

# **APPENDIX L**

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## **BIOLOGICAL RESOURCES ASSESSMENT REPORT JURISDICTIONAL DELINEATION RESULTS OF BURROWING OWL SURVEYS**

**REVISED FINAL**  
**Biological Resources Assessment Report for**  
**Seville 4 Solar Project**  
Imperial County, CA



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## **1.0 INTRODUCTION**

ECORP Consulting, Inc. (ECORP) conducted a biological resources assessment for the proposed Seville 4 Solar Project (Project) located in Imperial County, California. The biological resources assessment for the Project was conducted in support of permitting under the California Environmental Quality Act (CEQA) and for the purposes of determining the baseline biological conditions and to identify any biological constraints that would affect the site plan for the Project.

The Project will be subject to county, state, and federal regulations regarding compliance with the Federal Endangered Species Act (ESA), California Endangered Species Act (CESA), Migratory Bird Treaty Act (MBTA), and California Fish and Game Code (FGC).

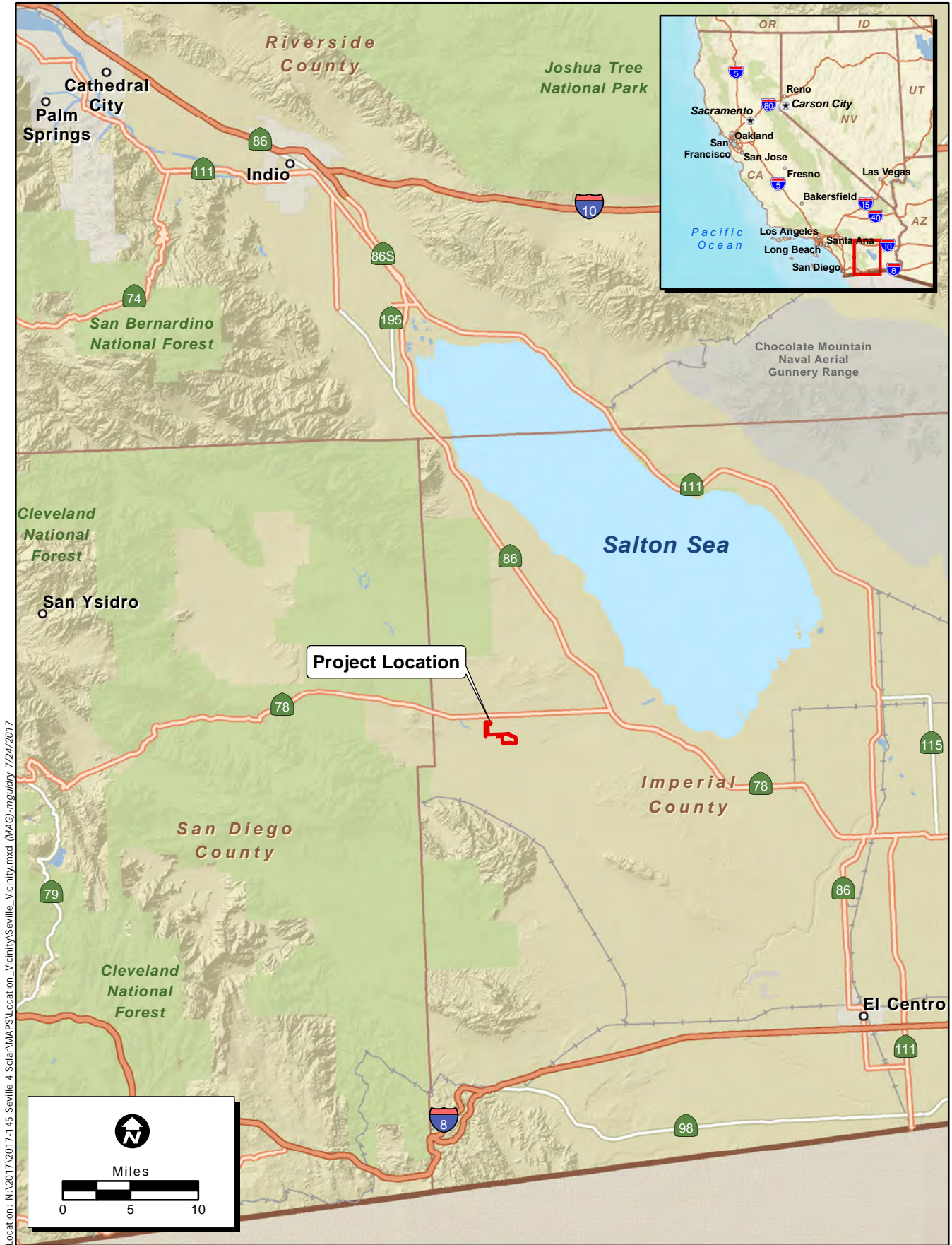
### **1.1 Location and Setting**

The Project is located approximately eight miles west of Highway 86 and immediately south of Highway 78 in Imperial County, California (Figure 1). The Project site is located within the Colorado Desert, which is a part of the larger Sonoran Desert. The Project site is bounded by idle agriculture to the west, and mostly undisturbed native habitat to the north, south, and east. Two existing solar sites are also located northwest of the Project site. Surrounding land uses consist of old agriculture, other solar developments, and open land. The Project site, as depicted on the United States Geological Survey (USGS) 7.5-minute Harpers Well and Borrego Mountain Southeast topographic quadrangles, lies within Section 25 of Township 12 South, Range 9 East (Figure 2). Elevation at the Project site is approximately 50 feet (ft) below mean sea level.

### **1.2 Project Description**

The Project proposes development of a portion of Imperial County Assessor Parcel 018-170-057-000, Lot 8 of Tract Map No. 00988. Lot 8 was created as part of the major subdivision/tract map of the 2,440-acre Allegretti Farms property for the Seville Solar Farm Complex. Lot 8 is adjacent to the southern and eastern boundaries of Lot 3 which is being developed and known as the Seville 3 Solar Project (Figure 2).

The Applicant, Titan Solar II LLC, proposes to develop approximately 156 or 174 acres (depending on the configuration chosen) of the 572.10 acres comprising Lot 8 in order to construct and operate an approximate 20-megawatt (MW) solar photovoltaic (PV) facility. The Project would require a Conditional Use Permit (CUP) in association with the proposed solar use as well as a Zoning Change and a General Plan Amendment (GPA). The Project would use the existing private access road extending south from Highway 78 to the existing Seville Solar Farm. The Project would include internal access roads and infrastructure similar to the adjacent Seville Solar Farm Complex (i.e., PV modules, inverters, internal transmission lines, security fence, etc.). The Project would connect to the existing substation via a tie-in (gen-tie line) at Lot 3 to an existing pole line that connects Seville 3 to the substation. This east-west line would align north along the west side of the north-south access road and co-locate on the same pole line that is being used for Seville 3. One or more fire water tank(s) capable of storing 20,000 gallons are also proposed on the site.



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Map Date: 7/21/2017  
 Service Layer Credits: Sources: USGS, ESRI, TANA, AND





**Figure 1. Project Vicinity**

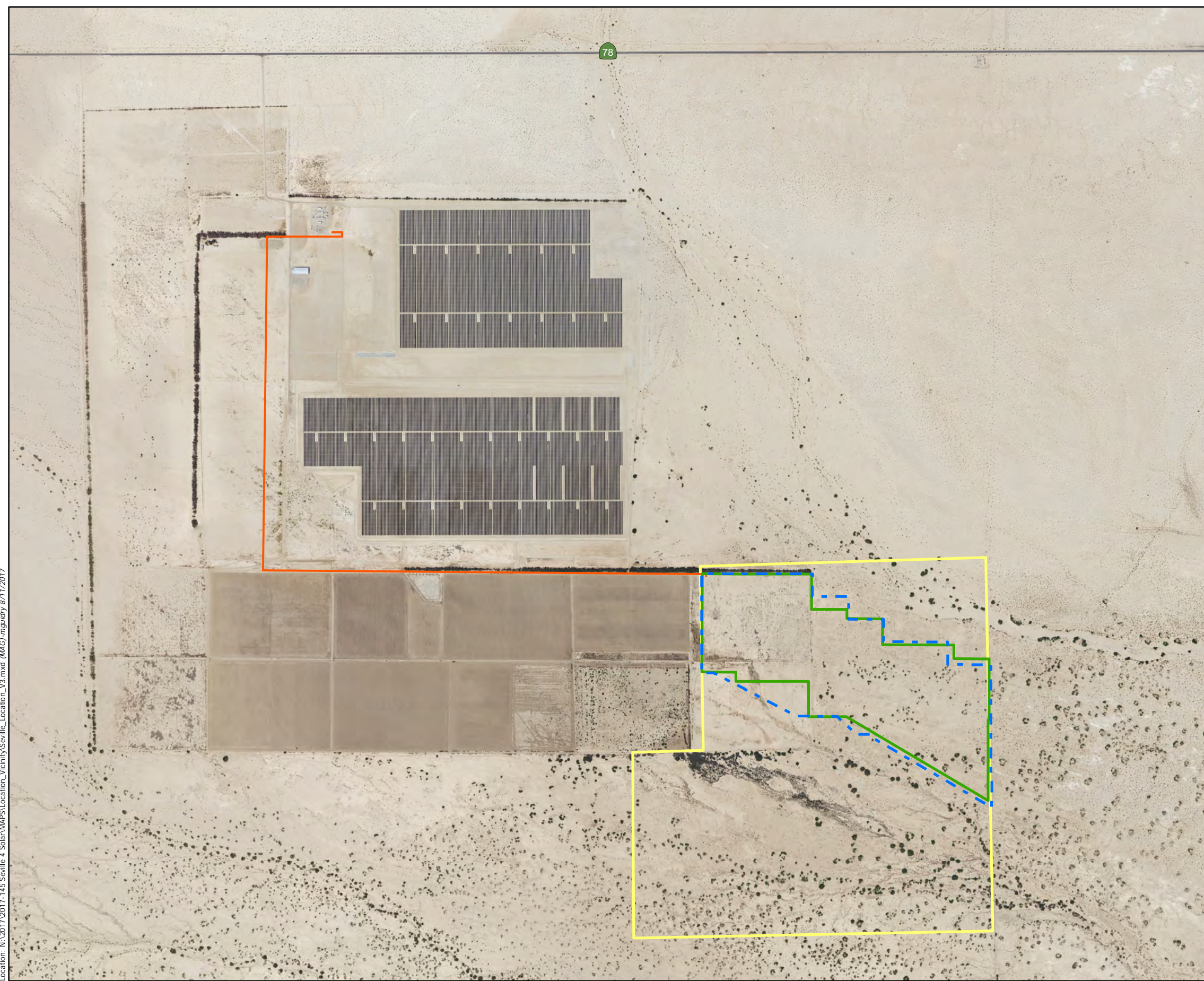
2017-145 Seville 4 Solar



**Figure 2.  
Project Location**

**Map Features**

-  Option 1 (Fixed-Frame)
-  Option 2 (HSAT)
-  Proposed Gen-tie
-  Lot 8



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The proposed Project may be developed in one of two configurations (Figure 2). Option 1 consists of fixed-frame PV module arrays comprising approximately 128 acres of PV panels and approximately 18 acres of detention basins (six basins total) totaling 146 acres. Option 2 consists of a horizontal single-axis tracker (HSAT) system comprising approximately 156 acres of PV panels and one approximately 18-acre detention basin totaling 174 acres. Both options include a 2.4-mile, five-ft wide gen-tie line. This report addresses the biological resources related to each Project option and the proposed gen-tie line.

### **1.3 Purpose**

ECORP conducted a biological resources assessment that included conducting a literature review, characterizing the vegetation communities present within each option and a 500-ft buffer, and assessing the potential for special-status species and habitats to occur, including the flat-tailed horned lizard (*Phrynosoma mcallii*). The purpose of the biological resources assessment and the literature review was to determine the baseline biological conditions on the Project and to identify the biological constraints that could affect the site plan for each Project option.

For the purposes of this report, the term "Project site" is defined as the area encompassed by the boundary of the Seville 4 Solar Project under either the fixed-frame or HSAT configurations, including the Seville 4 Substation and gen-tie line.

ECORP also conducted a formal jurisdictional delineation and identified two jurisdictional features located north and south of the Project. These jurisdictional features are discussed in detail under a separate cover (ECORP 2017).

### **1.4 Special-Status Species Regulations**

This biological resources assessment was conducted to identify potential issues and ensure compliance with state and federal regulations regarding listed, protected, and sensitive species. The regulations are detailed below:

The Federal Endangered Species Act (FESA) of 1973 (16 U.S.C. section 1531 et seq.) provides for the conservation of endangered and threatened species listed pursuant to Section 4 of FESA (16 U.S.C. section 1533) and the ecosystems upon which they depend. Two sections of this law mandate protection for species in this category: FESA § 9: *It is unlawful for anyone to "take" a listed animal. Take may be direct, e.g., harming or killing species, and indirect, e.g., by significantly modifying its habitat in such a way that it causes harm to the species* [United States Fish and Wildlife Service (USFWS) 1973]. The second part, Section 7 of FESA (16 U.S.C. section 1536) requires Federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of Critical Habitat for these species. The USFWS administers this federal program (USFWS 1973).

The California Endangered Species Act (CESA) (FGC section 2050 et seq.) requires the California Department of Fish and Wildlife (CDFW) to establish a list of endangered and threatened species (section 2070) and to prohibit the incidental taking of any such listed species except as allowed by the Act (sections 2080-2089). In addition, CESA prohibits take of candidate species (under consideration for listing). The definition of "take" includes harass, harm, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.

CESA also requires the CDFW to comply with the California Environmental Quality Act (CEQA) (Pub. Resources Code Section 21000 et seq.) when evaluating incidental take permit applications [FGC section 2081(b) and California Code of Regulations, Title 14, section 783.0 et seq.], and the potential impacts the project or activity for which the application was submitted may have on the environment. The CDFW's CEQA obligations include consultation with other public agencies which have jurisdiction over the project or activity [California Code of Regulations, Title 14, section 783.5(d)(3)], but in no event may the CDFW issue an incidental take permit if issuance would jeopardize the continued existence of the species [FGC section 2081(c); California Code Regulations, Title 14, section 783.4(b)] (CDFG 1984).

The Migratory Bird Treaty Act (MBTA) of 1918 (16 USC sections 703-712) is a federal law that implements international treaties and conventions held to protect migratory birds (USFWS 1918). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10. This includes feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The MBTA requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle (February 1 to August 31, annually) to avoid nest abandonment and/or loss of eggs or young. The loss of habitat upon which the birds depend could constitute a violation of the MBTA. In addition to the MBTA, CDFW also enforces the protection of non-game native birds. Sections 3503, and 3503.5 of the FGC mandate the protection of California non-game native birds' nests, and FGC 3800 makes it unlawful to take California-native non-game birds (CDFG 1984).

The Bald and Golden Eagle Protection Act (The Eagle Act) of 1940 and amended in 1962 was first employed for the protection of bald eagles (*Haliaeetus leucocephalus*). In 1962 the Eagle Act was amended to include golden eagles (*Aquila chrysaetos*) as well. This addition was made to help strengthen the protection of bald eagles who were often times killed by people confusing them with golden eagles. This act has made it illegal to import, export, take, sell, purchase, or barter bald or golden eagles (USFWS 1940).

The Native Plant Protection Act (NPPA) of 1977 (FGC sections 1900-1913) is a state act that was created to help "preserve, protect, and enhance rare and endangered plants in this state." The NPPA is regulated by the CDFW who has the authority to classify native plants as endangered or rare to help prevent these species from take. Endangered and rare plants species would also be provided additional protection under CESA.

## **2.0 METHODOLOGY**

The methods used for the literature review and biological resources assessment are presented below.

### **2.1 Literature Review**

Prior to conducting the biological resources assessment, environmental documents reviewed included a previous biological report written by HELIX Environmental Planning, Inc. (HELIX) in support of an EIR for the adjacent Seville Solar Farm Project (HELIX 2014). Other literature reviewed included the CDFW's *California Natural Diversity Data Base* (CNDDB; CDFW 2017a) and the California Native Plant Society's (CNPS) *Electronic Inventory* (CNPS 2017a) to determine the special-status species that have been documented in the vicinity of the Project site. The

CNDDDB and CNPS Electronic Inventory contain records of reported occurrences of federally or state-listed endangered, threatened, proposed endangered or threatened species, California Species of Special Concern (SSC), and/or other special-status species or habitat that may occur within or in the vicinity of the Project. Additional information was gathered from the following sources and includes, but is not limited to:

- *State and Federally Listed Endangered and Threatened Animals of California* (CDFW 2017b);
- *Special Animals List* (CDFW 2017c);
- *The Jepson Manual* (Hickman 1993);
- *The Manual of California Vegetation*, 2<sup>nd</sup> Edition (Sawyer et al. 2009); and
- various online websites (e.g., Calflora 2017).

Using this information and observations in the field, a list of special-status plant and animal species that have potential to occur within the Project site was generated. For the purposes of this assessment, special-status species are defined as plants or animals that:

- have been designated as either rare, threatened, or endangered by CDFW, CNPS, or USFWS, and/or are protected under either FESA or CESA;
- are candidate species being considered or proposed for listing under these same acts;
- are fully protected by the California FGC, Sections 3511, 4700, 5050, or 5515; and/or
- are of expressed concern to resource and regulatory agencies, or local jurisdictions.

Special-status species reported for the region in the literature review or for which suitable habitat occurs on the site were assessed for their potential to occur within or adjacent to the Project based on the following guidelines:

**Present:** The species was observed on site during a site visit or focused survey.

**High:** Habitat (including soils and elevation factors) for the species occurs on site and a known occurrence has been recorded within five miles of the site.

**Moderate:** Either habitat (including soils and elevation factors) for the species occurs on site and a known occurrence has been reported in the database, but is either historic (greater than 20 years old) or not within five miles of the site, or a known occurrence occurs within five miles of the site and marginal or limited amounts of habitat occurs on site.

**Low:** Limited habitat for the species occurs on site and a known occurrence has been reported in the database, but not within five miles of the site, or suitable habitat strongly associated with the species occurs on site, but no records or only historic records (greater than 20 years old) were found in the database search.

**Presumed Absent:** Focused surveys were conducted and the species was not found, or species was found in the database search but habitat (including soils and elevation factors) is not present on site, or the known geographic range of the species does not include the Project site.

(Note: Location information on some special-status species in the CNDDDB may be of questionable accuracy or may be unavailable. Therefore, for survey purposes, the environmental factors associated with a species' occurrence requirements may be considered

sufficient reason to give a species a positive potential for occurrence. In addition, just because a record of a species does not exist in the databases does not mean it does not occur. In many cases, records may not be present in the databases because an area has not been surveyed for that particular species.)

## **2.2 Biological Resources Assessment**

The biological resources assessment was conducted by walking throughout the Project site and a 500-ft buffer to determine the vegetation communities and wildlife habitats on the Project site. The biologists took photographs of the Project site during the survey to provide visual representation of the various vegetation communities or land cover types present within the Project. Vegetation communities/land cover types were classified in accordance with the Manual of California Vegetation (Sawyer et al. 2009). The biologists documented the plant and animal species present within each Project option, and analyzed the potential for each Project option to provide habitat for special-status plant and wildlife species. Data were recorded on global positioning system (GPS) units, field notebooks, and maps.

The Project was also examined to assess its potential to facilitate wildlife movement or function as a movement corridor for wildlife moving throughout the region. A wildlife corridor is defined as a linear landscape element which serves as a linkage between historically connected habitats/natural areas, and is meant to facilitate movement between these natural areas (Beier and Loe 1992).

