes, floodplains, environmental justice, geologic resources, and hydrology (surface/ground).

Visual

The analysis of effects of the Proposed Action on visual resources indicated that this element of the environment would experience only temporary effects as a result of the Proposed Action. Additionally, the Proposed Action would take approximately three days and require minimal staff and vehicles. There would be no permanent change; therefore the Proposed Action would not contribute to cumulative effects on visual resources.

ACEC

The location of the Proposed Action is within the Yuha Basin ACEC. Therefore, the Yuha Basin ACEC would be the geographic constraint in consideration of reasonably foreseeable future actions. The analysis of effects of the Proposed Action on the Yuha Basin ACEC was limited to projects in this area that possibly would be constructed during summer or fall of 2011. Accordingly, the "S" Line Upgrade 230-kV Transmission Line Project and Sunrise Powerlink Transmission Project (CACA-047658) could be in construction during summer or fall of 2011 near the Proposed Action. The "S" Line project includes replacing existing poles along the line. In addition, construction may be associated with the Sunrise Powerlink project in the Yuha Basin ACEC during summer or fall of 2011. The two projects could result in ground disturbance from construction of new transmission line towers as well as temporary impacts from constructions, including impacts to other resource areas delineated below. The Proposed Action would result in minimal ground disturbance and last for approximately three days. The project description incorporates measures to avoid and reduce the effects from the Proposed Action to the Yuha Basin ACEC. Should the "S" Line Upgrade and Sunrise Powerlink projects be under construction during the approximate three-day Proposed Action, there could be cumulative impacts to the Yuha Basin ACEC. However, implementation of Geotechnical Field Work in accordance with the project description along with the limited duration of the Proposed Action would likely result in negligible cumulative effects to the Yuha Basin ACEC when combined with the two projects.

Noise

The nearest noise receptor is located approximately 6,000 feet from the Proposed Action. The area immediately surrounding the nearest potentially sensitive receptor in the vicinity of the Proposed Action would be the geographic constraint in consideration of reasonably foreseeable future actions. The “S” Line Upgrade 230-kV Transmission Line Project and Sunrise Powerlink Transmission Project (CACA-047658), located directly north of the Proposed Action near the existing Imperial Valley Substation, could be under construction during summer or fall of 2011. As stated above, the “S” Line project would involve replacing existing poles and lines. The Sunrise Powerlink project may be under construction in the Imperial Valley Substation area during summer or fall of 2011. Noise from the Proposed Action would be temporary and below impact indicators and guidance thresholds. If these projects were to be constructed concurrently with the Proposed Action, the cumulative effects to noise would last approximately three days. Additionally, implementation of minimization measures would limit noise effects associated with the Proposed Action. Therefore, the Proposed Action would have a negligible effect on noise when combined with the two projects.

Air

The Proposed Action includes vehicles moving across dirt roads and may result in a temporary effect to air quality from fugitive dust and exhaust emissions. Reasonably foreseeable future projects that are immediately adjacent to the Proposed Action and have the potential to be under construction during summer or fall of 2011 were considered for cumulative effects to air quality. This geographic scope was determined based on the limited area in which the Proposed Action could cause effects to air quality. Impacts from the Proposed Action would be highly localized and would not be expected to extend past the Proposed Action site. The “S” Line Upgrade 230-kV Transmission Line Project and the Sunrise Powerlink Transmission Project (CACA-047658) may be in construction immediately adjacent to the Proposed Action. The “S” Line Upgrade project could potentially result in minimal air emissions from the movement of vehicles. If the Sunrise Powerlink project were under construction near the Imperial Valley Substation at the same time as the Proposed Action, impacts to air quality could occur. The field work associated with the Proposed Action is anticipated to only last for approximately three days and require minimal staff and vehicles. Dust would be controlled during all operations by ensuring that vehicles travel at no more than 5 mph and by ceasing work during high wind conditions. The Proposed Action would not produce a substantial amount of dust as no intensive soil-moving activities would be required. The two projects combined with the Proposed Action could cause effects to air quality if all three were to be under construction concurrently. However, the Proposed Action would be temporary and minimization measures incorporated in the project description would limit effects to air quality. Therefore, cumulative impacts to air quality would be negligible.

Special Status Species

The Proposed Action site is located within the Yuha Desert Management Area for the FTHL and an area with potential for BUOW and other special status species. The geographic scope for cumulatively considerable reasonably foreseeable future actions that have the potential to affect FTHL and other special status species is the Yuha Desert Management Area. A 2-mile radius was used as the geographic scope for cumulatively considerable reasonably foreseeable future actions that have the potential to affect BUOW. According to Rosenberg, D.K. and K.L. Haley, *The Ecology of Burrowing Owls in the*

*Agroecosystem of the Imperial Valley, California*, the estimated home range of a BUOW is 358 hectares (approximately 1.4 square miles). This geographic constraint was determined in order to expand the area in which cumulatively considerable foreseeable future actions may occur to incorporate the agricultural fields east of the Proposed Action where BUOW could potentially be located, which is outside of the Yuha Desert Management Area. Therefore, reasonably foreseeable future projects within the Yuha Desert Management Area for the FTHL and within a 2-mile radius of the Proposed Action were considered for cumulative effects to FTHL, BUOW, and other special status species. The analysis of effects of the Proposed Action on biological resources was limited to projects located in these areas that may be under construction during summer or fall of 2011. Two projects have the potential to contribute to cumulative effects when combined with the Proposed Action. The “S” Line Upgrade 230-kV Transmission Line Project and the Sunrise Powerlink Transmission Project (CACA-047658) could possibly be under construction concurrently with the Proposed Action. The Proposed Action would result in minimal ground disturbance and would last for only three days. Therefore, no permanent effects are anticipated from the Proposed Action. According to Chapter 5 “Cumulative Impacts” of the *Imperial Solar Energy Center South Final EIR/EA*, the “S” Line Upgrade and Sunrise Powerlink projects have mitigation measures in place that will result in avoidance and reduction of the effects to biological resources. Similarly, measures to avoid and reduce the potential effects from the Proposed Action have been incorporated in the project description and result in negligible impacts to biological resources. Therefore, the effects to biological resources from the Proposed Action combined with the two projects would be negligible.

