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California Energy Commission

Perkins Renewable Energy Project

CEC Data Request Response Set #2 for the Opt-in Application 24-OPT-01

October 2024

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PANORAMA ENVIRONMENTAL, INC.

California Energy Commission

Perkins Renewable Energy Project
CEC Data Request Response Set #2 for the Opt-in Application 24-OPT-01

October 2024

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1 Introduction

1.1 Introduction to CEC Data Request Response Set #2

On March 28, 2024, IP Perkins, LLC, IP Perkins BAAH, LLC, and affiliates (Applicant) received a Determination of Incomplete Application and Request for Information from the California Energy Commission (CEC) for the Perkins Renewable Energy Project (24-OPT-01) in response to the Applicant's application filed on February 14, 2024. The Applicant filed the Perkins Data Request Response Set #1 with the CEC on July 23, 2024. This document provides the Applicant's second set of responses to the Data Requests received from the CEC. Table 1 lists all Data Requests for which a response was provided in Response Set #1 or is provided in Response Set #2.

Table 1 Data Requests Included in Response Set #1 and #2

Data Request Resources Area	Response Set #1	Response Set #2
Mandatory Opt-in Requirements	--	DR MAND-1 through DR MAND-4
Air Quality	DR AQ-1 through DR AQ-11	--
Biological Resources	--	DR BIO-1 and DR BIO-2 DR BIO-3a, 3b, 3d, 3e, 3f, 3g, 3h, 3i, 3l DR BIO-5 through DR BIO-14 DR BIO-16 through DR BIO-19 DR BIO-20e, 20f DR BIO-21 and DR BIO-22 DR BIO-24 through DR BIO-26 DR BIO-29 through DR BIO-32
Cultural and Tribal Cultural Resources	--	--
Greenhouse Gas Emissions	DR GHG-1 through DR GHG-7	--
Hazardous Materials Handling	DR HAZ-1 through DR HAZ-5	--
Land Use	DR LAND-1 through DR LAND-7	Supplement to DR LAND-2 and DR LAND-3
Noise	DR NOISE-1 and DR NOISE-2	--
Project Description	DR PD-1 through DR PD-5	--
Paleontological Resources	--	No DR Number but new write up

Data Request Resources Area	Response Set #1	Response Set #2
Public Health	DR PH-1 through DR PH-3	--
Socioeconomics	DR SOCIO-1 through DR SOCIO-7	--
Traffic and Transportation	DR TRANS-1 through DR TRANS-6	--
Transmission System Design	--	--
Visual Resources	DR VIS-1 through DR VIS-7	Supplement to DR VIS-2
Water Resources	--	
Worker Safety	DR WS-1 through DR WS-5	--

The responses are grouped by individual discipline or topic area and are presented in the same order and with the same numbering provided by the CEC. New or revised graphics, tables, or attachments are provided throughout and as appendices to this document. The responses included in this document are considered complete responses to the corresponding individual Data Requests.

Table 2 provides a list of all remaining Data Requests received from the CEC that have not been addressed in Response Set #1 or Response Set #2.

Table 2 Data responses Not Included in Response Set #1 or Response Set #2

Data Request Resources Area	Not Included in Response Set #1 or #2
Biological Resources	DR BIO-3c, 3j, 3k, BIO-4, BIO-15, BIO-20a through BIO-20d, BIO 23, BIO-28, and BIO-29
Cultural and Tribal Cultural Resources	DR CUL/TRI-1 through DR CUL/TRI-20
Transmission System Design	DR TSD-1 through DR TSD-5
Water Resources	DR WATER-1 through DR WATER-5

Supplemental Data Request responses will be provided to the CEC in response to the Data Requests not addressed in Response Set #1 or Response Set #2.

2 Mandatory Opt-In Requirements

2.1 Data Request DR MAND-1

DR MAND-1: Please provide a signed and dated attestation, executed under penalty of perjury, stating that the Perkins Renewable Energy Project Opt-In Application is truthful and accurate.

Response: Please see attestation letter in Attachment A to this Response Set #2.

2.2 Data Request DR MAND-2

DR MAND-2: Please supplement the Imperial County Net Economic Benefit discussion in Appendix E.3 with information demonstrating whether the project would have an overall net positive benefit to Imperial County (i.e., the positive economic impacts less the negative economic impacts).

Response: As noted in Appendix E.3 of the Opt-In Application, at maximum buildout capacity, the Project will have a total investment of over $296 million in Imperial County, including $216 million direct investment, during construction. The Project is expected to have a total annual investment of $20.9 million, including $13.6 million direct investment, in Imperial County during operation and maintenance.

As noted in Appendix R of the Opt-In Application, Section 2, lists the socioeconomic assessment of Imperial County which extrapolated the cost to the County on a per-worker basis per year of construction to different social services as follows:

- Imperial County Fire Protection Budget: $66,375
- Law Enforcement Budget: $240,175
- Imperial County Public Health Department: $88,940
- Imperial County Behavioral Health Services: $405,896

Assuming a two-year construction schedule, the total cost to Imperial County would be approximately $1.6 million. Note, this cost is conservative as it assumes all the cost of the 700 workers would occur in Imperial County, rather than be split between Imperial County and Yuma County. It also does not take into consideration any measures, such as fire protection measures, that would be taken to reduce any costs on the Fire Protection Budget or that many of the workers may already live in the County so would not represent a new cost to the County. Further, these estimates and based on company's maximum buildout capacity scenario. Actuals

may vary based on federal and state law changes, as well as other variables and site constraints that result in a reduction of project capacity. Local Economic Impact is reflective of maximum project capacity and subject to change as the latter shifts. Nonetheless, this calculation shows that the Project would result in a substantial net positive benefit to the County.

2.3 Data Request DR MAND-3

DR MAND-3: Please provide a plan or strategy, including a timeline for execution, to obtain a legally binding and enforceable agreement(s) that benefits one or more of the listed types of community beneficiaries identified in Public Resources Code section 25545.10.

Response: IP Perkins, LLC, IP Perkins BAAH, LLC, and any related affiliates (collectively, Applicant), subsidiaries of Intersect Power, LLC, strive to be an active member and steward of the Imperial County community. As part of the Community Benefits Plan for the Perkins project, the Applicant plans on making significant investments totaling over $1.5 million dollars over the next ten years to community-based initiatives and programs in the Imperial County area.

The Applicant has submitted one binding and legally enforceable donation agreement in connection with its Opt-in Application, which was entered by IP Perkins, LLC ("IP Perkins") and Imperial County Office of Education Foundation (the "Donation Agreement"). The Donation Agreement is a legally binding and enforceable instrument, which satisfies the requirement of California Public Resources Code Section 25545.10 that Applicant "has entered into one or more legally binding and enforceable agreements with or that benefit a coalition of one or more community-based organizations," including "local governmental entities," for purposes of supporting County educational and academic activities.

Following feedback from the Commission's legal staff, the Donation Agreement was amended to remove the at-will termination clause. The Donation Agreement, as amended, is binding and enforceable agreement that may only be terminated upon the written agreement of both parties. The agreements are included as Attachment B.1 of this Response Set #2.

2.4 Data Request DR MAND-4

DR MAND-4: Submit a signed and enforceable agreement that complies with Public Resources Code section 21183(e).

Response: IP Perkins, LLC provides an enforceable agreement that meets the requirements of PRC section 21183(e) at Attachment B.2 to this Response Set #2.

3 Biological Resources

3.1 Data Request DR BIO-1

DR BIO-1: Please provide the results of all biological resource surveys conducted on private and Bureau of Reclamation (BOR) land in Spring of 2024. Include any additional assumptions and methods used in arriving at results as well as details on any modifications made to the required survey methods or guidelines. Include any additional research and/or references used for the spring surveys. Update all pertinent sections of the application in underline and strike through.

Response: A revised Biological Resources Technical Report (BRTR) has been included as Attachment C.1 to this Response Set #2 and includes the spring survey results, bat survey results, and updated references. All survey results may be found in Section 4 of the BRTR, with bat survey results in Section 4.1.20. Additional non-breeding burrowing owl surveys are ongoing and the information will be provided to the CEC and CDFW.

The CEC noted in a meeting with the applicant on June 6, 2024, that rather than provide a redline/strikeout version of the Opt-in Application, CEC's preference was to provide new information as responses to the data requests and minimize redlined versions of the Opt-in Application. Therefore, revised section of the application in underline and strikethrough have been included in responses where appropriate.

3.2 Data Request DR BIO-2

DR BIO-2: Please include the reference for any additional literature relied upon or referenced for the biological resource surveys conducted in 2024. Please submit a copy of the Bureau of Land Management (BLM) Plan of Development (POD) with appendices.

Response: A revised BRTR has been included as Attachment C.1 to this Response Set #2 and includes the full list of literature and other resources relied upon for the biological resource surveys. The POD is being reviewed by the BLM along with the appendices and associated plans. The updated POD will be provided to the CEC once it is available. The management plans associated with the POD were submitted to the CEC in the Opt-in Application, Appendix M, Biological Management Plans. The Bird and Bat Conservation Strategy and a Flat-Tailed Horned Lizard Management Plan have been updated and are provided as Attachment C.7 and C.8.

3.3 Data Request DR BIO-3

DR BIO-3: Staff needs additional information regarding the Jurisdictional Waters Report, Appendix J.2 as follows:

a. Please revise the regulatory language to reflect the appropriate Fish and Game Code and remove reference to California Code of Regulations, Title 14, section 1.72.

Response: The Aquatic Resources Report (Attachment C.2) includes reference to Fish and Game Code Section 1600-1616 on page 6. Reference to California Code of Regulations, Title 14, section 1.72 has been removed from the revised Aquatic Resources Report.

b. The features shown as 'bank to bank' in Figure 7 of the LSAA, Appendix K, are reasonable depictions of the small ephemeral channels on this landscape. However, the notification assumes these features stop in isolation. Please utilize the Hydrologic and Hydraulic 2D Analysis in Appendix G to review the depth and lateral extent of flows during large magnitude but infrequent storms (i.e., 50-and 100-year recurrence intervals) to inform the delineation of the project area, particularly regarding longitudinal connectivity and lateral extent. Also, please update the notification with this information for the surveyed areas of the site, particularly the area depicted in Figure 7, and apply this process to the unsurveyed areas of the project as well. Please consider the lateral extent and longitudinal connectivity, and the potential for multithread channels to exist on the landscape. These features likely connect to JD Feature 12 and the 'vegetated swale'.

Response: Additional investigations of the aquatic resources referenced in this comment were conducted in Spring 2024. The revised Aquatic Resources Report includes additional discussion of the methods used to define the limits of jurisdiction and the types of resources that are encountered on the site, including the justification for the resources that are not connected.

c. Please update LSAA in Appendix K with the results from the surveys scheduled in Spring 2024 (See **DR-BIO-1**).

Response: Revised permits will be provided in a subsequent data response.

d. Update any figures/mapping to include additional waters of the state found on private and/or Bureau of Reclamation (BOR) land. Please address temporary and/or permanent impacts to jurisdictional waters on private and/or BOR land, if applicable.

Response: A revised Jurisdictional Waters Report (titled "Aquatic Resources Report") has been included as Attachment C.2 to this Response Set #2 and includes the results of the delineation on private and BOR land as well as updates to the delineation on federal lands per the meeting with the CDFW August 15, 2024. The new features identified on private lands are shown in Figure 16, Aquatic Resources Map 8, and include two non-vegetated washes and a vegetated swale. No features were identified on BOR land. Table 6-1 describes the jurisdiction of each feature: neither feature on private lands would be subject to USACE jurisdiction; the Regional Water Quality Control Board (RWQCB) would have jurisdiction over the non-vegetated washes and possibly the vegetated swale; and the CDFW would have jurisdiction over both types of features under section 1602. Portions of the swale and one of the washes are dominated by

desert dry wash woodland, which would be avoided by the Project with a 200-foot buffer (except for minor incursions as described in the DRECP LUPA), which would also protect both washes and most of the swale. Any impacts to jurisdictional waters, such as the swale, that could be impacted by the project will be described in subsequent data responses as part of the permit applications.

e. Please update existing measures to prevent sediment, hazardous materials, or other materials from entering watercourses during and after construction.

Response: The project application included numerous measures to prevent sediment, hazardous materials, or other materials from entering watercourses during and after construction including:

- LUPA BIO-5
- LUPA BIO-8
- LUPA BIO-9
- LUPA BIO-15
- LUPA SW-1
- LUPA SW-2
- LUPA SW-5
- LUPA SW-7
- LUPA SW-16 through LUPA SW-27
- LUPA SW-30 through LUPA SW-32
- BMP-85 through BMP-87
- BMP-90 through BMP-93
- BMP-125 through BMP-130
- PDF BIO-3
- PDF BIO-8
- PDF HWQ-1
- PDF HWQ-2

f. Please update any avoidance and/or minimization measures to protect fish, wildlife, and plant resources based on Spring 2024 survey results. In addition, update any new mitigation and/or compensatory mitigation measures, if needed to avoid impacts, based on results of spring surveys. Also refer to **DR BIO-28**.

Response: The measures to protect wildlife and plant resources included in the application still apply to the project. The Bird and Bat Conservation Strategy has been updated (Attachment C.7) to address the bats observed during surveys conducted in the spring of 2024.

g. Please further evaluate the area depicted in Figure 7 of Attachment A in Appendix K for additional features overlooked during the initial jurisdictional delineation with consideration of the Hydrologic and Hydraulic 2D analysis and subtle or obscured fluvial forms and signs.

h. Please provide notification information on these additional areas references in DR BIO-3g. Also include photographic support looking downstream to depict the topography, depression, or potential overland sheet flow. Additional areas shall be evaluated for inclusion or exclusion per Fish and Game Code, section 1602.

Response: The Aquatic Resources Report is included as Attachment C.2 to this Response Set #2 and identifies all features possibly subject to RWQCB jurisdiction and subject to CDFW 1602 jurisdiction (Table 6-1). The revised Aquatic Resources Report includes additional justification based on field data regarding the limits of the jurisdictional features. Photo documentation of the features is provided in the Aquatic Resources Report and the results were discussed with CEC and CDFW in a meeting held August 15, 2024.

i. Please update the figures and Geographic Information System (GIS) shapefiles of Appendix J.3 to depict the updated areas subject to California Department of Fish and Wildlife (CDFW) jurisdiction and the mapped hydrology.

Response: Updated GIS shapefiles for the jurisdictional features included in the Aquatic Resources Report are provided as part of the response. Updated figures have also been provided in the Aquatic Resources Report, Attachment C.2 of this Response Set #2.

j. Please update the project description of the LSAA, included in Attachment A of Appendix K, to include a section that focuses on the project components and project activities that would be performed in the areas subject to Fish and Game Code, section 1602. Please refer to the Project Description instructions in Section 10 of the Form DFW 2023, Notification of Lake of Streambed Alteration. At this time the project description describes the overall project but does not address the specific activities in relation to waters of the state. Please include impact information in the narrative to support the permanent and temporary impacts data included in Table 2 and Table 3, under the Section 11A, Project Impacts, in Attachment A.

Response: A revised LSAA notification will be provided in a subsequent data response. Note that the description of the project activities included in the LSAA was limited to those activities that occur in areas containing waters. The description was accurate based on the location of the waters.

k. Under Item 12C of the LSAA form, "Attachment B" is referenced to contain project mitigation and/or compensation measures to protect fish, wildlife, and plant resources, however this attachment is missing from the LSAA. Please submit Attachment B.

Response: A revised LSAA notification including required mitigation measures will be provided in a subsequent data response. The Wildlands compensation plan is available on the CEC website under Docket number 256657. The Wildlands compensation plan has been updated for the Data Response Set 2 and is included as Attachment C.9.

l. Please include the areas mapped as 'vegetated swale' and the 'alkali goldenbush desert scrub' adjacent to areas avoided by the project coincident with the National Hydrography Dataset ephemeral streams shown on Figure 2 of the Jurisdictional Waters Report, Appendix J.2 in the LSAA pursuant to Fish and Game Code, section 1602.

Response: See response to items g. and h. above. The Aquatic Resources Report was updated to include additional information on the approach to delineate waters. Areas lacking indicators of water resources were not mapped as water resources.

3.4 Data Request DR BIO-4

DR BIO-4: Please provide a figure and GIS shapefiles that show the proposed locations of the transmission line structures, including pull sites, within the transmission line corridor in relation to the All-American Canal and associated wetlands.

Response: The loop-in line poles will be spaced up to 1,000 feet apart and will span the All American Canal, biological sensitive areas, and cultural avoidance areas. No impacts to, or work within the jurisdictional limits of the All American Canal will occur. Any work outside the All American Canal but that could impact associated wetlands, such as improvements on the access road, would be included in the revised permit applications, which will be provided in a subsequent data response.

3.5 Data Request DR BIO-5

DR BIO-5: There are inconsistencies in the "Noteworthy Avian Observations" figure. Please revise the figure to define "other sign" in the legend of the "Noteworthy Avian Observations" figure included in Appendix J.3, Biological Resources Figures.

Response: The figure has been revised to define "other sign" as "pellets, whitewash, or feather"; see Figure 10 of the revised Biological Resources Technical Report, which has been included as Attachment C.1 to this Response Set #2. Appendix J.3 Figures have also been updated and are included as Attachment C.3.

3.6 Data Request DR BIO-6

DR BIO-6: Staff needs additional information regarding biological resources:

a. Please provide the California Natural Diversity Database (CNDDB) occurrence list for the project quadrangles as referenced in the application as CDFW 2023c.

Response: The CNDDB occurrence list has been included as Attachment C.4 to this Response Set #2.

b. Please provide a renewed CNDDB occurrence list, if the original has expired.

Response: The CNDDB list attached as Attachment C.4 to this Response Set #2 expires in September 2024. An updated CNDDB occurrence list can be provided closer to the completion of the Data Response Set #3 if required.

c. Please provide the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) Resource List generated for this project and referenced as USFWS 2023b.

Response: The IPaC Resource List has been included as Attachment C.5 to this Response Set #2.

d. Please provide a habitat assessment, that includes historical occurrences, potential to occur, impact analysis and any avoidance, minimization, and/or mitigation measures that would be applicable for southwestern willow flycatcher (*Empidonax traillii extimus*) and monarch butterfly (*Danaus plexippus*).

Response: Southwestern willow flycatcher is discussed in Section 4.1.13 and in the "Potential to Occur" table of the revised BRTR, which has been included as Attachment C.1. Southwestern willow flycatcher was determined to have a low probability of nesting in the site and a moderate probability of foraging in the site during migration. The nearest CNDDB record is 34 miles away and it was not observed in the site during surveys.

Monarch butterfly is discussed in Section 4.1.23 and in the "Potential to Occur" table of the revised BRTR, which has been included as Attachment C.1. Monarch butterfly was determined to have a low probability of overwintering in the site and a moderate probability of foraging in the site on milkweed plants present onsite. The nearest CNDDB record is 108 miles away and it was not observed in the site during surveys.

Additionally, Section 4.2.1, Environmental Setting, in the Opt-in Application has been revised as follows:

Table 4.2-4 has been updated to include the Southwestern willow flycatcher and monarch butterfly, along with their habitat assessment, historical occurrence records, and potential to occur in the Project site, and is included as Attachment C.11.