Plant and wildlife species were identified using a variety of sources including but not limited to:

- The Jepson Manual, vascular plants of California, second edition (Hickman 1993);
- *A Field Guide to Western Reptiles and Amphibians* (Stebbins 2003);
- *The American Ornithologists' Union (AOU) Checklist of North American Birds*, 7th edition with 57th Supplement (American Ornithologists' Union [AOU] 1998, 2016); and
- *Mammal Species of the World* (Wilson and Reeder 2005).

If a special-status species was observed, the date, species, location and habitat, and GPS coordinates were recorded.

### **2.2.1 Flat-Tailed Horned Lizard Habitat Assessment**

The Project site was also evaluated for the presence of flat-tailed horned lizard habitat in accordance with the Flat-tailed Horned Lizard Interagency Coordinating Committee's (ICC) Flat-tailed Horned Lizard Rangeland Management Strategy (ICC 2003). The habitat assessment was conducted by biologists approved by CDFW to survey for and monitor flat-tailed horned lizards. Any potential habitat, including stabilized sand dunes, creosote bush scrub, or creosote-white bursage scrub within Sonoran Desert scrub communities were recorded and mapped. In areas where suitable habitat was present, the biologists walked transects spaced approximately 30 feet apart and intently surveyed for signs of flat-tailed horned lizard, including scat, tracks, or live individuals out in the open or burrowing in the sand. Special attention was paid to native, undisturbed areas where harvester ants (*Messor* and *Pogonomyrmex* spp.) were active. These ants comprise 90 percent of the diet of flat-tailed horned lizards and are often an indicator that flat-tailed horned lizards may be present (NatureServe 2017).



## 3.0 RESULTS

Summarized below are the results of the literature review and field survey, including site characteristics, vegetation communities, wildlife, special-status species, special-status habitats, and any potential wildlife corridors.

### 3.1 Literature Review

HELIX's previous biological technical report was written in support of an EIR to describe existing biological conditions for Seville Solar Complex Project consisting of seven lots (Lots 1 through 7) located west and northwest of the Project site (HELIX 2014). Focused surveys conducted by HELIX included a general biological survey and vegetation community mapping, a jurisdictional delineation, a focused rare plant survey, and focused burrowing owl surveys. Results of the surveys included the presence of a sensitive vegetation community, mesquite thicket, potential burrowing owl habitat throughout the site, and jurisdictional waters adjacent to the site. One sensitive species, loggerhead shrike, was observed on the site. No rare plant species were documented.

The CNDDDB and CNPS Electronic Inventory searches were conducted on July 5, 2017. ECORP searched CNDDDB and CNPS Electronic Inventory records within the Project boundaries as depicted on the USGS 7.5-minute Harpers Well and Borrego Mountain Southeast topographic quadrangles, plus the surrounding seven topographic quadrangles, including Shell Reef, Kane Spring, Kane Spring Northwest, Kane Spring Northeast, Superstition Mountain, Plaster City Northwest, and Carrizo Mountain Northeast. The literature review and database searches resulted in records for 22 special-status plant species and six special-status wildlife species that could occur on and/or in the vicinity of the Project site.

#### 3.1.1 *Special-Status Plants*

There were 22 special-status plant species that appeared in the literature review and database searches for the Project site. A list was generated from the results of the literature review and the Project site was evaluated for suitable habitat that could support any of the special-status plant species on the list. With Fish Creek Wash and San Felipe Creek approximately 2.5 miles to the southeast of the Project site, any aquatic species that appeared in the literature review were outside of the range of the Project site and are thus presumed absent since no aquatic habitat was present.

Despite the results of the literature review, most special-status plant species are not expected to occur on the Project site due to the extensive ground disturbance associated with past agricultural operations and recent disturbance found on the Project site (see Section 3.2.1 below). Of the 22 special-status plants identified, only one species, gravel milk-vetch (*Astragalus sabulonum*; CNPS List 2B.2) was found to have a low potential to occur on the Project site. This species is typically found in sandy, sometimes gravelly, flats or washes within desert dunes, Mojavean desert scrub, and Sonoran desert scrub habitats. However, it can also occur along disturbed road sides adjacent to desert dunes and other desert scrub habitats. The eastern boundary of the Project site is bordered by an existing transmission line right-of-way access road that is very sandy and separates the Project site from native mesquite series habitat to the east. This portion of the Project site is disturbed and sandy, and could provide minimal habitat for gravel milk-vetch. In addition, one historic record of this species (1980) has been documented 1.3 miles east of the Project site (CDFW 2017a). Based on the limited habitat

observed along the eastern edge of the Project boundary and the documented historic record of the species within five miles, this species has been determined to have a low potential to occur on the Project site.

The remaining 21 species identified in the literature review are presumed absent from the Project site due to the lack of suitable habitat, soil type, and/or elevation range at the Project site. Although known occurrences have been reported in the database, they were either not within five miles of the site, or suitable habitat strongly associated with the species occurs on site, but no records or only historic records (greater than 20 years old) were found in the database search. These species are listed with their potential for occurrence and their status below. Descriptions of the CNPS designations are found in Table 1.

1. Abrams' spurge (*Euphorbia abramsiana*), CNPS 2B.2
2. Borrego milk-vetch (*Astragalus lentiginosus* var. *borreganus*), CNPS 4.3
3. Brown turbans (*Malperia tenuis*), CNPS 2B.3
4. Chaparral sand-verbena (*Abronia villosa* var. *aurita*), CNPS 1B.1
5. Emory's crucifixion-thorn (*Castela emoryi*), CNPS 2B.2
6. Flat-seeded spurge (*Euphorbia platysperma*), CNPS 1B.2
7. Harwood's milk-vetch (*Astragalus insularis* var. *harwoodii*), CNPS 2B.2
8. Little-leaf elephant tree (*Bursera microphylla*), CNPS 2B.3
9. Narrow-leaf sandpaper-plant (*Petalonyx linearis*), CNPS 2B.3
10. Orcutt's woody-aster (*Xylorhiza orcuttii*), CNPS 1B.2
11. Parish's club-cholla (*Grusonia parishii*), CNPS 2B.2
12. Parish's desert-thorn (*Lycium parishii*), CNPS 2B.3
13. Peirson's pincushion (*Chaenactis carphoclinia* var. *peirsonii*), CNPS 1B.3
14. Ribbed cryptantha (*Johnstonella costata*), CNPS 4.3
15. Salton milk-vetch (*Astragalus crotalariae*), CNPS 4.3
16. Sand food (*Ammobroma sonora*), CNPS 1B.2
17. Thurber's pilostyles (*Pilostyles thurberi*), CNPS 4.3
18. Torrey's box-thorn (*Lycium torreyi*), CNPS 4.2
19. Wiggins' cholla (*Opuntia wigginsii*), CNPS 3.3
20. Winged cryptantha (*Johnstonella holoptera*), CNPS 4.3
21. Wolf's cholla (*Cylindropuntia wolffi*), CNPS 4.3

**Table 1. CNPS Status Designations**

List Designation	Meaning
1A	Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B	Plants Rare, Threatened, or Endangered in California and Elsewhere
2A	Plants Presumed Extirpated in California, But Common Elsewhere
2B	Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
3	Plants about which we need more information; a review list
4	Plants of limited distribution; a watch list
List 1B, 2, and 4 extension meanings:	
.1	Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2	Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

Note: According to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 901, Chapter 10 of the California FGC (CDFW 1984). This interpretation is inconsistent with other definitions.

### **3.1.2 Special-Status Wildlife**

Of the six special-status wildlife species identified in the literature review, one was found to have a high potential to occur, loggerhead shrike, and one was found to have a low potential to occur, burrowing owl. The remaining four species are presumed absent from the Project site due to the extensive ground disturbance associated with past agricultural operations and recent disturbance found on the Project site (see Section 3.2.1 below).

The loggerhead shrike is a CDFW SSC (CDFW 2017b) and prefers open areas with scattered trees and shrubs including savanna, desert scrub, and open woodland habitats. Its diet includes large insects and other invertebrates, but it will also prey upon small mammals, lizards, and snakes. Suitable foraging habitat is present throughout the Project site. One recent observation has been recorded (2013) in the vicinity of the Project approximately 0.5 mile to the west (HELIX 2014). The Project site provided suitable foraging habitat for this species but nesting habitat (i.e., trees and large shrubs) is limited. Since one record was identified within five miles of the Project site and suitable foraging habitat is present on the site, this species has a high potential to occur on the Project site.

The burrowing owl is a CDFW Species of Special Concern (SSC, CDFW 2017a) and is typically found in dry open areas with few trees and short grasses; it is also found in vacant lots near human habitation. It uses uninhabited mammal burrows for roosts and nests. It primarily feeds on large insects and small mammals, but will also eat birds and amphibians. The Project site contained marginally suitable open habitat with soils suitable for burrowing; however, no burrows of adequate size were observed during the survey. Since there have not been any documented occurrences of burrowing owl within five miles of the Project site and only marginally suitable habitat is present, this species has a low potential to occur on the Project site.

The following species are presumed absent from the Project due to the lack of suitable habitat on the Project site:

1. California black rail (*Laterallus jamaicensis coturniculus*), CDFW fully protected
2. Desert pupfish (*Cyprinodon macularis*), federally and state-listed (endangered)
3. Flat-tailed horned lizard, CDFW SSC
4. Lowland leopard frog (*Lithobates yavapaiensis*), CDFW SSC

### 3.2 Biological Resources Assessment

The biological resources assessment was conducted on July 7, 2017 by ECORP biologists Scott Taylor and Jon Renard. Summarized below are the results of the biological resources assessment, including site characteristics, plant communities, wildlife, special-status species, and special-status habitats (including any potential wildlife corridors). Weather conditions during the survey are summarized in Table 2.

**Table 2. Weather Conditions during the Survey**

Date	Time		Temperature (°F)		Cloud Cover (%)		Wind Speed (mph)	
	start	end	min	max	min	max	min	max
7/7/17	0545	1040	83	107	15	30	0	2

#### 3.2.1 Property Characteristics

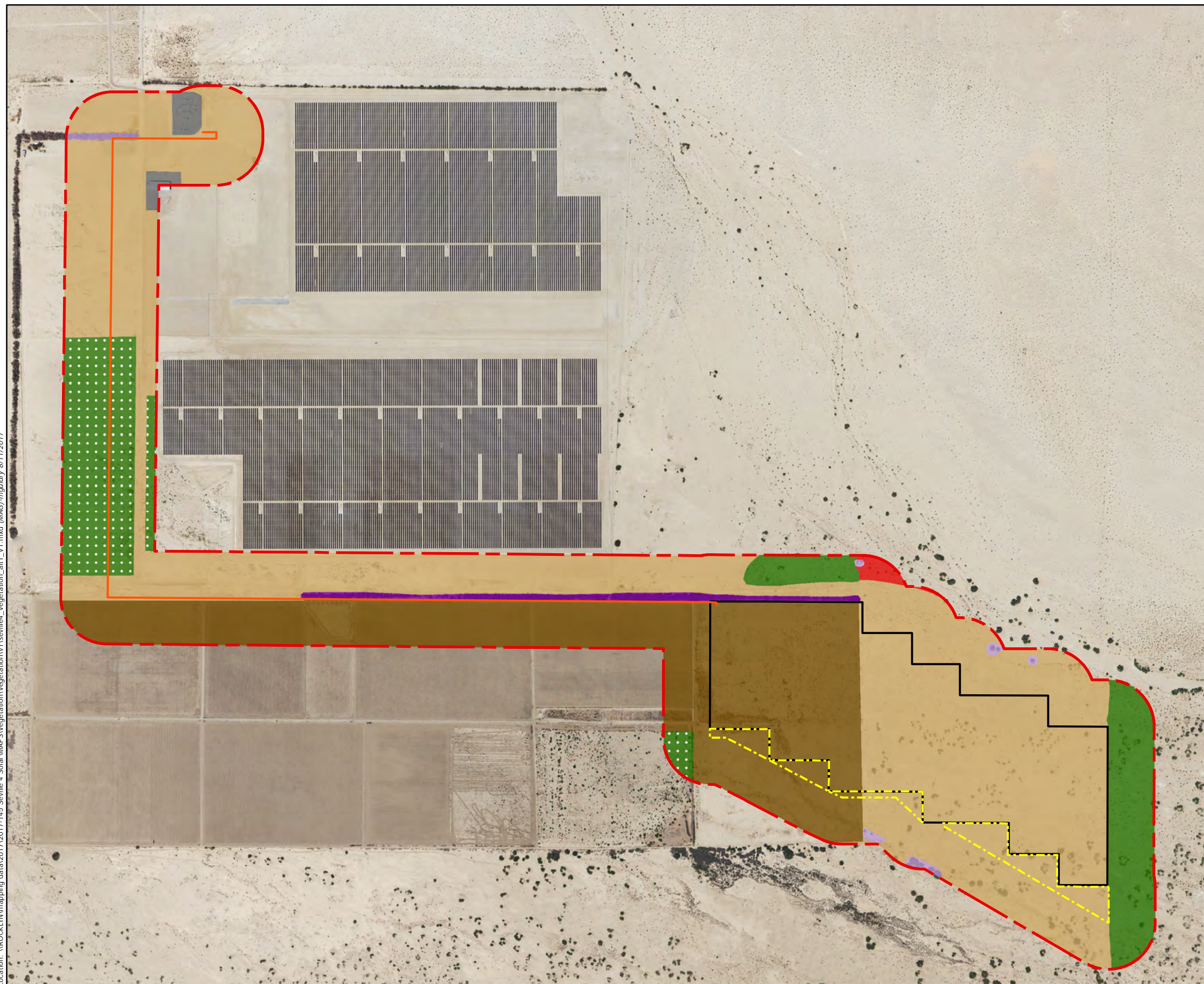
The majority of the Project site consisted of idle agriculture and disturbed habitat (Figures 3a and 3b). Soils were generally sandy and consisted of Indio-vint complex, Meloland fine sand, Vint fine sandy loam, Rositas fine sand, and Glenbar clay loam (NRCS 2017). The Project site is bordered by idle agriculture to the west, and mostly undisturbed native habitat to the north, south, and east. Surrounding land uses consist of old agriculture and open land, and the Seville Solar Complex Project to the northwest. Vegetation within the disturbed areas was scarce and all of the larger shrubs had been removed and were piled throughout portions of the Project site. The Project site does not contain any habitat for special-status species. One large drainage, Tarantula Wash, was present north of the Project site and flows southeast. A second drainage was located south of the Project site and flows southeast as well. Neither of these drainages is located within the Project boundary. Representative site photographs are presented below in Figures 4 through 6.

#### 3.2.2 Vegetation Communities

Two land cover types were present within Options 1 and 2 of the Project site: Idle agriculture and disturbed habitat. Four vegetation communities and land cover types were present within the proposed gen-tie line: Disturbed habitat, idle agriculture, mesquite series-disturbed, and tamarisk thickets. No special-status habitats or vegetation communities were observed on the Project site. Table 3 lists acreages for each vegetation community or land cover type that was located within each Project option and within the proposed gen-tie line. Descriptions and photographs of the vegetation communities and land cover type documented within the two options and gen-tie line are provided below.



Location: \\PROCKLIN\mapping\_data\2017\145 Seville\_4 Solar\MAPS\Vegetation\Vegetation\1\seville4\_Vegetation\_a111\_V1.mxd (MAG)\_mguidry\_8/11/2017



**Figure 3A.**  
**Vegetation Communities**  
**Option 1 (Fixed-Frame)**

**Map Features**

Option 1 (Fixed-Frame) Survey Area

Option 1 (Fixed-Frame)

Solar Farm

Detention Basin

Proposed Gen-tie

Vegetation Community

Creosote Bush Scrub

Idle Agriculture

Mesquite Series

Mesquite Series - Disturbed

Tamarisk Thickets

Tamarisk Windbreak

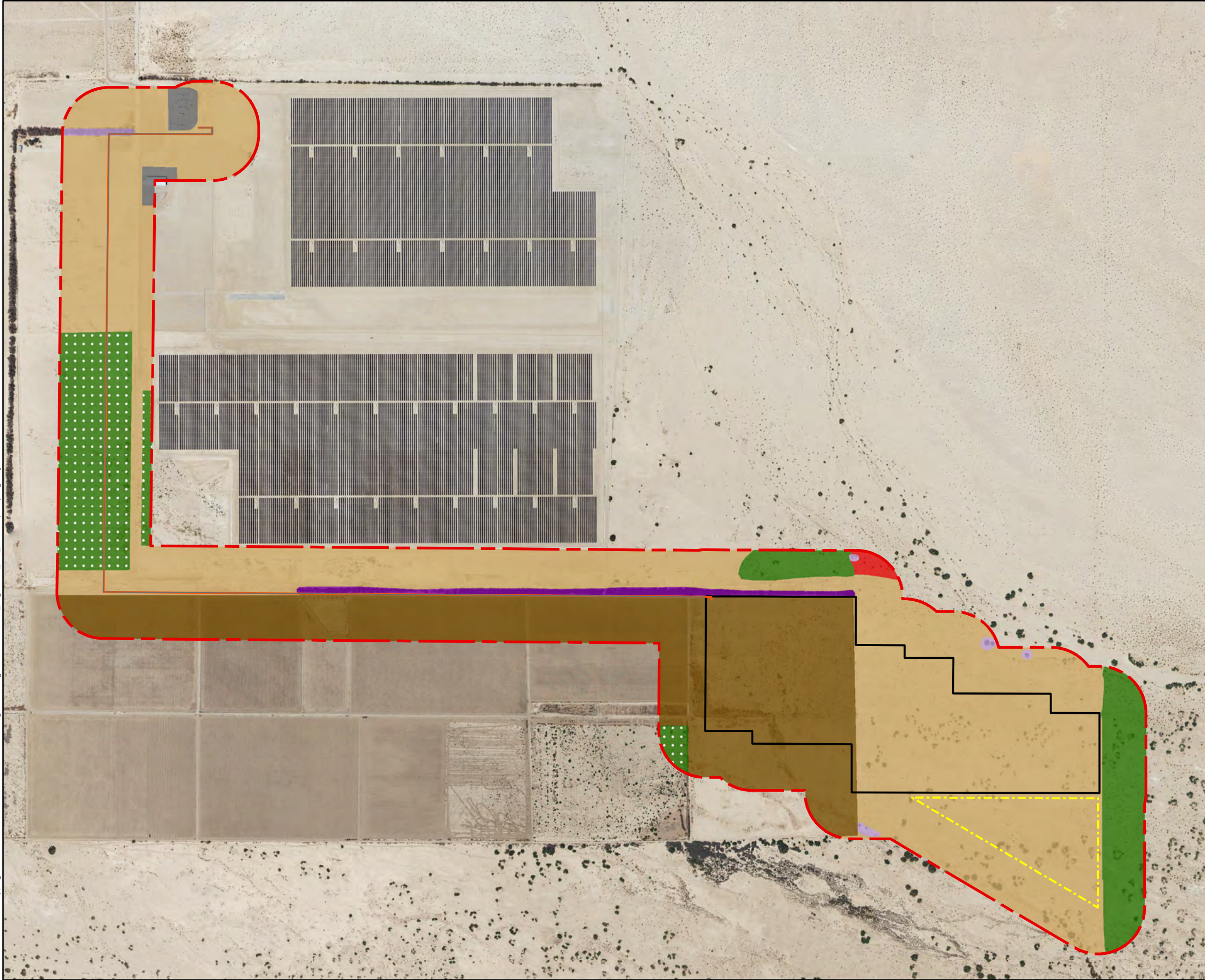
Disturbed Habitat

Developed





Location: \\PROCKLIN\mapping\_data\2017\145 Seville\_4 Solar\MAPS\Vegetation\1\seville4\_Vegetation\_a112\_V1.mxd (MAG) mguidry 8/11/2017



**Figure 3B.**  
**Vegetation Communities**  
**Option 2 (HSAT)**

**Map Features**

Option 2 (HSAT) Survey Area

Option 2 (HSAT)

Solar Farm

Detention Basin

Proposed Gen-tie

Vegetation Community

Creosote Bush Scrub

Idle Agriculture

Mesquite Series

Mesquite Series - Disturbed

Saltbush Scrub

Tamarisk Thickets

Tamarisk Windbreak

Disturbed Habitat

Developed



**Table 3. Vegetation Community and Land Cover Type Acreages**

Vegetation Community or Land Cover Type	Acreage		
	Option 1 (Fixed-Frame)	Option 2 (HSAT)	Gen-Tie Line*
Idle Agriculture	57.05	65.88	0.50
Disturbed Habitat	99.66	109.24	0.63
Mesquite Series-Disturbed			0.29
Tamarisk Thickets			0.03
<b>TOTAL</b>	<b>156.71<sup>†</sup></b>	<b>175.12<sup>†</sup></b>	<b>1.45<sup>†</sup></b>

\*Acreage within 2.4-mile gen-tie line is calculated based on a 5-ft wide corridor.