#### Cultural and Paleontological

With regard to establishing the proper geographic scope for cultural and paleontological resources, guidance provided by the USEPA states that “For non-ecological resources, other geographic areas, such as historic districts (for cultural resources) or metropolitan areas (for economics), should be used” (*Consideration of Cumulative Impacts in EPA Review of NEPA Documents*, EPA 315-R-99-002, May 1999). The geographic scope for the analysis of cumulative impacts related to cultural and paleontological resources is the southwestern section of the high-water mark of ancient Lake Cahuilla within the Yuha Basin. More specifically, the geographic scope is defined as the area within one mile of the 40-foot contour of ancient Lake Cahuilla between the Yuha Wash and the international border with Mexico. The Proposed Action is located within this area. Reasonably foreseeable future projects within this area that may be under construction during summer or fall of 2011 were analyzed for cumulatively considerable effects to cultural and paleontological resources. The “S” Line Upgrade and Sunrise Powerlink Transmission projects could possibly be under construction within this area during summer or fall of 2011. The “S” Line project was not considered in this cumulative analysis because there are no cultural resources impacted as the project involves upgrading an existing transmission line. However, according to Chapter 5 “Cumulative Impacts” of the *Imperial Solar Energy Center South Final EIR/EA*, the Sunrise Powerlink project is anticipated to impact cultural resources. The Proposed Action would result in minimal ground disturbance and would last for three days. No permanent effects are anticipated from the Proposed Action. The Proposed Action has been designed to avoid cultural resources. Therefore, the Proposed Action would not contribute to the effects of construction occurring concurrently with the Sunrise Powerlink project because cultural and paleontological resources would be avoided.

### 4.3 RESIDUAL IMPACTS

The scale and duration of the Proposed Action has been designed to limit impacts to resources. The Proposed Action would take approximately three days to complete. The Proposed Action was designed with minimal boring locations. Additionally, measures have been incorporated into the design of the Proposed Action to ensure that impacts on resources would have negligible effects. Therefore, there would be no residual effects or adverse impacts that would remain after measures incorporated into the Proposed Action design are implemented.

**Table 4-1**  
**Cumulatively Considerable Reasonable Foreseeable Future Actions**

Project Name	Description of Project	Size/Location	Status	Reason for Inclusion
Renewable Energy Projects Within the Jurisdiction of BLM				
"S" Line Upgrade 230-kilovolt Transmission Line Project	The "S" Line route originates from the Imperial Irrigation District/San Diego Gas & Electric Imperial Valley Substation located on Bureau of Land Management lands and terminates at the El Centro Switching Station on Dogwood Road near Villa Road. The project is located in Imperial County. The Imperial Irrigation District proposed to upgrade about 18 miles of the 230 kilovolt overhead electrical transmission line by installing (+/-) 285 new double-circuit steel poles (including all existing polymer horizontal insulators) to replace the existing wood poles supporting a single 230-kilovolt circuit. The execution plan is to complete the pole replacement and upgrades in three phases. The "S" Line would be upgraded at distinct locations with an assigned order of importance on the basis of system outages, structural reliability, risk, construction feasibility, and costs.	Eighteen miles of various composed segments. Interstate 8, Highway 86, 10 miles southwest of the city of El Centro, near Liebert and Wixom Roads, to the north, and terminating at the El Centro Switching Station on Dogwood Road near Villa Road.	End of review December 17, 2009; Mitigated Negative Declaration filed with mitigation measures. Right-of-way amended/renewed March 2010.	Potential to be under construction
Sunrise Powerlink Transmission Project (CACA-047658)	This would consist of a transmission line from Imperial County to coastal San Diego County. For the first 36 miles of the Selected Alternative, the 500-kilovolt transmission line will be built on Bureau of Land Management lands adjacent to the existing Southwest Powerlink 500-kilovolt line. The Selected Alternative crosses approximately 49 miles of Bureau of Land Management land, approximately 19 miles of Forest Service land, approximately two miles of Department of Defense land, and approximately 0.4 mile of State land. The remainder of the line would cross lands in various ownerships, including private and local agencies.	Imperial Valley to Penasquitos. Located in the Yuha Basin Area of Critical Habitat in the southwestern portion of Imperial County, 8 to 9 miles southwest of the town of El Centro.	Aspen Environmental is currently monitoring construction. Right-of-way authorized February 2009.	Under construction throughout the Imperial Valley and Imperial Valley Substation

Source: CSOLAR Development, LLC. 2011. *Imperial Solar Energy Center—South, Final Environmental Impact Report and Environmental Assessment*, located at <http://www.blm.gov/ca/st/en/fo/elcentro.html>.

**Table 4-2  
Projects in Imperial County**

Project Name	Reason for Exclusion
<b>Renewable Energy Projects Within the Jurisdiction of BLM</b>	
Imperial Valley Solar (Formerly called SES Solar Two Project)	Not constructing
Imperial Solar Energy Center-West (CACA-51644) CSOLAR Development, LLC	Permitting in process and not expected to be completed in time to begin construction
Imperial Solar Energy Center-South (CACA-51645) CSOLAR Development, LLC	Permitting in process and not expected to be completed in time to begin construction
North Gila to Imperial Valley #2 Transmission Line (CACA-51575)	Permitting has not yet commenced
Centinela Solar Power, LLC (CACA-052092)	Permitting in process and not expected to be completed in time to begin construction
SDG&E East County (SDG&DECO) Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects	Permitting in process and not expected to be completed in time to begin construction
Dixieland Connection to IID Transmission System	Permitting in process and not expected to be completed in time to begin construction
Mount Signal Solar Farm I-82LV 8ME, LLC (CACA-052325)	Permitting in process and not expected to be completed in time to begin construction
Superstition Solar I	Permitting in process and not expected to be completed in time to begin construction
Bethel Solar X, Inc.	Permitting in process and not expected to be completed in time to begin construction
Energy Source Solar I, LLC	Permitting in process and not expected to be completed in time to begin construction
Energy Source Solar II, LLC	Permitting in process and not expected to be completed in time to begin construction
Salton Sea Solar Farm I	County of Imperial just received and not expected to be completed in time to begin construction
Salton Sea Solar Farm II	County of Imperial just received and not expected to be completed in time to begin construction
Calipat Solar Farm I	County of Imperial just received and not expected to be completed in time to begin construction
Calipat Solar Farm II	County of Imperial just received and not expected to be completed in time to begin construction
Midway Solar Farm I	County of Imperial just received and not expected to be completed in time to begin construction
Midway Solar Farm II	County of Imperial just received and not expected to be completed in time to begin construction