Section 4.2.2, Impact Analysis, of the Opt-In Application has also been revised to include southwestern willow flycatcher and western bumble bee, as follows:

The following text for the monarch butterfly has been added to Impact BIO-1 under the subheader, "Direct Impacts on Special Status Wildlife Species – Project Site Components":

Monarch butterfly

Monarch butterfly was not observed onsite during Project surveys. Suitable foraging habitat in the form of milkweed (*Asclepias* spp.) occurs within the Project Application Area. Direct impacts to monarch butterfly that may forage in or migrate through the area are not expected, as these non-resident individuals would be able to avoid any sources of

disturbance during construction due to the slow-moving vehicles, operation, or decommissioning. Monarch butterfly may be directly impacted by loss or degradation of foraging habitat due to removal of milkweed plants. The Project would implement CMAs LUPA-BIO-1 and LUPA-BIO-2, which require protocol surveys and biological monitoring. The Project would implement CMA LUPA-BIO-COMP-1, which requires compensation for impacts to native vegetation and habitat at a 1:1 ratio for the Project. Because the Project would compensate for impacts on monarch butterfly, the direct impacts on monarch butterfly would be less than significant.

The following text for the southwestern willow flycatcher has been added to Impact BIO-1 under the subheader, "Direct Impacts on Special Status Wildlife Species – Project Site Components":

Southwestern willow flycatcher

Southwestern willow flycatcher was not observed onsite incidentally or during avian surveys, but could potentially forage within riparian areas present in Project site components and the loop-in transmission corridor. Microphyll woodland/desert dry wash woodland vegetation communities provide suitable foraging habitat for southwestern willow flycatcher and are located within the western portion of the Project site and a small section on the southern border. However, this vegetation community type has been mostly avoided in Project design and so direct impacts to Southwestern willow flycatcher as a result of habitat loss are not expected to be significant in these areas.

If southwestern willow flycatcher is present in or near the Project disturbance areas during construction, operation and maintenance, or decommissioning activities, individuals of the species may be directly impacted through injury or mortality resulting from collisions with Project vehicles or equipment or disturbance from increased vehicle traffic, noise at work sites, and human presence that could result in an interruption of normal foraging behaviors. During the Project operational period, southwestern willow flycatcher could collide with the loop-in transmission lines, gen-tie line, and solar panels.

The Project would implement a Nesting Bird Management Plan (Opt-in Application Appendix M.2) and a BBCS (Data Response Set 2 Attachment C.7) in compliance with CMA LUPA BIO-16, which include procedures for construction monitoring for birds and use of bird-compatible design standards for transmission and fencing where feasible, as well as long-term monitoring and adaptive management during operation. PDFs BIO-6 and BIO-7 require implementation of the BBCS and require flight diverters on Project transmission lines and other features to reduce the risk of bird collisions. CMAs LUPA-BIO-COMP-1 and LUPA-BIO-COMP-2 require compensation for impacts to native vegetation and habitat at a 1:1 ratio for the Project and define additional mitigation required for any impacts to birds, including southwestern willow flycatcher. PDF AQ-1 would require a 15 miles per hour speed limit on unpaved areas within the site which would minimize wildlife collisions. Because the CMAs, NMBP, BBCS, and PDFs define procedures to avoid, minimize, and mitigate direct impacts on southwestern willow flycatcher, including requirements for

habitat compensation that would offset habitat loss, impacts on southwestern willow flycatcher would be less than significant with implementation of the CMAs and PDFs.

Additional text for the southwestern willow flycatcher has been added to Impact BIO-1 under the subheader, "Direct Impacts on Special Status Wildlife Species: Loop-in Transmission Lines", as follows:

Southwestern willow flycatcher
Southwestern willow flycatcher was not observed onsite incidentally or during avian surveys but could potentially forage within riparian areas present in Project site components and the loop-in transmission corridor. Tamarisk thickets present in the transmission line corridor north and south of the All-American canal provide suitable foraging habitat for southwestern willow flycatcher.

The loop-in transmission lines would span the All-American Canal and would not result in loss of suitable habitat for southwestern willow flycatcher. Direct impacts on the species could occur from collisions with the loop-in transmission lines.

The Project would implement a BBCS in compliance with CMA LUPA-BIO-16. PDFs BIO-6 and BIO-7 define procedures for monitoring and adaptive management and require use of bird diverters to reduce collisions with Project components, including the loop-in transmission lines. Because the Project includes design features to minimize collisions with migratory birds, the impact on southwestern willow flycatcher would be less than significant.

e. Please address ALL species that were included on the CNDDB and IPaC species lists generated for this project. The response needs to include the potential for each species to occur within the project vicinity, historical records, survey results, impact analysis and any avoidance, minimization and/or mitigation measures, if applicable.

Response: The BRTR as submitted with the Opt-In Application addressed all species listed in the CNDDB and IPaC species lists except for Lassics lupine (*Lupinus constancei*) and migratory birds as its own grouping of species requiring special protection under the MBTA. Lassics lupine only occurs in Humboldt and Trinity counties within forest habitat; therefore, it would not potentially occur in the Project Application Area. For migratory birds, avoidance, minimization, and/or mitigation measures are addressed with each of the migratory special-status avian species that have potential to occur in the Project Application Area. Additionally, PDF BIO-6 requires the Applicant to prepare and implement a Nesting Bird Management Plan (NBMP) that includes nest surveys, avoidance, and protection, which can entail avoiding vegetation clearing during nesting season or conducting pre-construction nest surveys of potential habitat and implementing no-disturbance buffers around active nests. LUPA-BIO-16 also requires activity-specific measures to avoid and minimize impacts to birds, including siting and designing activities to avoid high bird movement areas that would separate birds from their common nesting areas, feeding areas, or lakes and rivers; conducting monitoring of special

status bird species during project siting and design; and incorporating BMPs in facility and structure design that minimize risk of avian collision. No additional impact analyses or minimization or mitigation measures are needed as all species on the CNDDB list and iPAC report with potential to occur in the Project Application Area were addressed in the BRTR and Opt-in Application.

f. Appendix J.1, Section 3.3.3 states that suitable habitat for special status bat species does not exist on site, however Section 4.1.8 states that suitable foraging habitat and roosting habitat for western yellow bat (*Lasiurus xanthinus*) is present within the project site. Please correct the discrepancy between these conclusions.

Response: Section 3.3.3 of the BRTR (Attachment C.1) clarifies and expands on the conclusions of the bat habitat assessment and the availability of roost features within the Project Application Area.

g. Wildlife and plant surveys were performed during daylight hours and lacked use of a full spectrum bat detector. Please describe methods used to determine utilization of the area by bat species for foraging and/or roosting and document which dates these surveys occurred.

Response: Bat surveys conducted at the Project Application Area are documented in the BRTR (Attachment C.1). Section 3.3.3 of the revised BRTR describes the survey methods used to determine utilization of the area by bat species and the dates the surveys were completed.

3.7 Data Request DR BIO-7

DR BIO-7: Please submit resumes that include relevant qualifications for all biologists conducting biological resource surveys and aquatic resource delineations. Also, please submit copies of all field survey forms. This applies to all prior and pending biological resources surveys.

Response: Resumes are provided for all biologists that conducted biological resource surveys and aquatic resource delineations (Attachment C.6). Updated GIS data for all the surveys is provided as part of this response. Raw data from the field survey forms can be provided if needed.

3.8 Data Request DR BIO-8

DR BIO-8: Please clarify reasoning for the inclusion of western bumble (Bombus occidentalis) bee in the application based on its range. See https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=213186&inline. Please update the listing status of western bumble bee and Crotch's bumble bee (*Bombus crotchii*) in Appendix A of the Biological Resources Technical Report.

Response: The BRTR Sections 4.1.21 and 4.1.22 (Attachment C.1) has been updated to reflect the current listing status of western bumble bee and Crotch's bumble bee and to note the lack of suitable habitat on the Project Application Area. The Project Application Area is outside of the range of both western bumble bee and Crotch's bumble bee and therefore the Project would not impact either species.

3.9 Data Request DR BIO-9

DR BIO-9: Please provide the mitigation measures that were to be included as "Attachment A, Mitigation Measures" as referenced in Appendix M.3, Raven Management Plan. These mitigation measures were not included.

Response: The mitigation measures called out as "Attachment A, Mitigation Measures", referenced in Opt-in Application Appendix M.3, Raven Management Plan, are those that will be drafted as part of the NEPA and CEQA documents. As part of the NEPA and CEQA analysis unique mitigation measures will be drafted as part of the biological resources analysis. "Attachment A, Mitigation Measures" is a place holder for the mitigation measures that will be created as part of the NEPA and CEQA review. The Raven Management Plan will be updated to incorporate these mitigation measures after the NEPA and CEQA documents are finalized in order to ensure compliance with all adopted measures.

3.10 Data Request DR BIO-10

DR BIO-10: Please include the title, mailing address, and phone number for each person included on the contact list, included as Table 1 in Appendix E.1. Also, please identify the point of contact for coordination and verification of any proposed habitat mitigation measures and implemented during pre-construction and construction activities.

Response: The title, mailing address, and phone number for each person included on the contact list included as Table 1 in Appendix E is included below. The primary contact for any proposed habitat mitigation measures would be Ismael Ramirez, BLM Natural Resources Specialist, Magdalena Rodriguez and Ashley Rosales, CDFW, and Logan Raub and Philip Crader, Regional Water Quality Control Board (RWQCB).

Table 3 Updated Table 1 Agency Contact List

Agency - title	Last Name	First Name	Contact	Mailing address
BLM – Assistant District Manager, California Desert District Office	Anderson	Brandon	bganderson@blm.gov (951) 697-5215	300 S. Richmond Rd. Ridgecrest, CA 93555

Agency - title	Last Name	First Name	Contact	Mailing address
BLM – Program Manager CA State Office - Lands, Planning & Recreation Branch	Robledo	Nancy	lrobledo@blm.gov (916) 978-4400	2800 Cottage Way, Suite W1623, Sacramento, CA 95825
BLM – Field Manager, El Centro Field Office	Lohr	Matthew	mlohr@blm.gov (760) 337-4400	1661 S 4th St, El Centro, CA 92243
BLM – Deputy Field Manager, El Centro Field Office	Sahagun	Carrie	csahagun@blm.gov (760) 337-4400	1661 S 4th St, El Centro, CA 92243
BLM – Realty Specialist, El Centro Field Office	Riddell	Tristan	triddell@blm.gov (760) 337-4400	1661 S 4th St, El Centro, CA 92243
BLM – Archaeologist, California State Office	Fries	Eric	efries@blm.gov (916) 978-4400	2800 Cottage Way Suite W1623, Sacramento, CA 95825
BLM – Archaeologist, California Desert District Office, Palm Springs-South Coast Field Office	Garcia-Herbst	Arleen E	agarciaherbst@blm.gov 760-833-7100	1201 Bird Center Drive, Palm Springs, CA 92262
BLM – Natural Resource Specialist, El Centro Field Office	Ramirez	Ismael N	iramirez@blm.gov (760) 337-4425	1661 S 4th St, El Centro, CA 92243

Agency - title	Last Name	First Name	Contact	Mailing address
BLM – Project Manager, California Desert District Office, Palm Springs-South Coast Field Office	Toedtli	Matthew R	mtoedtli@blm.gov 760-833-7100	1201 Bird Center Drive, Palm Springs, CA 92262
BLM – Planning and Environmental Coordinator, El Centro Field Office	Rodriguez	Christian	crodriguez@blm.gov (760) 337-4400	1661 S 4th St, El Centro, CA 92243
BLM – Biologist, California Desert District Office, Palm Springs-South Coast Field Office	Massar	Mark	mmassar@blm.gov 760-833-7100	1201 Bird Center Drive, Palm Springs, CA 92262
California Department of Fish and Wildlife – Senior Environmental Scientist, Inland Desert Region	Ellsworth	Alisa	alisa.ellsworth@wildlife.ca.gov (760) 872-1173	3602 Inland Empire Blvd, Suite C-220, Ontario, CA 91764
CDFW – Senior Environmental Scientist, Inland Deserts Region	Rodriguez	Magdalena	magdalena.rodriguez@wildlife.ca.gov (909) 844-2520	3602 Inland Empire Blvd, Suite C-220, Ontario, CA 91764
CDFW – Environmental Scientist, Inland Deserts Region	Rosales	Ashley	ashley.rosales@wildlife.ca.gov (760) 219-9452	3602 Inland Empire Blvd, Suite C-220, Ontario, CA 91764

3. BIOLOGICAL RESOURCES

Agency - title	Last Name	First Name	Contact	Mailing address
California Department of Toxic Substances Control – Division Chief	Lorentzen	Wayne	wayne.lorentzen@dtsc.ca.gov (916) 255-3883	1001 I Street, P.O. Box 806, Sacramento, California 95812-0806
CA State Water Quality Control Board - Assistant Deputy Director for Water Quality	Crader	Phillip	phillip.crader@waterboards.ca.gov (916) 341-5455	1515 Clay St Suite 1400, Oakland, CA 94612
RWQCB – Senior Environmental Scientist, Colorado River Basin	Raub	Logan	logan.raub@waterboards.ca.gov (760) 776-8966	73-720 Fred Waring Drive, Suite 100, Palm Desert, CA 92260
Imperial County – Environmental Coordinator, Air Pollution Control District	Blondell	Curtis	curtisblondell@co.imperial.ca.us (442) 265-1800	801 Main Street, El Centro, CA 92243
Imperial County – Manager, Imperial County Air Pollution Control District, Planning, Rule Development and Monitoring	Soucier	Monica	monicasoucier@co.imperial.ca.us (442) 265-1800	801 Main Street, El Centro, CA 92243
Imperial County – Administrative Analyst, County Executive Office	Lopez-Solis	Rosa	rosalopez@co.imperial.ca.us (760) 482-4506	801 Main Street, El Centro, CA 92243

Agency - title	Last Name	First Name	Contact	Mailing address
Imperial County – Director, Planning & Development Services	Minnick	Jim	jimminnick@co.imperial.ca.us (442) 265-1736	801 Main Street, El Centro, CA 92243
Imperial County – Assistant Director, Planning & Development Services	Abraham	Michael	michaelabraham@co.imperial.ca.us (442) 265-1736	801 Main Street, El Centro, CA 92243
Imperial County – Planner II, Planning & Development Services	Jimenez	Evelia	ejimenez@co.imperial.ca.us (442) 265-1736	801 Main Street, El Centro, CA 92243
Imperial County – Planner II, Planning & Development Services	Quero	Gerardo	gerardoquero@co.imperial.ca.us (442) 265-1736	801 Main Street, El Centro, CA 92243
Imperial County – Planner I, Planning & Development Services	Valenzuela	Luis	luisvalenzuela@co.imperial.ca.us (442) 265-1736	801 Main Street, El Centro, CA 92243
Imperial County – Planner I, Planning & Development Services	Yee	Rocio	rocioyee@co.imperial.ca.us (442) 265-1736	801 Main Street, El Centro, CA 92243
Imperial Irrigation District – Senior Water Resources Planner	Gamboa-Arce	Justina	jgamboaarce@iid.com (760) 339-9085	333 E. Barioni Boulevard, Imperial, CA 92251

Agency - title	Last Name	First Name	Contact	Mailing address
Deputy Director, Military Aviation and Installation Assurance Siting Clearinghouse Office of the Assistant Secretary of Defense (Energy, Installations and Environment)	Beard	Robbin	robbin.e.beard.civ@mail.mil (571) 372-8414	3400 Defense Pentagon, Room 5C646, Washington, DC 20301 - 3400
U.S. Bureau of Reclamation – Supervisory Civil Engineer, Construction Services Group	Belous	Alexander G	abelous@usbr.gov (928) 343-8314	7301 Calle Agua Salada, Yuma, AZ 85364
U.S. Bureau of Reclamation – Manager Environmental Planning and Compliance Group	DeSantiago	Julian A	jdesantiago@usbr.gov (928) 343-8259	7301 Calle Agua Salada, Yuma, AZ 85364
U.S. Bureau of Reclamation – Deputy Area Manager, Yuma Area Office	Fulsome	Owen R	fulsome@usbr.gov (928) 343-8109	7301 Calle Agua Salada, Yuma, AZ 85364
U.S. Bureau of Reclamation – Civil Engineer, Facilities Engineering Team	Gallardo	Erik J	gallardo@usbr.gov (928) 343-8118	7301 Calle Agua Salada, Yuma, AZ 85364

Agency - title	Last Name	First Name	Contact	Mailing address
U.S. Bureau of Reclamation – Realty Specialist, Resource Management office, Lands Team	Lopez	Arturo	arturolopez@usbr.gov (928) 343-8148	7301 Calle Agua Salada, Yuma, AZ 85364
U.S. Bureau of Reclamation – Realty Officer, Resource Management Office, Lands Team	Pinnell	Anna M	apinnell@usbr.gov (928) 343-8514	7301 Calle Agua Salada, Yuma, AZ 85364
U.S. Bureau of Reclamation – Realty Specialist, Resource Management Office, Lands Team	Rodriguez	Francisco (Frank)	frankrodriguez@usbr.gov (928) 343-8141	7301 Calle Agua Salada, Yuma, AZ 85364
U.S. Bureau of Reclamation – Chief, Resources Manager Office	Wallis	Christopher (Chris)	cwallis@usbr.gov (928) 343-8215	7301 Calle Agua Salada, Yuma, AZ 85364
U.S. Bureau of Reclamation – Chief, Technical Support	Zaragoza	Vicente A	vzaragoza@usbr.gov (928) 343-8317	7301 Calle Agua Salada, Yuma, AZ 85364
U.S. EPA, Region IX, Environmental Review Branch	Plenys	Thomas	plenys.thomas@epa.gov (415) 972-3238	75 Hawthorne Street, San Francisco, CA 94105
U.S. Fish and Wildlife Service – Wildlife Biologist, Palm Springs	Ronan	Noelle A	noelle_ronan@fws.gov (760) 322-2070	777 E. Tahquitz Canyon Way Suite 208. Palm Springs, CA 92262

Agency - title	Last Name	First Name	Contact	Mailing address
U.S. Fish and Wildlife Service – Wildlife Biologist, Palm Springs	Sanzenbacher	Peter M	peter_sanzenbacher@fws.gov (760) 322-2070	777 E. Tahquitz Canyon Way Suite 208. Palm Springs, CA 92262
U.S. Fish and Wildlife Service – Visitor Services Manager, Palm Springs	James	Vincent	vincent_james@fws.gov (760) 322-2070	777 E. Tahquitz Canyon Way Suite 208. Palm Springs, CA 92262
U.S. Fish and Wildlife Service – Fish and Wildlife Biologist, Palm Springs	Kowalski	Kent	kent_kowalski@fws.gov (760) 322-2070	777 E. Tahquitz Canyon Way Suite 208. Palm Springs, CA 92262

3.11 Data Request DR BIO-11

DR BIO-11: In Appendix J.2, Jurisdictional Waters Report, the compensatory mitigation ratio for impacts to state jurisdictional waters (Waters of the State) is listed at 2:1 for both temporary and permanent impacts. Please explain why the proposed compensatory mitigation ratio for temporary is the same as permanent.