<sup>†</sup>Acreage was calculated based on GIS data provided. Discrepancies may exist between acreage in the Project description and acreage presented in this table.

Idle Agriculture

The entire western portion of both Options 1 and 2, and the eastern section of the proposed gen-tie line were characterized as idle agriculture. This land cover type was primarily unvegetated; however, the modicum of vegetation that was present within this area consisted mostly of nonnatives, including Russian thistle (*Salsola tragus*), Mediterranean grass (*Shismus barbatus*), and Sahara mustard (*Brassica tournefortii*). Idle agriculture consists of areas that are not presently being farmed but still retain a corrugated surface from furrows graded into it during active agricultural operations. Idle agriculture does not typically support native plant species. A representative photograph of idle agriculture is shown in Figure 4.



**Figure 4. Idle agriculture within the western portion of the Project site.**

Disturbed Habitat

The entire eastern portion of both Options 1 and 2 and portions of the gen-tie line was characterized as disturbed habitat. The majority of the vegetation in this area appeared to have been removed and old vegetation stockpiles were present throughout the Project site. This disturbance likely occurred within the last three to five years. The soils in this area were very sandy and dune-like. Disturbed habitat does not support diversity in native plant or wildlife

species and is characterized by any of the following: native habitat that has been graded or cleared, unpaved roads that support nonnative plant species, or unvegetated areas. Figure 5 shows the disturbed areas and a vegetation stockpile that was observed during the site visit.



**Figure 5. Vegetation debris pile location within disturbed habitat.**

#### Mesquite Series-Disturbed

The northern portion of the gen-tie line is characterized as mesquite series-disturbed. This area is very flat and consists of honey mesquite as a dominant with a nonnative herbaceous layer. It is possible that this area was historically disturbed and then restored with honey mesquite as the dominant plant. No other native plant species is present in this area. Figure 6 shows a representative photograph of mesquite series-disturbed habitat.





**Figure 6. Mesquite series-disturbed habitat along the west side of the gen-tie line.**

#### Tamarisk Thickets

Tamarisk thicket is a monotypic stand of saltcedar (*Tamarix ramosissima*), an invasive, nonnative tree species that is known to invade desert wetland and riparian habitats. These stands of tamarisk often occur naturally even under harsh conditions. Most of this habitat within the area surveyed was established by well water associated with irrigation runoff from the nearby agriculture fields, or within the jurisdictional drainages located in the Project buffers north and south of the solar farm of Options 1 and 2. This vegetation community was also found within the northern portion of the gen-tie line. A representative photograph of tamarisk thicket is shown in Figure 7.



**Figure 7. Representative photograph of tamarisk thicket.**

The following vegetation communities and land cover types were identified within the 500-ft buffer around each of the Project options: creosote bush scrub, idle agriculture, mesquite series, mesquite series-disturbed, tamarisk thickets, tamarisk windbreak, disturbed, and developed. Mesquite series is a vegetation community that is classified as sensitive in state of California (S3.2). This state rank defines this vegetation community as threatened (CNPS 2017b). Mesquite series was located immediately adjacent to the eastern boundary of both options and consisted of sparse vegetation with scattered stands of honey mesquite (*Prosopis glandulosa*), saltbushes (*Atriplex* sp.), and screwbean (*Prosopis pubescens*).

### **3.2.3 Plants**

The Project site contained plant species adapted to the extreme temperatures and dry environment of the Sonoran Desert. Plants observed during the survey consisted mainly of saltcedar, athel tamarisk, honey mesquite, white bursage (*Ambrosia dumosa*), burrobush (*Hymenoclea salsola*), creosote bush (*Larrea tridentata*), Russian thistle, Mediterranean grass, and Sahara mustard. Appendix A contains a list of all plant species observed during the survey.

### **3.2.4 Wildlife**

The Project site provides habitat for a number of wildlife species that are commonly found in the Sonoran Desert. Wildlife species occurring within or using the Project site include red-tailed hawk (*Buteo jamaicensis*), mourning dove (*Zenaidura macroura*), greater roadrunner (*Geococcyx californianus*), black-tailed jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus audubonii*), and domestic dog (*Canis lupus familiaris*). Appendix B contains a list of all wildlife species identified during the survey.

One special-status species, loggerhead shrike, was observed twice during the survey. One shrike was detected calling from a shrub northeast of the Project site within the 500-ft buffer,

and the other shrike was observed perched on an athel tamarisk along the proposed gen-tie route.

### **3.2.5 *Flat-Tailed Horned Lizard Habitat Assessment***

Flat-tailed horned lizard habitat was not identified within the either Project option during the biological resources assessment. The majority of the Project site was either idle agriculture or disturbed habitat, neither of which provide suitable habitat for flat-tailed horned lizard. Also, harvester ants, which comprise 90 percent of the diet of flat-tailed horned lizards, were not observed within the Project site. Areas that were considered suitable habitat for flat-tailed horned lizard were located within the creosote bush scrub and mesquite series portions of the 500-ft buffer of Project site (Figure 3). Harvester ant activity was also observed within these areas; however, no sign of flat-tailed horned lizard, including scat, tracks, or live individuals were observed.

### **3.2.6 *Raptors and Migratory Birds***

Numerous species of migratory birds and raptors protected under the MBTA and FGC are expected to occur in the vicinity of the Project site. The habitat within both Option 1 and Option 2 areas provide suitable nesting and foraging habitat for a wide variety of migratory bird and raptor species. Nesting birds are anticipated to occur on site in conjunction with the nesting bird season (typically February 1 through August 31).

Potential nesting habitat for migratory birds was also present within vegetation immediately adjacent to the Project site, including the row of athel tamarisks and honey mesquites along the gen-tie. These areas also provided nesting habitat for migratory birds and raptors within the power poles, transmission lines, and structures near the substation at the northern terminus of the gen-tie. Raptors typically breed between February and August, while non-raptor birds protected under the MBTA generally nest from March through August.

One inactive, unidentified raptor nest was observed 20 feet up in an athel tamarisk located along the gen-tie. A red-tailed hawk was seen flying away from the nest tree as the biologists drove by; however, nesting activity was not observed so it was unknown whether the nest belonged to the individual. Figure 7 below shows the location of the nest in the tree.





**Figure 8. Inactive, unidentified raptor nest in an athel tamarisk along the proposed gen-tie.**

### **3.2.7 Wildlife Movement Corridors and Linkages**

The Project site provides wildlife movement opportunities due to the fact that it is open and unimpeded land. However, it would not be considered a wildlife movement corridor that would need to be preserved in order to allow wildlife to move between important natural habitat areas due to the lack of conserved natural lands in the vicinity. The Project site is exposed and does not contain any major land features that would be considered movement corridors for wildlife. However, the two drainages present north and south of the Project site could be considered movement corridors because they are large enough for this region. The dirt roads running along the gen-tie are also likely utilized by wildlife moving through the area but they would not be considered linkages between conserved natural habitat areas. Drainages, washes, and dirt roads are usually considered as movement corridors because wildlife often use them to move throughout an area.

## **4.0 DISCUSSION**

The Project site consisted primarily of idle agriculture and disturbed habitat, with sparse occurrences of mesquite series-disturbed and tamarisk thickets present within portions of the proposed gen-tie line. No special-status plant species were observed during the biological resources assessment, and the Project site does not support habitat for special-status plant species. One species, gravel milk-vetch (CNPS List 2B.2), has a low potential to occur on the Project site. It is unlikely that mitigation or avoidance measures will be required for this species because it is not a state or federally-listed species. One sensitive vegetation community,

mesquite series, was documented within the 500-ft buffer of the Project site; however, this habitat is located outside to the north and east of the Project site and is not anticipated to be affected by construction activities.

The proposed Project site also provides suitable foraging habitat for one wildlife species that has a high potential to occur on the Project site. This species, loggerhead shrike (CDFW SSC), was documented in two locations during the biological resources assessment. Loggerhead shrikes are protected under the MBTA and a pre-construction nesting bird survey by a qualified biologist would suffice to avoid impacts to nests of this species during the nesting season (March 1 through August 31).

Burrowing Owl: Burrowing owl, a CDFW SSC, was determined to have a low potential to occur. The habitat within the Project site provides marginally suitable foraging habitat, but suitably sized burrows were not identified during the biological resources assessment. This species is migratory and could utilize the site during a migratory stopover, but is not expected to reside or breed on the Project site. Pre-construction surveys conducted by a qualified biologist should be conducted to ensure the site is not being used by burrowing owl prior to construction.

Flat-Tailed Horned Lizard: Flat-tailed horned lizard, a CDFW SSC, was presumed to be absent from the Project site. Although the literature review identified multiple records of flat-tailed horned lizard in the vicinity of the Project site, the habitat was characterized as disturbed habitat, idle agriculture, and tamarisk windbreak, none of which provide suitable habitat for the species. In addition, harvester ants, which are the primary food source of the flat-tailed horned lizard, were not present anywhere within the Project site. For these reasons, it is presumed that flat-tailed horned lizards are not present. The only suitable habitat and available food supply (i.e., harvester ants) was located within the 500-ft buffer north and east of the Project site. These areas were carefully surveyed; however, no sign of flat-tailed horned lizards was observed. Additional focused surveys for the species are not recommended within the Project site. If the Project boundaries expand to the north or east into potential flat-tailed horned lizard habitat, then additional analysis may be necessary.

Nesting Birds: With regard to nesting birds and raptors, all development is required to comply with the MBTA and avoid impacts to nesting birds and raptors. In order to ensure that impacts to the species covered under the MBTA are less than significant the Project should implement the mitigation measures discussed in Section 5.0.

Impacts to wildlife corridors are not expected as a result of the Project due to the lack of conserved natural lands in the vicinity and the limitless opportunities for wildlife to travel unimpeded throughout the region.

An assessment of biological constraints and potential impacts for each Project option is discussed below.

#### **4.1 Option 1 Biological Impacts**

Option 1 comprises 156.71 acres and will result in permanent loss of 99.66 acres of disturbed habitat and 57.05 acres of idle agriculture (note that calculations based on GIS data may differ from acreages in the Project description). Neither of these land cover types are protected habitat types, nor do they support sensitive biological resources. Impacts to special-status plant species are not expected. One sensitive wildlife species, loggerhead shrike, was observed on

the Project site. Impacts to this species will be avoided through the implementation of a pre-construction nesting bird survey discussed in Section 5.0.

Project activities should be careful to not affect the sensitive vegetation community, mesquite series, located immediately east of the Option 1 boundary. If impacts to mesquite series are expected, then coordination with CDFW may be necessary. Similarly, if Project boundaries expand north or east into flat-tailed horned lizard habitat, then additional analysis may be necessary.

#### **4.2 Option 2 Biological Impacts**

Option 2 comprises 175.12 acres and will result in permanent loss of 109.24 acres of disturbed habitat and 65.88 acres of idle agriculture (note that calculations based on GIS data may differ from acreages in the Project description). Neither of these land cover types are protected habitat types, nor do they support sensitive biological resources. Impacts to special-status plant species are not expected. One sensitive wildlife species, loggerhead shrike, was observed on the Project site. Impacts to this species will be avoided through the implementation of a pre-construction nesting bird survey discussed in Section 5.0.

Project activities should be careful to not affect the sensitive vegetation community, mesquite series, located immediately east of the Option 2 boundary. If impacts to mesquite series are expected, then coordination with CDFW may be necessary. Similarly, if Project boundaries expand north or east into flat-tailed horned lizard habitat, then additional analysis may be necessary.

Although each Project option has different acreages of permanent impacts anticipated, comparatively there are no differences in potential biological impacts between the two options.

#### **4.3 Proposed Gen-tie Line Biological Impacts**

The proposed 2.4-mile gen-tie line comprises 1.45 acres and will result in permanent loss of approximately 0.63 acre of disturbed habitat, 0.50 acre of idle agriculture, 0.29 acre of mesquite series-disturbed, and 0.03 acre of tamarisk thicket habitat (note that calculations based on GIS data may differ from acreages in the Project description). None of these vegetation communities or land cover types are protected habitat types, nor do they support sensitive biological resources. Impacts to special-status plant species are not expected. One sensitive wildlife species, loggerhead shrike, was observed along the central portion of the gen-tie line. Impacts to this species will be avoided through the implementation of a pre-construction nesting bird survey discussed in Section 5.0.

### **5.0 RECOMMENDATIONS**

The following actions are recommended prior to Project implementation: pre-construction surveys for burrowing owl, and a pre-construction survey for nesting birds and raptors if Project activities will occur during the nesting bird season.


- **Pre-construction Surveys for Burrowing Owl:** Pre-construction surveys for burrowing owl are recommended. The surveys should follow the methods described in the CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). Two surveys should be conducted,

with the first survey being scheduled between 30 and 14 days before initial ground disturbance (grading, grubbing, and construction), and second survey being conducted no more than 24-hours prior to initial ground disturbance. If burrowing owls and/or suitable burrowing owl burrows are identified on the Project site during the surveys, the Project should consult with CDFW and follow the methods listed in the CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFW 2012) for avoidance and/or passive relocation.

- **Pre-construction Nesting Bird Survey:** If construction or other Project activities are scheduled to occur during the bird breeding season (February through August for raptors and March through August for most other birds), a pre-construction nesting bird survey should be conducted by a qualified biologist. The focus of the survey will be detecting nesting activities of bird and raptor species on the Project site, including presence of loggerhead shrike. The survey should be completed no more than 3 days prior to initial ground disturbance. The nesting bird survey should include the Project site and adjacent areas where Project activities have the potential to cause nest failure. If an active nest is identified, a qualified biologist should establish an appropriate disturbance limit buffer around the nest using flagging or staking. Construction activities will need to be avoided within any disturbance limit buffer zones until the nest is deemed no longer active by the biologist.

## 6.0 CERTIFICATION

*I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this assessment was performed by me or under my direct supervision. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the Project applicant or the applicant's representative and that I have no financial interest in the Project.*

SIGNED:   
\_\_\_\_\_  
Jon Renard  
Associate Biologist

DATE: August 11, 2017

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**APPENDIX A****Plant Compendium**

Scientific Name	Common Name
<b>VASCULAR PLANTS</b>	
<b>ANGIOSPERMS (EUDICOTS)</b>	
<b>AMARANTHACEAE</b>	<b>AMARANTH FAMILY</b>
<i>Tidestromia suffruticosa</i> var. <i>oblongifolia</i>	honeysweet
<b>ASTERACEAE</b>	<b>SUNFLOWER FAMILY</b>
<i>Ambrosia dumosa</i>	burrobush
<i>Ambrosia salsola</i>	cheesebush
<i>Encelia frutescens</i>	rayless encelia
<i>Lactuca serriola</i> *	prickly lettuce
<i>sonchus oleraceus</i>	common sow thistle
<b>BORAGINACEAE</b>	<b>BORAGE FAMILY</b>
<i>Tiquilia plicata</i>	fanleaf crinklemat
<b>BRASSICACEAE</b>	<b>MUSTARD FAMILY</b>
<i>Brassica tournefortii</i> *	Saharan mustard
<b>CHENOPODIACEAE</b>	<b>GOOSEFOOT FAMILY</b>
<i>Atriplex canescens</i>	fourwing saltbrush
<i>Atriplex lentiformis</i>	big saltbush
<i>Salsola tragus</i> *	Russian thistle
<b>EUPHORBIACEAE</b>	<b>SPURGE FAMILY</b>
<i>Euphorbia polycarpa</i>	smallseed sandmat
<b>FABACEAE</b>	<b>LEGUME FAMILY</b>
<i>Prosopis glandulosa</i>	honey mesquite
<i>Psoralethamnus emoryi</i>	Emory indigobush
<b>PLANTAGINACEA</b>	<b>PLANTAIN FAMILY</b>
<i>Plantago ovata</i>	desert plantain
<b>TAMARICACEAE</b>	<b>TAMARISK FAMILY</b>
<i>Tamarix aphylla</i> *	athel tamarisk
<i>Tamarix ramosissima</i> *	saltcedar
<b>ZYGOPHYLLACEAE</b>	<b>CALTROP FAMILY</b>
<i>Larrea tridentata</i>	South American creosote bush
<b>ANGIOSPERMS (MONOCOTS)</b>	
<b>POACEAE</b>	<b>GRASS FAMILY</b>
<i>Avena fatua</i> *	wild oat
<i>Phalaris minor</i> *	Mediterranean canarygrass
<i>Schismus barbatus</i> *	common Mediterranean grass

\*Nonnative species

## APPENDIX B

### Wildlife Compendium

Scientific Name	Common Name
<b>REPTILIA</b>	<b>REPTILES</b>
<b>Iguanidae</b>	<b>Iguanids</b>
<i>Dipsosaurus dorsalis</i>	desert iguana
<i>Callisaurus draconoides</i>	zebra-tailed lizard
<b>Teiidae</b>	<b>Whiptail lizards</b>
<i>Cnemidophorus tigris tigris</i>	Great Basin whiptail
<b>Viperidae</b>	<b>Rattlesnakes</b>
<i>Crotalus cerastes</i>	sidewinder (tracks)
<b>AVES</b>	<b>BIRDS</b>
<b>Accipitridae</b>	<b>Hawks, Kites, &amp; Eagles</b>
<i>Buteo jamaicensis</i>	red-tailed hawk
<b>Columbidae</b>	<b>Pigeons and Doves</b>
<i>Streptopelia decaocto*</i>	Eurasian collared-dove
<i>Zenaida asiatica</i>	white-winged dove
<i>Zenaida macroura</i>	mourning dove
<b>Cuculidae</b>	<b>Cuckoos and Roadrunners</b>
<i>Geococcyx californianus</i>	greater roadrunner
<b>Caprimulgidae</b>	<b>Nightjars</b>
<i>Chordeiles acutipennis</i>	lesser nighthawk
<b>Laniidae</b>	<b>Shrikes</b>
<i>Lanius ludovicianus**</i>	loggerhead shrike
<b>Remizidae</b>	<b>Verdins</b>
<i>Auriparus flaviceps</i>	verdin
<b>Icteridae</b>	<b>Blackbirds &amp; Orioles</b>
<i>Sturnella neglecta</i>	Western meadowlark
<b>MAMMALIA</b>	<b>MAMMALS</b>
<b>Leporidae</b>	<b>Hares &amp; Rabbits</b>
<i>Lepus californicus</i>	black-tailed jackrabbit
<i>Sylvilagus audubonii</i>	desert cottontail
<b>Sciuridae</b>	<b>Squirrels</b>
<i>Xerospermophilus tereticaudus</i>	round-tailed ground squirrel
<b>Canidae</b>	<b>Dogs, Wolves, &amp; Foxes</b>
<i>Canis lupus familiaris*</i>	domestic dog

\*Nonnative species

\*\*CDFW California Species of Special Concern/Watch List Species/FP Species



The background of the cover is a photograph of a natural landscape. In the foreground, there is a field of vibrant red flowers, likely California poppies, growing among green grass. In the middle ground, a large, gnarled, white-barked tree stands prominently. The background shows more trees and a clear blue sky. The entire image is overlaid with a semi-transparent green filter, and the text is placed on the right side of the page.