**Table 4-2  
Projects in Imperial County  
(Continued)**

Project Name	Reason for Exclusion
IV Solar Company	Permitting in process and not expected to be completed in time to begin construction
Chocolate Mountain	Permitting in process and not expected to be completed in time to begin construction
Ocotillo Express	Permitting in process and not expected to be completed in time to begin construction
Hudson Ranch II	Permitting in process and not expected to be completed in time to begin construction
Ram/Power/Overlay	Permitting in process and not expected to be completed in time to begin construction
Orni 19	Permitting in process and not expected to be completed in time to begin construction
Orni 21 (Wister)	County of Imperial reviewing and not expected to be completed in time to begin construction
Black Rock Unit # 1 2 3	Permitting in process and not expected to be completed in time to begin construction
<b>Renewable Energy Projects on State and Private Lands (Source: Imperial Valley Solar Project FEIS)</b>	
LADWP and OptiSolar Power Plant	Permitting in process and not expected to be completed in time to begin construction
Orni 18, LLC Geothermal Power Plant	Permitting in process and not expected to be completed in time to begin construction
<b>Future Foreseeable Projects in Imperial Valley (Source: Imperial Valley Solar Project FEIS)</b>	
Las Aldeas Specific Plan	Permitting in process and not expected to be completed in time to begin construction
Linda Vista	Permitting in process and not expected to be completed in time to begin construction
Desert Village #6	Does not appear to be in construction and outside of area of environmental effect (approximately 10 miles)
Commons	Constructing but outside of area of environmental effect (approximately 11 miles)
Imperial Valley Mall	Construction completed
Miller Burson	Permitting in process and not expected to be completed in time to begin construction
Courtyard Villas	Permitting in process and not expected to be completed in time to begin construction

**Table 4-2  
Projects in Imperial County  
(Continued)**

Project Name	Reason for Exclusion
Willow Bend (East) & Willow Bend (West)	On hold and not expected to be completed in time to begin construction
Lotus Ranch	On hold and not expected to be completed in time to begin construction
Mosaic	Permitting in process and not expected to be completed in time to begin construction
Hallwood/Calexico Place 111 & Casino	Constructing but outside of area of environmental effect (approximately 12 miles)
Calexico Mega Park	Constructing but outside of area of environmental effect (approximately 13 miles)
County Center II Expansion	Permitting in process and not expected to be completed in time to begin construction
Desert Springs Resort	Permitting in process and not expected to be completed in time to begin construction
Coyote Wells (Wind Zero)	Constructing but outside of area of environmental effect (approximately 14 miles)
Granite Carroll Sand and Gravel Mine	Constructing but outside of area of environmental effect (approximately 20.5 miles)
Atlas Storage Facility	Constructing but outside of area of environmental effect (approximately 17 miles)
Mixed-Use Development	Does not appear to be in construction and outside of area of environmental effect (approximately 9.5 miles)
Mixed-Use Development	Constructing but outside of area of environmental effect (approximately 13 miles)
Pedestrian Fence 225 and Pedestrian Fence 70	Construction completed
Seeley Wastewater Treatment Plant Upgrade	On hold and not expected to be completed in time to begin construction
Cahuilla Gold Project	Constructing, but outside of area of environmental effect (approximately 50 miles)

Source: CSOLAR Development, LLC. 2011. Imperial Solar Energy Center—South, Final Environmental Impact Report and Environmental Assessment, located at <http://www.blm.gov/ca/st/en/fo/elcentro.html>.

## SECTION 5 CONSULTATION AND COORDINATION

### 5.1 CONSULTATION

August 25, 2010 SDG&E met with the BLM El Centro Field Office to discuss the Initial Plan of Development for the Ocotillo Sol Project. At this meeting, the BLM indicated the need for an EA for the Proposed Action. In addition, SDG&E and URS consulted with the BLM to determine the scope of cumulative impacts for the Proposed Action. SDG&E and URS consulted with the BLM and U.S. Border Patrol on other projects in the area of the Proposed Action which may cause past, present, or reasonably foreseeable future cumulative impacts as associated with the Proposed Action. These projects were concluded as not being a factor for cumulative impacts and described in Table 4-2.

### 5.2 LIST OF PREPARERS AND REVIEWERS

#### 5.2.1 Lead Agency - Bureau of Land Management, El Centro Field Office

- Jennifer Whyte, Realty Specialist
- Andrew Trouette, Natural Resource Specialist
- Carrie Simmons, Archeologist

#### 5.2.2 Consultant - URS

- Angela Leiba, Senior Project Manager/Senior Review
- Darin Neufeld, Assistant Project Manager
- Corinne Lytle, Senior Environmental Specialist
- Theresa Miller, Biological Resources
- Michael Hatch, Geotechnical Investigation/Geology
- Julie Mitchell, Air Quality
- Rachael Nixon, Cultural Resources
- Joe Stewart, Paleontological Resources
- Mark Storm, Noise

### 5.2.3 Applicant - SDG&E

- Edalia Olivo-Gomez, Senior Review
- Charles Neal, Senior Review
- Todd Easley, Biological Resources/Review
- Tamara Spear, Water Resources/Review
- Susan Hector, Cultural Resources/Review
- Kirstie Reynolds, Environmental Specialist