Response: The proposed mitigation ratio is the same for permanent and temporary impacts because the project is located in a desert environment. Since the desert environment can take a long time to recover after temporary disturbances it was assumed that all temporary impacts could become permanent and thus the proposed mitigation ratio for temporary impacts is the same as permanent impacts. The proposed approach is consistent with how both the BLM and CDFW have typically requested impacts in the desert be mitigated.

3.12 Data Request DR BIO-12

DR BIO-12: Appendix J.4 second figure "Noteworthy Reptile Observations" upper right legend shows box one covers the eastern portion of the transmission corridor. Please include a figure showing occurrences on the western side, if available.

Response: Figure 9 of the Biological Resources Technical Report (Attachment C.1) shows all reptile observations within the survey area. Please also see Attachment C.3 with updated figures from Appendix J.

3.13 Data Request DR BIO-13

DR BIO-13: Please provide a detailed map(s) at a scale of 1:350,000 for public viewing that show the proposed project site and related facilities, biological resources including, but not limited to, those found during project-related field surveys and in records from the CNDDB, and the associated areas where biological surveys were conducted per the requirements of Appendix B (g) (13) (B) (i).

Response: CNDDB figures at an appropriate scale were uploaded to the Perkins Docket and made publicly available on May 23, 2024. The CNDDB figures have been updated with the final spring survey results and are included in Attachment C.3 and all GIS data associated with the Project will be provided to the CEC.

3.14 Data Request DR BIO-14

DR BIO-14: Please provide the following information regarding the western yellow bat and other bat species. Please ensure the determination of habitat presence and impacts to all bat species is clear and well supported:

a. Clarify the presence of western yellow bat in the project area including status of records and observations for western yellow bat. Please correct the discrepancies in all sections of the application.

Response: There is suitable foraging and roosting habitat available in the desert dry wash woodland habitat that is excluded from Project impacts. No western yellow bat individuals were observed onsite, and no bat calls recorded during the acoustic survey could be attributed to western yellow bat. The "Potential for Special Status Wildlife Species to Occur" table is reflected in the BRTR (Appendix C.1) with the nearest record of western yellow bat 10 miles from the Project site.

Table 4.2-4 of the Opt-In Application accurately represented the potential for western yellow bat to occur in the area and no change is required to that table.

Table 1 of the BBCS (Attachment C.7) has been updated consistent with the information in the BRTR. Section 4.7 has been removed from the BBCS and the reader is directed to the BRTR for more detailed species information.

b. Describe the field survey methodology used to assess presence/absence of western yellow bat and its adequacy to make a determination on impacts to the species and whether the impacts are significant.

Response: Section 3.3.3 of the BRTR (Attachment C.1) describes the field survey methodology used to assess presence/absence of western yellow bat. The acoustic survey described in Section 3.3.3 is a standard survey technique used to detect the presence of bat species. The survey did not detect western yellow bat (as described in Section 4.1.20 and 4.1.20.6) in the Project Application Area and, additionally, the habitat that is suitable for this species (desert dry wash

woodland) will be excluded from Project impacts. Therefore, the Project would not have significant impacts on western yellow bat.

c. Please provide a habitat assessment conducted by a qualified bat biologist to identify bat species on site and provide an impact analysis for western yellow bat, Yuma myotis (*Myotis yumanensis*), and all other bat species that may potentially utilize the site. The habitat assessment must include an analysis of the potential habitat (diurnal, night roosts, hibernaculum and foraging) present on site, historical occurrences, and migratory range. Include a description of the methods used to analyze the presence or absence of bat species within the project area. As bats may utilize rocky outcrops, dense tree canopies, tree hollows, snags, bridges over creeks/water, water bodies, dry washes, microphyll woodland, and mines/caves/flumes, these habitat types will need to be specifically surveyed if present within the project site. Identify foraging areas (e.g., the All-American Canal, microphyll woodland) and specific flight routes to those foraging areas. Identify bats to the most specific taxonomic level possible.
d. Please include the results of the habitat assessment in Section 4.2.2 and ensure the assessment includes consideration of loss of roosting sites and whether the project may impede native wildlife nursery (e.g., roosting) sites through loss of foraging habitat. Please also add the species composition to applicant's Draft BBCS.

Response: Section 3.3.3 of the BRTR (Attachment C.1) describes the habitat assessment and acoustic survey methodology used to assess potential roost sites and the presence/absence of bat species within the project area. Section 4.1.20 and subsections of the BRTR address roosting and foraging habitat availability for each species of concern and describe each species' presence or potential presence in the Project area, historical occurrences, and migratory status specific to California. Section 4.1.20 also contains the list of species and acoustic guilds identified during the acoustic survey.

The "Potential for Special Status Wildlife Species to Occur" table in the BRTR lists six special status bat species with potential to occur in the Project area: pallid bat, western yellow bat, California leaf-nosed bat, Arizona myotis, Yuma myotis, and cave myotis. This table provides information on the nearest recorded occurrences and potential for the species to occur in the Project area. Additionally, the text in Section 4.1.20 (and subsections) of the BRTR expands on the information provided in the table, providing more detail about the species' range, habitat requirements, findings from the acoustic survey conducted in the Project site, and their likelihood to occur in or near the Project Application Area.

Section 4.1.20 of the BRTR lists the species and species groups detected by the acoustic survey. In the Opt-In Application, Table 4.2-4 and Section 4.2.2 also identify whether the special status bat species with potential to occur in the Project site were detected by the acoustic survey.

Table 4.2-4 in the Opt-In Application has been changed to include all six of the special status bat species included in the BRTR, along with their habitat requirements, historical occurrences, and an analysis of their potential to occur in or near the Project site, as shown in Attachment C.11.

Additional subsections for these six bat species have been added to Section 4.2.2, Impact Analysis, of the Opt-In Application. The following text has been added to Impact BIO-1 under the subheader, "Direct Impacts on Special Status Wildlife Species – Project Site Components":

Pallid bat

No pallid bats or roosts were observed during surveys in the Project Application Area. Pallid bat was also not detected during acoustic surveys. Roosting habitat may be present in tree cavities within the desert dry wash woodland stands adjacent to the Project area. Suitable foraging habitat includes desert scrub habitats and desert dry wash woodlands and is present throughout the Project Application Area. Development of the Project would lead to a loss of foraging habitat for pallid bat. Potential impacts to nurseries through loss of foraging habitat are unlikely to be significant because no trees large enough for roosting are present in the Project Application Area and no roosts were found in the large trees present in the forested areas adjacent to the Project. It is possible that pallid bats come to this area to forage from roost/nursery sites that are farther away, but the provisions in CMA LUPA-COMP-1 to compensate for impacts to native habitat at a 1:1 ratio would offset the loss of foraging habitat resulting from the Project.

If pallid bats are present in or near disturbance areas during construction, operation and maintenance or decommissioning activities, the species may be directly impacted through injury or mortality of individuals resulting from collisions with Project vehicles or equipment and disturbance from increased vehicle traffic, noise at work sites, or human presence that could result in avoidance of foraging areas, an interruption of normal breeding behavior, or roost abandonment (of potential roosts outside the surveyed area). During operation, bats could collide with solar panels or other Project facilities while foraging in the area. The species may also be subject to direct impacts due to the loss or degradation of foraging habitat in work areas resulting from vegetation clearing or ground disturbance. Direct impacts to pallid bats would be considered significant under CEQA without mitigation.

The Project would implement a BBCS in compliance with CMAs LUPA-BIO-16 and LUPA-BIO-17, which includes bat monitoring and avoidance procedures as well as measures to reduce operational impacts on bats. CMA LUPA-COMP-1 also requires compensation for impacts to native vegetation and habitat at a 1:1 ratio. Because the Project would implement procedures to minimize impacts on bats and would provide compensatory habitat mitigation for impacts on foraging habitat, the impacts on pallid bat would be less than significant.

Western yellow bat

No western yellow bats or roosts were observed during surveys in the Project Application Area. Western yellow bat was also not detected during acoustic surveys. Suitable foraging habitat and roosting habitat is found in the Project Application Area within desert dry wash woodland. However, because the Project design plans to avoid the majority of desert dry wash woodland habitat, direct impacts to pallid bat roosting and foraging habitat should be less than significant. Impacts to nurseries as a result of loss of foraging habitat would also be less than significant.

If western yellow bats are present in or near disturbance areas during construction, operation and maintenance or decommissioning activities, the species may be directly impacted through injury or mortality of individuals resulting from collisions with Project vehicles or equipment~~; destruction of occupied roost sites;~~ and disturbance from increased vehicle traffic, noise at work sites, or human presence that could result in avoidance of foraging areas, an interruption of normal breeding behavior, or roost abandonment (of potential roosts outside of the surveyed area). During operation, bats could collide with solar panels or other Project facilities while foraging in the area. The species may also be subject to direct impacts due to the loss or degradation of foraging habitat in work areas resulting from vegetation clearing or ground disturbance. Direct impacts to western yellow bats would be considered significant under CEQA without mitigation.

The Project would implement a BBCS in compliance with CMAs LUPA-BIO-16 and LUP-BIO-17, which includes bat monitoring and avoidance procedures as well and measures to reduce operational impacts on bats. CMA LUPA-COMP-1 also requires compensation for impacts to native vegetation and habitat at a 1:1 ratio. Because the Project would implement procedures to minimize impacts on bats and would provide compensatory habitat mitigation for impacts on foraging ~~and nesting~~ habitat, the impacts on western yellow bat would be less than significant.

California leaf-nosed bat, Arizona myotis, Yuma myotis, and Cave myotis

Suitable roosting habitat for California leaf-nosed bat, Arizona myotis, Yuma myotis, and cave myotis species includes caves, mines, buildings, and cliffs, with each species having its own roosting habitat preferences. No suitable roosting habitat is present in the Project site and no roosts for these species were observed during surveys in the Project Application Area. All of these species use desert dry wash woodland for foraging, which is present in areas adjacent to the Project Application Area. Because the Project design plans to avoid the majority of desert dry wash woodland habitat, impacts to foraging habitat for these species would be less than significant. Impacts to nurseries as a result of loss of foraging habitat would also be less than significant.

During acoustic surveys, the California leaf-nosed bat was identified as present in the Project Application Area; Arizona myotis, Yuma myotis, and cave myotis were determined to be possibly present because of call recordings with similar attributes to their calls, but no calls could be definitely identified as those species. If these species are present in or near

disturbance areas during construction, operation and maintenance or decommissioning activities, the species may be directly impacted through injury or mortality of individuals resulting from collisions with Project vehicles or equipment; destruction of occupied roost sites; and disturbance from increased vehicle traffic, noise at work sites, or human presence that could result in an interruption of normal breeding behavior or roost abandonment. During operation, bats could collide with solar panels or other Project facilities while foraging in the area. The species may also be subject to direct impacts due to the loss or degradation of foraging habitat in work areas resulting from vegetation clearing or ground disturbance; however, most of the desert dry wash woodland habitat is being avoided by Project design, so direct impacts to habitat would be less than significant

The Project would implement a BBCS in compliance with CMAs LUPA-BIO-16 and LUP-BIO-17, which includes bat monitoring and avoidance procedures as well as measures to reduce operational impacts on bats. CMA LUPA-COMP-1 also requires compensation for impacts to native vegetation and habitat at a 1:1 ratio. Because the Project would implement procedures to minimize impacts on bats and would provide compensatory habitat mitigation for impacts on foraging habitat, the impacts on California leaf-nosed bat, Arizona myotis, Yuma myotis, and cave myotis would be less than significant.

Text was also added to Impact BIO-1 under the subheader, "Direct Impacts on Special Status Wildlife Species: Loop-in Transmission Lines", as follows:

Pallid bat

No pallid bats or roosts were observed during surveys in the Project Application Area. Pallid bat was also not detected during acoustic surveys in the Project Application Area. An acoustic survey station was not set up in the loop-in transmission line corridor because the loop-in transmission lines would span the All-American Canal and would not result in loss of suitable habitat for bat species.

Potential roosting habitat (large trees) in the desert dry wash woodland habitat within the loop-in transmission line corridor was examined and no trees large enough were found. Suitable foraging in the form of desert scrub habitats and desert dry wash woodlands is present throughout corridor and the All-American Canal provides a water source. Development of the loop-in transmission lines would not lead to a significant loss of foraging habitat for pallid bat due to the small footprint of the transmission line poles and revegetation of temporarily disturbed habitat after construction is completed. Additionally, the transmission lines would span the All-American Canal and would not result in loss of suitable habitat along the canal.

If pallid bats are present in or near disturbance areas during construction or decommissioning activities, the species may be directly impacted through injury or mortality of individuals resulting from collisions with Project vehicles or equipment and disturbance from increased vehicle traffic, noise at work sites, or human presence that could result in avoidance of foraging areas, an interruption of normal breeding behavior, or roost

abandonment (of potential roosts outside of the surveyed area). During operation, direct impacts to pallid bat could occur from collisions with the loop-in transmission lines.

The Project would implement a BBCS in compliance with CMAs LUPA-BIO-16 and LUPA-BIO-17, which includes bat monitoring and avoidance procedures as well as measures to reduce operational impacts on bats. CMA LUPA-COMP-1 also requires compensation for impacts to native vegetation and habitat at a 1:1 ratio. Because the Project would implement procedures to minimize impacts on bats and would provide compensatory habitat mitigation for impacts on foraging habitat, the impacts on pallid bat would be less than significant.

Western yellow bat

No western yellow bats or roosts were observed during surveys in the Project Application Area. Western yellow bat was also not detected during acoustic surveys. An acoustic survey station was not set up in the loop-in transmission line corridor because the loop-in transmission lines would span the All-American Canal and would not result in loss of suitable habitat for bat species.

Suitable foraging habitat and roosting habitat is found in the loop-in transmission line corridor in the form of desert dry wash woodland. Development of the loop-in transmission lines would not lead to a significant loss of foraging habitat for western yellow bat due to the small footprint of the transmission line poles and revegetation of temporarily disturbed habitat after construction is completed. Additionally, the transmission lines would span the All-American Canal and would not result in loss of suitable habitat along the canal.

If western yellow bats are present in or near disturbance areas during construction or decommissioning activities, the species may be directly impacted through injury or mortality of individuals resulting from collisions with Project vehicles or equipment and disturbance from increased vehicle traffic, noise at work sites, or human presence that could result in avoidance of foraging areas, an interruption of normal breeding behavior, or roost abandonment (of potential roosts outside of the surveyed area). During operation, direct impacts to western yellow bat could occur from collisions with the loop-in transmission lines.

The Project would implement a BBCS (Appendix M.1) in compliance with CMAs LUPA-BIO-16 and LUP-BIO-17, which includes bat monitoring and avoidance procedures as well and measures to reduce operational impacts on bats. CMA LUPA-COMP-1 also requires compensation for impacts to native vegetation and habitat at a 1:1 ratio. Because the Project would implement procedures to minimize impacts on bats and would provide compensatory habitat mitigation for impacts on foraging habitat, the impacts on western yellow bat would be less than significant.

California leaf-nosed bat, Arizona myotis, Yuma myotis, and Cave myotis

Suitable roosting habitat for these species includes caves, mines, buildings, and cliffs, with each species having its own roosting habitat preferences. No suitable roosting habitat is

present in the loop-in transmission line corridor and no roosts for these species were observed during surveys. All of these species use desert dry wash woodland for foraging, which is present in parts of the transmission line corridor. Development of the loop-in transmission lines would not lead to a significant loss of foraging habitat for these bat species due to the small footprint of the transmission line poles and revegetation of temporarily disturbed habitat after construction is completed. Additionally, the transmission lines would span the All-American Canal and would not result in loss of suitable habitat along the canal.

During acoustic surveys in the Project Application Area, the California leaf-nosed bat was identified as present in the Project site; Arizona myotis, Yuma myotis, and cave myotis were determined to be possibly present because of call recordings with similar attributes to their calls, but no calls could be definitely identified as those species. An acoustic survey station was not set up in the loop-in transmission line corridor because the loop-in transmission lines would span the All-American Canal and would not result in loss of suitable habitat for bat species.

If these species are present in or near disturbance areas during construction or decommissioning activities, they may be directly impacted through injury or mortality of individuals resulting from collisions with Project vehicles or equipment and disturbance from increased vehicle traffic, noise at work sites, or human presence that could result in avoidance of foraging areas, an interruption of normal breeding behavior, or roost abandonment (of potential roosts outside of the surveyed area). During operation, direct impacts to these species could occur from collisions with the loop-in transmission lines.

The Project would implement a BBCS (Appendix M.1) in compliance with CMAs LUPA-BIO-16 and LUP-BIO-17, which includes bat monitoring and avoidance procedures as well as measures to reduce operational impacts on bats. CMA LUPA-COMP-1 also requires compensation for impacts to native vegetation and habitat at a 1:1 ratio. Because the Project would implement procedures to minimize impacts on bats and would provide compensatory habitat mitigation for impacts on foraging habitat, the impacts on California leaf-nosed bat, Arizona myotis, Yuma myotis, and cave myotis would be less than significant.

e. If suitable bat habitat is present, and the field survey methodology used did not include acoustic surveys conducted by a qualified bat biologist utilizing full-spectrum acoustic bat detectors, please include these studies as described. Please ensure the results of acoustic surveys are analyzed and interpreted by a qualified bat biologist proficient in interpreting acoustic calls to the species level, with resume provided in the application (see DR BIO-7). Please submit the results of 2024 Spring/Summer surveys in a timely manner once the season ends. To maintain record continuity, please continue to conduct surveys in the subsequent seasons to capture a year's worth of data for reporting in the Final BBCS, which will be required prior to the start of construction. These surveys

shall identify daily, seasonal, or migratory use patterns, when the migration occurs, what species use the route, and in what relative numbers. Acoustic surveys need to include a study design that deploys sufficient acoustic sampling equipment to provide adequate sampling of potentially suitable habitat, and deployed for sufficient duration, to capture seasonal shifts in site use.

Response: Section 3.3.3 of the Biological Resources Technical Report (Attachment C.1) describes the field survey methodology used to assess presence/absence of western yellow bat. The surveys conducted provide data for migratory bats as well as the resident bats. The survey timing and appropriate nature for the Project and BBCS was confirmed with recognized bat expert Pat Brown. Additionally, Section 4.2.1 of the Opt-In Application has been modified to include text describing the bat field survey. Please refer to the response to DR BIO-14, part b, for this text.

The resume of the biologist, Bea Vizcarra, who performed the acoustic analysis to interpret bat calls is attached (Attachment C.6).

f. Please address potential impacts to bat species from artificial lighting, polarization of light, and any other potential adverse impacts to these species. In addition, discuss the potential "lake effect" of PV panels, which may act as an attractant to bats.

Response: Potential impacts to bat species from artificial lighting and the potential "lake effect" are addressed in Section 5, Risk Assessment of the BBCS (Attachment C.7)

g. Please provide appropriate avoidance, minimization and/or mitigation measures based on the bat species present.

Response: Avoidance, minimization, and mitigation measures for bat species are described in response to DR BIO-14, part c. No additional measures are needed as the DRECP LUPAs and BBCS address impacts on bats.

3.15 Data Request DR BIO-16

DR BIO-16: Please revise this section (4.2.8 of the Biological Resources Technical Report) to discuss the location of suitable habitat for sand food instead of Abram's spurge.