# **Jurisdictional Delineation for Seville 4 Solar Imperial County, California**

*Prepared for:*  
**Ericsson-Grant, Inc.**

**11 August 2017**



**ECORP Consulting, Inc.**  
ENVIRONMENTAL CONSULTANTS



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# Delineation of Waters of the U.S.

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## **Seville 4 Solar Project**

Imperial County, California

Prepared For:

**Ericsson-Grant, Inc.**

11 August 2017



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Attachment E – Arid West OHWM Forms

## 1.0 INTRODUCTION

On behalf of Ericsson-Grant, Inc. (EGI), ECORP Consulting, Inc. (ECORP) conducted a delineation of Waters of the United States (U.S.)/State for a 156 or 174-acre solar energy development (depending on the configuration chosen) known as the Seville 4 Solar Project (Project) located in Imperial County, California. The site is located within an unincorporated area of Imperial County approximately eight miles southeast of Ocotillo Wells, 12 miles southwest of Salton Sea, and 22 miles northeast of Westmorland, and approximately 1.5 miles south of State Route 78 (SR-78) in California (Figure 1. *Project Vicinity*). The Project site corresponds to Sections 14, 15, 22, 23, 24, and 25, Township 12 South, and Range 9 East San Bernardino Base Meridian (SBBM) of the “Harpers Well” and “Borrego Mountain Southeast, California” 7.5-minute quadrangles (USGS 1981). The approximate center of the site is located at 33.101644° North and -115.984833° West within the Salton Sea Watershed (#18100200, USGS 1978).

The proposed Project may be developed in one of two configurations (Figure 2. *Project Location*). Option 1 consists of fixed-frame PV module arrays comprising approximately 128 acres of PV panels and approximately 18 acres of detention basins (six basins total) totaling 146 acres. Option 2 consists of a horizontal single-axis tracker (HSAT) system comprising approximately 156 acres of PV panels and one approximately 18-acre detention basin totaling 174 acres. Both options include a 2.4-mile five-foot wide gen-tie line.

The Project is accessible from Los Angeles by driving east on Interstate 10 for 125 miles and continuing on State Route 86 (SR-86) South for 47 miles. Then turn right onto SR-78 and proceed for 8 miles. The Project site is located on the south side of SR-78 immediately south of the Allegretti Farms property (Attachment A).

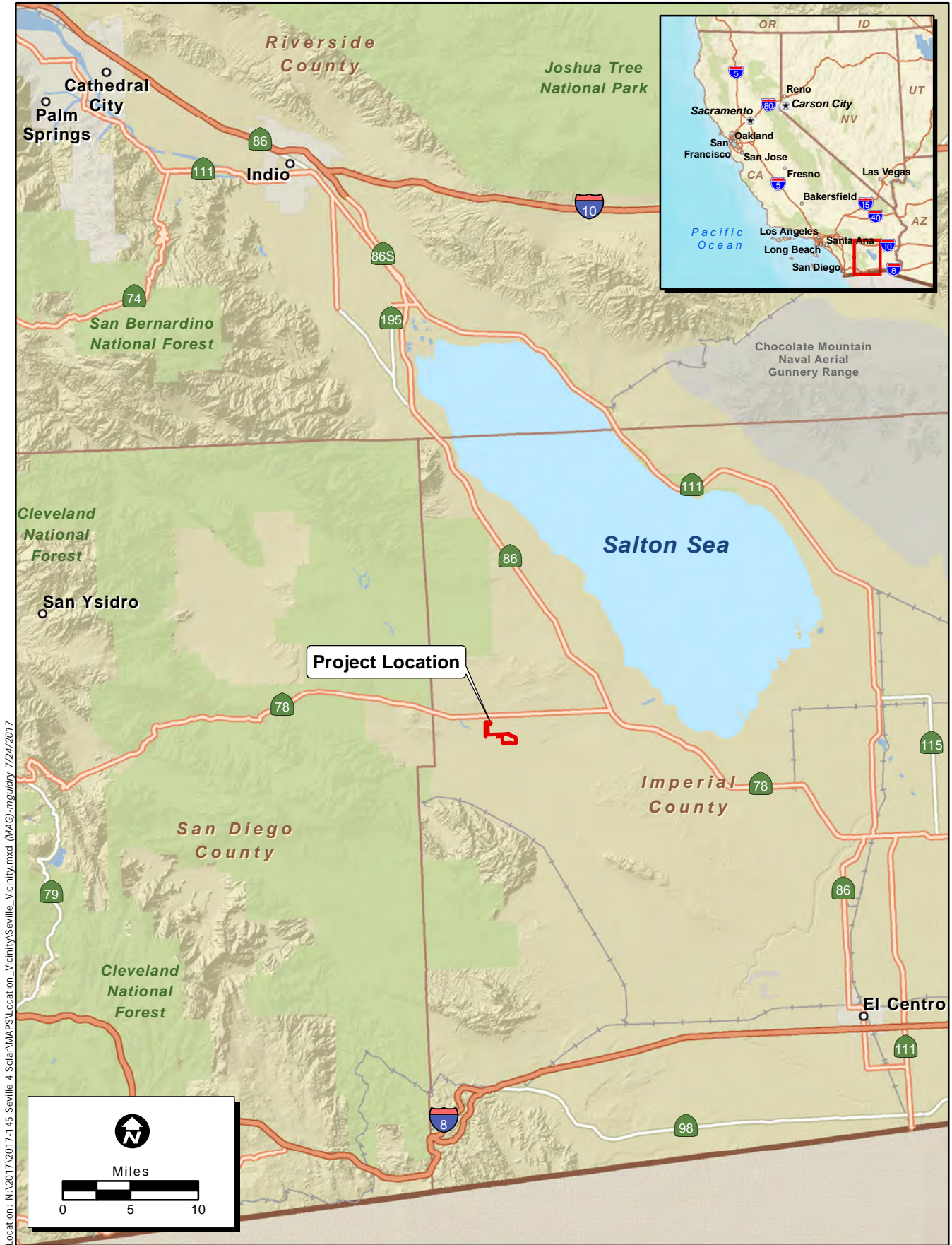
This report describes potential waters of the United States (U.S.), including wetlands, identified within the Project site that may be regulated by the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the federal Clean Water Act (CWA). The potential Waters of the U.S. boundaries depicted in this report represent a calculated estimation of the jurisdictional area within the Project site and are subject to modification following the USACE verification process. A previous delineation was conducted for the property to the west of the current Project area (HELIX 2014).

The purpose of this delineation of Waters of the U.S. is to provide enough information to the USACE for a Preliminary Jurisdictional Determination.

## 2.0 REGULATORY SETTING

### 2.1 Waters of the United States

This report describes potential Waters of the U.S., including wetlands that may be regulated by the USACE under Section 404 of the federal CWA. Waters of the U.S. includes both wetlands and other waters, as described below.



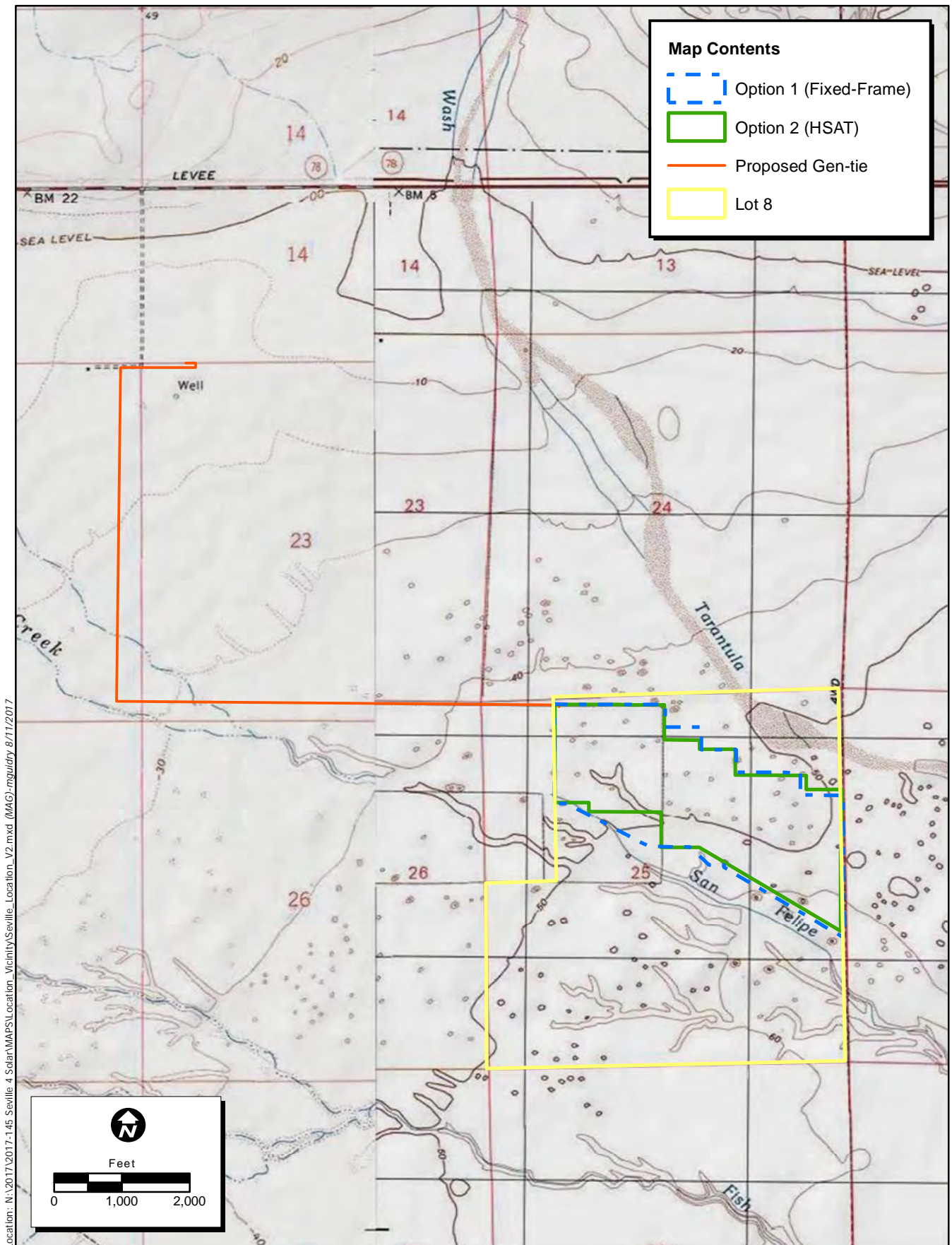
Location: N:\2017\2017-145 Seville\_4 Solar\Map\PSU\Location\_Vicinity\Seville\_Vicinity.mxd (MAG)-nguidry 7/24/2017

Map Date: 7/21/2017  
 Service Layer Credits: Sources: USGS, ESRI, TANA, AND

**Figure 1. Project Vicinity**

*2017-145 Seville 4 Solar*





Location: N:\2017\2017-145 Seville 4 Solar\MAPS\Location\_Vicinity\Seville\_V2.mxd (MAG) - nguidry 8/11/2017

**Figure 2. Project Location**

### **2.1.1 Wetlands**

Wetlands are “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” [51 FR 41250, Nov. 13, 1986, as amended at 58 FR 45036, Aug. 25, 1993]. Wetlands can be perennial or intermittent.

### **2.1.2 Other Waters**

Other waters that may be found in the Delineation Area are non-tidal, perennial, and intermittent watercourses and tributaries to such watercourses [51 FR 41250, Nov. 13, 1986, as amended at 58 FR 45036, Aug. 25, 1993]. The limit of USACE jurisdiction for non-tidal watercourses (without adjacent wetlands) is defined in 33 CFR 328.4(c)(1) as the “ordinary high water mark” (OHWM). The OHWM is defined as the “line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” approximation of the lateral limit of USACE jurisdiction. The upstream limits of other waters are defined as the point where the OHWM is no longer perceptible.

## **2.2 Federal Clean Water Act**

The USACE regulates discharge of dredged or fill material into Waters of the U.S. under Section 404 of the CWA. “Discharges of fill material” is defined as the addition of fill material into Waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes, and subaqueous utility lines [33 C.F.R. §328.2(f)]. In addition, Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into Waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Substantial impacts to wetlands, over 0.5 acre of impact, may require an individual permit. Projects that only minimally affect wetlands, less than 0.5 acre of impact, may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

## **2.3 Jurisdictional Assessment**

Pursuant to the U.S. Environmental Protection Agency (USEPA) and USACE memorandum regarding CWA jurisdiction, issued following the United States Supreme Court’s decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (herein referred to as *Rapanos*), the agencies will assert jurisdiction over the following waters: “Traditional Navigable Waters” (TNW), all



wetlands adjacent to TNWs, non-navigable tributaries of TNWs that are “relatively permanent” waters (i.e., tributaries that typically flow year-round or have continuous flow at least seasonally), and wetlands that directly abut such tributaries (USEPA and USACE 2007).

Waters requiring a significant nexus determination by the USACE and USEPA to establish jurisdiction include non-navigable tributaries that are not relatively permanent, wetlands adjacent to non-navigable tributaries that are not relatively permanent, and wetlands adjacent to but do not directly abut a relatively permanent non-navigable tributary (USEPA and USACE 2007). The jurisdictional determination is a fact-based evaluation to establish whether a water has a significant nexus with a TNW. The significant nexus analysis will assess the flow characteristics and functions of the non-navigable tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream TNWs (USEPA and USACE 2007).

## **2.4 State of California Fish and Game Code**

State of California Fish and Game Code Section 1602 requires any person, state, or local government agency, or public utility proposing a project that may affect a river, stream, or lake to notify CDFW before beginning the project. If activities will result in the diversion or obstruction of the natural flow of a stream; substantially alter its bed, channel, or bank; impact riparian vegetation; or adversely affect existing fish and wildlife resources, then a Streambed Alteration Agreement is required.

A Streambed Alteration Agreement lists the CDFW conditions of approval relative to the project, and it serves as an agreement between an applicant and CDFW for a term of not more than 5 years for the performance of activities subject to this section. A CDFW Streambed Alteration Notification (SAN) is required for all activities potentially affecting streambeds and/or their associated riparian habitats. Subsequently, implementation of the project may require a 1602 Streambed Alteration Agreement if these areas are determined to be jurisdictional by CDFW. A Streambed Alteration Agreement will be required for potential impacts to drainages within the study area.

## **3.0 METHODS**

This jurisdictional delineation was conducted in accordance with the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Arid West Region Supplement) (USACE 2008a). The boundaries of potential Waters of the U.S. were delineated through aerial photograph interpretation and standard field methods (e.g., single or paired sample set analyses), and field data were recorded on Wetland Determination Data Forms - Arid West Region (Attachment C). A color aerial photograph (1"=200' scale, NAIP 2012) was used to assist with mapping and ground-truthing. Munsell Soil Color Charts (Kollmorgen Instruments Co. 1990) and the Web Soil Survey (NRCS 2017) were used to aid in identifying hydric soils in the field. The Jepson Manual, 2nd Edition (Baldwin et al. 2012) was used for plant nomenclature and identification.

Field surveys were conducted on 7 July 2017 by ECORP biologists Scott Taylor and Jon Renard. The biologists walked the entire Delineation Area to determine the location and extent of potential Waters of the U.S. within the Delineation Area. For the purpose of this survey, the Delineation Area included both the Project area (Option 1 and Option 2 configurations, and the proposed gen-tie line) and an additional 500-foot buffer. The buffer was included to account for any features surrounding the Project area in case the Project has offsite impacts and there could be impacts later identified to these features. Note that this buffer area included portions of the area that had been previously surveyed.

Where wetlands were suspected or where sample points had been previously taken, single or paired sampling point locations were sampled to evaluate whether or not the vegetation, hydrology, and soils data supported a determination of wetland or non-wetland status. At each sample location, one point was located such that it was within the estimated wetland area, and, if needed, another point was situated outside the limits of the estimated wetland area. The total area of the wetlands and other waters within the Project site was recorded in the field using a post-processing capable global positioning system (GPS) unit with sub-meter accuracy (Trimble GeoXT) or the ArcGIS Collector Application on a Smart Phone.

### **3.1 Routine Determinations for Wetlands**

To be determined a wetland, the following three criteria must be met:

- A majority of dominant vegetation species are wetland-associated species;
- Hydrologic conditions exist that result in periods of flooding, ponding, or saturation during the growing season; and
- Hydric soils are present.

#### **3.1.1 Vegetation**

Hydrophytic vegetation is defined as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanent or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present (Environmental Laboratory 1987). The definition of wetlands includes the phrase "a prevalence of vegetation typically adapted for life in saturated soil conditions." Prevalent vegetation is characterized by the dominant plant species comprising the plant community (Environmental Laboratory 1987). The dominance test is the basic hydrophytic vegetation indicator and was applied at each sampling point location. The "50/20 rule" was used to select the dominant plant species from each stratum of the community. The rule states that for each stratum in the plant community, dominant species are the most abundant plant species (when ranked in descending order of coverage and cumulatively totaled) that immediately exceed 50 percent of the total coverage for the stratum, plus any additional species that individually comprise 20 percent or more of the total cover in the stratum (HQUSACE 1992, USACE 2008a).

Dominant plant species observed at each sampling point were then classified according to their indicator status (probability of occurrence in wetlands) (Table 1), *North American Digital Flora: National Wetland Plant List* (Lichvar et al. 2016). If the majority (greater than 50 percent) of the dominant vegetation on a site are classified as obligate (OBL), facultative wetland (FACW), or facultative (FAC), then the site was considered to be dominated by hydrophytic vegetation.

Plant Species Classification	Abbreviation	Probability of Occurring in Wetland
Obligate	OBL	Almost always occur in wetlands
Facultative Wetland	FACW	Usually occur in wetlands, but may occur in non-wetlands
Facultative	FAC	Occur in wetlands and non-wetlands
Facultative Upland	FACU	Usually occur in non-wetlands, but may occur in wetlands
Upland	UPL	Almost never occur in wetlands
Plants That Are Not Listed (assumed upland species)	N/L	Does not occur in wetlands in any region.

<sup>1</sup>Source: Lichvar et al. 2016

In instances where indicators of hydric soil and wetland hydrology were present, but the plant community failed the dominance test, the vegetation was re-evaluated using the Prevalence Index. The Prevalence Index is a weighted-average wetland indicator status of all plant species in the sampling plot, where each indicator status category is given a numeric code (OBL=1, FACW=2, FAC=3, FACU=4, and UPL=5) and weighting is by abundance (percent cover). If the plant community failed the Prevalence Index, the presence/absence of plant morphological adaptations to prolonged inundation or saturation in the root zone was evaluated.

### 3.1.2 Soils

A hydric soil is defined as a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (NRCS 2003). Indicators that a hydric soil is present include, but are not limited to, histosols, histic epipedon, hydrogen sulfide, depleted below dark surface, sandy redox, loamy gleyed matrix, depleted matrix, redox dark surface, redox depressions, and vernal pools.

At each sampling point a soil pit was excavated to the depth needed to document an indicator, to confirm the absence of indicators, or until refusal at each sampling point. The soil was then examined for hydric soil indicators. Soil colors were determined while the soil was moist using the *Munsell Soil Color Charts* (Kollmorgen Instruments Co. 1990). Hydric soils are formed predominantly by the accumulation or loss of iron, manganese, sulfur, or carbon compounds in a saturated and anaerobic environment. These processes and the features in the soil that develop can be identified by looking at the color and texture of the soils.