**SECTION 6 REFERENCES**

- Bureau of Land Management (BLM). 1980. *California Desert Conservation Area Plan*. Washington, D.C.; Department of the Interior.
- Bureau of Land Management (BLM). 2003. *Western Colorado Off-Highway Vehicle Routes of Travel Designation Plan*. Washington, D.C.; Department of the Interior.
- Bureau of Land Management (BLM). 2004. *Manual 8110, Cultural Resources*. Washington, D.C.; Department of the Interior.
- Bureau of Land Management (BLM). 2008. *National Environmental Policy Act Handbook*. Washington, D.C.; Department of the Interior.
- Bureau of Land Management (BLM). 2007. *Potential Fossil Yield Classification System*. Washington, D.C.; Department of the Interior.
- California Department of Fish and Game (CDFG). 2007. *Endangered wildlife of California*. Sacramento, California; Department of Fish and Game.
- Collins, C.T. 1979. The ecology and conservation of burrowing owls. Pages 6-17 in P. P. Scheaffer and S. M. Ehlers (eds.). *Proceedings of the National Audubon Society Symposium of Owls of the West, Their Ecology and Conservation*. National Audubon Society Western Education Center. Tiburon, CA. October.
- CSOLAR Development, LLC. 2011. *Imperial Solar Energy Center—South, Final Environmental Impact Report and Environmental Assessment*. Prepared for the Bureau of Land Management, El Centro Field Office.
- Deméré, T. A., and S. L. Walsh. 1993. *Paleontological Resources*, County of San Diego. Prepared for the Department of Public Works, San Diego County: 1-68.
- Dorsey, R. 2006. Stratigraphy, tectonics, and basin evolution in the Anza-Borrego Desert Region: p. 89-104 in Jefferson, G. T., and L. Lindsay (editors). *Fossil Treasures of the Anza-Borrego Desert*. Sunbelt Publications, San Diego, CA, 394 p.
- Dorsey, Rebecca J., Andrew T. Lutz, Bernard A. Housen, and Susanne U. Janecke, 2006. Stratigraphic Record of Pleistocene Faulting and Basin Evolution in the Borrego Badlands, San Jacinto Fault Zone, Southern California. pages 1377-1397 in *Geological Society of America Bulletin*.
- Flat-tailed Horned Lizard Interagency Coordinating Committee. 2003. *Flat-tailed horned lizard rangewide management strategy, 2003 revision*.

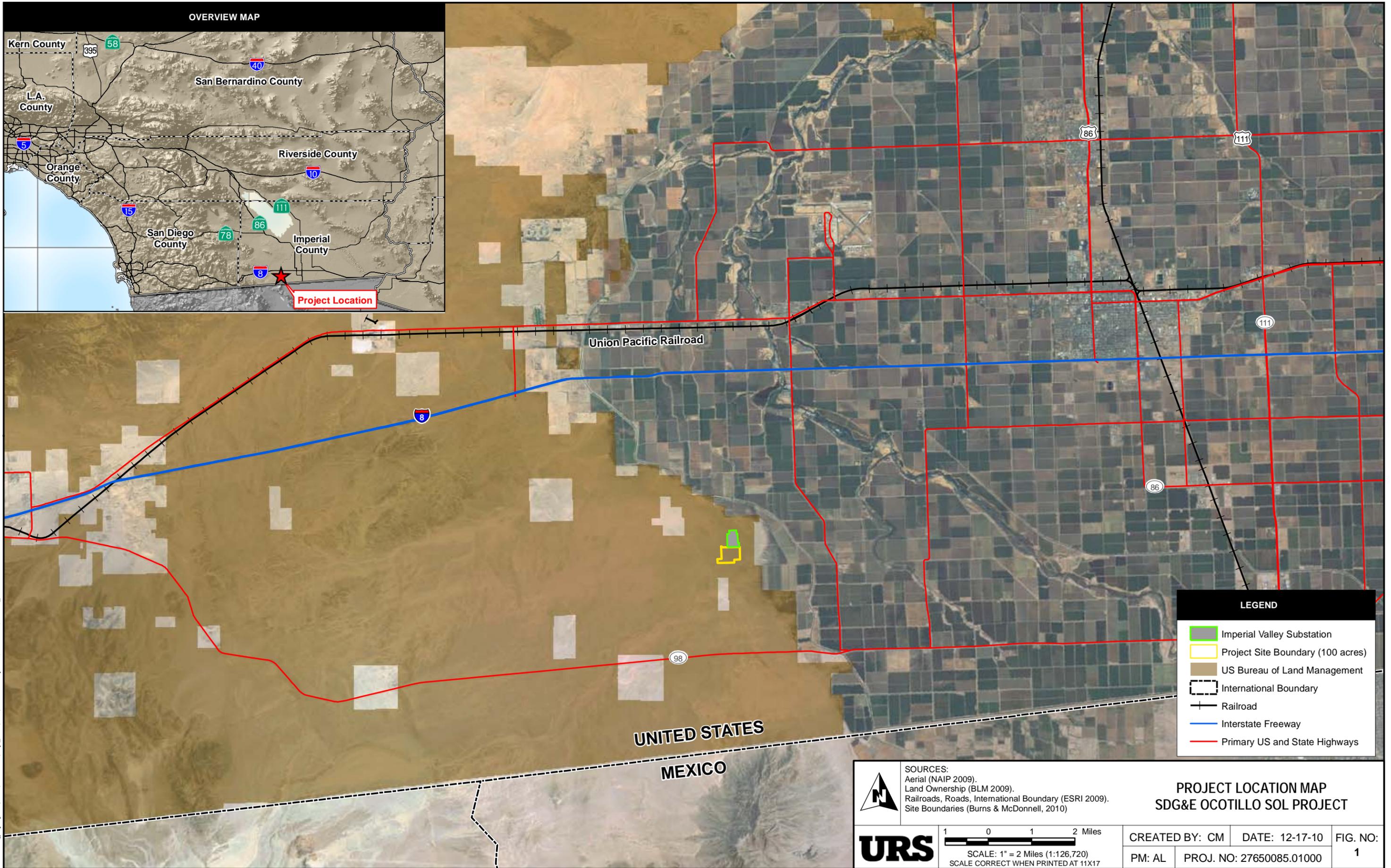
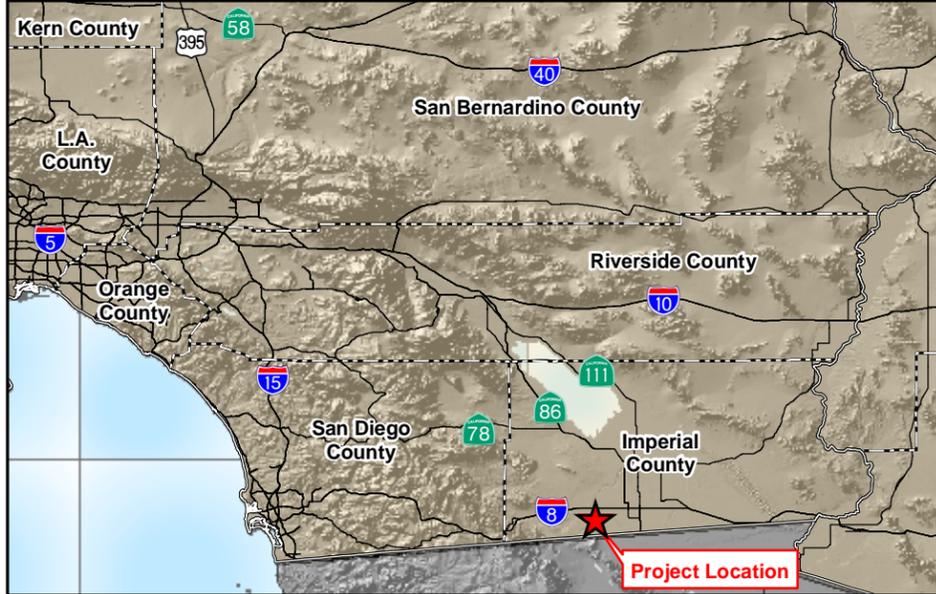
- Hendriks, Rudy. 1998. *Technical Noise Supplement*, California Department of Transportation (CalTrans), Table N-2136.2.
- Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Sacramento: The Resources Agency, California Department of Fish and Game.
- Imperial County Noise Element of the General Plan.
- Imperial County Ordinance - Title 9, Land Use Code. Section 90702.00 Sound Level Limits.
- Johnsgard, P.A. 1988. *Hawks, Eagles and Falcons of North America*. Washington D.C.: Smithsonian Institution Press.
- Li, H.C. 2003. A 20-kyr climatic and hydrological history of Salton Basin, California recorded geochemical proxies in lacustrine deposits. p. 57-60 in: Reynolds, R. E. (ed.), *Land of Lost Lakes*. California State University, Desert Studies Consortium.
- LSA Associates, *Final Class III Inventory Report Ocotillo Sol Project*, October 2010.
- LSA Associates, *Letter Report Summary of the Breeding Season Burrowing Owl Surveys, Ocotillo Sol Project, Imperial County California*, June 3, 2010.
- LSA Associates, *Paleontological Resources Assessment*, December 15, 2009.
- LSA Associates, *Preliminary Jurisdictional Delineation Report of U.S. Army Corp of Engineers, Regional Water Quality Control Board, and California Department of Fish and Game Jurisdiction*, July 2010.
- LSA Associates, *Results of Focused Plant Survey at Ocotillo Sol Project Site in Imperial County*, June 18, 2010.
- Morten, Paul K. 1966. *Geologic Map of Imperial County, California, Showing Mines and Minerals Deposits*.
- Natural Resources Assessment, Inc., *Flat-tailed Horned Lizard Survey*, Revised December 2, 2010.
- Remsen, V. 1978. *The species of special concern list: an annotated list of declining or vulnerable birds in California*. Western Field Ornithologist, Museum of Vertebrate Zoology, University of California, Berkeley.
- Rockman, Marcy. 2008. *The Importance of Places*. In *Fragile Patterns: The Archaeology of the Western Papageria*, edited by J.H. Altschul and A. Rankin, pp. 380-400. Tucson: SRI Press.