Response: Section 4.2.8 of the BRTR (Attachment C.1) has been revised to describe suitable habitat for sand food.

3.16 Data Request DR BIO-17

DR BIO-17: Please update Table 4.2-5 to include the correct status information for desert kit fox.

Response: Table 4.2-4 has been updated to include the correct status of the desert kit fox as shown in Attachment C.11.

3.17 Data Request DR BIO-18

DR BIO-18: There is erroneous information regarding the status of the American peregrine falcon (*Falco peregrinus*) provided in the application. Please see Senate Bill 147 (Ashby, Chapter 59, Statutes of 2023) in which the species was removed from the state's list of fully protected species. Please update the document, including Table 4.2-4 (Section 4.2) and the BBCS Plan, to include the current state designation for the species.

Response: Table 4.2-4 of the Opt-In Application has been updated to include the correct status of the peregrine falcon as shown in Attachment C.11. Section 4.1, Table 1, of the BBCS (Attachment C.7) has been updated to reflect the current state conservation status of peregrine falcon.

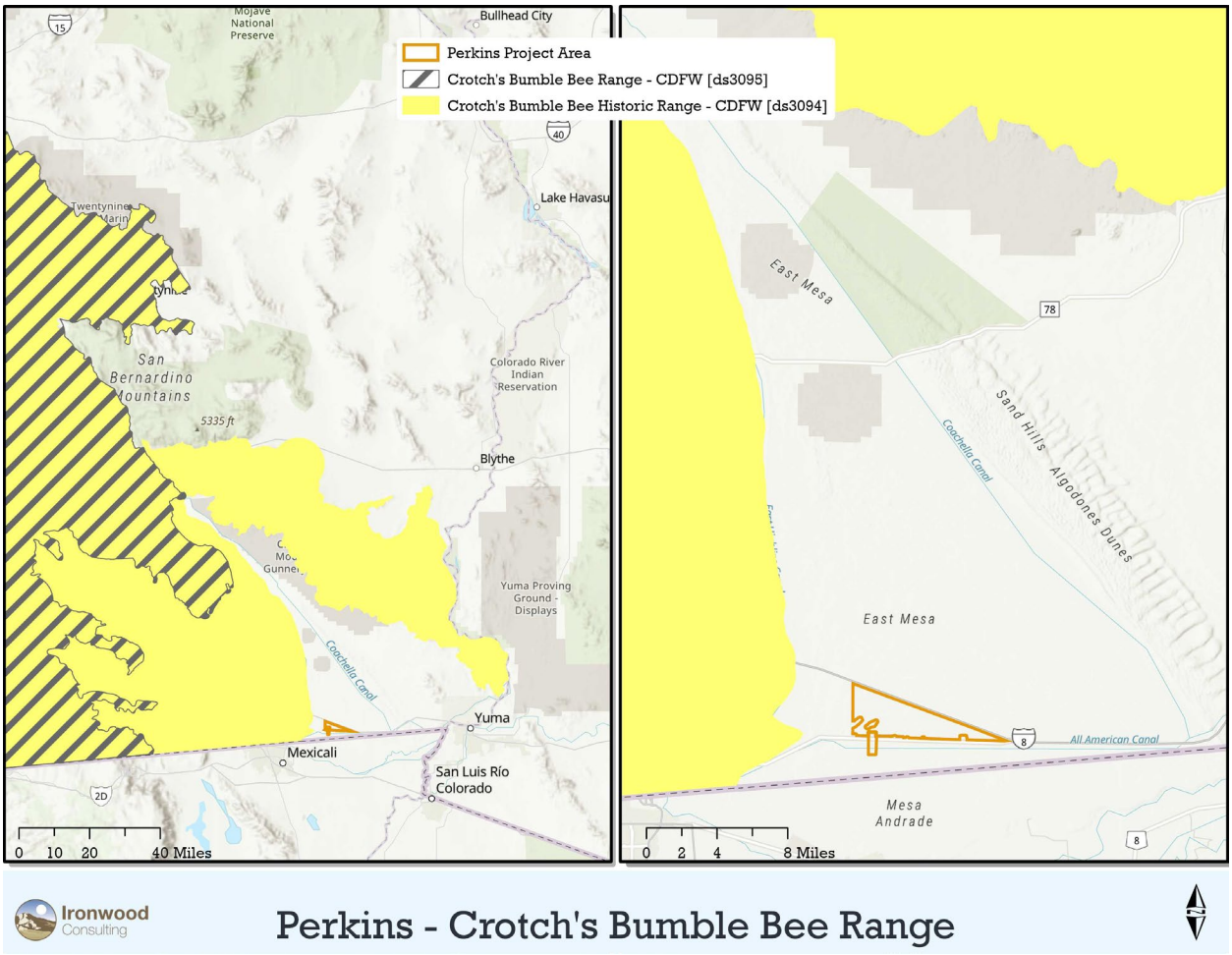
3.18 Data Request DR BIO-19

DR BIO-19: Staff needs additional information on survey methods and impact analysis for Crotch's bumble bee:

a. Describe the field survey methodology used to assess presence/absence of Crotch's bumble bee and its adequacy to make a determination that take would not occur during construction, operation and maintenance, and decommissioning activities, including during earth moving activities, vegetation removal and mowing, and invasive species management. Please describe the methodology as compared to the considerations provided within the Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species, for more information see https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=213150&inline.
b. The impact analysis mentions the potential of direct impact on Crotch's bumble bee nests. Surveys shall be conducted following the document provided above as impacts to an occupied nest could result in take. The narrative states there is potential for take, yet also states lack of habitat, which is contradictory. Please conduct the appropriate surveys so staff has adequate information to conduct the impact analysis.

Response (Parts a-b): The Project is outside both the current and historic range of Crotch's bumble bee (Figure 1). As such Crotch's bumble bee would not occur in the Project area and the Project would have no impact on Crotch's bumble bee. The BRTR has been updated with the historic and current range.

Figure 1 Crotch's Historic and Current Range and the Perkins Renewable Energy Project



3.19 Data Request DR BIO-20

DR BIO-20:

a. Due to presence of live burrowing owls on site, it is recommended to update the application to address the mitigation and management goals as identified in Appendix F of the Staff Report on Burrowing Owl Mitigation, and as required in California Code of Regulations, title 14, section 783.2(a)(1)-(a)(10) should the species become a candidate in the course of this process and take coverage would be requested.

Response: An incidental take permit application for burrowing owl will be provided in a subsequent data response.

b. It is recommended that Subsection 4.2.2 Impact BIO-1 be revised to address that take must be fully minimized and mitigated. Include petition to list language and specific details on what needs to happen if the species becomes

a candidate under CESA. Take is prohibited for candidate species unless authorized by state law through an Incidental Take Permit (ITP), and any impact would need to be fully minimized and mitigated. The CEC's certificate would be in lieu of an ITP; however, CEC must consult with CDFW to ensure necessary information is submitted during the CEC certification process to grant any authorizations under the Fish and Game Code (e.g., authorized take of a listed species) in lieu of CDFW.

Response: An incidental take permit application for burrowing owl will be provided in a subsequent data response.

c. In addition to the information needed for an ITP (if needed), update the impact analysis in the application to reflect the intent to obtain an ITP and include proposed minimization and mitigation measures that would bring the project's impact to burrowing owls to less than significant with mitigation.

Response: An incidental take permit application for burrowing owl will be provided in a subsequent data response. The Applicant is conducting non-breeding season surveys for the burrowing owl to support the permit application.

d. Please update the burrowing owl surveys following the recommended methods described in the California Department of Fish and Wildlife's Staff Report on Burrowing Owl (March 7, 2012), Surveys, Survey Reports, Impact Assessment sections and Appendix D Breeding and Non-breeding Season Surveys and Reports. Please also include an analysis regarding the suitability of non-breeding surveys based on the site conditions, species sign, local climate, and nearby occupancy of similar sites.

Response: Section 3.3.2.1 of the Biological Resources Technical Report (Attachment C.1) describes the burrowing owl survey methods in relation to the 2012 CDFW Staff Report. Non-breeding season surveys will be completed and provided as part of the permit application for the species and will also follow the recommendations in the 2012 CDFW Staff Report.

e. Please revise the Noteworthy Avian Observation figure included in Appendix J.3 to differentiate between live individuals, active burrows, and carcasses on the figure.

Response: Figure 10 of the Biological Resources Technical Report (Attachment C.1) is the updated Noteworthy Avian Observations figure and includes the requested changes.

f. The Biological Resources Technical Report (Appendix J.1) and Section 4.2.2 under Impact BIO-1, both state that five live individuals, nine active burrows, and two carcasses were observed on Project Application Area during surveys. However, the Noteworthy Avian Observation figure included in Appendix J.3 identifies sixteen observations of live individual burrowing owls. Please clarify.

Response: Both the BRTR Section 4.1.3 (Attachment C.1) and the Avian Figure in Appendix J.3 have been updated with the most recent burrowing owl numbers. The text notes that 7 live individuals, 13 active burrows, and 2 carcasses were identified during surveys.

3.20 Data Request DR BIO-21

DR BIO-21: The Desert Renewable Energy Conservation Plan (DRECP) Conservation and Management Actions (CMA) LUPA-BIO-COMP-2, listed in Appendix D.2, refers to compensation and a "fee re-assessed every 5 years to fund compensatory mitigation". Staff is not aware of a current funding program that allows for this, please provide confirmation that this fund exists and a reference to additional information regarding the fund.

Response: CMA LUPA-BIO-COMP-2 notes that the compensation for the mortality impacts to bird and bat Focus and BLM Special Status Species from activities will be determined based on monitoring of bird and bat mortality. As the first projects built under the DRECP that require bird and bat mortality monitoring are only beginning the post-construction mortality surveys, none have gone through the process of determining whether this fee would be required. If it were required, the BLM would determine the fee amounts and appropriate method to collect the fee.

3.21 Data Request DR BIO-22

DR BIO-22: In Appendix D.2, the last bullet of DRECP CMA LUPA-BIO-6 states compensatory mitigation would be implemented; however, this project site is outside desert tortoise range and compensatory mitigation is only required when in desert tortoise range. Please clarify how this measure applies to the project. Please confirm that no desert tortoise or desert tortoise critical habitat is present within the project vicinity.

Response: The CMA LUPA-BIO-6 requires any project regardless of whether they are in desert tortoise habitat to reduce predator subsidies. There is no desert tortoise or desert tortoise critical habitat in the project vicinity.

The DRECP requires compensation throughout the California Desert District DRECP management area, not just in areas of desert tortoise range. DRECP Conservation and Management Action (CMA) LUPA-BIO-COMP-1 requires compensation for all impacts in the DRECP at a 1:1 ratio except for certain exceptions. Specifically, LUPA-BIO-COMP-1 states "Impacts to biological resources, identified and analyzed in the activity specific environmental document, from activities in the LUPA Decision Area will be compensated using the standard biological resources compensation ratio, except for the biological resources and specific geographic locations listed as compensation ratio exceptions, specifics in CMAs LUPA-BIO-COMP-2 through -4, and previously listed CMAs. Compensation acreage requirements may be fulfilled through non-acquisition (i.e., restoration and enhancement), land acquisition (i.e., preserve), or a combination of these options, depending on the activity specifics and BLM

approval/authorization." LUPA-BIO-COMP-1 identifies a 1:1 standard biological resources compensation ratio and identifies that projects follow the Rangewide Management Strategy (RMS) for the flat-tailed horned lizard and flat-tailed horned lizard management areas as an exception to the biological resource standard compensation ratio (see Table 18 on page 120 of the DRECP LUPA).

3.22 Data Request DR BIO-24

DR BIO-24: Please list the parts of the CMAs that are being proposed to specifically address the impact to biological resources and provide them as applicant proposed measures.

Response: The CMAs are required by the BLM to meet the DRECP goals and objectives. While they are not required on private land or BOR lands, Section 2.3.3, Solar Facility Construction, notes that all BMPs, Project Design Features, and CMAs, identified in Appendix D.1 and D.2 would be implemented during grading, vegetation removal, and construction activities. Each impact analysis in Section 4.2.2 calls out the specific CMAs and what specifically they require already, for example page 4.2-24 which notes that CMA LUPA-BIO-1 requires protocol surveys, LUPA-BIO-2 requires biological monitoring, LUPA-BIO-3 requires resources setback if nests are encountered.

3.23 Data Request DR BIO-25

DR BIO-25: Please provide the following information:

a. Please describe the reasoning a proposed 1:1 mitigation ratio is considered full mitigation for impacts to flat-tailed horned lizard given the high occupancy within the project site.

Response: Mitigation for the flat-tailed horned lizard would be calculated per the RMS as required by LUPA-BIO-COMP-1 which requires that projects compensate for the flat-tailed horned lizard and flat-tailed horned lizard management areas as dictated by the RMS (see Table 18 on page 120 of the DRECP LUPA). The RMS is designed to provide a framework for securing and managing sufficient habitat to maintain several self-sustaining populations of the FTHL throughout the species' range; thus, compliance with its compensatory mitigation requirements would fully mitigate impacts to flat-tailed horned lizard.

b. Please revise Subsection 4.2.2 to include the information provided in Appendix J.5 to support the impact analysis, as described above.

Response: The following text from Appendix J.5, Mitigation Outline, Compensatory Mitigation Requirements section, is added to Section 4.2.2 of the Opt-In Application to describe the proposed mitigation for flat-tailed horned lizard. A memo regarding the availability of mitigation lands for flat-tailed horned lizard is provided in Attachment C.10.

The Project would also implement CMA LUPA-BIO-IFS-10, which requires compliance with the current Flat-Tailed Horned Lizard Rangewide Management Strategy (RMS). CMA LUPA-BIO-COMP-1 would require habitat compensation for flat-tailed horned lizard at a 1:1 ratio in compliance with the RMS. Therefore, the compensatory mitigation ratio for impacts to flat-tailed horned lizard habitat would be 1:1.

c. Please provide an analysis of the proposed mitigation lands suitability for offsetting project impacts. The analysis shall compare the species' occupancy and densities of the impact and mitigation sites. The analysis shall support a conclusion that the proposed mitigation is biologically equivalent or superior to the area of impact.
d. Please state how the compensatory mitigation currently underway with mitigation partner, Wildlands, is adequate for the impact to the high-quality habitat for the species.
e. The Wildlands letter in Appendix J.6 does not provide any specific details – please provide specific details including the land selection process, performance requirements, schedule, and outline of the plan.

Response (Parts c-e): Please see revised letter and Proposed Mitigation Conservation Analysis (Attachment C.9) prepared by Wildlands.

f. In addition, CDFW recommends extending the mitigation security timeframe in DRECP CMA LUPA-COMP-1 from 12 months to 18 months in anticipation of any unforeseen issues that might arise obtaining appropriate lands for mitigation with Wildlands. Please extend the mitigation security timeframe in accordance with the CDFW recommendation.

Response: As noted in the comment, the mitigation security timeframe for compensation is set by the DRECP CMA LUPA- COMP-1. LUPA-COMP-1 also states that "A 6-month extension may be authorized, subject to approval by the authorizing officer, dependent on the resources impacted and compensation due diligence of the project developer." CEC would need to make this recommendation to the BLM authorizing officer at the appropriate time, the Applicant does not have the authority to extend the mitigation security timeframe.

3.24 Data Request DR BIO-26

DR BIO-26: Please provide copies of all substantive correspondence between the applicant and the resource agencies regarding the project, including applications and emails, within one week of submittal or receipt.

Please provide a plan for resource/regulatory application submittals in Appendix E.2 as referenced in Section 4.15. Has BLM or BOR determined whether consultation in accordance with Section 7 of the ESA is required with the U.S. Fish and Wildlife Service? Please include any Section 7 determinations for federally listed species impacted by this project and include any records of consultation to date or that are planned with resource agencies.

These requests remain in effect until staff publishes the environmental document.

Response: At this time, limited correspondence between the applicant and the resource agencies [CDFW, RWQCB, and USFWS] has occurred. CDFW has participated in several calls with the applicant and the CEC. The BLM will consult with USFWS under the Programmatic Biological Opinion for the DRECP, if required. This consultation will be summarized and included as part of the NEPA process.

3.25 Data Request DR BIO-27

DR BIO-27: Please provide the following:

a. Please provide revised figures depicting any state and federal jurisdictional waters or wetlands delineated during biological resource surveys planned for spring 2024 on private and Bureau of Reclamation land.

Response: Revised figures are shown in the updated Aquatic Resources Report (Appendix C.2).

b. There are inconsistencies in the data, tables and figures provided in the LSAA and the Appendix J.5. Temporary and Permanent impacts to Waters of the State are not consistent between Figures and Tables. Please correct the following inconsistencies:
   i. LSAA Supplemental Pages, page 7, Table 2 numbers 1, 2, 3, 12 and 13 do not match Figure 7 acreage numbers.
   ii. Appendix J.5, Tables 1 and 2 both show 1.7 acres of impact to waters of the state and are not broken down between temporary and permanent – the total acreage amount does not match the LSAA application. Please explain in text why these numbers are different or update, as needed. Please update and correct these tables and figures, as needed.
   iii. There are inconsistencies in the data, tables and figures provided in the LSAA and the Waste Discharge Requirements (WDR) Supplemental Pages.

Response: A revised LSAA notification and WDR application will be provided in a subsequent data response.

3.26 Data Request DR BIO-30

DR BIO-30: The Biological Resources Technical Report, Figure 5, displays sand and dune systems within the project area. Please provide a sand transport study to analyze potential impacts to sand transport corridors/dunes in the project vicinity.

Response: Section 2.3 of the BRTR (Attachment C.1) has been expanded to include a more detailed analysis of the Project's impact on sand transport. This analysis concludes that the

Project is not likely to have a significant impact on sand transport or dunes in the project vicinity. Refer to Section 2.3 of the BRTR for further details. Loss of sand and dune habitat will be compensated for at a 1:1 ratio according to LUPA-BIO-COMP-1.

3.27 Data Request DR BIO-31

DR BIO-31: Please include the results of pre-construction surveys for fall blooming plant species with the potential to occur in the project area and include any applicable avoidance, minimization and/or mitigation measures.

Response: Botanical surveys were not conducted in the fall because habitat for fall-blooming species was not present in the Project Application Area.

3.28 Data Request DR BIO-32

DR BIO-32: Please provide the tables referenced in Appendix D.2 shown in red text. For example, DFA-BIO-IFS-1, Table 22 is shown in red in the statement "Implement the following setbacks shown below in Table 22 as applicable in the DFAs".

Response: Appendix D.2 of the Opt-in Application uses the BLM-provided excel format for review of all CMAs that is required for all projects under the DRECP as it is a format that can be made ADA compliant. The Tables referenced in the CMAs in red were sourced directly from the DRECP LUPA and are copied over below.

LUPA-BIO-RIPWET-1 references DRECP Table 17, see page 106 of the DRECP LUPA, as shown below.