### 3.1.3 Hydrology

Wetlands, by definition, are seasonally or perennially inundated or saturated at or near (within 12 inches of) the soil surface. Primary indicators of wetland hydrology include, but are not limited to: visual observation of saturated soils, visual observation of inundation, surface soil cracks, inundation

visible on aerial imagery, water-stained leaves, oxidized rhizospheres along living roots, aquatic invertebrates, water marks (secondary indicator in riverine environments), drift lines (secondary indicator in riverine environments), and sediment deposits (secondary indicator in riverine environments). The occurrence of one primary indicator is sufficient to conclude that wetland hydrology is present. If no primary indicators are observed, two or more secondary indicators are required to conclude wetland hydrology is present. Secondary indicators include, but are not limited to: drainage patterns, crayfish burrows, FAC-neutral test, and shallow aquitard. The occurrence of at least one primary indicator or two secondary indicators is required to confirm the presence of wetland hydrology.

### **3.2 CDFW Jurisdiction**

The CDFW regulates projects that propose to (1) substantially divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit, (2) use material from the streambeds designated by the department, or (3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake designated by the department. If an existing fish or wildlife resource may be substantially adversely affected by that construction, the department shall notify the governmental agency or public utility of the existence of the fish or wildlife resource together with a description thereof and shall propose reasonable modifications in the proposed construction that will allow for the protection and continuance of the fish or wildlife resource, including procedures to review the operation of those protective measures. CDFW jurisdiction includes the definable bed, bank, or channel, areas that support periodic or intermittent flows, perennial flows, subsurface flows, support fish or other aquatic life and areas that support riparian or hydrophytic vegetation in association with a streambed.

### **3.3 RWQCB Jurisdiction**

The RWQCB regulates wastewater discharges into all surface waters and to groundwater. The RWQCB also regulates storm water discharges from construction, industrial, and municipal activities; discharges from irrigated agriculture; dredge and fill activities; the alteration of any federal water body under the federal Clean Water Act Section 401 certification program; and several other activities that could degrade water quality. In most cases, a permit from the local RWQCB is required for proposed discharges or activities from a project that could affect California's surface, coastal, or ground waters.

Regulated waters are broad in definition and scope. Regulated waterbodies include any "surface water or groundwater, including saline waters, within the boundaries of the state." The regulations encompass all waters of the U.S., including wetlands, as well as all waters of the state. RWQCB publishes no methodology for determining their jurisdictional boundaries, but rather coordinates with other regulatory agencies and determines their jurisdictional boundaries based on these agency's findings. The Project is located within the jurisdiction of the Colorado River RWQCB.



## 4.0 RESULTS

### 4.1 Existing Site Conditions

Historic aerial and topographic photo records for the Delineation Area showed that in 1953 the Project site was a vacant/undeveloped lot ([www.historicaerials.com](http://www.historicaerials.com)). From 1996 to 2002, the western portion of the Project site was cleared and graded presumably for agriculture use. Aerial imagery from 2009 to present shows the western portion of the Project site as presumably abandoned for agricultural use; however, this portion of the Project remains cleared of native vegetation cover. In the eastern portion of the Project site, aerial imagery from 2015 shows the Project site as undisturbed; however, between 2015 and 2017, the entire eastern portion appears to have been disturbed, with most of the native vegetation removed and stockpiled throughout the Project site.

Local topography within the Delineation Area consists of mostly flat areas throughout the Project site. Surrounding land uses include old agricultural fields west of the Project site, undisturbed areas and solar fields to the north, and undisturbed habitat to the east and south of the site.

This region of Imperial County has a climate typified by moderate winters and hot summers with an average of 2.5 inches of precipitation annually. The rainiest months are December through March and temperatures usually range from mid-50s to low-60s degrees Fahrenheit in the winter and mid-90s to mid-100s degrees Fahrenheit in the summer ([www.weather.com](http://www.weather.com)).

The western portion of the Project is disturbed and consists of nonnative vegetation, while the eastern portion is mostly disturbed and void of vegetation. As described in the opening paragraph of this section and based on historical imagery ([www.historicaerials.com](http://www.historicaerials.com)), during the early 1990s the western portion of the Project site was graded presumably for agriculture use. Then the site appeared mostly untouched until the eastern portion of the Project was cleared post 2015 and prior to the site visit in 2017.

The Delineation Area is primarily composed of open space. Adjacent to the Project site to the north is an operational solar field separated from the Project site by Tamarisk (*Tamarix sp.*) windbreak and partly disturbed and partly native habitat. A proposed gen-tie line joins the solar field portion of the Project site in the northwest corner, and runs west for one mile and then north for another mile towards an existing substation. The majority of the gen-tie line is located within previously disturbed areas. The Delineation Area includes the following vegetation communities and land cover types: disturbed habitat, fallow agriculture, mesquite series (*Prosopis glandulosa* Woodland Alliance), mesquite series-disturbed, creosote bush scrub (*Larrea tridentata* Shrubland Alliance), and Tamarisk thickets (*Tamarix spp.* Semi-natural Shrubland Stands), Tamarisk windbreak, and developed.

Vegetation within the upland habitats on the Project site is mainly composed of nonnative annual grasses and forbs such as Russian thistle (*Salsola tragus*) and brome grasses (*Bromus spp.*). The Project site is entirely characterized as disturbed habitat or fallow agriculture. Only few pockets of native habitat (Tamarisk thickets) are present within the Delineation Area (500-foot buffer only).

The aquatic habitat types within the Delineation Area are dominated by several wetland plants including saltcedar (*Tamarix ramosissima*), athel (*Tamarix aphylla*), Mediterranean canary grass (*Phalaris minor*), and prickly lettuce (*Lactuca serriola*). Saltcedar is the dominant species in the shrub and canopy layers. Non-natives such as Russian thistle, Mediterranean grass (*Shismus barbatus*), and brome grasses are also present within the aquatic habitat types. See Section 4.2, Potential Wetlands and Waters of the U.S., for a more detailed description of each aquatic habitat type and its associated vegetation.

The jurisdictional delineation was conducted in the summer, outside of the blooming season for most plant species. The survey was not conducted at a preferred time of the year to directly observe wetland hydrology, but was conducted during a good time of year to observe wetland soil characteristics. Although not all wetland plant species were in bloom at the time of the survey, most plants were identifiable to species based upon the vegetative morphology. During the 2016-2017 rainy season, a year prior to the field survey (6 July 2016 to 6 July 2017), 2.43 inches of precipitation were recorded at the Imperial County Airport reporting station (NOAA 2016b), located approximately 30 miles from the Delineation Area. The most recent significant amount of precipitation prior to the survey occurred during February 2017 with a total of 0.52 inch of rain over the course of that month. The last recorded precipitation event prior to the surveys was in May 2017, totaling 0.06 inch (NOAA 2016b).

#### **4.1.1 National Wetland Inventory (NWI)**

According to the National Wetland Inventory (USACE 2011), there are two features mapped within the Delineation Area (Figure 3. *National Wetland Inventory*). Both features correspond to Riverine (mapped).

#### **4.1.2 Soils**

According to the Web Soil Survey (NRCS 2006), five soil units, or types, have been mapped within the Project site (Figure 4. *Natural Resources Conservation Service Soil Types*). These are:





- Indio-vint complex
- Meloland fine sand
- Vint fine sandy loam
- Rositas fine sand, 0 to 2 percent slopes
- Glenbar clay loam

All of these identified soil types, with the exception of the Rositas series soils, are typical of alluvial fan deposits and terraces and could be considered hydric or conducive to flooding, pooling, ponding, or other water features.





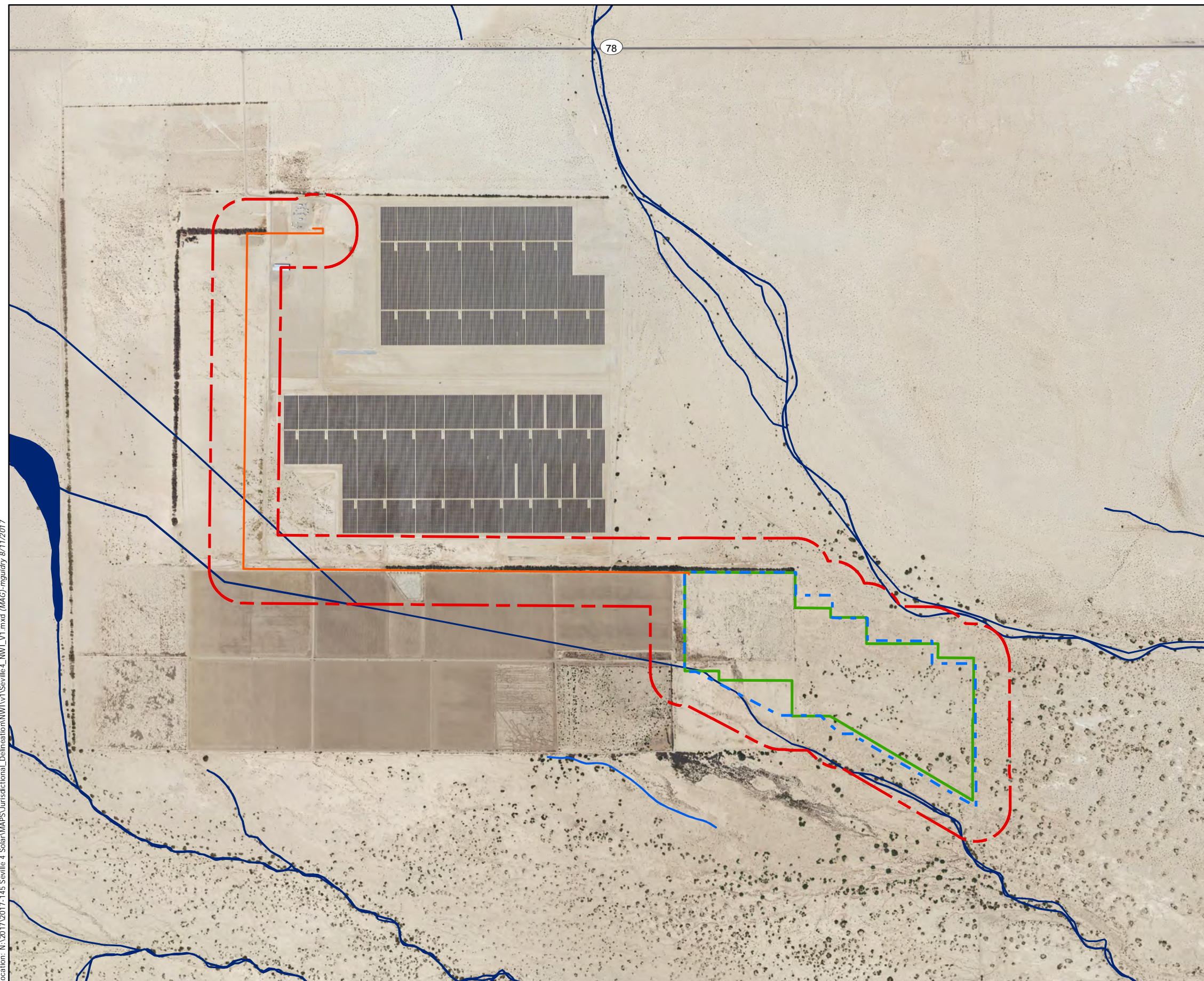
**Figure 4.**  
**National Wetland Inventory**

**Map Features**

-  Delineation Boundary
-  Option 1 (Fixed-Frame)
-  Option 2 (HSAT)
-  Proposed Gen-tie

**NWI Type**

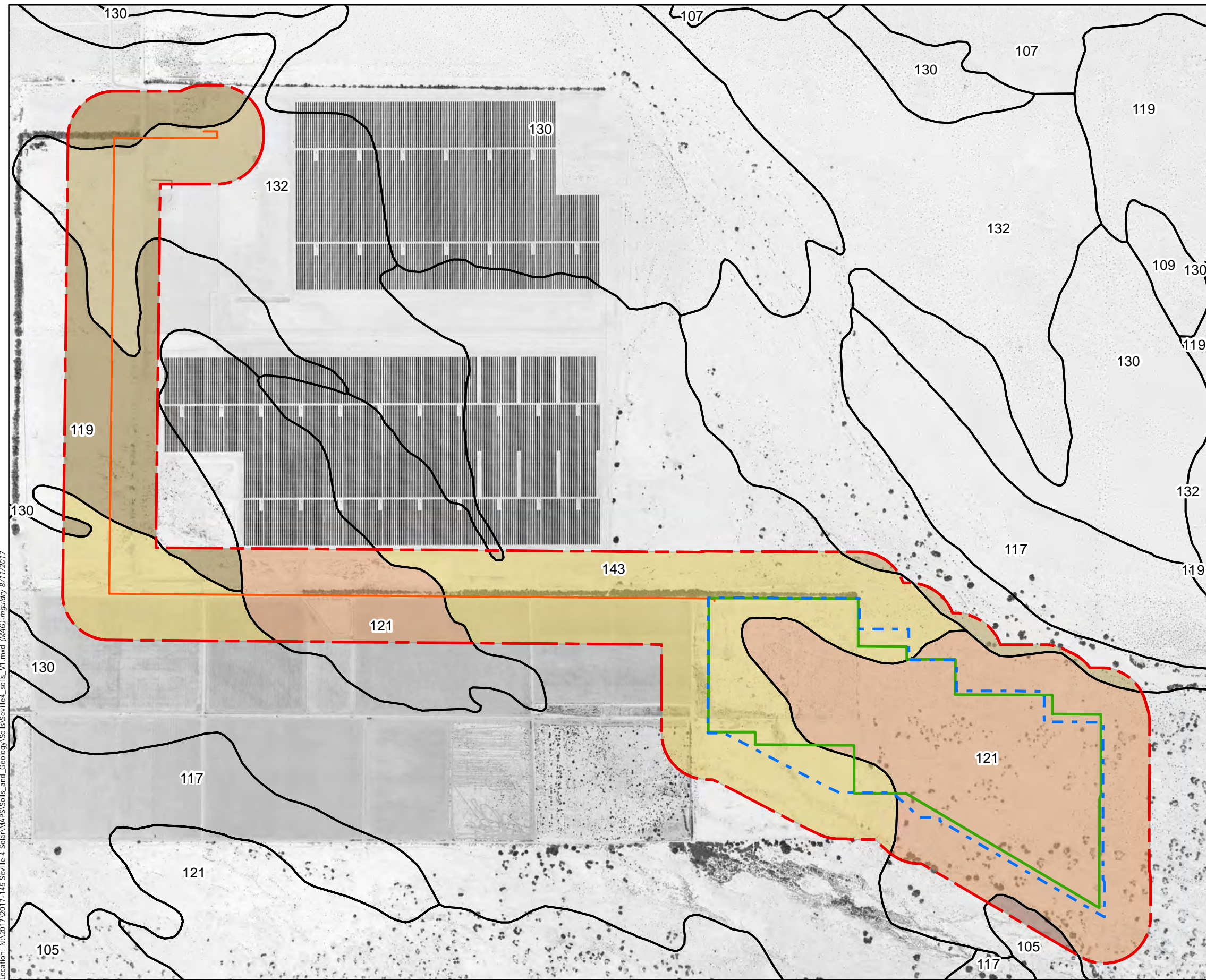
-  Freshwater Emergent Wetland
-  Riverine



Location: N:\2017\2017-145 Seville 4 Solar\MAPS\Jurisdictional\_Delineation\NW1\1\Seville\_4\_NWI\_V1.mxd (MAG) mguidry 8/11/2017







**Figure 4.  
Natural Resources Conservation  
Service Soil Types**

- Map Features**
- - - Delineation
  - - - Option 1 (Fixed-Frame)
  - Option 2 (HSAT)
  - Proposed Gen-tie
- Series Number - Series Name**
- 105 - GLENBAR CLAY LOAM
  - 119 - INDIO-VINT COMPLEX
  - 121 - MELOLAND FINE SAND
  - 132 - ROSITAS FINE SAND, 0 TO 2 PERCENT SLOPES
  - 143 - VINT FINE SANDY LOAM

Natural Resources Conservation Service (NRCS)  
Soil Survey Geographic (SSURGO) Database for  
Imperial County, CA



Location: N:\2017\2017-145 Seville 4 Solar\MAPS\Soils\_and\_Geology\Soils\Seville4\_soils\_V1.mxd (MAG) mxd 8/11/2017



### **Indio Series**

Indio soils consist of very deep, well or moderately well drained soils formed in alluvium derived from mixed rock sources. Indio soils are on alluvial fans, lacustrine basins, and flood plains and have slopes of zero to three percent. These soils are typically light brownish gray in color and consist of very fine sandy loam. This series is associated with Coachella, Holtville, Imperial, and Rositas series soils. These soils are found at elevations ranging from about 1400 feet above mean sea level (msl) to 230 feet below msl.

### **Meloland Series**

Meloland soils are members of the coarse-loamy over clayey, mixed (calcareous), hyperthermic family of Typic Torrifluvents. Typically, Meloland soils have light brown and very pale brown, calcareous very fine sandy loam, loamy fine sand and silt loam upper horizons. These soils are naturally well drained, with low to medium surface runoff and slow permeability. This series is associated with Antho, Holtville, Imperial, Indio, and Niland series soils. Meloland soils are found in nearly level lacustrine basins and flood plains in the deserts with slopes of zero to one percent. These soils are found at elevations ranging from about 700 feet above to 230 feet below msl.

### **Vint Series**

Vint soils consist of very deep, somewhat excessively drained soils formed in stratified stream alluvium. Vint soils are found on flood plains and have slope of zero to three percent. Typically, Vint soil color ranges from brown to pale brown that is characterized by loamy fine sand. This series has very slow runoff and moderately rapid permeability. This series is associated with Antho, Carrizo, Denure, and Momoli series soils. Vint soils are found at elevations ranging from about 2500 feet above to 230 feet below msl.

### **Rositas Series**

Rositas series soils consist of very deep, somewhat excessively drained soils formed in sandy eolian material. Rositas soils are found on dunes and sand sheets and have slope of zero to 30 percent with hummocky or dune micro relief. Typically, Rositas soil color ranges from reddish yellow to strong brown that is characterized by fine sand. This series has negligible to low runoff and rapid permeability. This series is associated with Aco, Holtville, Imperial, Meloland, Niland, and Vint series soils. Rositas soils are found at elevations ranging from about 2000 feet above to 270 feet below msl.

### **Glenbar Series**

Glenbar series soils consist of very deep, well drained soils formed in stratified stream alluvium. Glenbar soils are found on flood plains and alluvial fans and have slope of zero to three percent. Typically, Glenbar soil color ranges from brown to pale brown that is characterized by stratified or silty clay loam. This series has medium to slow runoff and moderately slow permeability. This series is associated with Antho, Estrella, Gadsden, Gilman, Mohall, and Vint series soils. Glenbar soils are found at elevations ranging from about 2500 feet above to 230 feet below msl.

## 4.2 Potential Waters of the U.S.

No potential Waters of the U.S. were documented within the Project site (Option 1, Option 2, and gen-tie line). A total of 1.23 acres of potential Waters of the U.S. have been mapped within the Delineation Area and are located within the 500-ft buffer of Project only (Table 2). Representative photos are included in Attachment B, the wetland determination form is included in Attachment C, and a list of plant species observed on-site is included in Attachment D. A discussion of the waters is presented below, and jurisdictional delineation maps are presented in Figure 5A. *Option 1 Jurisdictional Delineation* and Figure 5B. *Option 2 Jurisdictional Delineation*.

Type	Acreage within Delineation Area <sup>1</sup>			
	Option 1	Option 2	Gen-tie Line	500-foot Buffer
Waters				
Ephemeral Stream	0	0	0	1.23
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1.23</b>

<sup>1</sup>Acreages represent a calculated estimation and are subject to modification following the USACE verification process.