- Rosenberg, D.K. and K.L. Haley. 2004. *The Ecology of Burrowing Owls in the Agroecosystem of the Imperial Valley, California*. Studies in Avian Biology 27:120-135.
- San Diego Gas & Electric. 2010. *Ocotillo Sol Project Initial Plan of Development*. Prepared for the Bureau of Land Management, El Centro Field Office.
- San Diego Gas & Electric. Revised December 2010. *Ocotillo Sol Project Updated Plan of Development*. Prepared for the Bureau of Land Management, El Centro Field Office.
- San Diego Natural History Museum, *Paleontological Resources: Imperial Valley Photovoltaic Power Plant*, July 9, 2009.
- Society of Vertebrate Paleontology, 1995. Assessment and mitigation of adverse impacts to nonrenewable paleontological resources: standard guidelines: *Society of Vertebrate Paleontology New Bulletin*, No. 163. pp. 22-27.
- Turner, F.B. and P.A. Medica. 1982. *The distribution and abundance of the flat-tailed horned lizard (Phrynosoma mcalli)*. Copeia. 1982: 815-823.
- U.S. Environmental Protection Agency, 1971. *Noise from Construction Equipment and Operations, Building Equipment and Home Appliances*. (Prepared under contract by Bolt, et al., Bolt, Beranek & Newman, Boston, Massachusetts.) Washington, D.C.
- U.S. Environmental Protection Agency, 1999. *Consideration Of Cumulative Impacts In EPA Review of NEPA Documents*. Washington, D.C.
- U.S. Fish and Wildlife Service. 2008. Birds of Conservation Concern 2008. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. 85pp. [Online version available at <<http://www.fws.gov/migratorybirds/>>]
- United States Fish and Wildlife Service. 2006. *Endangered and Threatened Wildlife and Plants; Withdrawal of the Proposed Rule to List the Flat-tailed Horned Lizard as Threatened*. Federal Rule. June 28, 2006.
- Unitt, P. 2004. *San Diego County Bird Atlas*. Ibis Publishing Company.
- URS Corporation, *Noise Impact Study - Mt. Signal Solar*, July 11, 2008.
- Waters, M. R. 1983. *Late Holocene lacustrine chronology and archaeology of ancient Lake Cahuilla, California*. Quaternary Research 19:373-387.