DRECP Table 17, Riparian and Wetland Avoidance and Setbacks

Riparian and Wetland Vegetation Types or Features	Setback[1]
Riparian Vegetation Types[1]	
Madrean Warm Semi-Desert Wash Woodland/Scrub	200 feet
Mojavean Semi-Desert Wash Scrub	200 feet
Sonoran-Coloradan Semi-Desert Wash Woodland/Scrub	200 feet
Southwestern North American Riparian Evergreen and Deciduous Woodland	0.25 mile
Southwestern North American Riparian/Wash Scrub	0.25 mile
Wetland Vegetation Types[1]	
Arid west freshwater emergent marsh	0.25 mile
Californian Warm Temperate Marsh/Seep	0.25 mile
Other Riparian and Wetland Related Features	

Riparian and Wetland Vegetation Types or Features	Setback[1]
Managed Wetlands[2]	0.25 mile
Mojave River[3]	0.25 mile
Undifferentiated Riparian land cover[4]	200 feet

1. Setbacks are measured from the edge of the mapped riparian or wetland vegetation or water feature per LUPA-BIO-3.
2. Setback is from managed wetlands including USFWS Refuges, state managed wetlands, and duck clubs in Imperial Valley. See specifications for the Salton Sea below.
3. Setback is measured from the edge of mapped riparian or edge of the Federal Emergency Management Agency 100-year floodplain of the Mojave River, whichever is further from the center line of the Mojave River channel.
4. Undifferentiated "Riparian" land cover includes portions of major river courses (Mojave River and Colorado River) within the main channels where riparian vegetation groups were not mapped.

DFA-BIO-PLANT-1 references DRECP Table 23, see page 193 of the DRECP LUPA, as shown below.

DRECP Table 23, Plant Focus Species - DFA Suitable Habitat Impact Caps

Plant Focus Species	% of Suitable Habitat allowed to be impacted in DFAs
Alkali mariposa-lily	10%
Barstow woolly sunflower	20%
desert cymopterus	20%
Little San Bernardino Mountains linanthus	20%
Mojave monkeyflower	20%
Mojave tarplant	20%
Owens Valley checkerbloom	20%
Parish's daisy	20%

LUPA-BIO-COMP-1 references DRECP Table 18, see page 120 of the DRECP LUPA, as shown below.

DRECP Table 18, Biological Resources Compensation Ratios for the Impacts of Activities in the DRECP LUPA Decision Area

Standard Biological Resources Compensation Ratio	Exceptions to the Biological Resource Standard Compensation Ratio	Ratio
1:1	Desert tortoise designated critical habitat	5:1 in same CH unit

Standard Biological Resources Compensation Ratio	Exceptions to the Biological Resource Standard Compensation Ratio	Ratio
	Mohave ground squirrel: Key population centers	2:1
	Flat-tailed horned lizard: FTHL Management Areas	RMS
	Wetlands	2:1
	Desert riparian woodland vegetation types	5:1

DFA-BIO-IFS-1 references DRECP Table 21, see page 190 of the DRECP LUPA, as shown below.

DRECP Table 21, Individual Species DFA Survey Requirements

Species	DFA Survey Requirements
Reptile	
Desert tortoise	Protocol surveys in the desert tortoise habitat areas indicated in Appendix D [of the DRECP LUPA].
Flat-tailed horned lizard	Protocol surveys as specified in the RMS.
Bird	
Bendire's thrasher	Pre-construction nesting bird survey during breeding season (March 1 through September 30) in suitable habitat on and within 500 feet of construction zone.
Burrowing Owl	Breeding season surveys (February 1 through August 31) per Burrowing Owl Guidelines (CDFG 2012). Clearance surveys (for direct take avoidance) no less than 14 days prior to ground disturbance per Burrowing Owl Guidelines.
California condor	None
Gila woodpecker	None
Golden eagle	Pre-project golden eagle surveys and pre-construction risk assessment surveys in LUPA-BIO-IFS-28, if applicable as described in golden eagle CMAs below.
Swainson's Hawk	Protocol surveys in the Antelope and Owens Valleys.
Mammals	
Desert bighorn sheep	None
Mohave ground squirrel	Clearance surveys in the Mohave ground squirrel habitat areas indicated in Appendix D [of the DRECP LUPA]. Protocol surveys in key population centers and linkages as identified on the map in Appendix D [of the DRECP LUPA].

DFA-BIO-IFS-2 references DRECP Table 22, see page 191 of the DRECP LUPA, as shown below.

DRECP Table 22, Individual Species DFA Setback Requirements

Species	DFA Setbacks
Reptile	
Desert tortoise	None
Flat-tailed horned lizard	None
Bird	
Bendire's thrasher	Setback pre-construction, construction, and decommissioning, and other activities 500 feet from active nests.
Burrowing Owl	656 feet (200 meters) from active nesting sites.
California condor	Setback wind and transmission projects 5 miles from nest sites. Setback solar, geothermal, and other activities than may impact condors 1.5 miles from nest sites and out of direct line of site from nest sites.
Gila woodpecker	Setback pre-construction, construction, and decommissioning, and other activities that may impact the species 0.25 mile from suitable habitat during the breeding season (April 1 through July 31).
Golden eagle	Setback activities 1 mile from active or alternative nests within an active territory as described in LUPA-BIO-IFS-24.
Swainson's Hawk	0.5 mile from active nests.
Mammal	
Desert bighorn sheep	None
Mohave ground squirrel	None

4 Land Use

4.1 Data Request DR LAND-2 and DR LAND-3

DR LAND-2: Please identify recent or proposed zoning or general plan changes that may have occurred that were not associated with infrastructure projects.

DR LAND-3: Please identify projects with discretionary review within the past 18 months that were not specifically associated with infrastructure projects.

Response: Response Set #1 stated that a request for public records for any recent zoning changes, general plan changes, or other discretionary projects that are not associated with infrastructure projects was submitted to Imperial County on May 28th. A response was received July 31st and is provided in Attachment D. The response stated that no activity was found within a 6-mile radius in the past 18 months, including zone changes, amendments or discretionary reviews.

5 Visual Resources

5.1 Data Request DR VIS-2

DR VIS-2: Please provide the photo-realistic simulation one year after completion of construction

Response: Response Set #1 provided photo-realistic simulations for the Project including the loop-in lines as shown in Attachment E of Response Set #1, Figure 6b Viewpoint Loop-in Line. The loop-in lines in Response Set #1 represent a simulation of the loop-in lines on monopole support structures. Two additional simulations have been provided as part of this Response Set #2 to show two additional loop-in support structure options, lattice tower and H-frame, as described in Section 2.4.1, Transmission System Description, of the Project Description. Refer to Figure 2 for a simulation of the loop-in lines on lattice tower support structures and Figure 3 for a simulation of the loop-in lines on H-frame support structures.

Figure 2 Visual Simulation from KOP 5 of Loop-in Lines (Lattice Tower)

Figure 3 Visual Simulation from KOP 5 of Loop-in Lines (H-frame)

6 Paleontology

The CEC did not provide any data requests for the Perkins Opt-in Application regarding paleontological resources. Surveys for paleontological resources throughout the entire site have been completed and the subsequent paleontological report was provided to the BLM and will be provided to the CEC. Portions of the Opt-in Application have been updated based on the survey results as follows.

Opt-in Application Section 4.8.1, Environmental Setting has been updated to include the following language.

> **Paleontological Field Survey Results**
> A pedestrian survey was conducted of the entire Project area. The ground surface was inspected for exposed fossils and geologic units were evaluated for their potential to contain buried fossils. During the survey, 220 fossil localities were encountered in the Holocene Dune Sand (Qs) and Quaternary Alluvium (Qal). The fossil localities were documented and photographed, but no fossils were collected. The localities included 163 nonsignificant fossil occurrences of tortoise carapace and poorly preserved non-identifiable mammal, and 57 significant fossil localities of rodent, camel, turtle, rabbit, snake, and coyote. A total of 9 significant localities were documented on private land, 11 significant localities on BOR land, and 37 significant localities on BLM land. All localities were found ex situ on the ground surface. ~~Seven nonsignificant fossils of tortoise carapace permineralized fragments were documented during the paleontological survey for geotechnical investigation locations on private land parcels in the Project area. These fossils were documented as float in areas mapped as Quaternary alluvium and were not collected. No further mitigation is required for the seven nonsignificant fossils.~~ The significant localities were not collected at the time of recordation; they should be collected and curated prior to any ground disturbance. No further mitigation is required for the nonsignificant fossils.

Opt-in Application Section 4.8.2, Impact Analysis has been updated to include the following language.

> **Impact Evaluation Criteria**
> The paleontological resource potential for Quaternary alluvium (Qal) mapped in the Project area would typically be recommended as low potential because of the young age of the surficial deposits and lack of previously recorded significant vertebrate localities (Bell, 2023; Mueller, 2023; Kottkamp, 2023; and Stoneburg, 2023). However, fieldwork results from paleontological mitigation conducted at other regional solar energy developments in the Colorado Desert have shown Qal to have a moderate-to-high fossil potential (Aspen

2020; Clifford and DeBusk, 2023). ~~Therefore, a high paleontological resource potential is recommended for Qal. In addition, seven nonsignificant fossils of tortoise carapace~~ A total of 44 significant fossils were documented within Qal during the paleontological survey ~~for geotechnical investigation locations on private land parcels in the Project area~~. Therefore, a high paleontological resource potential is recommended for Qal. ~~These fossils were documented as float in areas mapped as Quaternary alluvium. These findings are preliminary, but they do provide evidence for high paleontological resource potential in the Project area, pending the results of the full Project survey.~~

Similarly, the Holocene dune sand (Qs) mapped in the Project area would typically receive a recommendation for low paleontological sensitivity because of the young age and expectation of limited fossil preservation potential. However, multiple vertebrate localities were identified in interdune areas and blowouts in very similar types of eolian dune deposits at other regional solar energy developments in the Colorado Desert (Aspen 2020). ~~The paleontological survey for geotechnical investigations did not occur in Project areas mapped as underlain by Holocene dune sand; as such, there are no findings for paleontological resources in this unit. A~~ A total of 13 significant fossils were documented within Qs during the paleontological survey; as such, a high paleontological potential for Qs is recommended. Figure 4.8-1 depicts the paleontological sensitivity in the Project area.

Opt-in Application Section 4.8.4, Mitigation Measures, has been updated to include the following language.

MM PAL 2 - Develop and Implement a Paleontological Resource Mitigation Plan.

Prior to the commencement of ground-disturbing activities, a qualified paleontologist should be retained to prepare and implement a Paleontological Resource Mitigation Plan (PRMP) for the Project. The qualified paleontologist should meet the minimum qualifications per standards set forth by the SVP (2010) guidelines. The PRMP should describe pre-construction procedures for collection of all significant fossils identified during the survey if not previously collected and the monitoring required during ground-disturbing activities. Monitoring should entail the visual inspection of excavated or graded areas and trench sidewalls. If the project paleontologist determines full-time monitoring is no longer warranted, based on the geologic conditions at depth, they may recommend that monitoring be reduced or ceased entirely. The PRMP should include a provision for all field personnel to receive a worker's environmental awareness training on paleontological resources. If a paleontological resource is discovered, the monitor will have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance and, if appropriate, collected. If the resource is determined to be of scientific significance, the project paleontologist shall salvage the fossil and prepare it in a properly equipped laboratory to a point ready for curation. The fossil specimens must be delivered to a regional, accredited museum or repository at the end of the Project. The cost of curation will be assessed by the repository and will be the responsibility of the client. Upon completion of ground-

disturbing activity and curation of fossils, if necessary, the qualified paleontologist should prepare a final mitigation and monitoring report outlining the results of the mitigation and monitoring program. The final report should be submitted to the CEC.

Opt-in Application Section 4.8.5, Project Design Features, has been updated to include the following language.

PDF PR-1 Paleontological Resource Monitoring and Mitigation Plan (PRMP).

Prior to the start of any Project-related construction activities, the Applicant shall retain a qualified paleontologist (Project Paleontologist) to prepare and implement a project-specific PRMP to be approved by BLM and CEC. The Project Paleontologist shall hold a BLM-issued Paleontological Resource Use Permit and be responsible for implementing all the paleontological conditions of approval and for using qualified paleontologists to assist in work and field monitoring.

At a minimum, information to be contained in the PRMP, in addition to other information required under industry standard, Society of Vertebrate Paleontology standards, and BLM paleontology program policy and standards, is as follows:

- Identification (name) and qualifications of the Project Paleontologist and qualified paleontological monitors to be employed for grading operations monitoring.
- Identification of personnel with authority and responsibility to temporarily halt or divert grading equipment to allow for recovery of large specimens.
- Identify procedures for pre-construction collection of all significant fossils identified during the survey.
- Description of the project site and planned earthwork and excavation.
- A site-specific plan and map prepared by the Project Paleontologist which identifies construction impact areas with sediments of High (PFYC 4) and Moderate (PFYC 3a) sensitivity for encountering significant paleontological resources and the approximate depths at which those resources are likely to be encountered for each Project component.
- The PRMP shall require the qualified paleontological monitor(s) to monitor all construction-related earth-moving activities in sediments determined to have a High (PFYC 4) sensitivity.
- The PRMP shall define monitoring procedures and methodology and shall specify that sediments of Moderate (PFYC 3a) or undetermined sensitivity shall be monitored on a part-time basis (as determined by the Project Paleontologist). Sediments with very low or low potential will not require paleontological monitoring (PFYC 1 and 2).
- The PRMP shall detail methods of recovery, preparation, and analysis of specimens, the final curation location of specimens at the repository identified in the BLM-issued Paleontological Resource Use Permit, data analysis, and reporting. Where possible, recovery is preferred over avoidance in order to mitigate the potential for looting of paleontological resources.

- The PRMP shall specify that all paleontological work undertaken by the Applicant on public lands administered by BLM and BOR shall be carried out by qualified, permitted paleontologists with the appropriate current BLM Paleontological Resources Use Permit.
- Identification of personnel with authority and responsibility to temporarily halt or divert ground-disturbance activities to allow for recovery of large specimens.

The PRMP shall be submitted BLM, BOR, and CEC for review and approval 60 days prior to start of Project construction. The PRMP must be approved by BLM, BOR, and CEC prior to the Notice To Proceed.

Attachment A Attestation Letter (DR MAND-1)

PERKINS RENEWABLE ENERGY PROJECT OFFICER ATTESTATION

On this __21_ day of October, 2024, I, Simon Ross, Chief Commercial Officer of IP Perkins, LLC and IP Perkins BAAH, LLC (such entities, together, along with any related affiliates, "**Applicant**"), hereby certify and attest, under penalty of perjury, to the following:

1. The Perkins Renewable Energy Project Opt-in Application submitted to the California Energy Commission by Applicant on February 14, 2024 is truthful and accurate in all material respects.

By: _____

Name: Simon Ross

Title(s): Chief Commercial Officer, IP Perkins, LLC
Chief Commercial Officer, IP Perkins BAAH, LLC

Attachment B Community Benefits Agreement and Enforceable Agreement (DR MAND-3 and DR MAND-4)

Amended and Restated

Donation Agreement

This Amended and Restated Donation of Goods Agreement, dated as of July 25, 2024 (this "**Agreement**"), is entered between IP Perkins, LLC, a Delaware limited liability company ("**Donor**"), and Imperial County Office of Education Foundation, a California 501(c)(3) non-profit organization ("**Recipient**," and together with Donor, the "**Parties**," and each, a "**Party**").

RECITALS

A. Donor is in the business of developing and operating renewable energy projects. The "**Perkins Solar Project**" is a proposed renewable energy project located in Imperial County, California, that is partially and indirectly owned by Donor;

B. Recipient is a charitable organization that supports students and educational programs throughout Imperial County located in El Centro, California, which is part of Imperial County, California, attending the needs of the same community;

C. Donor desires to make a one-time charitable contribution to Recipient, and Recipient desires to accept said contribution for the benefit of its charitable work in accordance with the terms and conditions agreed below; and

D. Donor and Recipient previously entered into that Donation of Goods Agreement, dated as of November 27, 2023 (the "**Prior Agreement**") and now desire to amend and restate the Prior Agreement in its entirety to incorporate the terms reflected herein.

AGREEMENT

The Parties agree that the Prior Agreement is hereby amended and restated in its entirety by this Agreement, and the Parties further agree as follows:

1. Charitable Donation. All payments made under the terms of this Agreement, as set forth in Section 3 (the "**Donation**"), shall be treated as charitable donations for all purposes. It is the intent of the Parties that the Donation be made and used in compliance with all applicable federal and state laws governing donations made to charitable organizations. Recipient represents and warrants to Donor that it is a tax-exempt entity pursuant to Section 501(c)(3) or other applicable sections of the Internal Revenue Code. The Parties acknowledge that they may be required by law to report information about the Donation and each Party agrees to report such information as legally required.

2. Condition Precedent. Notwithstanding anything to the contrary contained in this Agreement, the obligation of the Donor to make the donation as outlined in Section 3 is subject to the satisfaction of the following condition precedent: the achievement of the commercial operation date of the Perkins Solar Project (the "**Condition Precedent**"). The Donor's obligation to make the Donation shall not be effective until such time as the Condition Precedent has been met.

3. Donation. Donor agrees to make a one-time contribution to Recipient in the amount of [redacted] The Donation is contingent upon, and shall be paid within six (6) months of, the achievement of the Condition Precedent, as set forth in Section 2. Donor grants Recipient irrevocable ownership, rights, title, and interest in the Donation upon the terms and conditions set forth in this Agreement and without monetary payment to the Donor. Donation will be transferred to Recipient free and clear of any liens, claims, or encumbrances. Recipient will determine the disposition of the Donation subject to Section 3.1.

3.1 Conditions of Use. Recipient shall use the Donation toward the development and delivery of youth and family activities related to Science, Technology, Engineering, Arts, and Mathematics (STEAM) areas of focus. Recipient shall not use the Donation for the benefit of any owner, shareholder, officer, director, or employee of the Recipient.

3.2 Statement of Support. Recipient agrees to provide a statement or letter of support for the Perkins Solar Project at the request of Donor.

4. Confidentiality. The Parties agree to take all reasonable measures to keep in confidence the execution, terms and conditions as well as performance of this Agreement, and the confidential data and information of any Party that the other Party may know or gain access to in relation to this Agreement (hereinafter referred to as "**Confidential Information**") and shall not disclose such Confidential Information to any third party without the prior written consent of the disclosing party. Notwithstanding the foregoing, either Party may disclose this Agreement, including any Confidential Information contained herein, to any relevant local, state, and/or federal government entity for purposes of obtaining a permit, if required, or as otherwise required by law.

5. Public Announcements. Donor reserves the right to make public announcements and communicate with any news or other media organizations regarding this Agreement without prior consent of, or notice to, Recipient. Recipient shall not make any public announcements concerning this Agreement, or the transactions contemplated hereby or otherwise communicate with any news or other media organizations concerning this Agreement without the prior written consent of Donor.