### 4.2.1 Wetlands

Although no wetlands were identified within the Delineation Area, a single sample point (SP1) was taken southwest of the Project site, in the same location that had been previously sampled for a wetland in 2013 (HELIX 2014).

The sample point was located within a low lying area where runoff from the old agricultural area west of the Project site is conveyed into a drainage ditch. Wetland hydrology was indicated by the presence of a primary indicator surface soil cracks (B6). Dominant species present included two upland (UPL) species, saltcedar and shad-scale (*Atriplex canescens*), and one facultative upland (FACU) species, Russian thistle (*Salsola tragus*). Vegetation was dominated by upland species and did not qualify as wetland vegetation by either the dominance test or prevalence index. No hydric soil indicators were noted. Possible wetland hydrology was noted by the presence of soil surface cracks (B6), a primary wetland hydrology indicator. However, the primary source of surface water that created these cracks is thought to be from wells associated with past agricultural operations.

As was consistent with the results of HELIX's sample point, SP1 was not located within a wetland, and therefore, this drainage ditch was not under the jurisdiction of the USACE.

### 4.2.2 Other Waters









#### 4.2.2.1 Tarantula Wash

Located northeast of the Project site (within the 500-foot buffer), Tarantula Wash is characterized as an intermittently flooded riverine. It follows its natural, historic course in a southeast direction until it



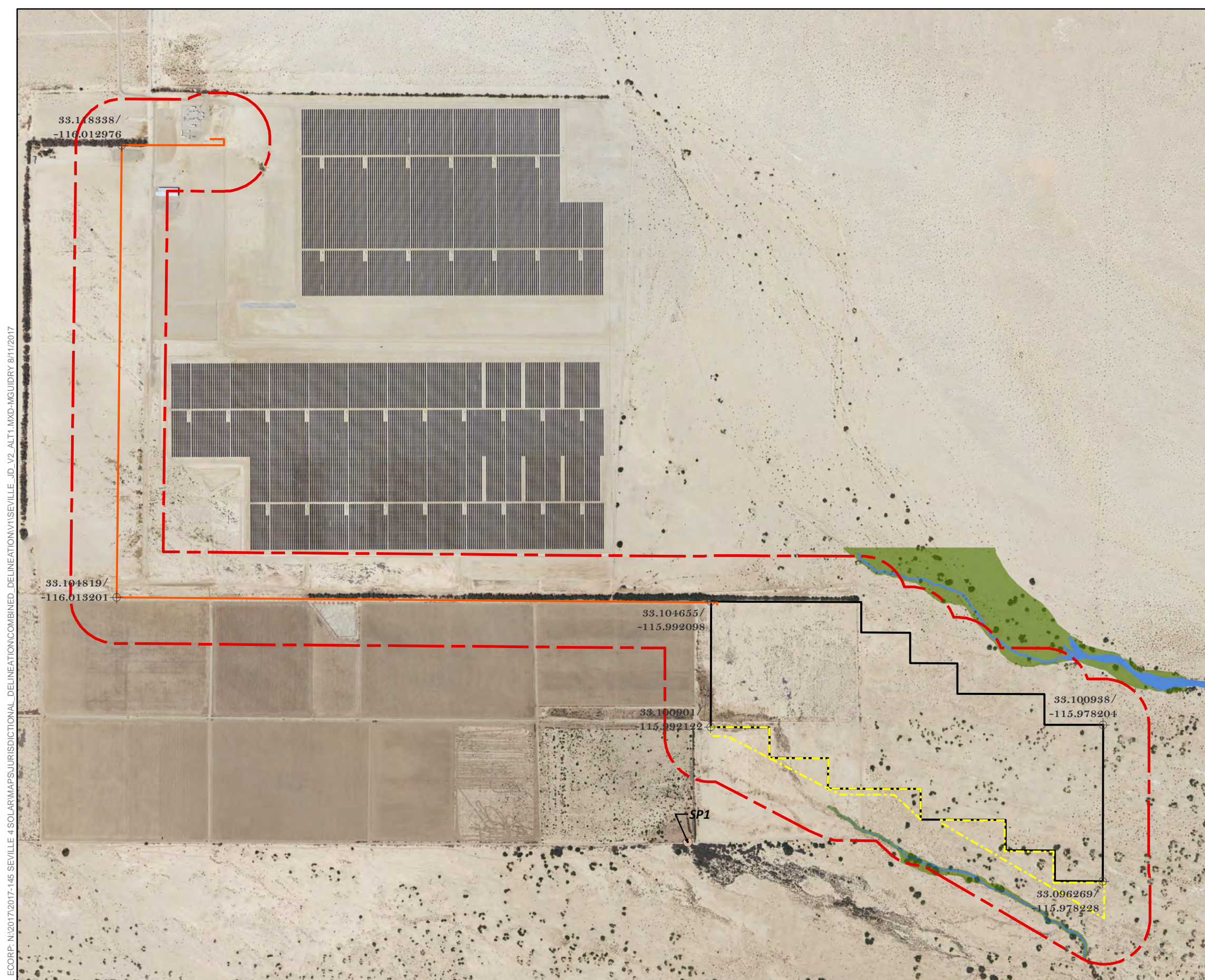
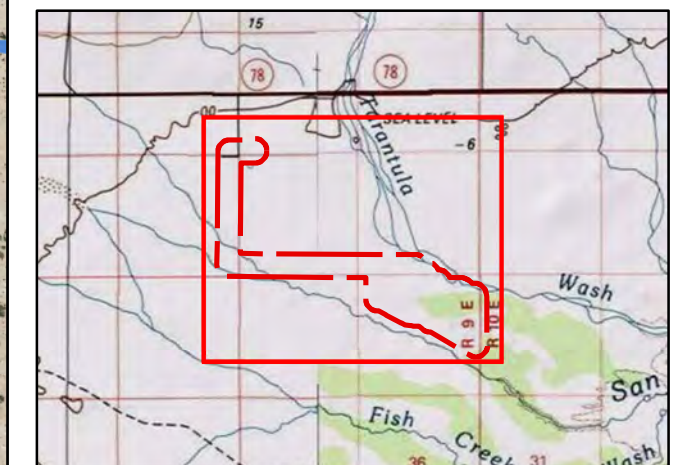
**Figure 5A.**  
**Option 1 (Fixed-Frame)**  
**Jurisdictional Delineation**

**Map Features**

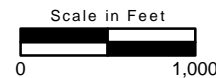
-  Delineation Area Option 1 (Fixed-Frame)
- Option 1 (Fixed-Frame)**
-  Solar Farm
-  Detention Basin
-  Proposed Gen-tie
-  Sample Point
-  Reference Coordinate (NAD83)
- Waters of the US <sup>1</sup>**
-  Ephemeral Stream
- Waters of the State <sup>2</sup>**
-  Streambed

<sup>1</sup> Subject to U.S. Army Corps of Engineers verification. This exhibit depicts information and data produced in accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual, Acid West Region Version 2.0 as well as the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program as amended on February 10, 2016, and conforms to Los Angeles District specifications. However, feature boundaries have not been legally surveyed and may be subject to minor adjustments if more accurate locations are required.  
<sup>2</sup> The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.

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ECORP: N:\2017\2017-145 SEVILLE 4 SOLAR\MAPS\JURISDICTIONAL\_DELINEATION\COMBINED\_DELINEATION\1SEVILLE\_JD\_V2\_ALT1.MXD-MGJUDRY 8/11/2017







**Figure 5B.**  
**Option 2 (HSAT)**  
**Jurisdictional Delineation**


**Map Features**

 Delineation Area Option 2 (HSAT)

**Option 2 (HSAT)**

 Solar Farm


 Detention Basin


 Proposed Gen-tie

 Sample Point

 Reference Coordinate (NAD83)

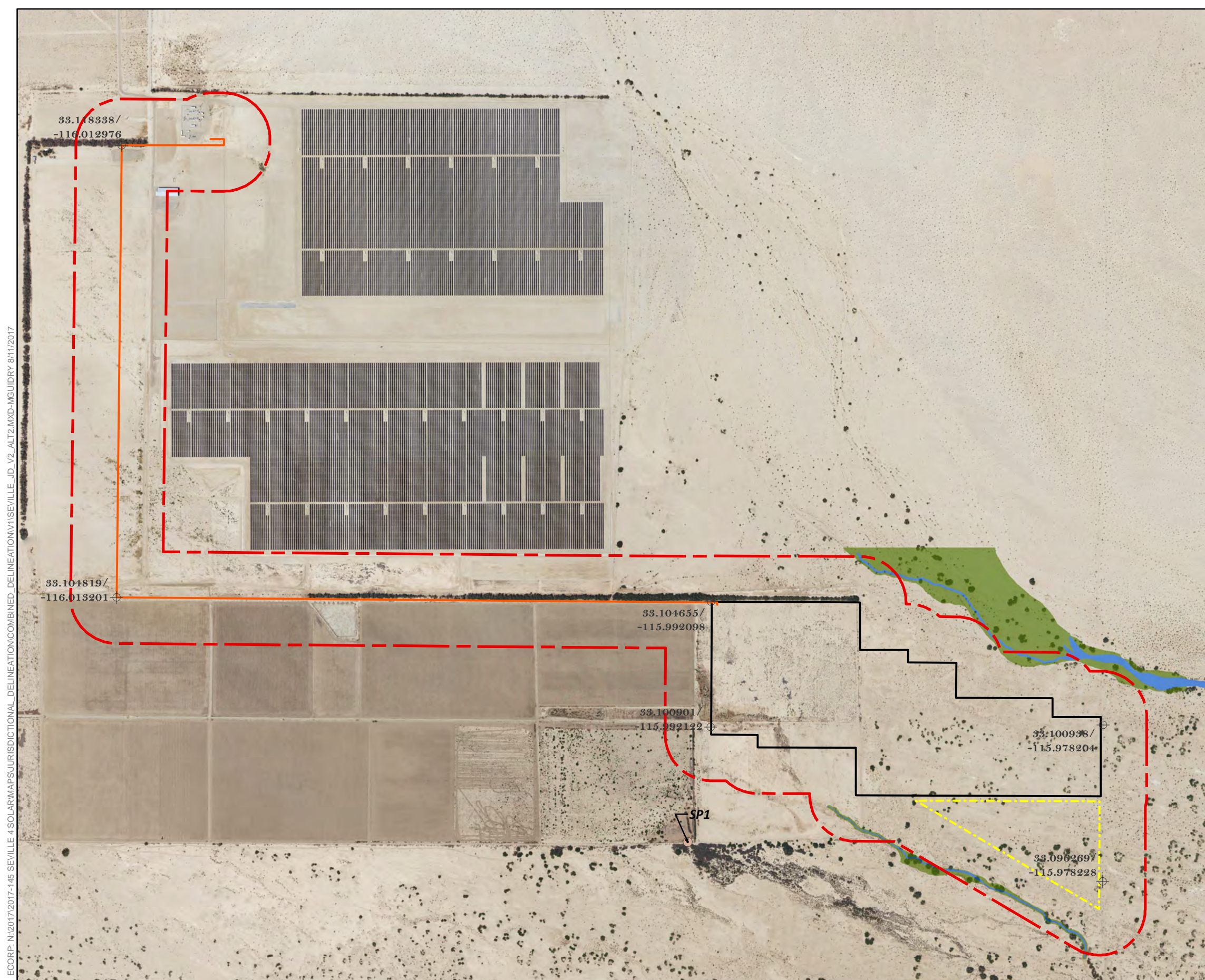
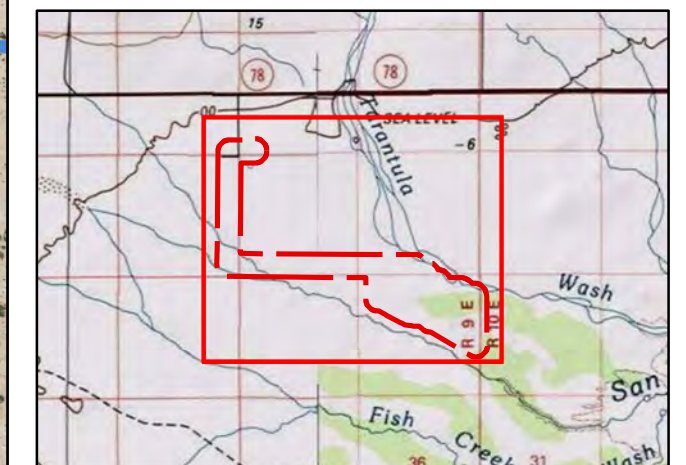
**Waters of the US <sup>1</sup>**

 Ephemeral Stream

 Streambed

<sup>1</sup> Subject to U.S. Army Corps of Engineers verification. This exhibit depicts information and data produced in accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual, Arid West Region Version 2.0 as well as the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program as amended on February 10, 2016, and conforms to Los Angeles District specifications. However, feature boundaries have not been legally surveyed and may be subject to minor adjustments if more accurate locations are required.  
<sup>2</sup> The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.

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reaches and joins with San Felipe Creek 2.5 miles to the south, which continues northeast for 10 miles where it eventually flows in the Salton Sea. Vegetation within Tarantula Wash is primarily natural vegetation, consisting of few occurrences of saltcedar and creosote bush however most large shrubs (mostly tamarisks) that were present appeared to have been mechanically removed and were now present only in various piles. Some of the cleared vegetation was crown-sprouting. No surface water was present at the time of the survey. Additionally, the vegetation community showed signs of drought stress and contained a high amount of abscised leaves and desiccated plant material.

The active floodplain of Tarantula Wash was characterized by coarse sand substrate, with silt present in small quantities. The limits of OHWM were determined primarily by the presence of bed and bank along with surface relief. Vegetation within the active floodplain areas was considered to be early successional. Some low terrace areas were also observed associated with the feature, consisting of small hummocks formed by stabilizing root masses of tamarisk thickets.

Channel surface features within Tarantula Wash indicated regular scour events and in some locations the surface was littered with plant debris such as dead branches, dead tree trunks, leaf litter and assorted plant material. The piles of dead woody debris noted earlier were common, but did not appear to restrict flows in any locations since most piles were piled on hummocks located outside of the channel. The hydric indicators present included drainage patterns, sediment deposits, and wrack. The flood regime within Tarantula Wash is considered to be ephemeral, meaning that it conveys runoff for short periods of time, during and immediately following rain events, and is not influenced by groundwater sources at any time during the year.

Sampling points were not taken within the ephemeral feature since the presence of a wetland was not suspected.

#### **4.2.2.2 Unnamed Ephemeral Drainage (Former San Felipe Wash)**

In addition to Tarantula Wash, one unnamed ephemeral drainage that is a remnant of the former flowpath of San Felipe Wash was identified within the Delineation Area (500-foot buffer only) south of the Project site. This feature was sparsely vegetated in most areas, with several stands of Tamarisk thickets.

From investigations of historical aerial photographs, and USGS topographic mapping, this feature used to be San Felipe Wash. When agricultural areas were developed to the west of the Delineation Area, San Felipe Wash became diverted along the border of the fields by construction of a berm. This berm surrounds the former agricultural area and cut off the flows of San Felipe Creek that formerly traversed the Project site. The current alignment of San Felipe Creek is well south of the former agricultural area and the Delineation Area. The former alignment portion of the creek that was mapped on site now conveys only local runoff from one of the fields, but the feature flows into San Felipe Creek offsite to the southeast.

The active floodplain of this feature was characterized by coarse silt. The limits of OHWM were determined primarily by the changes in vegetation and the break in bank slope. Other features observed included mud cracks and surface relief caused by flowing water. Vegetation within the active floodplain areas was considered to be early successional. No low terrace areas or other floodplain units were present.

Channel surface features within this feature indicated weak bed and bank along with a narrow scoured area that varied in width. Other hydric indicators present included drainage patterns and sediment deposits. The flood regime within this feature is considered to be ephemeral, meaning that it conveys runoff for short periods of time, during and immediately following rain events, and is not influenced by groundwater sources at any time during the year.

Sampling points were not taken within the ephemeral feature since the presence of a wetland was not expected.

### **4.3 CDFW Jurisdiction**

The areas mapped as Waters of the U.S. would also be considered state jurisdiction, under California Fish and Game Code Section 1600, as streams and associated habitat. In addition, the mapped ephemeral streams are surrounded by broader floodplains which cumulatively total more than quadruple the size of the OHWM limits mapped. Tarantula Wash in particular contains floodplain habitats ranging from 50 to 200 feet in width, not all of which are located within the Delineation Area. Of the areas mapped, including those considered Waters of the U.S., none were located within the Project site (Option 1, Option 2, or gen-tie line). A total of 8.68 acres of CDFW jurisdiction is present within the 500-foot buffer of the Project consisting entirely of streambed. Within the mapped features, there were no areas that supported riparian or hydrophytic vegetation in association with either streambed.

### **4.4 RWQCB Jurisdiction**

The RWQCB jurisdiction within the Delineation Area is considered to include all areas under the federal Clean Water Act Section 404 guidelines and all areas encompassed by CDFW jurisdiction. Therefore, the total potential RWQCB jurisdiction located within the Delineation Area (outside of the Project site but within the 500-foot buffer) is 8.68 acres.

## **5.0 JURISDICTIONAL ASSESSMENT**

As per Regulatory Guidance Letter (08-02), an Applicant “may elect to use a preliminary Jurisdictional Determination (PJD) to voluntarily waive or set aside questions regarding Clean Water Act/Rivers and Harbors Act jurisdiction over a particular site, usually in the interest of allowing the landowner or other “affected party” to move ahead expeditiously to obtain a USACE permit authorization where the party determines that is in his or her best interest to do so.” (USACE 2008b). A significant nexus evaluation is not necessary to obtain a PJD. The following information on connectivity of wetlands and other waters in the Delineation Area to TNWs is provided to support USACE should a formal Jurisdictional Determination (JD) be necessary.

Tarantula Wash is characterized as an intermittently flooded riverine that is located just northeast of the Project site and enters into San Felipe Creek to the southeast, which channels and ultimately enters the Salton Sea. The Salton Sea is identified by the USACE as a TNW.

The ephemeral drainage located south of the Project site is identified as an unnamed tributary on the USGS topographic 7.5-minute quadrangle "Harpers Well, California" (USGS 1981). However, using historical aerial imagery, it is plausible that this tributary is a remnant of the original channel flow path of San Felipe Creek, prior to the land being developed as agriculture in 1992. The main flow of San Felipe Creek has since been rerouted south of the Project site and ultimately connects with Fish Creek Wash to flow into the Salton Sea.

All waters discussed above have connectivity with and are likely to have a significant nexus (affecting the chemical, physical, or biological integrity) with downstream TNWs. Ultimately, this overland flow or flow via Tarantula Wash and the ephemeral drainage reach main drainages that are ultimately tributary to the Salton Sea, a USACE identified as a TNW of the U.S. Thus, the waters in the Delineation Area are considered to have a significant nexus with TNW of the U.S. and would therefore have a nexus with interstate and/or foreign commerce; however, neither of these drainages is located within Option 1, Option 2, or the gen-tie line of the Project.

## **6.0 CONCLUSION**

A total of 1.23 acres of potential other waters of the U.S. have been mapped within the Delineation Area (within the 500-foot buffer of the Project site only). These acreages represent a calculated estimation of the jurisdictional area within the Delineation Area and are subject to modification following the USACE review and/or verification process. The placement of dredged or fill material into jurisdictional features would require a permit pursuant to Section 404 of the CWA and certification or waiver in compliance with Section 401 of the CWA.

The areas mapped would also be considered state jurisdiction, under California Fish and Game Code Section 1600, as streams and associated habitat and under the Clean Water Act Section 401. These areas mapped within the Delineation Area (within the 500-foot buffer of the Project site only) total 8.68 acres of potential other waters of the State. Alteration of the ephemeral streams, their associated riparian habitats, and the freshwater marsh would necessitate a Lake or Streambed Alteration Agreement with the California Department of Fish and Wildlife. Effects to areas jurisdictional under the Clean Water Act Section 401 certification program, and other activities that could degrade water quality, will be subject to permitting from the local RWQCB.