- Whistler, D.P, E.B. Lander, and M.A. Roeder. 1995. A diverse record of microfossils and fossil plants, invertebrates, and small vertebrates from the Late Holocene Lake Cahuilla Beds, Riverside County, California: p. 109-118 in Remeika, P. and A. Sturz (editors), *Paleontology and geology of the Western Salton Trough Detachment, Anza-Borrego Desert State Park, California, field trip guidebook and volume for the 1995 San Diego Association of Geologists field trip to Anza-Borrego Desert State Park, vol. 1*, San Diego Association of Geologists, San Diego, CA, 189 p.
- York, M.M., D.K. Rosenberg, and K.K. Sturm. 2002. *Diet and food-niche breadth of burrowing owls (Athene Cunicularia) in the Imperial Valley, California*. Western North American Naturalist 62(3) pp. 280–287.
- Zarn, M. 1974. *Technical note: habitat management series for unique or endangered species: Report no. 1; burrowing owl (Speotyto cunicularia hypugaea)*. Bureau of Land Management, U.S. Department of the Interior. Denver Service Center, Denver Colorado. 25 pp.



OVERVIEW MAP



**LEGEND**

- Imperial Valley Substation
- Project Site Boundary (100 acres)
- US Bureau of Land Management
- International Boundary
- Railroad
- Interstate Freeway
- Primary US and State Highways

**SOURCES:**  
 Aerial (NAIP 2009).  
 Land Ownership (BLM 2009).  
 Railroads, Roads, International Boundary (ESRI 2009).  
 Site Boundaries (Burns & McDonnell, 2010)



1 0 1 2 Miles  
 SCALE: 1" = 2 Miles (1:126,720)  
 SCALE CORRECT WHEN PRINTED AT 11X17

**PROJECT LOCATION MAP  
 SDG&E OCOTILLO SOL PROJECT**

CREATED BY: CM	DATE: 12-17-10	FIG. NO:
PM: AL	PROJ. NO: 27650085.01000	1

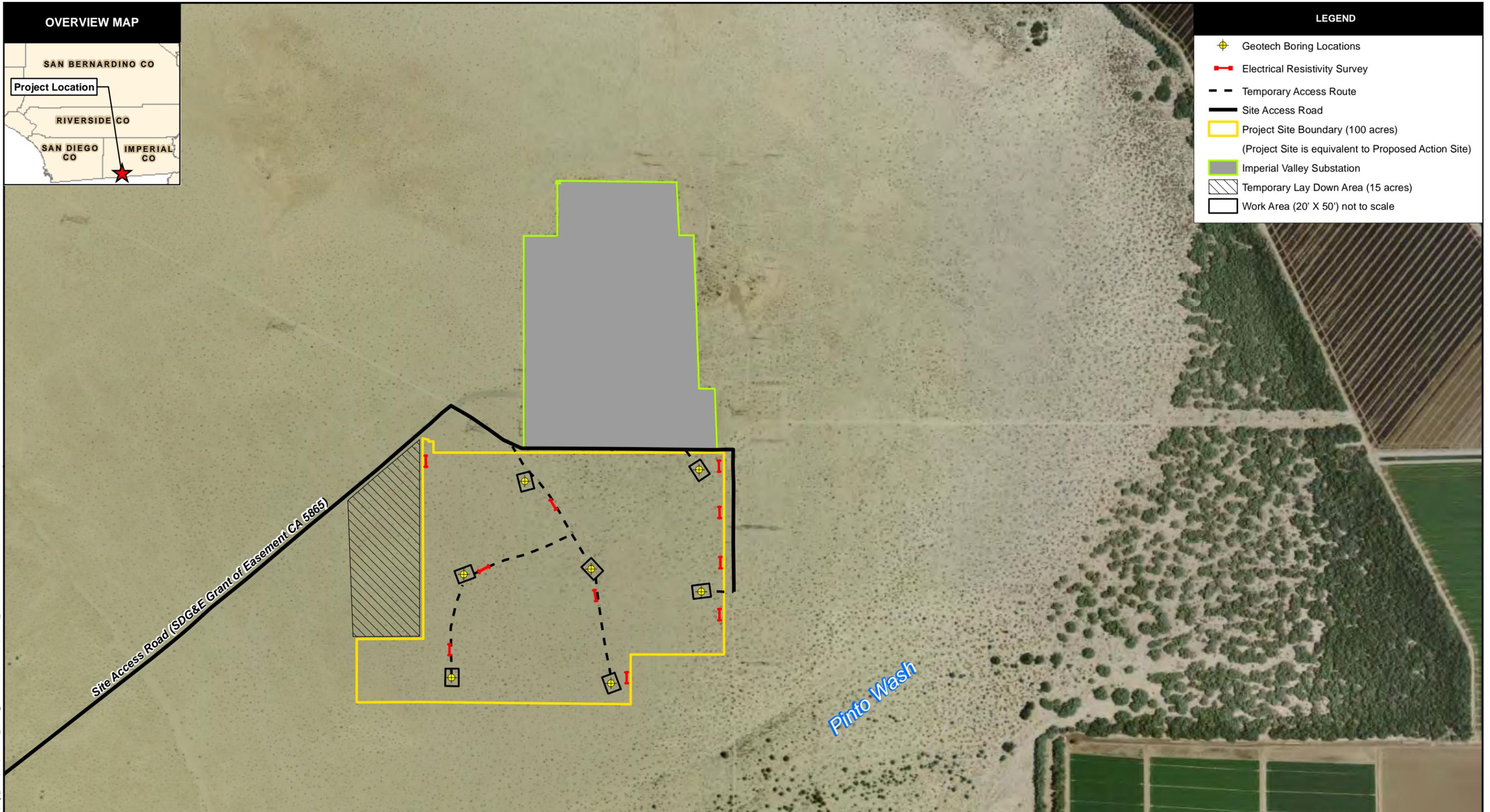
Path: G:\gis\projects\157727650085\map\_docs\mxfl\OverviewMap.mxd, 12/17/10, diana\_smith