6. Waiver and Release. Recipient itself and its respective present and former parents, subsidiaries, Affiliates, officers, directors, shareholders, members, successors, and assigns hereby expressly releases, waives, and forever discharges Donor and its respective present and former, direct and indirect, parents, subsidiaries, Affiliates, employees, officers, directors, shareholders, members, agents, representatives, permitted successors, and permitted assigns from any and all claims, actions, causes of action, suits, losses, expenses, liabilities, obligations, damages, and demands, of every kind and nature whatsoever, whether now known or unknown, foreseen or unforeseen, matured or unmatured, suspected or unsuspected, in law, or equity arising out of or in connection with this Agreement whether arising out of the negligence of Donor or Recipient or otherwise, except for any claims relating to rights and obligations preserved by, created by, or otherwise arising out of this Agreement and any liabilities that cannot be released or waived under applicable law. "**Affiliate**" means any entity which, directly or indirectly, controls, is controlled by, or is under common control with a Party. In this definition 'controls' and 'control' mean the power by contract to direct the management and policies of an entity through the beneficial ownership of 50% or more of voting equity securities or other equivalent voting interests of the

entity. In the case of Donor, (i) 'common control' includes only those entities that are controlled directly or indirectly by Intersect Power Holdings, LLC, and (ii) "Affiliates" (x) excludes any entity that directly or indirectly controls Intersect Power Holdings, LLC, (y) excludes any tax equity investor in a tax equity partnership, and (z) includes any project company entity owned by a tax equity partnership and managed by Donor or its Affiliate.

7. Indemnification. Recipient shall indemnify and defend Donor and its officers, directors, employees, agents, Affiliates, successors, and permitted assigns (collectively, "**Indemnified Party**") against any and all losses, damages, liabilities, deficiencies, claims, actions, judgments, settlements, interest, awards, penalties, fines, costs, or expenses of whatever kind, including reasonable attorneys' fees, that are incurred by Indemnified Party arising out of or related to any third-party claim alleging:

(a) breach or non-fulfillment of any provision of this Agreement by Recipient or Recipient's employees;

(b) any negligent or more culpable act or omission of Recipient (including any reckless or willful misconduct) in connection with the Donation;

(c) any alleged bodily injury, death of any person, or damage to real or tangible personal property caused by the negligent or culpable acts or omissions of Recipient (including any reckless or willful misconduct); or

(d) any failure by Recipient to comply with any applicable federal, state, or local laws, regulations, or codes in connection with the Donation.

8. Limitation of Liability. **IN NO EVENT SHALL DONOR BE LIABLE FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, PUNITIVE, OR ENHANCED DAMAGES, LOST PROFITS OR REVENUES, OR DIMINUTION IN VALUE, ARISING OUT OF, OR RELATING TO, OR IN CONNECTION WITH THE DONATION, OR ANY BREACH OF THIS AGREEMENT, REGARDLESS OF (A) WHETHER SUCH DAMAGES WERE FORESEEABLE, (B) WHETHER OR NOT DONOR WAS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, (C) THE LEGAL OR EQUITABLE THEORY (CONTRACT, TORT, OR OTHERWISE) UPON WHICH THE CLAIM IS BASED, AND (D) THE FAILURE OF ANY AGREED OR OTHER REMEDY OF ITS ESSENTIAL PURPOSE.**

9. Term and Termination. The terms of this Agreement shall remain in effect indefinitely unless terminated earlier by mutual written agreement of the Parties.

10. Notices. Any notice, demand or request (each, a "**Notice**") required or permitted to be given under this Agreement shall be in writing and shall be deemed sufficient when delivered personally, by overnight courier, sent by email, or 48 hours after being deposited in the U.S. mail as certified or registered mail with postage prepaid, addressed to the Party to be notified at such Party's address as set forth below, as may be subsequently modified by written notice:

If to Donor:	

	IP Perkins, LLC 9450 SW Gemini Drive PMB #68743 Beaverton, Oregon 97008-7105 Email: legal@intersectpower.com
If to Recipient:	Imperial County Office of Education Foundation 1398 Sperber Road El Centro, CA 92243 Email: todd.finnell@icoe.org Attention: Todd Finnell – County Superintendent of Schools

11. Severability. If any term or provision of this Agreement is invalid, illegal, or unenforceable in any jurisdiction, such invalidity, illegality, or unenforceability shall not affect any other term or provision of this Agreement or invalidate or render unenforceable such term or provision in any other jurisdiction. Upon such determination that any term or other provision is invalid, illegal, or unenforceable, the Parties hereto shall negotiate in good faith to modify this Agreement so as to effect the original intent of the Parties as closely as possible in a mutually acceptable manner in order that the transactions contemplated hereby be consummated as originally contemplated to the greatest extent possible.

12. Amendment and Modification. This Agreement may only be amended, modified, or supplemented by an agreement in writing signed by each Party hereto.

13. Governing Law. This Agreement shall be governed by and construed in accordance with the internal laws of the State of California without giving effect to any choice or conflict of law provision or rule (whether of the State of California or any other jurisdiction).

14. Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together shall be deemed to be one and the same agreement. A signed copy of this Agreement delivered by email shall be deemed to have the same legal effect as delivery of an original signed copy of this Agreement.

15. Force Majeure. No Party shall be liable or responsible to the other Party, or be deemed to have defaulted under or breached this Agreement, for any failure or delay in fulfilling or performing any term of this Agreement, when and to the extent such Party's (the "**Impacted Party**") failure or delay is caused by or results from the following force majeure events ("**Force Majeure Event(s)**"): (a) acts of God; (b) flood, fire, earthquake, epidemics, or explosion; (c) war, invasion, hostilities (whether war is declared or not), terrorist threats or acts, riot or other civil unrest; (d) government order, law, or action; (e) embargoes or blockades in effect on or after the date of this Agreement; (f) national or regional emergency; and (g) strikes, labor stoppages or slowdowns or other industrial disturbances; and (i) other similar events beyond the control of the Impacted Party.

The Impacted Party shall give Notice within 7 days of the Force Majeure Event to the other Party, stating the period of time the occurrence is expected to continue. The Impacted Party shall use diligent efforts to end the failure or delay and ensure the effects of such Force Majeure Event are minimized. The Impacted Party shall resume the performance of its obligations as soon as reasonably practicable after the removal of the cause. In the event that the Impacted Party's failure or delay remains uncured for a period of 30 consecutive days following Notice given by it under this Section 15, the other Party may thereafter terminate this Agreement upon 7 days' Notice.

16. Entire Agreement. This Agreement constitutes the sole and entire agreement of the Parties to this Agreement with respect to the subject matter contained herein, and supersedes all prior and contemporaneous understandings, agreements, representations, and warranties, both written and oral, with respect to such subject matter.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement as of the date set forth above.

IMPERIAL COUNTY OFFICE OF EDUCATION FOUNDATION By _____ Name: Todd Finnell Title: County Superintendent of Schools	**IP PERKINS, LLC** By Nicolas Spicer Name: Nicolas Spicer Title: Chief Operating Officer

Perkins Renewable Energy Project - Community Benefits Plan

Perkins Community Benefits Plan Introduction

IP Perkins LLC, a subsidiary of Intersect Power (IP), strives to be an active member and steward of the Imperial County community. As part of the Community Benefits Plan for the Perkins Renewable Energy Project (Perkins), IP plans on making significant investments, totaling over $1.5 million dollars, over the next ten years to community-based initiatives and programs in the Imperial County area. Additional donations will continue throughout the operational life of the Perkins Project.

IP hired an Imperial County-based local outreach firm in the spring of 2023 to help advise and support critical community outreach, including the creation of the Community Benefits Plan. Since that time, the IP team has worked with the local consultant to engage key stakeholders in Imperial County. These key stakeholders include labor and workforce development entities, nonprofit partners, local school districts, and tribes. These stakeholders have provided information and input to inform the Community Benefits Plan. The Community Benefits Plan partner organizations were selected using the process detailed below:

1. Research: key information was gathered from several sources, most notably the 2017-2021 Imperial County Community Health Assessment and Health Improvement Plan[1]. The assessments identified key community focus areas to include healthy eating and active living, high quality healthcare and healthy and safe living environments.
2. Community Input: community input was gathered through meetings with local stakeholders and non-profit leaders. These interactions confirmed findings from initial research and identified additional opportunities for investment including workforce development, education, and tribal engagement, ensuring the integration of the community's thoughts and perspectives into the Community Benefits Plan.
3. Resource Assessment: a thorough assessment was conducted to understand what community resources currently exist in Imperial County and the areas closest to the Perkins site. The IP team met with the leaders of the partner organizations to understand their mission and how their programming and services support the residents of Imperial County.

The table below identifies the key focus areas of the Community Benefits Plan and the identified partner organizations:

Focus Areas	**Partner Organizations**
Healthy Eating and Active Living	Imperial Valley Food Bank
High Quality Healthcare	Asthma Program - TBD

[1]chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.icphd.org/media/managed/communityhealthinitiatives/CHA_CHIP_2017_2021_5_2017_1.pdf

Healthy and Safe Living Environments	Imperial Valley College Lotus Living Center
Workforce Development and Training	Imperial County Building Trades Child Care Pilot Program Imperial County Workforce Development Board Renewable Energy Internship Program
Education	Imperial County Office of Education
Tribal Engagement	Imperial County Court Appointed Special Advocates Tribal Outreach Program

The Community Benefits Plan strategically incorporates annual commitments spanning the duration of approximately 10 years, emphasizing the establishment of enduring partnerships throughout the project's development process and into operations. In addition to the formalized community benefits plan, IP's commitment extends to supporting other organizations outside its purview. IP plans to make annual commitments throughout the operational life of the Perkins project. Furthermore, a designated portion of funds are allocated to support new opportunities that may emerge in the future. This multifaceted approach underscores our dedication to sustained community engagement and adaptability in addressing evolving needs and opportunities.

In 2023 and 2024, IP provided financial support to organizations not formally incorporated in the Community Benefits Plan, including the Imperial Valley Community Foundation, Imperial Valley Regional Chamber and the Imperial County Economic Development Corporation.

The IP team will meet with the Community Benefit Plan's partner organizations annually to plan for the upcoming year, receive information and feedback on the prior year's programming, and to discuss opportunities for expanded involvement by IP employees, including participation in local volunteer projects.

Direct Benefits of the Perkins Project

Imperial County will see direct benefits from the Perkins Project. IP estimates that the Project will create up to 700 sustained jobs during construction and 18 permanent jobs in Imperial County for project operations. IP will hire an EPC contractor to build the Project under a 5-craft Project Labor Agreement, host local job fairs and coordinate with the local community college system to maximize local hiring potential. The IP team will also develop a list of locally-owned, veteran-owned, and minority-owned subcontractors, which the project's EPC contractor will be required to include for bidding opportunities.

Healthy Eating and Active Living Partner

Imperial Valley Food Bank

The food insecurity rate in Imperial County is among the highest in the nation and the highest in regard to childhood hunger in the State of California. The Imperial Valley Food Bank aims to alleviate these issues and improve nutrition for residents by providing access to healthy and nutritious food. They strive to address food insecurity by distributing food to individuals and families in need through a network of partner agencies, community programs, and direct services. The food bank also aims to educate the community about the importance of nutrition and advocate for policies that support hunger relief efforts.

IP has committed to supporting the food bank's mission and has pledged financial contributions over the next five years. This support will help sustain the following rural comprehensive feeding programs:

- Community Food Distributions - The Food Bank distributes food throughout the Imperial Valley by providing food to agencies and churches that distribute food for their neighbors. They also host Mobile Food Pantries each month in the areas of the Valley that partner agencies are unable to reach.
- CalFresh Outreach - The Imperial Valley Food Bank specializes in helping people navigate the process to apply for CalFresh, which is known federally as the Supplemental Nutrition Assistance Program or SNAP. This program provides monthly food benefits to individuals and families with low-income and provides economic benefits to communities.
- The Senior Food Program - This program provides monthly supplemental food packages to income-eligible senior citizens aged 60 and over. The Food Bank administers the program and distributes USDA-provided food at several distribution sites every month in communities throughout the county.
- Weekend Backpack Program - For many Imperial County children, school breakfasts and lunches are their main source of meals. The Weekend Backpack Program provides a solution to weekend hunger. Teachers identify the most at-risk students, who are then given food to fill their backpacks on Fridays when they leave school.

High Quality Healthcare Partner

Local Asthma Organization - TBD

Asthma is widely recognized as a major health concern in Imperial County. IP has initiated discussions with local asthma organizations to better understand opportunities for partnership as part of the Perkins Community Benefits Plan.

Healthy and Safe Living Environments Partner

Imperial Valley College's Lotus Living Center

Imperial Valley College (IVC) is a public community college located in Imperial, CA. The IVC Foundation works to enhance educational opportunities through strategic fundraising and community partnerships. The Foundation works to secure resources and funding to supplement public funding for IVC, ensuring that students have access to scholarships, programs, and facilities that enrich their educational experience.

In partnership with the City of El Centro, the IVC Foundation developed the Lotus Living Community in 2021. The Lotus Living Center provides housing solutions that support educational success and holistic wellbeing for IVC students, particularly those facing housing insecurity. The center offers a supportive environment with its 26 tiny home units, prioritizing accessibility for foster youth and students experiencing homelessness. By addressing these students' basic housing needs, the Lotus Living Center aims to enhance retention rates, academic achievement, and overall student success. Additionally, the center serves as a model for community collaboration and innovative approaches to supporting students' educational journeys.

To advance the IVC Foundation's mission, IP committed to providing financial support for the future growth and management of the community. Additionally, IP sponsored a College Tour Day in April 2024, which allowed students to visit San Diego University.

Workforce Development and Training Partners

Imperial County Building Trades Council Child Care Pilot Program

The IP team plans to partner with Imperial County Building Trades Council to support workforce development opportunities. The Imperial County Building Trades Council's mission is to advocate for the rights and interests of workers in the region. They aim to provide high-quality training and apprenticeship programs, ensure fair wages and safe working conditions, and promote economic development through strong partnerships with local businesses and government entities.

Child care is a major barrier for many working parents who are looking to enter or remain in the workforce. Given the hours and cycle of the construction industry, it can be difficult for working parents to find adequate care and many building trades members find that the hours, locations, and required contracts for childcare do not work with their schedules.

In partnership with the Imperial County Building Trades Council, IP will help to fund affordable childcare options through a Child Care Pilot Program. This initiative aims to support Imperial County workers by ensuring their children are cared for safely and affordably by qualified professionals.

Imperial County Workforce Development Board Internship Program

The Imperial County Workforce Development Board (ICWDB), which is part of the Workforce and Economic Development Department, oversees the delivery of workforce services to local job seekers and business owners. Their mission is to enhance the economic vitality and prosperity of Imperial County by supporting workforce development initiatives and fostering sustainable economic growth. They aim to align education, training, and employment opportunities with the needs of local industries, promote job creation, and provide resources and services that empower individuals to attain economic self-sufficiency. Additionally, they collaborate with businesses, educational institutions, and community organizations to cultivate a skilled workforce and stimulate economic innovation within the region.

The ICWDB is actively working towards preparing a trained workforce for the continued development of the renewable energy industry and other resulting ancillary industries. In partnership with Imperial Valley College, ICWDB has played a key role in the current development of fast-tracked, industry driven, certified programs for the renewable energy industry.

IP is partnering with the ICWDB and Imperial Valley College to create an internship program for high school students. This internship program would allow local students to gain hands-on work experience in the renewable energy industry and would include funding for support services like transportation and mileage reimbursement for participating students.

Education Partner

Imperial County Office of Education Foundation

The Imperial County Office Foundation for Education (ICOE) is a non-profit charitable organization dedicated to supporting students and educational programs throughout Imperial County. The Foundation provides funding for countywide student events, innovative projects, student and teacher scholarships, and other major initiatives. ICOE focuses on the development and support of the "whole child," an approach that recognizes the connections between children's social, emotional, cognitive, and academic development, as well as their physical and mental health.[2] The ICOE also focuses on helping at-risk youth and students with special needs.

IP has committed to financially supporting the following programs:

Superintendent's Membership Circle: The ICOE Superintendent's Membership Circle involves an annual donation that supports all county academic events, including:

- Autumn and the Arts Fundraiser: This event supports the student scholarship program, promotes arts in Imperial County, and showcases the talents of local student artists who submit their work for display.
- Annual Golf Fundraiser: This fundraiser supports the student scholarship program and other initiatives.

[2] https://learningpolicyinstitute.org/topic/whole-child-education

- Additional Countywide Academic Events: This includes the Academic Decathlon, Arts Festival, Spelling Bee, Math Competition, STEAM Festival, and National History Day.

STEAM Programs: In addition to joining the Superintendent's Membership Circle, IP has committed to a donation agreement that will support the development and delivery of youth and family programs focused on Science, Technology, Engineering, Arts, and Mathematics (STEAM).

IP and ICOE are actively planning the creation of additional STEAM initiatives, including a potential dedicated STEAM section in the museum. These initiatives will be designed to enrich and nurture children's education and well-being, furthering the ICOE mission to support students and educational programs in Imperial County.

Tribal Engagement

Imperial County Court Appointed Special Advocates

Court Appointed Special Advocates of Imperial County (CASA) was established to advocate for neglected and abused children involved in the juvenile dependency system. CASA volunteers, who are sworn officers of the court, are highly trained to ensure their juvenile clients receive all necessary services, including legal, educational, medical, and behavioral support. Since its inception, CASA has grown to serve an average of 400 children annually with the help of 100 volunteers, providing over 80,000 hours of community service to Imperial County and the Quechan Tribe.

In 2012, CASA was recognized by the Quechan Tribal Court and began providing services for Tribal Youth. CASA of Imperial County is one of the few CASA organizations nationwide offering outreach to a Tribal Court by providing services to the Quechan Tribal Court. Because many of the juvenile clients find themselves subject to both the Imperial County and Quechan Tribal Court Systems, their CASA volunteer may be the only person legally able to speak in both courts and educational systems.

IP has committed to financially supporting the Quechan Tribal Court program ensuring that all youth receive services comparable to those provided to Imperial County foster youth, including educational, medical (both physical and mental health), and recreational opportunities. Additionally, the donation will support cultural opportunities, which are particularly important for Tribal youth placed off-reservation, and will assist in the growth and support of new foster youth.

Additional Tribal Engagement Programming

Additionally, IP has designated a sizable portion of the project community benefit funds for additional tribal programs in the Imperial Valley. In the spring, IP hired a consulting firm to conduct tribal outreach to all 16 of the federally recognized tribes that will consult with the Bureau of Land Management (BLM) on the project. The firm will send out letters and make phone calls to introduce the project and to request follow up meetings. IP will meet with the tribes who are interested to share project information, answer questions and concerns, and explore opportunities to support their community-based initiatives.

Community Engagement

As a part of IP's commitment to being an invested community partner, the Community Engagement team will participate in meetings with area stakeholders and environmental justice organizations and as a part of the CEC process. Feedback collected from these engagements will be used to further inform and advise planning efforts.

As the project moves through the defined permitting, construction, and operational phases of development, the IP team will ensure clear and transparent communication regarding project milestones through communications vehicles such as a project website and courtesy notifications to residents within the surrounding areas. All communications will be available bilingually to accommodate the large contingent of Spanish speaking community members.

IP's Community Engagement Phone Line and Community Email Address will be distributed for prompt response to any community questions or concerns.

Intersect Power

intersectpower.com

Drew Bohan
Executive Director
California Energy Commission
715 P Street
Sacramento, CA 95814

May 21, 2024

Re: Perkins Renewable Energy Project (24-OPT-01) Acknowledgment of Obligations under Public Resources Code Section 21183(d), (e), and (f) re: Environmental Leadership Development Project

Dear Mr. Bohan:

As you are aware, IP Perkins, LLC, IP Perkins BAAH, LLC, and related affiliates (collectively, "Applicant"), subsidiaries of Intersect Power, LLC, have applied for “Opt-in” certification of the Perkins Renewable Energy Project (“Project”) from California Energy Commission (CEC) as authorized under AB 205. AB 205 authorizes the CEC to accept applications for applicable facilities and provides a new, streamlined process for their review and a decision by the CEC. The CEC is the “lead agency” under the California Environmental Quality Act (CEQA) and is required to prepare an environmental impact report (EIR) for any facility that elects to opt-in to the CEC’s jurisdiction.