According to current Project configurations of Option 1 and Option 2, and the proposed gen-tie line, all potential waters of the U.S. and State are located outside of Project boundaries; therefore, impacts to these features are not anticipated as a result of this Project.

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## 7.0 REFERENCES

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## **LIST OF ATTACHMENTS**

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Attachment A – Directions to Site

Attachment B – Representative Site Photographs

Attachment C - Wetland Determination Data Forms - Arid West Region

Attachment D - Plant Species Observed On-Site

Attachment E – Arid West OHWM Forms

## **ATTACHMENT A**

---

Directions to Site






215 5th St to 1700-1798 CA-78, Borrego Springs, CA 92004


Drive 121 miles, 1 h 51 min

## 215 5th St


Redlands, CA 92374

-  1. Head south on 5th St toward E Redlands Blvd  


---

151 ft
-  2. Turn left at the 1st cross street onto E Redlands Blvd  


---

367 ft
-  3. Turn left at the 1st cross street onto N 6th St  


---

0.3 mi
-  4. Turn right to merge onto I-10 E  

---

65.5 mi
-  5. Keep right to continue on CA-86 S, follow signs for Brawley/El Centro/865 Expy  

---

47.3 mi
-  6. Turn right onto CA-78 (signs for Ocotillo Wells)  

---

7.9 mi

## 1700-1798 CA-78, Borrego Springs, CA 92004

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

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**ATTACHMENT B**

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Representative Site Photographs

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Photo 1 – Tarantula Wash Downstream of Project Buffer; facing east



Photo 2 – Tarantula Wash Middle of Project Buffer; facing west





Photo 3 – Tarantula Wash Showing Bank Edge (Buffer); facing west



Photo 4 – Tarantula Wash Surface Relief (Buffer); facing northwest





Photo 5 – Ephemeral Tributary to San Felipe Wash (Project Area); facing southeast



Photo 6 – Sample Point 1 (Buffer Area); facing east





Photo 7 – San Felipe Wash Diversion Around Agriculture (Offsite); facing south



Photo 8 – San Felipe Wash Diversion; facing north

Wetland Determination Data Forms - Arid West Region

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**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Seville Solar Site 4 City/County: --/ Imperial County Sampling Date: 7 July 2017  
 Applicant/Owner: Ericsson-Grant, Inc. (Prime Consultant) State: CA Sampling Point: 1  
 Investigator(s): Scott Taylor, Jonathan Renard Section, Township, Range: Section 25, Township 12S, Range 9E  
 Landform (hillslope, terrace, etc.): Drainage ditch (Ag), basin Local relief (concave, convex, none): Concave Slope (%): 1  
 Subregion (LRR): LRR-D Lat: <sup>Floor</sup> 33.097487° Long: -115.992929° Datum: NAD83  
 Soil Map Unit Name: Vint NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>Old agricultural ditch (&gt; 10 years since active).</u>	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>150ft<sup>2</sup></u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____				
3. _____				
4. _____				
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>1</u> x 3 = <u>3</u> FACU species <u>1</u> x 4 = <u>4</u> UPL species <u>4</u> x 5 = <u>20</u> Column Totals: <u>6</u> (A) <u>27</u> (B)  Prevalence Index = B/A = <u>4.5</u>
Sapling/Shrub Stratum (Plot size: <u>150 ft<sup>2</sup></u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Tamarix ramosissima</u>	<u>10</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Atriplex canescens</u>	<u>5</u>	<u>Y</u>	<u>UPL</u>	
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>150 ft<sup>2</sup></u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Phalaris minor</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
2. <u>Salsola tragus</u>	<u>90</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Sonchus oleraceus</u>	<u>2</u>	<u>N</u>	<u>UPL</u>	
4. <u>Atriplex sp.</u>	<u>10</u>	<u>N</u>	<u>FAC (assumed)</u>	
5. _____				
6. _____				
7. _____				
8. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: <u>150 ft<sup>2</sup></u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>N/A</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				

**Hydrophytic Vegetation Indicators:**  
 \_\_\_ Dominance Test is >50%  
 \_\_\_ Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:

**SOIL**

Sampling Point: 1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10 YR 5/3	100					Silt loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
--	---	--

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
Remarks: No indicators present	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)	
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Surface cracks may or may not be due to hydrology.			

**ATTACHMENT D**

---

Plant Species Observed On-Site

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Scientific Name	Common Name
<b>VASCULAR PLANTS</b>	
<b>ANGIOSPERMS (EUDICOTS)</b>	
<b>AMARANTHACEAE</b>	<b>AMARANTH FAMILY</b>
<i>Tidestromia suffruticosa</i> var. <i>oblongifolia</i>	honeysweet
<b>ASTERACEAE</b>	<b>SUNFLOWER FAMILY</b>
<i>Ambrosia dumosa</i>	burrobush
<i>Ambrosia salsola</i>	cheesebush
<i>Encelia frutescens</i>	rayless encelia
<i>Lactuca serriola</i> *	prickly lettuce
<i>Sonchus oleraceus</i>	common sow thistle
<b>BORAGINACEAE</b>	<b>BORAGE FAMILY</b>
<i>Tiquilia plicata</i>	fanleaf crinklemat
<b>BRASSICACEAE</b>	<b>MUSTARD FAMILY</b>
<i>Brassica tournefortii</i> *	Saharan mustard
<b>CHENOPODIACEAE</b>	<b>GOOSEFOOT FAMILY</b>
<i>Atriplex canescens</i>	fourwing saltbrush
<i>Atriplex lentiformis</i>	big saltbush
<i>Salsola tragus</i> *	Russian thistle
<b>EUPHORBIACEAE</b>	<b>SPURGE FAMILY</b>
<i>Euphorbia polycarpa</i>	smallseed sandmat
<b>FABACEAE</b>	<b>LEGUME FAMILY</b>
<i>Prosopis glandulosa</i>	honey mesquite
<i>Psoralea argemone</i>	Emory indigobush
<b>PLANTAGINACEAE</b>	<b>PLANTAIN FAMILY</b>
<i>Plantago ovata</i>	desert plantain
<b>TAMARICACEAE</b>	<b>TAMARISK FAMILY</b>
<i>Tamarix aphylla</i> *	athel tamarisk
<i>Tamarix ramosissima</i> *	saltcedar
<b>ZYGOPHYLLACEAE</b>	<b>CALTROP FAMILY</b>
<i>Larrea tridentata</i>	South American creosote bush
<b>ANGIOSPERMS (MONOCOTS)</b>	
<b>POACEAE</b>	<b>GRASS FAMILY</b>
<i>Avena fatua</i> *	wild oat
<i>Phalaris minor</i> *	Mediterranean canarygrass
<i>Schismus barbatus</i> *	common Mediterranean grass

\*Nonnative species

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**ATTACHMENT E**

Arid West OHWM Forms

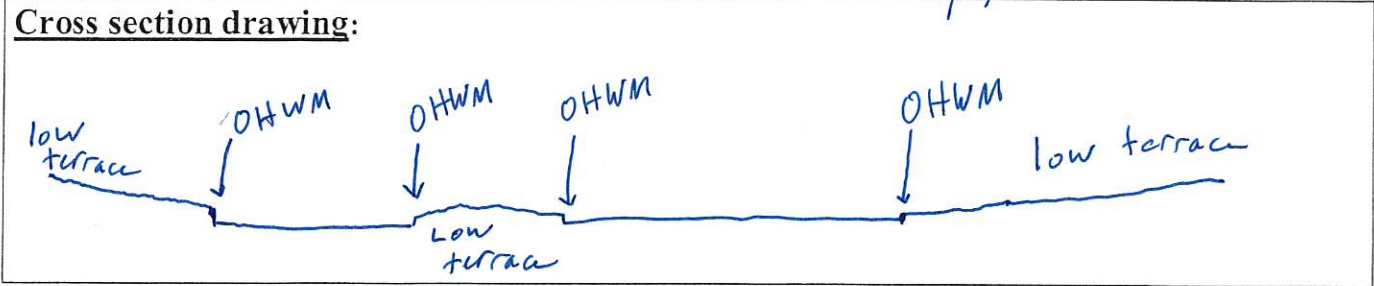
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## Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: <u>Seville</u> Project Number: <u>2017-145</u> Stream: <u>Tarentala Wash</u> Investigator(s): <u>STaylor J. Ricard</u>	Date: <u>7/6/17</u> Town: <u>Uninc.</u> Photo begin file#: _____ Time: <u>0700-1200</u> State: <u>CA</u> Photo end file#: _____
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site? Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Is the site significantly disturbed?	Location Details: <u>West of 86, south of 78 Seltan</u> Projection: _____ Datum: _____ Coordinates: <u>NAD 83</u>
Potential anthropogenic influences on the channel system: <u>Much of the wash was cleared in recent past (2016) veg piled up. Signs of OHWM present, though.</u>	
Brief site description: <u>Desert wash</u>	
Checklist of resources (if available): <input checked="" type="checkbox"/> Aerial photography Dates: <u>2016</u> <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input checked="" type="checkbox"/> Other studies <u>Biology study, Jurisdiction Delineation</u>	
Hydrogeomorphic Floodplain Units	
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:	
1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. 2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. 3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. a) Record the floodplain unit and GPS position. b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location. 4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section. 5. Identify the OHWM and record the indicators. Record the OHWM position via:	
<input checked="" type="checkbox"/> Mapping on aerial photograph <input type="checkbox"/> GPS <input type="checkbox"/> Digitized on computer <input type="checkbox"/> Other:	

Project ID: swille Cross section ID: 1 Date: 7/6/17 Time: 0700-1200



**OHWM**

GPS point: 33.102787, -115.979967; 33.103167, -115.980013; 33.103373, -115.979894; 33.103631, -115.979358

Indicators:

<input type="checkbox"/> Change in average sediment texture	<input checked="" type="checkbox"/> Break in bank slope
<input type="checkbox"/> Change in vegetation species	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Change in vegetation cover	<input type="checkbox"/> Other: _____

Comments:

OHWM was slight, break was an inch maximum. No low flow channels. Floods are rainfall-driven.

**Floodplain unit:**  Low-Flow Channel  Active Floodplain  Low Terrace

GPS point: 33.102986, -115.980032; 33.103430, -115.979988

Characteristics of the floodplain unit:

Average sediment texture: coarse sand / sand

Total veg cover: 5 % Tree: 0 % Shrub: 0 % Herb: 5 %

Community successional stage:

<input type="checkbox"/> NA	<input type="checkbox"/> Mid (herbaceous, shrubs, saplings)
<input checked="" type="checkbox"/> Early (herbaceous & seedlings)	<input type="checkbox"/> Late (herbaceous, shrubs, mature trees)

Indicators:

<input type="checkbox"/> Mudcracks	<input type="checkbox"/> Soil development
<input type="checkbox"/> Ripples	<input checked="" type="checkbox"/> Surface relief
<input type="checkbox"/> Drift and/or debris	<input type="checkbox"/> Other: _____
<input checked="" type="checkbox"/> Presence of bed and bank	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Benches	<input type="checkbox"/> Other: _____

Comments:

Silt present in small quantities

Project ID: Seattle Cross section ID: 1 Date: 7/6/17 Time: 0700-1200

**Floodplain unit:**  Low-Flow Channel  Active Floodplain  Low Terrace

GPS point: 33.102740, -115.980514; 33.103338, -115.980368; 33.103836, -115.977124

**Characteristics of the floodplain unit:**

Average sediment texture: Coarse sand  
Total veg cover: (25) % Tree: (20) % Shrub: (5) % Herb: (5) % (partly presumed)

Community successional stage:

- |  |  |
|--|--|
| <input type="checkbox"/> NA  | <input type="checkbox"/> Mid (herbaceous, shrubs, saplings)      |
| <input checked="" type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

**Indicators:**

- |   |   |
|---|---|
| <input type="checkbox"/> Mudcracks                | <input type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples                  | <input type="checkbox"/> Surface relief   |
| <input type="checkbox"/> Drift and/or debris      | <input type="checkbox"/> Other: _____     |
| <input type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____     |
| <input type="checkbox"/> Benches                  | <input type="checkbox"/> Other: _____     |

**Comments:**

Veg in piles

**Floodplain unit:**  Low-Flow Channel  Active Floodplain  Low Terrace

GPS point: \_\_\_\_\_

**Characteristics of the floodplain unit:**

Average sediment texture: \_\_\_\_\_  
Total veg cover: \_\_\_\_\_ % Tree: \_\_\_\_\_ % Shrub: \_\_\_\_\_ % Herb: \_\_\_\_\_ %

Community successional stage:

- |   |  |
|---|--|
| <input type="checkbox"/> NA                             | <input type="checkbox"/> Mid (herbaceous, shrubs, saplings)      |
| <input type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

**Indicators:**

- |   |   |
|---|---|
| <input type="checkbox"/> Mudcracks                | <input type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples                  | <input type="checkbox"/> Surface relief   |
| <input type="checkbox"/> Drift and/or debris      | <input type="checkbox"/> Other: _____     |
| <input type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____     |
| <input type="checkbox"/> Benches                  | <input type="checkbox"/> Other: _____     |

**Comments:**

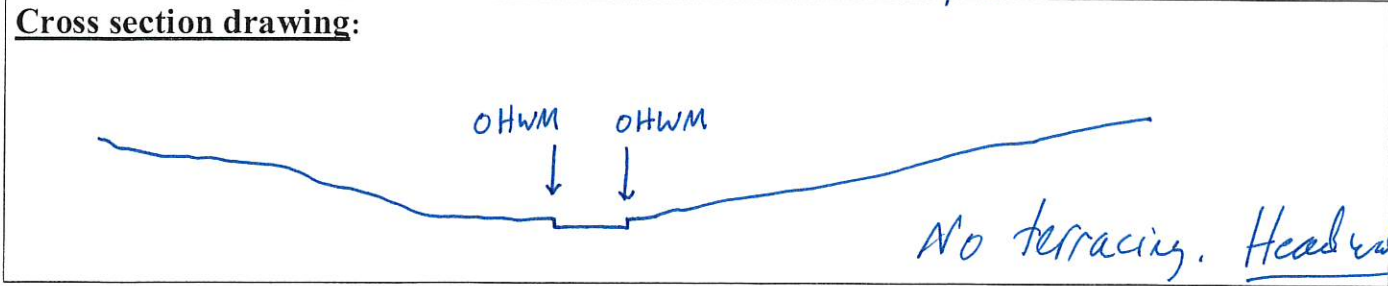


## Arid West Ephemeral and Intermittent Streams OTHM Datasheet

<b>Project:</b> <i>Seville</i> <b>Project Number:</b> <i>2017-145</i> <b>Stream:</b> <i>San Felipe Tributary</i> <b>Investigator(s):</b>	<b>Date:</b> <i>7/7/17</i> <b>Town:</b> <i>unic.</i> <b>Photo begin file#:</b>	<b>Time:</b> <i>0800-1000</i> <b>State:</b> <i>CA</i> <b>Photo end file#:</b>				
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site? Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Is the site significantly disturbed?	<b>Location Details:</b> <i>West of 86, south of 78 Salton Sea Area</i> <b>Projection:</b> <span style="float: right;"><b>Datum:</b> <i>NAD83</i></span> <b>Coordinates:</b>					
<b>Potential anthropogenic influences on the channel system:</b>  <i>Former agricultural area</i>						
<b>Brief site description:</b>  <i>Desert wash with weeds, partly denominated</i>						
<b>Checklist of resources (if available):</b> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Aerial photography                      Dates: <i>2016</i>  <input checked="" type="checkbox"/> Topographic maps  <input type="checkbox"/> Geologic maps  <input checked="" type="checkbox"/> Vegetation maps  <input checked="" type="checkbox"/> Soils maps  <input type="checkbox"/> Rainfall/precipitation maps  <input type="checkbox"/> Existing delineation(s) for site  <input type="checkbox"/> Global positioning system (GPS)  <input checked="" type="checkbox"/> Other studies <i>Biology study, Jurisdictional delineation</i> </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Stream gage data                      Gage number:                      Period of record:  <input type="checkbox"/> History of recent effective discharges  <input type="checkbox"/> Results of flood frequency analysis  <input type="checkbox"/> Most recent shift-adjusted rating  <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event                 </td> </tr> </table>			<input checked="" type="checkbox"/> Aerial photography Dates: <i>2016</i> <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input checked="" type="checkbox"/> Other studies <i>Biology study, Jurisdictional delineation</i>	<input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event		
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<b>Hydrogeomorphic Floodplain Units</b>						
<b>Procedure for identifying and characterizing the floodplain units to assist in identifying the OTHM:</b> <ol style="list-style-type: none"> <li>1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.</li> <li>2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.</li> <li>3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.                         <ol style="list-style-type: none"> <li>a) Record the floodplain unit and GPS position.</li> <li>b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.</li> <li>c) Identify any indicators present at the location.</li> </ol> </li> <li>4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.</li> <li>5. Identify the OTHM and record the indicators. Record the OTHM position via:                         <table style="width: 100%; border: none; margin-top: 5px;"> <tr> <td><input checked="" type="checkbox"/> Mapping on aerial photograph</td> <td><input type="checkbox"/> GPS</td> </tr> <tr> <td><input type="checkbox"/> Digitized on computer</td> <td><input type="checkbox"/> Other:</td> </tr> </table> </li> </ol>			<input checked="" type="checkbox"/> Mapping on aerial photograph	<input type="checkbox"/> GPS	<input type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:
<input checked="" type="checkbox"/> Mapping on aerial photograph	<input type="checkbox"/> GPS					
<input type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:					



Project ID: Seville Cross section ID: 2 Date: 7/6/17 Time: 0800-1000



**OHWM**

GPS point: 33.098007, -115.998007; 33.098016, -115.987099

**Indicators:**

<input type="checkbox"/> Change in average sediment texture	<input checked="" type="checkbox"/> Break in bank slope
<input checked="" type="checkbox"/> Change in vegetation species	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Change in vegetation cover	<input type="checkbox"/> Other: _____

**Comments:**

Slight break in bank slope. Veg in bottom area greener (along sides of OHWM)

**Floodplain unit:**  Low-Flow Channel  Active Floodplain  Low Terrace

GPS point: 33.098011, -115.987099

**Characteristics of the floodplain unit:**

Average sediment texture: Coarse silt

Total veg cover: 20 % Tree: \_\_\_\_\_ % Shrub: \_\_\_\_\_ % Herb: 20 %

Community successional stage:

<input type="checkbox"/> NA	<input type="checkbox"/> Mid (herbaceous, shrubs, saplings)
<input checked="" type="checkbox"/> Early (herbaceous & seedlings)	<input type="checkbox"/> Late (herbaceous, shrubs, mature trees)

**Indicators:**

<input checked="" type="checkbox"/> Mudcracks	<input type="checkbox"/> Soil development
<input type="checkbox"/> Ripples	<input checked="" type="checkbox"/> Surface relief
<input type="checkbox"/> Drift and/or debris	<input type="checkbox"/> Other: _____
<input checked="" type="checkbox"/> Presence of bed and bank	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Benches	<input type="checkbox"/> Other: _____

**Comments:**

Consolidated local surface runoff. Within a former (over 10 year ago) alignment for San Felipe Creek

**Project ID:**

**Cross section ID:**

**Date:**

**Time:**

**Floodplain unit:**

Low-Flow Channel

Active Floodplain

Low Terrace

**GPS point:** \_\_\_\_\_

**Characteristics of the floodplain unit:**

Average sediment texture: \_\_\_\_\_

Total veg cover: \_\_\_\_\_% Tree: \_\_\_\_\_% Shrub: \_\_\_\_\_% Herb: \_\_\_\_\_%

Community successional stage:

NA

Early (herbaceous & seedlings)

Mid (herbaceous, shrubs, saplings)

Late (herbaceous, shrubs, mature trees)

**Indicators:**

Mudcracks

Ripples

Drift and/or debris

Presence of bed and bank

Benches

Soil development

Surface relief

Other: \_\_\_\_\_

Other: \_\_\_\_\_

Other: \_\_\_\_\_

**Comments:**

**Floodplain unit:**

Low-Flow Channel

Active Floodplain

Low Terrace

**GPS point:** \_\_\_\_\_

**Characteristics of the floodplain unit:**

Average sediment texture: \_\_\_\_\_

Total veg cover: \_\_\_\_\_% Tree: \_\_\_\_\_% Shrub: \_\_\_\_\_% Herb: \_\_\_\_\_%

Community successional stage:

NA

Early (herbaceous & seedlings)

Mid (herbaceous, shrubs, saplings)

Late (herbaceous, shrubs, mature trees)

**Indicators:**

Mudcracks

Ripples

Drift and/or debris

Presence of bed and bank

Benches

Soil development

Surface relief

Other: \_\_\_\_\_

Other: \_\_\_\_\_

Other: \_\_\_\_\_

**Comments:**



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San Diego, Ca 92105  
760-717-8765  
www.primrosebio.com  
brantpbs@gmail.com

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July 20, 2017

Ericsson-Grant, Inc.  
5145 Avenida Encinas, Suite H  
Carlsbad, CA 92008  
Attn: Melanie Halajian, Project Manager

**Subject: Results of Burrowing Owl Surveys for the Seville 4 Solar Project, Imperial County, California**

Dear Ms. Halajian:

Primrose Biological Services (PBS) completed a burrowing owl (*Athene cunicularia*) survey for the proposed Seville 4 Solar Project (proposed Project) on Thursday, June 22, 2017 and Thursday, July 13, 2017. The surveys were conducted in accordance with the California Department of Fish and Wildlife (CDFW, formerly California Department of Fish and Game [CDFG]) Staff Report on Burrowing Owl Mitigation (CDFG 2012). This report summarizes the findings of the surveys.