OVERVIEW MAP



LEGEND

- Geotech Boring Locations
- Electrical Resistivity Survey
- Temporary Access Route
- Site Access Road
- Project Site Boundary (100 acres)  
(Project Site is equivalent to Proposed Action Site)
- Imperial Valley Substation
- Temporary Lay Down Area (15 acres)
- Work Area (20' X 50') not to scale



Site Access Road (SDG&E Grant of Easement CA 5865)

Pinto Wash

Path: G:\gis\projects\157727650085\map\_docs\map\Geotech\_Investigation.mxd, 12/17/10, ditana\_smith

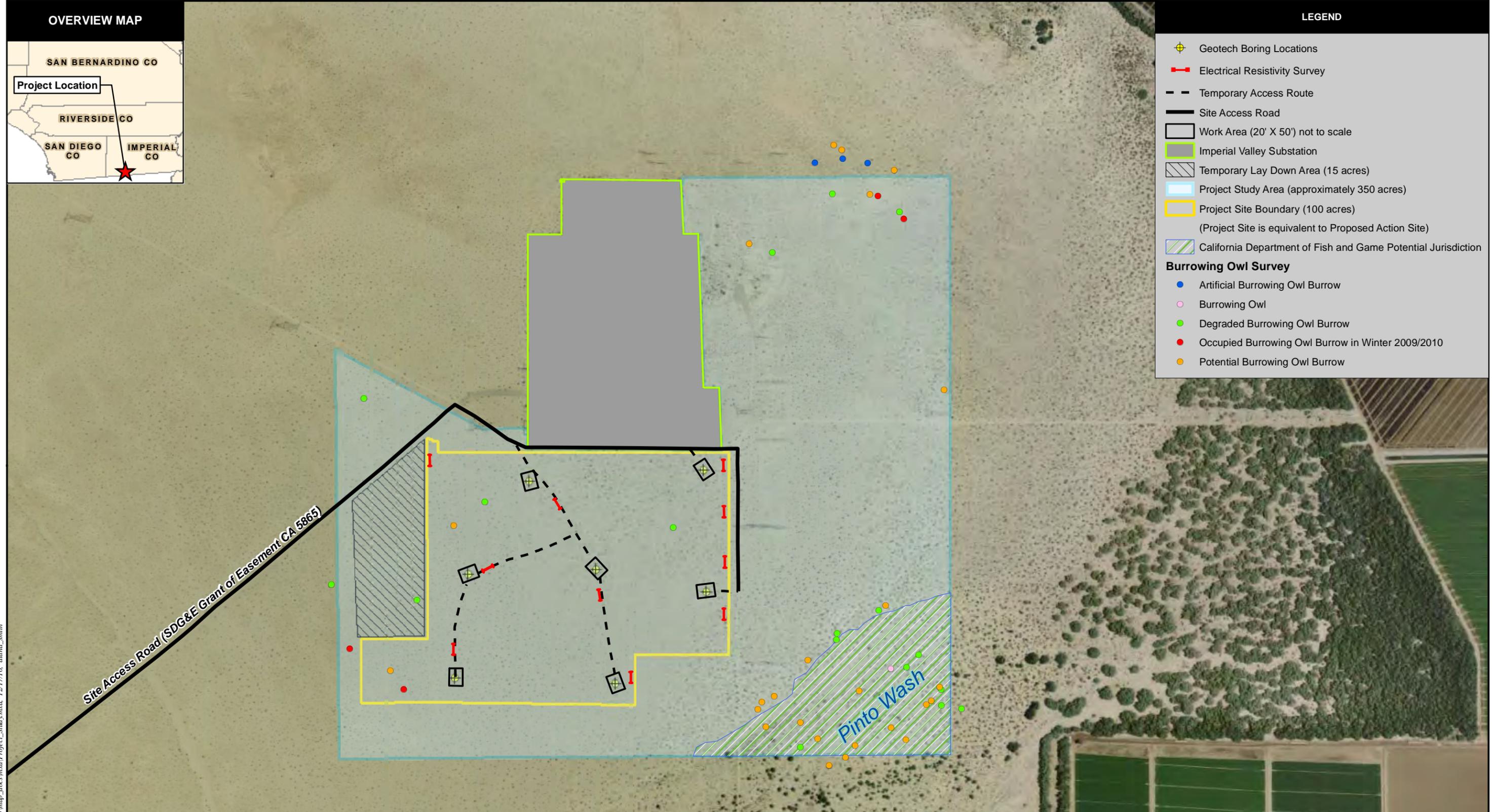
	<p>SOURCES:                  Aerial (NAIP 2009).                  POWERmap (Transmission Lines, Substations 2009).                  Site Boundaries (Burns &amp; McDonnell, 2010).                  Geotech Activities (URS 2009).                  BLM Routes (BLM 2009).</p>	<p><b>GEOTECHNICAL FIELD WORK PLAN</b>  <b>SDG&amp;E OCOTILLO SOL PROJECT</b></p>	
		<p>350 0 350 700 Feet</p> <p>SCALE: 1" = 700' (1:8,400)                  SCALE CORRECT WHEN PRINTED AT 11X17</p>	<p>CREATED BY: CM</p> <p>PM: AL</p>
			<p>FIG. NO: <b>2</b></p>

**OVERVIEW MAP**



**LEGEND**

- Geotech Boring Locations
  - Electrical Resistivity Survey
  - Temporary Access Route
  - Site Access Road
  - Work Area (20' X 50') not to scale
  - Imperial Valley Substation
  - Temporary Lay Down Area (15 acres)
  - Project Study Area (approximately 350 acres)
  - Project Site Boundary (100 acres)  
(Project Site is equivalent to Proposed Action Site)
  - California Department of Fish and Game Potential Jurisdiction
- Burrowing Owl Survey**
- Artificial Burrowing Owl Burrow
  - Burrowing Owl
  - Degraded Burrowing Owl Burrow
  - Occupied Burrowing Owl Burrow in Winter 2009/2010
  - Potential Burrowing Owl Burrow



Path: G:\gis\projects\157727650085\map\_docs\map\Project\_Study.mxd, 12/17/10, diana\_smith