Pursuant to California Public Resources Code section 25545.13, an opt-in project is deemed an environmental leadership development project with no further action by the Applicant or Governor, if the CEC verifies that all requirements of Chapter 6.5 of Division 13 are met. Section 21183(e) requires the applicant enter into a binding and legally enforceable agreement that all mitigation measures required under CEQA shall be conditions of approval of the project, and those conditions will be fully enforceable by the lead agency, or another agency designated by the lead agency.

The Applicant expects that the CEC, as lead agency, will prepare a Mitigation Monitoring and Reporting Program (MMRP) based on its EIR for the project and the mitigation measures contained therein. The MMRP would be incorporated into the Conditions of Certification and would be enforceable by the CEC. As required by Public Resources Code Section 21183(e), Applicant agrees that all mitigation measures required pursuant to CEQA and contained in the MMRP shall be conditions of approval, and those conditions will be fully enforceable by the CEC or other agency designated by the CEC. Applicant agrees that all environmental mitigation measures will be monitored and enforced by the CEC for the life of the obligation.

Further, as provided in the Project application, as required by Public Resources Code Section 21183(f), Applicant reaffirms that it agrees to pay the costs of the Trial Court and the Court of Appeal in hearing and deciding any case challenging the CEC's action on the Project, including payment of the costs for the appointment of a special master if deemed appropriate by the court, in a form and manner specified by the Judicial Council, as provided in the Rules of Court adopted by the Judicial Council.

As required by Public Resources Code Section 21183(g), Applicant also reaffirms that it agrees to pay the costs of preparing the administrative record for the Project, in a form and manner specified by the CEC, concurrent with review and consideration of the Project pursuant to CEQA.

Sincerely,

IP Perkins, LLC,
a Delaware limited liability company

By:_____
Simon Ross
Chief Commercial Officer

IP Perkins BAAH, LLC,
a Delaware limited liability company

By:_____
Simon Ross
Chief Commercial Officer

Attachment C Biological Resources Support Documentation

Attachment C.1 Biological Resources Technical Report

Ironwood Consulting

370 Alabama Street, Suite A
Redlands, CA 92373
(909) 798-0330
www.ironwoodbio.com

BIOLOGICAL RESOURCES TECHNICAL REPORT

October 2024

Perkins Renewable Energy Project

Prepared for:
IP Perkins, LLC and IP Perkins BAAH, LLC

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Acronyms

amsl	above mean sea level
ACEC	Area of Critical Environmental Concern
BRTR	Biological Resources Technical Report
BBCS	Bird and Bat Conservation Strategy
BLM	Bureau of Land Management
BOR	Bureau of Reclamation
CA-177	California Highway 177
Cal-IPC	California Invasive Plant Council
CDFW	California Department of Fish and Wildlife
CDFA	California Department of Food and Agriculture
CESA	California Endangered Species Act
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CDFW	California Department of Fish and Wildlife
CNPS	California Native Plant Society
CNDDB	California Natural Diversity Database
CRPR	California Rare Plant Rank
DFA	Development Focus Area
DRECP	Desert Renewable Energy Conservation Plan
FEIS	Final Environmental Impact Statement
FESA	Federal Endangered Species Act
GIS	Geographic Information Systems
GPS	Global Positioning System
I-10	Interstate 10
LUPA	Land Use Plan Amendment
NEPA	National Environmental Protection Act
NPS	National Park Service
NECO Plan	Northern and Eastern Colorado Desert Coordinated Management Plan

O&M	Operations and Maintenance
PV	Photovoltaic
ROW	Right of Way
SEZ	Solar Energy Zone
TCAs	Tortoise Conservation Areas
USFWS	US Fish and Wildlife Service

1 Introduction

1.1 Background

IP Perkins, LLC and IP Perkins BAAH, LLC(Proponents), subsidiaries of Intersect Power, LLC (Intersect) are proposing to develop the Perkins Renewable Energy Project (Project) east of El Centro, near Holtville, in Imperial County, California (Figure 1). The proposed Project site is located on a combination of Bureau of Land Management (BLM)-managed lands, Bureau of Reclamation (BOR)-managed lands, and private lands. The Project 500kV loop-in transmission lines will traverse Bureau of Reclamation (BOR) lands. The BLM-managed portion of the Project site is comprised of approximately 6,255 acres. The BOR-managed portion of the site is approximately 962.8 acres and the private land is approximately 515.04 acres. These areas, along with a 1.7-kilometer (1.06-mile) transmission line corridor, and use of existing access roads will collectively be referred to as the Project site, unless otherwise described in their specific components. Ironwood Consulting Inc. (Ironwood) has been contracted to assess potential habitat for sensitive and special-status species within the Project site and conduct biological surveys on behalf of the Proponents.

1.2 Purpose

This Biological Resources Technical Report (BRTR) provides a description of methods and results of biological resource surveys and investigations conducted in 2023 through 2024 for the entirety of the Project site. Forthcoming surveys to be conducted in the fall of 2024 will be included in a subsequent BRTR addendum. The primary purpose of the BRTR is to provide biological information that will be used as the foundation for impact assessments pursuant to the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA). The discussion included herein may also be used to support consultation between Bureau of Land Management (BLM) and U.S. Fish and Wildlife Service (USFWS) under the Federal Endangered Species Act (FESA) and for any necessary incidental take authorization from the California Department of Fish and Wildlife (CDFW) with respect to the California Endangered Species Act (CESA).

1.3 Site Location

The Project site is located in Imperial County within the Sonoran Desert of Southern California. It is located east of an irrigated agricultural region, with the nearest towns of Date City and Holtville located west of the Project site. The Project site is approximately 36 miles southeast of the Salton Sea, 8 miles west of the Algodones sand dunes, and its southernmost boundary is just 1.3 miles north of the United States-Mexico border (Figure 1). The Project site is directly south of Interstate 8 and directly north of Highway 98. The transmission corridor is located south of the Project site and crosses the All-American Canal on its southern end. The Project occurs on two 7.5-minute USGS topographic quadrangles – Midway Well NW and Midway Well. Two 500 kV loop-in transmission lines would exit the BAAH switchyard and traverse the preserved utility corridor on BLM lands prior to crossing BOR lands where they would interconnect with the existing SDG&E Southwest Power Line, 500 kV Transmission Line

The Project site occurs on a combination of BLM-managed lands, BOR-managed lands, and private lands. Public lands managed by the BLM are within the DRECP Development Focus Area (DFA). Areas of Critical Environmental

Concern (ACEC) are outside of but adjacent to the Project site (Figures 1, 2) – East Mesa ACEC is to the north and Lake Cahuilla ACEC is to the west. There is a small area of the Project site that overlaps with an Important Bird Area (Audubon, California, 2011) on its westernmost border.

1.4 Project Summary

IP Perkins, LLC, proposes to construct, operate, maintain, and decommission an up to 1,150 megawatt (MW) solar PV and battery energy storage facility on a combination of BLM-administered public lands, BOR-administered public lands, and private lands in Imperial County east of El Centro, California. The Project would deliver clean power to ratepayers in California, minimize environmental impacts and land disturbance associated with solar development, and bring living-wage jobs to Imperial County.

The Project would generate and store up to 1,150 MW of renewable electricity via arrays of solar PV panels, a battery energy storage system (BESS), and appurtenant facilities. The final Project capacity will be based on optimization of buildable acreage and solar PV technology at the time of procurement. The Project would construct a new gen-tie line that would connect the project substation(s) to a new high-voltage breaker and a half (BAAH) switchyard. From the BAAH switchyard, two new 500 kV loop-in transmission lines would be constructed to interconnect to the existing SDG&E 500 kV transmission line that travels east-west just south of the Project site, crossing BOR lands and terminating in the Imperial Valley Substation (Substation), southwest of El Centro.

Depending upon the timeline of the interconnection agreement, the Project could be operational by as early as late 2027 and operate for up to 50 or more years. At the end of its useful life, the Project would be decommissioned. Revegetation would be conducted in accordance with a Decommissioning and Revegetation Plan.

2 Site Characteristics

2.1 Regional Setting

The Project site is located in Imperial County within the Sonoran Desert of Southern California. The topography of the Project site is fairly flat and generally slopes upward at a gradient of less than 1 percent toward the southeast. Ground elevations of the Project site ranges from approximately 85 feet (26 meters) in its northwest corner to 125 feet (38 meters) in its southeast corner.

Anthropogenic features and land uses near the Project site include agriculture, transmission lines, highways, and water distribution from the All-American Canal, summarized in Table 1 below.

Table 1. Adjacent and Nearby Land Uses.

Direction	Land Uses
North	Interstate 8 Freeway, Area of Critical Environmental Concern, transmission lines
South	Highway 98, All-American Canal, transmission lines, Tamarisk Long Term Visitor Area, US-Mexico border
East	Interstate 8 Freeway, transmission lines
West	Area of Critical Environmental Concern, active agriculture, transmission lines, Audubon Important Bird Area

2.2 Hydrology

The Project site is located within the Colorado River Hydrologic Region (HR). The Colorado River HR covers approximately 13 million acres (20,000 square miles) in southeastern California and is the most arid HR in California, with annual precipitation averaging less than 4 inches (WRCC 2024).

The Project site is in the Southern Mojave-Salton Sea subregion of Hydrologic Unit Code (HUC) 18 Hydrologic region, which is a closed desert basin. The Project site is located within the Deer Peak Watershed with East Highline Canal to the west, Coachella Canal to the east, and the All-American Canal bisecting the transmission corridor on the southern end of the Project site (Figure 3). According to data from the National Hydrography Dataset (NHD), two small, discontinuous, intermittent streams (one of which forks) occur on the western side of the Project site. These intermittent streams correspond to vegetated drainage swales, likely with moderately deep ground water but appeared to lack surface flow.

2.3 Soils and Sand Transport

The Project site is sandy overall. Both parcels are dominated specifically by Rositas loamy fine sand with 0 to 2 percent slopes. A small percentage of both parcels contain Rositas fine sand, Holtville loam, Rositas silt loam, Holtville-Imperial silty clay loams, and Superstition loamy find sand. A small section of the Project site contains mesic/riparian vegetation that is mapped as wet Rositas fine sand, wet, 0-2 percent slopes, which is typically found in basins and floodplains (Figure 4).

The Algodones Dunes are approximately 15 miles east of the Project site and have active aeolian sand migration and deposition (Muhs et.al. 2003). The lesser-known East Mesa is north of the Project site but is mostly stabilized by vegetation. The provenance of these dunes has been much debated, but the most recent study for their origin indicates that these dunes have a lot of overlap with the late Holocene lacustrine shorelines of the paleolake known as Lake Cahuilla, which is an expanded area of the current Salton Sea and Colorado River, with only a small amount of overlap with the Chocolate Mountains (Muhs 2017, Muhs et al 1995). Annual resultant drift direction for sand-moving winds begins far southwest of the Project site from the Pacific Ocean and heads northeast towards the Algdones Dunes (Muhs 2017). Due to the composition and the prevailing winds, sand transport is northwest of the Project site. Interstate 8 creates a further barrier for transport of sand from that direction and the active corridor for sand transport would be north of I-8. Sand that occurs on the Project site are likely deposits that occurred prior to construction of I-8 since aeolian sand changes over time and the Project

site has sand sheets stabilized by vegetation. The Project site is unlikely to be a part of an active aeolian sand system due to Interstate 8 bisecting the southern portion of the dune system. Activities on the Project site will have very little impact to sand transport and design of the Project site will consider flow of the sand throughout the Project site.

2.4 Rainfall

Measurements of precipitation during winter (October through March) and summer (April through September) periods are important in determining the efficacy of both wildlife and special status plant surveys. Precipitation data were obtained from spatial climate datasets within grids located on the Project site, prepared by the Parameter-elevation Regressions on Independent Slopes Model Climate Group (PRISM 2024), since the most proximate stations to the Project site (Calexico and Imperial sand dunes weather stations (approximately 15 miles and 40 miles from the Project site, respectively)) did not have recent weather data (WRCC 2024).

The subtropical climate of the Colorado Desert is characterized by dry, mild winters averaging 57 degrees Fahrenheit (°F) and dry, hot summers that average 93°F. Summer highs are known to reach 122°F. Recent annual rainfall data from 2012 to 2023 were averaged (Table 1). Over the period of analysis, the highest winter rainfall occurred between October 2019 and March 2020 and the highest summer rainfall occurred between April and September 2013 and 2023.

Table 2. Seasonal Rainfall Summary.

Year	Winter – October to March (inches)*	Summer – April to September (inches)*
2013	0.21	0.33
2014	0.2	0.13
2015	0.22	0.19
2016	0.12	0.11
2017	0.47	0.1
2018	0.02	0
2019	0.51	0.09
2020	0.83	0.11
2021	0.19	0.1
2022	0.08	0.16
2023	0.17	0.33
2024	0.38	.09
Seasonal Average	**0.29**	**0.15**

2.5 Vegetation Communities

Vegetation communities in the Project site were field verified and classified by botanists, using Holland 1986 and cross-referencing with *A Manual of California Vegetation, 2nd edition* (Sawyer et al. 2009) and the National Vegetation Classification System (NVCS) referenced in the DRECP (CDFW and AIS 2022).

Using the NVCS vegetation layers as reference, botanists verified that these vegetation communities were correct and made adjustments by creating vegetation polygons within ArcGIS Field Maps where needed. Most mapped vegetation boundaries are accurate to within approximately 10 feet (3 meters) and were refined to submeter data collection where it may be a jurisdictional wetland or water.

Field adjusted polygons were intergraded with confirmed NVCS vegetation communities and created new shapefiles that were used to calculate areas of each vegetation type. Any vegetation map is subject to imprecision for several reasons:

- Vegetation types tend to intergrade on the landscape so that there are no true boundaries in the vegetation itself. In these cases, a mapped boundary represents best professional judgment.
- Vegetation types as they are named and described tend to intergrade; that is, a given stand of real-world vegetation may not fit into any named type in the classification scheme used. Thus, a mapped and labeled polygon is given the best name available in the classification, but this name does not imply that the vegetation unambiguously matches its mapped name.
- Vegetation types tend to be patchy. Small patches of one named type are often included within mapped polygons of another type. The size of these patches varies, depending on the minimum mapping units and scale of available aerial imagery.

Six vegetation communities were identified during field surveys which are further described below.

2.5.1 Sonoran Creosote Bush Scrub

Sonoran creosote bush scrub has a state rarity rank of S5 (CDFW 2023), being demonstrably secure, and is not designated as a sensitive plant community by BLM. It is synonymous with *Larrea tridentata-Ambrosia dumosa* alliance (Sawyer et al. 2009) and *Lower Bajada and Fan Mojavean – Sonoran Desert Scrub* (NVCS). Sonoran creosote bush scrub occurs on well-drained, secondary soils of slopes, fans, and valleys and is the basic creosote bush scrub habitat of the Colorado Desert (Holland 1986). On the Project site, creosote is dominant in the shrub canopy, or creosote bush scrub and white bursage are co-dominants in the shrub canopy with only a few shrubs sparsely distributed. Emory's indigo (*Psorothmanus emoryi*), white bursage (*Ambrosia dumosa*), cheesebush (*Ambrosia salsola*), and ephedra (*Ephedra spp*) occur in some areas with primarily an understory of annual plants. This vegetation community is the dominant vegetation community throughout most of the Project site and the transmission line.

2.5.2 Microphyll Woodland/Desert Dry Wash Woodland

Desert dry wash woodland is a sensitive vegetation community recognized with a rarity rank of S3 (CDFW 2023). Desert dry wash woodland is characteristic of desert washes and is likely to be regulated by CDFW as

jurisdictional state waters. This vegetation community on the Project site is characterized by mesquite thickets that is synonymous to mesquite (*Prosopis glandulosa*) woodland alliance (Sawyer et al. 2009) and Sonoran - Coloradan Semi Desert Wash Woodland / Scrub (NVCS). Holland 1986 describes this community as an open to relatively densely covered, drought-deciduous, microphyll (small compound leaves) riparian scrub woodland, often supported by braided wash channels that change following every surface flow event. This vegetation community has mesquite trees that cover at least 2-3 percent of the absolute cover for trees and shrubs and was mapped as a patch within the western portion of the Project site and a small section on the southern border, but have been mostly avoided in the current Project site design. Other plants observed in this plant community included arrow weed (*Pluchea sericea)* and tamarisk (*Tamarix ramosisima).*

2.5.3 Alkali Goldenbush Desert Scrub

Alkali goldenbush desert scrub is a sensitive vegetation community recognized as a state rarity rank of S3 (CDFW 2023). It is synonymous with alkali goldenbush (*Isocoma acradenia*) shrubland alliance. Within the Project site, alkali goldenbush forms an open shrub layer (up to 35% cover). The tree layer, consisting of mesquite*,* is mostly sparse if present. Stands generally have low cover of vegetation and may be sparse (<10% total vegetation). Sites are moist or seasonally dry flats, and margins of intermittently saturated vegetated swales. It is found primarily on low and mid-slopes at elevations ranging from approximately 25 to 300 m with northeast and southwest aspects. Soils are variable and derived from alluvium and dune sand; textures include sand and loamy sand but include sites with finer-textured soil.

2.5.4 Arrow Weed Thickets

Arrrow weed thickets are a sensitive vegetation community recognized with a state rarity rank of S3 (CDFW 2023). It is synonymous with *Pluchea sericea* shrubland alliance. This vegetation community is characterized by arrow weed that is more than or equal to 2% of absolute cover with a sparse herbaceous layer of seasonal annuals. This vegetation is usually found near seasonally flooded washes and stream borders. Within the Project site, this vegetation community occurs only within a small portion of the transmission corridor bordering the southern edge of the All-American Canal. No standing water was observed in the area during surveys.

2.5.5 Common Reed Marsh

Common reed marsh is synonymous to *Phragmites australis* herbaceous semi-natural alliance. This vegetation community is characterized by more than 2% absolute cover and more than 50% relative cover in the herbaceous layer. This vegetation community is sometimes considered invasive along waterways and wetlands (USDA 2023) and is only located within the edges of the All-American Canal of the transmission corridor.

2.5.6 Tamarisk Thickets

Tamarisk thickets are a non-native community that consists of *Tamarix ramomissima* trees (or other *Tamarix* species) that form dense thickets along rivers and streams, around the banks of lakes and ponds or in areas that have shallow ground water. Soils become alkaline, which can often exclude other species becoming established. Because it is an aggressive competitor, tamarisk has spread throughout the West causing major changes to riparian and other natural environments. The large number of seeds disperse via wind, flowing water, and animals. With such high reproductive potential, tamarisk can develop into monoculture stands, block out

sunlight, reduce space for natives, deplete soil nutrients, lower water tables, and increase a fuel source for fire spread. Within the Project site, this vegetation community occurs within the transmission line corridor north and south of the All-American Canal.