**PROPERTY LOCATION AND PROJECT DESCRIPTION**

The Project site is located at 2085 West Highway 78, Borrego Springs, CA 92004 in west-central Imperial County, California, approximately eight miles west of the junction of SR 78 and SR 86, and approximately five miles east of the San Diego County line. The Project site is also approximately 14 miles west of the Salton Sea (Figure 1). The site consists of a portion of Lot 8 of Tract Map 00988, Section 25 T12S, R9E of the approximately 2,440-acre Allegretti Farms property (Figure 2). The eastern boundary of the Project site is bordered by an unpaved section of Pole Line Road south of SR 78. This road extends through public lands managed by the U.S. Bureau of Land Management (BLM) in Section 14.

The proposed Project includes construction, operation, and reclamation of a 20-megawatt photovoltaic (PV) solar facility. The Applicant has proposed two potential configurations on the northern portion of Lot 8: 1) a 156-acre Horizontal Single-Axis Tracker (HSAT) PV project with 18-acres of retention basins (total project acreage = 174) in the southern portion of the site (Figure 3A); or 2) a 128-acre Fixed Tracker PV project with an 18-acre retention basin (total project acreage = 146 acres) in the southeastern portion of the site (Figure 3B). The Project would use either thin film or crystalline solar PV technology

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modules mounted on either fixed frames or horizontal single-axis tracker systems; pad-mounted inverters in weatherproof enclosures; a substation in Lot D of Tract Map No. 009988; and an above-ground 12.5 or 34.5kV gen-tie. The Project would be surrounded by an eight-foot high chain-link fence. Access to the Project site would be available via a private access road extending south from SR 78.

Construction of the proposed Project is expected to start in late 2017.

**SURVEY METHODS**

Protocol surveys are typically performed during four intervals over the course of the breeding season from February 1 through August 31 according to the following schedule: 1) at least one site visit between February 15 and April 15, and 2) a minimum of three survey visits, at least three weeks apart, between April 15 and July 15, with at least one visit after June 15.

The Seville 4 Solar Project Application was submitted to the Imperial County Planning and Development Services Department on April 13, 2017. The Environmental Review process began in mid-June 2017. As a result, the first two survey intervals had passed. CDFW Senior Environmental Scientist, Magdalena Rodriguez was consulted regarding performing surveys after June 15. She directed that two surveys be performed prior to July 15 noting that the peak breeding season had already passed and due to the site's remote location, findings may not provide a realistic representation of breeding conditions.

The Applicant has chosen to perform the surveys as part of due diligence and will also conduct a pre-construction survey 14-days prior to commencing construction.

The two focused burrowing owl surveys were conducted in accordance with the CDFW guidelines outlined in Appendix D of the Staff Report for Burrowing Owl Mitigation (CDFG 2012). The first burrow owl survey and habitat assessment was conducted on June 22, 2017 and the second on July 13, 2017. A summary of the survey times and conditions is provided below in Table 1. The burrowing owl survey area and buffer (100 meters) is depicted in Figure 4.

<b>TABLE 1 SURVEY TIMES AND CONDITIONS</b>				
<b>DATE</b>	<b>TIME</b>	<b>SURVEYOR</b>	<b>CONDITIONS</b>	<b>SURVEY</b>
6/22/17	07:00-14:00	Brant Primrose	Sunny skies, 80°F-120°F, winds 0-1 mph	Habitat Assessment and Burrow Survey
				Survey 1
7/13/17	08:45-14:30	Brant Primrose	Sunny skies, 80°F-96°F, wind 0-1 mph	Survey 2



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The Habitat Assessment and burrowing owl surveys 1 and 2 consisted of walking throughout the entire area of disturbance of potential burrowing owl habitat within the survey area. The survey area included the project boundary and retention basin(s) area. A 100-meter buffer that visually inspected during all surveys (Refer to Figures 3A and 3B). Mr. Primrose surveyed transects in the burrowing owl habitat no greater than 20 meters wide. Mr. Primrose walked slowly and methodically, closely checking the areas that met the basic requirements of owl habitat, which include:

- Open expanses of sparsely vegetated areas (less than 30 percent canopy cover for trees and shrubs);
- Gently rolling or level terrain;
- An abundance of small mammal burrows, especially those of the California ground squirrel (*Spermophilus beecheyi*); and
- Fence posts, rocks, or other low perching locations.

### **SURVEY FINDINGS**

The initial BUOW survey indicated that the acreage encompassed in both configurations had very low to no potential to be burrowing owl habitat. Small mammal burrows were too small for BUOW to use or occupy. No areas of the site had the proper conditions for BUOW to occur.

The absence of BUOW on the within the proposed configurations could be from lack of natural water or inoperable irrigation canals around the perimeter of the disturbed agriculture fields within the project site. This habitat was comprised of primarily fallow agriculture and disturbed habitats but also included small amounts of sparsely-vegetated shrub communities. No burrowing owl signs in the form of pellets or whitewash were observed on or in the immediate vicinity of the survey area during both surveys.

Sincerely,

*Brant Primrose*

Brant Primrose  
Senior Botanist/Biologist

Attachments:

Figure 1 Regional Location Map

Figure 2 Project Location Map

Figure 3A: Project Survey Map – 156-acre Horizontal Single-Axis Tracker (HSAT) Layout with 18-Acres of Retention Basins

Figure 3B: Project Survey Map – 128-acre Fixed Tracker PV Project with an 18-Acre Retention Basin

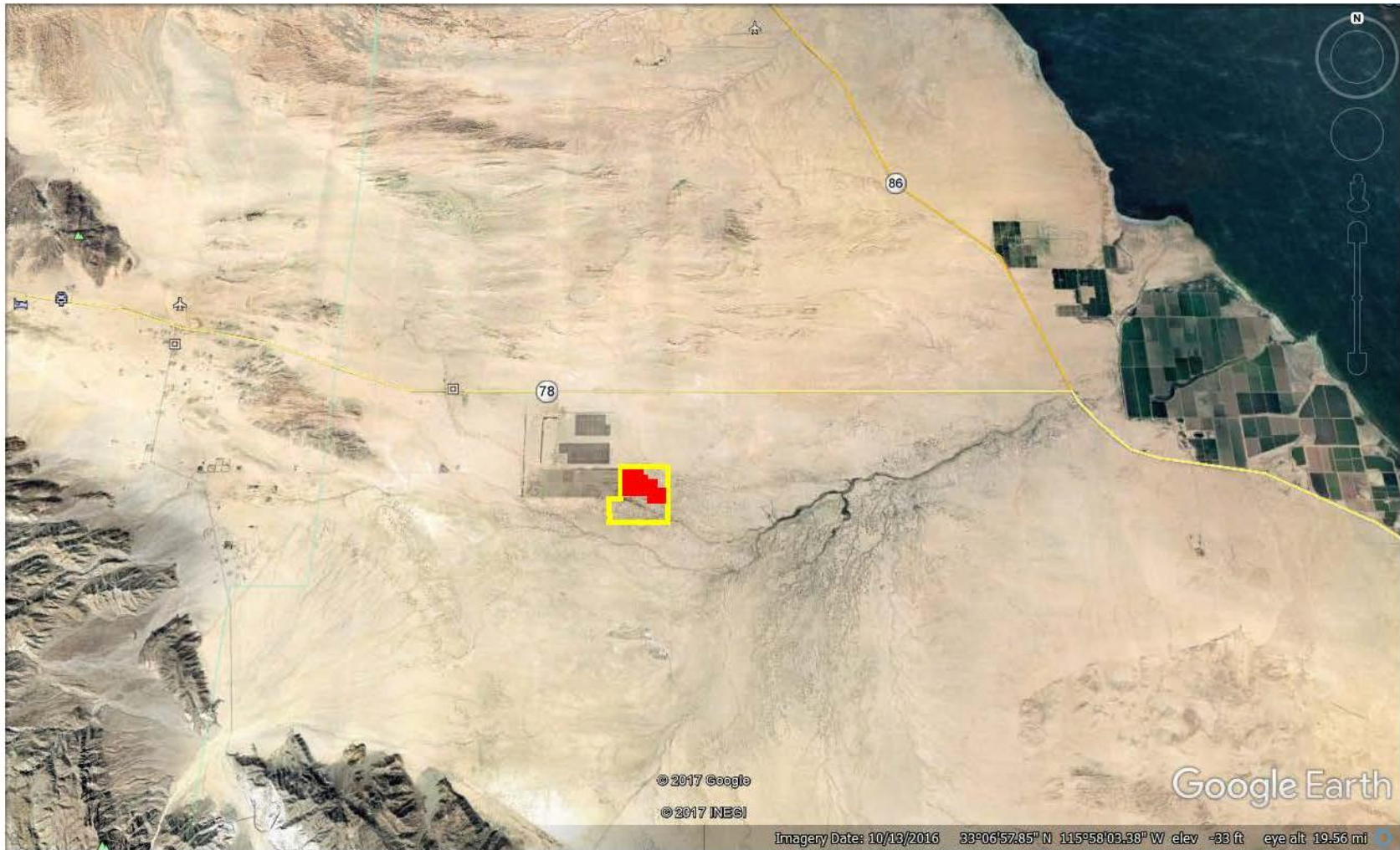
### **LITERATURE CITED**

California Department of Fish and Game. 2012. Staff Report on Burrowing Owl Mitigation. State of California Natural Resource Agency. March 7.





FIGURE 1 – REGIONAL LOCATION MAP

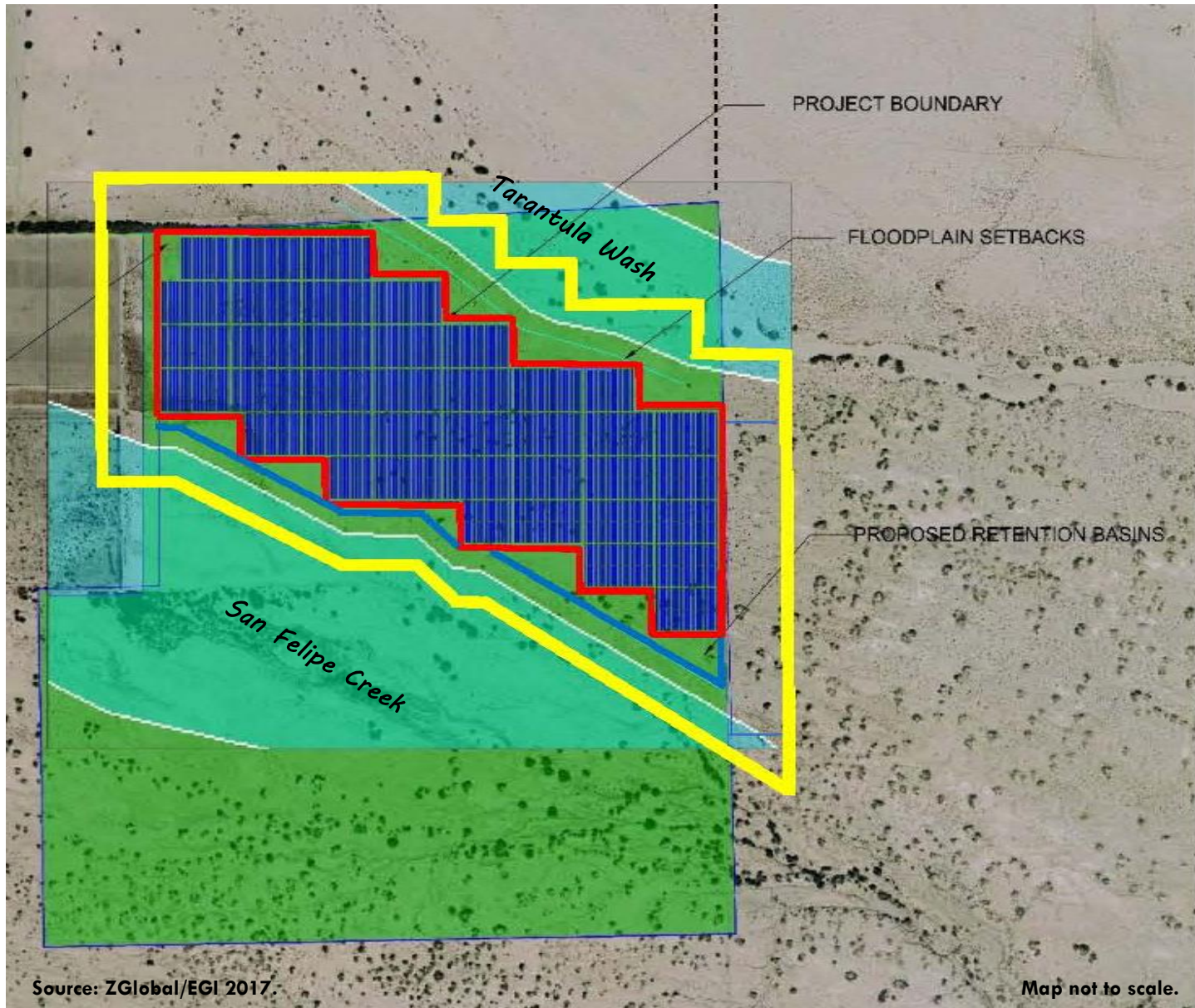




Not to scale.

-  Lot 8 Boundary
-  Project Site

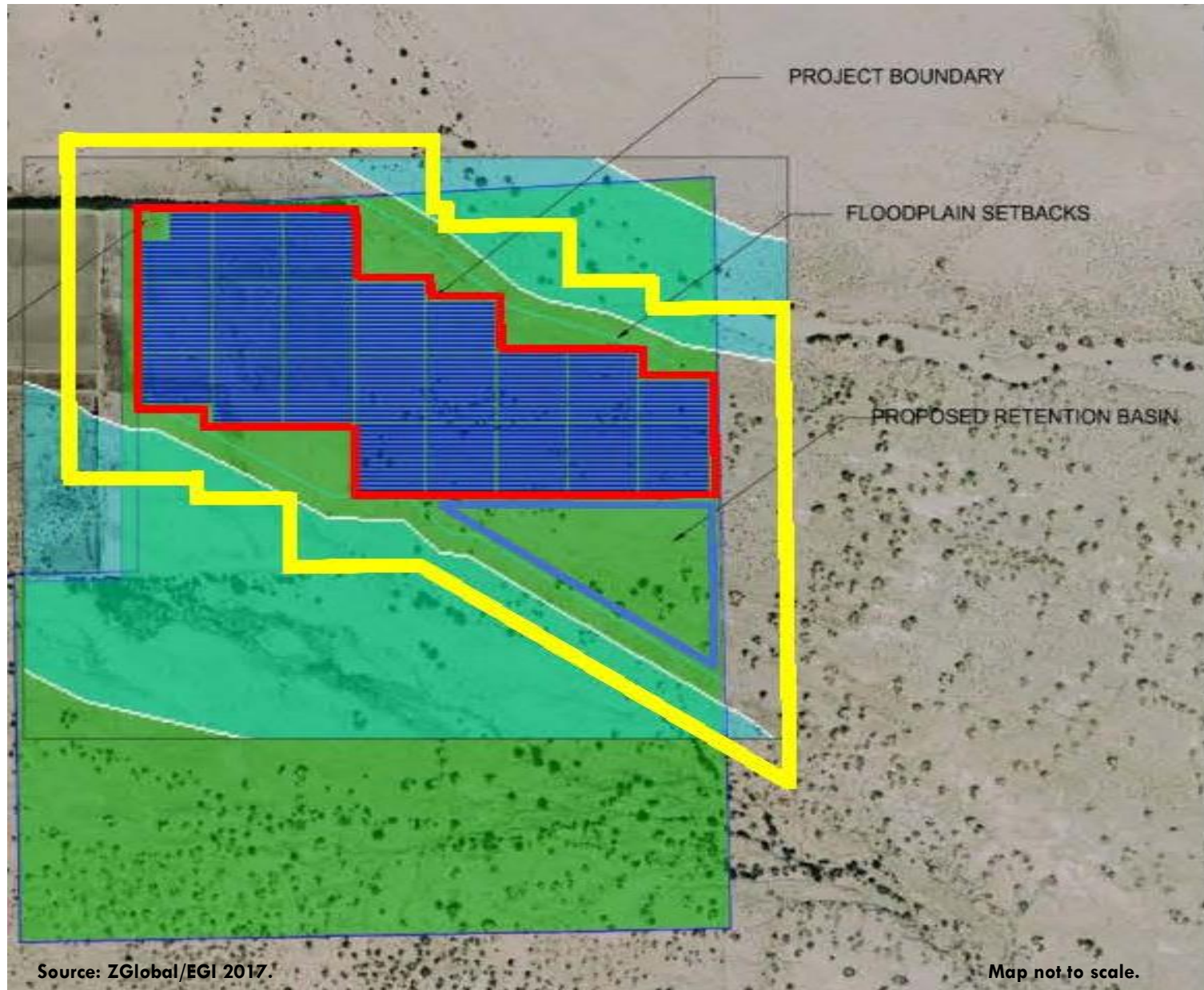
**FIGURE 2 – PROJECT LOCATION MAP**



**Project Boundary/Transect Survey Area** **Proposed Retention Basins** **100 Meter Buffer**

**FIGURE 3A: PROJECT SURVEY MAP – 156-ACRE HORIZONTAL SINGLE-AXIS TRACKER (HSAT) LAYOUT WITH 18-ACRES OF RETENTION BASINS**





**Project Boundary/Transect Survey Area** **Proposed Retention Basins** **100 Meter Buffer**

**FIGURE 3B: PROJECT SURVEY MAP – 128-ACRE FIXED TRACKER PV PROJECT WITH AN 18-ACRE RETENTION BASIN**

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