	SOURCES: Aerial (NAIP 2009). POWERmap (Transmission Lines, Substations 2009). Site Boundaries (Burns & McDonnell, 2010). Biological Resources (LSA 2009, 2010). Geotech Activities (URS 2009). BLM Routes (BLM 2009).			<b>PROJECT STUDY AREA (350 ACRES) MAP</b> <b>SDG&amp;E OCOTILLO SOL PROJECT</b>		
		350 0 350 700 Feet SCALE: 1" = 700' (1:8,400) SCALE CORRECT WHEN PRINTED AT 11X17		CREATED BY: CM	DATE: 12-17-10	FIG. NO: <b>3</b>
			PM: AL	PROJ. NO: 27650085.01000		

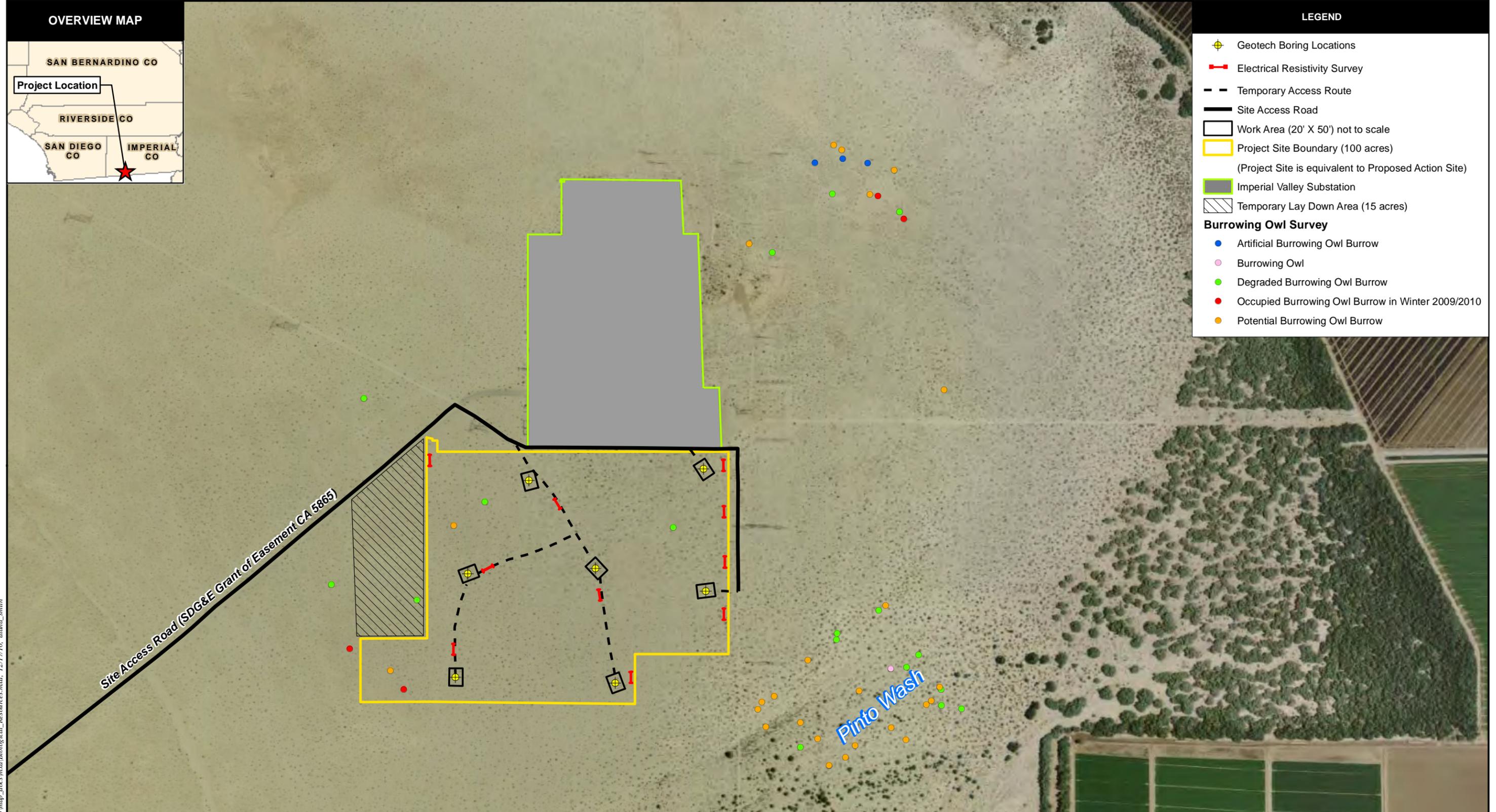
OVERVIEW MAP



LEGEND

- Geotech Boring Locations
- Electrical Resistivity Survey
- Temporary Access Route
- Site Access Road
- Work Area (20' X 50') not to scale
- Project Site Boundary (100 acres)  
(Project Site is equivalent to Proposed Action Site)
- Imperial Valley Substation
- Temporary Lay Down Area (15 acres)
- Burrowing Owl Survey**
- Artificial Burrowing Owl Burrow
- Burrowing Owl
- Degraded Burrowing Owl Burrow
- Occupied Burrowing Owl Burrow in Winter 2009/2010
- Potential Burrowing Owl Burrow

Path: G:\gis\projects\157727650085\map\_docs\mxd\Biological\_Resources.mxd, 12/17/10, diana\_smith



Site Access Road (SDG&E Grant of Easement CA 5865)

Pinto Wash

	SOURCES: Aerial (NAIP 2009). POWERmap (Transmission Lines, Substations 2009). Site Boundaries (Burns & McDonnell, 2010). Biological Resources (LSA 2009, 2010). Geotech Activities (URS 2009). BLM Routes (BLM 2009).		<b>BIOLOGICAL RESOURCES MAP</b> <b>SDG&amp;E OCOTILLO SOL PROJECT</b>	
		350 0 350 700 Feet SCALE: 1" = 700' (1:8,400) SCALE CORRECT WHEN PRINTED AT 11X17	CREATED BY: CM PM: AL	DATE: 12-17-10 PROJ. NO: 27650085.01000