3 Data Collection Methods

3.1 Literature Review

Prior to conducting field surveys, analysis was performed with Geographic Information Systems (GIS) using the following digital datasets, which include the most current information, data sources, and tools:

- 7.5' USGS topographic quadrangles
- National Agriculture Imagery Program (NAIP) aerial imagery
- National Wetlands Inventory Wetlands Mapper USFWS 2023)
- CNPS Online Inventory of Rare and Endangered Plants (CNPS 2023)
- The Consortium of California Herbaria Jepson Interchange (CCH 2023)
- California Natural Diversity Database (CDFW 2023b)
- Calflora (Calflora 2023)
- Manual of California Vegetation and DRECP mapping (Sawyer et al. 2009)
- Natural Resource Conservation Service (NRCS) Web Soil Survey (USDA and NRCS 2023b)
- BLM sensitive species lists (BLM 2023)

3.2 Special Status Species Definition

Special status species are those that have been afforded special recognition by federal, state, or local resource agencies or organizations, are often of relatively limited distribution, and typically have unique habitat conditions, which also may be in decline. Special status criteria include:

- Officially listed or candidates for listing by California or the federal government as endangered, threatened, of special concern, or rare under CESA or FESA
- Plants or animals which meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the CEQA
- BLM Sensitive Species designated by the BLM California State Director
- Plants listed in the CNPS Inventory of Rare and Endangered Plants of California (CNPS 2023)
- Wildlife species identified by CDFW as Species of Special Concern (CDFW 2023, Figure 6)

- Plants or animals included in the CDFW lists of Special Plants or Special Animals (CDFW 2023, Figure 6)
- Considered special-status species in local or regional plans, polices, or regulations such as the Northern and Eastern Colorado Desert Coordinated Management Plan/EIS
- Protected under other statutes or regulations (e.g., Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, etc.)

All surveys were conducted per DRECP DFA Biological Conservation Management Action (CMA) requirements for each species within the recommended timing, including full-coverage burrowing owl and flat-tailed horned lizard surveys. Any modifications are further explained within each individual sensitive species section below.

3.3 Wildlife Surveys

Based upon review of the literature, a list of special-status wildlife species with potential to occur in or near the Project site was compiled (Appendix A). Full coverage wildlife surveys were conducted during the following periods (Figure 8)

- Spring surveys, full-coverage 20-meter transect surveys, wildlife surveys: March 20 – April 3, 2023
- Breeding season burrowing owl surveys (#2), Flat-tailed horned lizard: May 15 - May 18, 2023
- Breeding season burrowing owl surveys (#3), Flat-tailed horned lizard: June 12 -June 15, 2023
- Breeding season burrowing owl surveys (#4), Flat-tailed horned lizard: June 29 - July 4, 2023
- Spring surveys, full-coverage 20-meter transect surveys, wildlife surveys: April 8– April 16, 2024
- Breeding season burrowing owl surveys (#2): May 22, 2024
- Breeding season burrowing owl surveys (#3): June 14-15, 2024
- Breeding season burrowing owl surveys (#4): July 11, 2024
- Non-breeding season burrowing owl surveys (#1 thru #4): September-December 2024

Wildlife surveys were conducted at 20-meter belt transects, consistent with 2012 CDFW burrowing owl protocol surveys (CDFW 2012) and in conjunction with plant surveys with a 150-meter buffer. Survey crews in the spring seasons consisted of experienced desert wildlife biologists with at least one botanist and one avian biologist per crew. Surveys were conducted by walking linear transects and visually searching for live individuals and sign of any sensitive species. All holes observed that may be inhabited by sensitive species such as burrows or burrow complexes were carefully inspected for potential occupancy or sign of recent use. Special emphasis was placed on searching around the bases of shrubs and along the banks of shallow washes. Burrows were carefully examined and assigned to the wildlife species that may have inhabited them based on indicator signs within the burrow or near the mouth of the burrow.

During wildlife surveys, biologists recorded all wildlife species observed, regardless of conservation status. Common species were tallied at the end of each transect and recorded throughout each day by each crew. During the spring surveys, additional avian counts were completed in the mornings during surveys until 10 a.m. All locational information for special status species observations and sign detected were recorded on digital

Zerion iForms for any new data collected. During each survey period, data collected from previous survey periods was uploaded to ArcGIS FieldMaps as field reference to ensure that duplicate data was not taken.

3.3.1 Flat-tailed Horned Lizard

Survey recommendations for the flat-tailed horned lizard include surveys through the active season (April through September) covering a minimum of 10 hours of surveys per 260 hectares (Flat-tailed Horned Lizard Interagency Coordinating Committee 2003). Flat-tailed horned lizard surveys on the Project site were conducted between May through July. Surveys were modified with 30-meter belt transects throughout the entirety of the Project site during 2023 and in 2024, were conducted in conjunction with 20-meter surveys, conforming to and exceeding requirements with a total of 404 hours of surveys and a larger area of coverage. All flat-tailed horned lizard sign [e.g., live individuals, carcasses, scat, tracks, and ant hills the species depend on for forage] were recorded.

3.3.2 Avian Species

3.3.2.1 Western Burrowing Owl

Survey recommendations in both the 1993 California Burrowing Owl Consortium (CBOC 1993) Guidelines and 2012 CDFW Staff Report (CDFW 2012) include baseline data collection and an assessment of site use by burrowing owl. One full-coverage survey was conducted during spring surveys, during the breeding season, which were consistent with Phase II of the CBOC 1993 Guidelines and partially consistent with the 2012 CDFW Staff Report, with three additional modified surveys that have been previously approved on other projects. The modifications are further explained below. Occupancy of burrowing owl habitat is confirmed at a site when at least one burrowing owl, or its sign at or near a burrow entrance, is observed within the last three years (CDFW 2012; CBOC 1993).

The first burrowing owl survey during the active season was conducted at 20-meter spacing, which provided a greater level of coverage than the 30-meter spacing recommended in the 1993 CBOC Guidelines and was consistent with the 20-meter spacing recommended in the 2012 CDFW Staff Report. All burrows detected during wildlife surveys were assessed for wildlife occupancy, to ensure detection of any special status species, including burrowing owl that may have occupied a burrow. The 20-meter transect spacing also increases the likelihood of flushing live burrowing owls during the survey. All sign of burrowing owl, including individuals, feathers, tracks, whitewash, pellets, and suitable burrows were recorded if present. An additional 150-meters of buffer around the Project site was also surveyed in accordance with the 2012 protocol survey.

A modification of the protocol 2012 survey recommendations was completed for the subsequent three surveys during the active burrowing owl season. The subsequent three surveys were modified as burrow inspections for all previously detected burrows, including mammal, potential tortoise, or burrowing owl burrows. All burrows were re-visited to check for any change in burrowing owl sign and were included as new burrowing owl sign if detected. Any new burrows observed during these burrow checks were added to the next check. These burrow checks were spaced at the same time intervals as the 2012 recommendations, with at least 3 weeks of time passing between each session of burrow surveys.

A similar modified approach focused on burrow inspection will be conducted for non-breeding surveys in the fall of 2024, that is yet to be completed.

3.3.2.2 Avian Counts

Avian counts were conducted during spring 2023 and 2024 surveys. Each survey team consisted of at least one avian biologist who was exclusively tasked with tallying all avian observations. The avian biologist walked with each survey team in the morning, from the start of the survey until about 10:00 am, or earlier if weather conditions were unfavorable for avian detection (i.e., high wind). After these avian counts, the avian biologist would continue to note any incidental wildlife species observed, while also continuing to help with any survey that was being performed.

3.3.3 Special Status Bat Species

A habitat assessment for bats was conducted in the spring of 2024 by a bat specialist and an assistant with a combination of meandering pedestrian transects in best habitats within the Project site and driving within and around the Project site perimeter inspecting nearby structures within 5-miles identified in aerial imagery. Project site features such as trees and man-made structures were visually inspected with binoculars for live bats and evidence of bats such as guano and oil stains, which indicate long-term use for roost sites.

Acoustic bat surveys were conducted in the late spring (June 10-14, 2024) and early summer (July 25-29, 2024) that would best capture the highest diversity of bat activity in the area (Vizcarra 2011, Williams et al 2006) and recommended by renowned desert bat expert Pat Brown (personal communication by B. Vizcarra April 13, 2024). For each session of acoustic surveys, survey periods consisted of five consecutive evenings to capture the maximum number of species that occur on or near the Project site based on a standard that has been developed for the region (Moreno et al. 2000). Three survey sites were established in habitat that had the highest likelihood for detection of bats– one within creosote bush scrub on the Project site (Site 1, Figure 13) and two within desert dry wash woodland adjacent to the development area of the Project site (Sites 2 and 3, Figure 13).

A bat specialist and an assistant setup an acoustic station at each site consisting of Anabat II detectors equipped with zero-crossing analysis interface modules (ZCAIM) to record echolocation calls of bats, consistent with other surveys conducted along the lower Colorado River (Brown 2013). These devices were mounted on 6-foot poles and deployed at the three sites. Anabat detectors were inspected daily for functionality with daily downloads and were retrieved at the end of the five-day survey session.

Call analysis was conducted using Analook software and by manual inspection of individual calls by bat specialist Bea Vizcarra. Static files (noise not attributed to bats) were discarded, and acoustic files attributed to bats were visually analyzed and matched to the call characteristic classifiers. Call identification used the main parameters of characteristic frequency and slope - slope variation dictates the shape of the call, and characteristic frequency limits the range of probabilities to species bandwidths (Corben 2006). To aid identification, voucher call collections from libraries of reference calls and multiple manuals were used for comparison (Corben 2006, Blair and Haskew 2005, Szewczak 2024).

3.3.4 Other Special Status Wildlife Species

All sign of desert kit fox and American badger was recorded, including live or dead individuals, scat, tracks, burrows, and burrow complexes. Activity and likely species usage for each burrow or complex was determined by the burrow size (larger burrows are more likely coyote or badger) and types of sign found at the burrow site. If fresh tracks, scratches, or scat were found at a burrow or complex, it was categorized as active. The presence of old scat without tracks, and no presence of freshly dug dirt, or scratches would indicate that a burrow or complex was inactive. All burrows and burrow complexes were mapped and attributed, if possible, to species. If a burrow could not be attributed to a species, it was recorded as a "canid" burrow, which may include desert kit fox, coyote, or domestic dog.

3.4 Special Status Plants

Based upon review of the literature, a list of special-status plant species with potential to occur in or near the Project site was compiled (Appendix B). Focused special status plant surveys were conducted during the spring of 2023 and 2024 with 20-meter transect surveys. Fall surveys were not conducted due to lack of suitable habitat for species that may occur in the area. Survey dates are summarized in Table 2. Survey methodology was consistent with the following guiding documents:

- Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 2000)
- Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities (CDFG 2000)
- CNPS Botanical Survey Guidelines (CNPS 2001)
- Survey Protocols for Survey and Manage Strategy 2: Vascular Plants (Whiteaker et al. 1998)
- Survey Protocols Required for NEPA/ESA Compliance for BLM Special Status Plant Species (BLM 2009)

Plant surveys performed in spring of 2023 included visual coverage across the entire Project site. Surveyors employed belt transects spaced approximately 20 meters apart. All surveyors were trained on diagnostic features and habitat notes of special status species that may occur, and each crew of surveyors included at least one highly experienced botanist. Plant surveys were not performed in the fall season due to lack of suitable habitat for sensitive species within the Project area.

Prior to beginning plant surveys in the spring, reference populations of special status plants were visited to ensure that timing for surveys was sufficient and that most special status plant species that have the potential to occur would be identifiable. On March 20, 2023, populations were observed for sand food (*Pholisma sonorae*) and giant spanish needle (*Palafoxia arida* var*. gigantea*) near Midway Campground in the Algodones Dunes. On March 26-27, 2023, populations were observed for ribbed cryptantha (*Johnstonella costata [=Cryptantha costata]*) east of the Algodones Dunes. These same populations were observed again on April 7-8, 2024, with Pierson's milkvetch (*Astraglus maggadalenae var perisonii)* also observed.

During plant surveys, botanists recorded all plant species, regardless of conservation status. All locational information for special status species observations was recorded on digital Zerion iForms for any new data

collected. Data collected during previous site visits was uploaded to ArcGIS Fieldmaps as field reference to ensure that duplicate data was not collected.

Table 3. Special-status Wildlife and Plant Survey Personnel and Dates.

Date	Survey Type	Surveyors
2023-03-20 – 2023-04-03	Botany, Wildlife species, Avian Counts, BUOW #1	K. Gietzen, C. Primuth, J. White, L. Neff, M. Bueno, M. Lavender, M. Hughes, W. McBride, A. Walters, G. Chio, H. Oswald, L. Rouse, T. Ridlinghafer, M. Adams. A. Chasar, K. Bender, M. Pasanen, S. DeCurtis, M. Wegmann
2023-05-15-2023-05-18	FTHL, BUOW #2	J. Goodyear, S. DeCurtis
2023-05-22-2023-05-25	FTHL	J. Goodyear, S. DeCurtis
2023-06-12-2023-06-15	FTHL, BUOW #3	J. Goodyear, M. Lavender; N. Labieniec
2023-06-16 – 2023-06-28	FTHL	J. Goodyear, M. Lavender, C. Primuth, R. Badia, M. Pasanen, J. Chikezie, N. Labieniec
2023-06-29 – 2023-07-04	FTHL, BUOW #4	J. Goodyear, J. Chikezie, M. Pasanen, N. Labieniec, E. Siffrin, K. Bender, R. Badia
2024-04-08-2024-04-12	Botany, Wildlife species, Avian Counts, BUOW #1	C. Primuth, A. Chasar, E Tucker, M. Lavender, S. Decurtis
2024-04-15-2024-04-16	Botany, Wildlife species, Avian Counts, BUOW #1	C. Primuth, A. Chasar, J. Stavish, S. Decurtis, T. Ridlinghafer
2024-05-22	BUOW #2	T. Cole, T. Silvia
2024 -05-30-2024-05-31	Bat habitat assessment	B. Vizcarra, K. Brennan
2024-06-14-2024-06-15	BUOW #3	K. Brennan
2024-06-10-2024-6-15	Bat acoustic surveys #1	B. Vizcarra, K. Brennan
2024-07-11	BUOW #4	K. Brennan, E. Tucker
2024-07-25-2024-07-30	Bat acoustic surveys #2	B, Vizcarra, E. Tucker
Sept-Dec 2024	Non-breeding season BUOW surveys #1 thru #4	J. Goodyear, H. Oswald, K. Bender, E. Tucker, K. Brennan

4 Results

4.1 Special Status Wildlife

Special status wildlife species were reviewed for their potential to occur within the Project site and its vicinity using information gathered from regional plans and database records. Probability of occurrence for all wildlife species, along with a description of range, habitat, and conservation status, are identified in Appendix A.

The probability of occurrence is defined as follows:

- Present: Species was observed at the time of the survey
- High: Both a historical record exists of the species within the Project site or its immediate vicinity (approximately 5 miles) and the habitat requirements associated with the species occur within the Project site.
- Moderate: Either a historical record exists of the species within the immediate vicinity of the Project site (approximately 5 miles) or the habitat requirements associated with the species occur within the Project site.
- Low: No records exist of the species occurring within the Project site or its immediate vicinity and/or habitats needed to support the species are of poor quality.
- Minimal: Species was not observed during focused surveys conducted at an appropriate time for identification of the species, or species is restricted to habitats that do not occur within the Project site.

Several species were determined to have a low probability of occurrence due to the absence of suitable habitat and are not discussed further. Special status wildlife species observed within the Project site or with moderate to high potential to occur based on the presence of suitable habitat are discussed in detail in this section. The results of wildlife surveys are summarized in Appendix C. A comprehensive list of all wildlife species observed during surveys is included in Appendix D.

Conservation status for wildlife species is defined below:

Federal

FE = Federally listed endangered: species in danger of extinction throughout a significant portion of its range
FT = Federally listed, threatened: species likely to become endangered within the foreseeable future
FCT = Proposed for federal listing as a threatened species
BCC = Fish and Wildlife Service: Birds of Conservation Concern
FSS = United States Forest Service Sensitive

State

SSC = State Species of Special Concern
CFP = California Fully Protected
SE = State listed as endangered

ST = State listed as threatened
WL = State watch list
CPF = California Protected Furbearing Mammal
CPGS = California Protected Game Species
CDF-S = California Department of Forestry & Fire Protection Sensitive

Bureau of Land Management
BLM-S = BLM Sensitive
FOC = DRECP Focus and Planning Species

Western Bat Working Group (WBWG)
H = imperiled or at high risk of imperilment
M = warrant closer evaluation, more research, and conservation actions
L = most of the existing data support stable populations

4.1.1 Flat tailed horned lizard: BLM-S, SSC

Suitable flat tailed horned lizard *(Phrynosoma mcallii)* habitat is sandy desert hardpan or gravel flats with scattered sparse vegetation of low species diversity. It is most common in areas with a high density of harvester ants and fine windblown sand, but rarely occurs on dunes. The historic range is located throughout most of the Colorado desert, from the Coachella Valley south through the Imperial Valley, west into the Anza-Borrego desert, and south to extreme NE Baja California, extreme SW Arizona, and NW Sonora, Mexico.

Both CDFW and the USFWS have at one time supported the listing of this species as threatened at state and federal levels; however, listing was not supported by the California Department of Fish and Game Commission and the Secretary of Interior. USFWS withdrew the proposed rule to list the species in 2003 after threats were reevaluated and determined to be less significant than previously believed (Flat-tailed Horned Lizard Interagency Coordinating Committee 2003).

Fine sand for cover is a critical habitat element. Lizards burrow into the sand to avoid temperature extremes and remain for hours buried just below the surface (Stebbins 1985). Shrubs and clumps of grass often serve as sources of shade during the hottest parts of the day, and lizards have been observed climbing into bushes and clumps of dried grass presumably to avoid contact with the hot substrate. Little is known about habitat requirements for reproduction, but other lizards generally require well-drained, sandy or friable soil for nest construction. The flat-tailed horned lizard feeds primarily on ants but will occasionally eat beetles and other insects.

One hundred and three live individuals were observed during surveys confirming occupancy on the Project site. Six carcasses, two hundred and seventy-seven tracks, and two hundred and one scat were observed.

4.1.2 Colorado desert fringe toed lizard: BLM-S, SSC

The Colorado desert fringe toed lizard (*Uma notata*) inhabits sparsely vegetated arid areas with fine, loose wind-blown sand for burrowing. Suitable habitats include dunes, flats with sandy hummocks formed around the bases of vegetation, washes, and the banks of rivers. It is found in extreme southeast California in the Colorado Desert, from the Salton Sea and Imperial sand hills east to the Colorado River, south to the Colorado River delta, and into extreme northeastern Baja California. It ranges west as far as the east base of Borrego Mountain. Fringe-

toed lizards usually seek refuge from enemies by burrowing in the sand within 5-6 cm (2-2.4 in) of the surface. Rodent burrows and the bases of shrubs are also used for cover and thermoregulation (Stebbins 1944).

Only one live individual was observed during all surveys.

4.1.3 **Western Burrowing Owl:** SSC (petitioned for ST), BCC, BLM-S, FOC

The Western burrowing owl *(Athene cunicularia hypugaea)* inhabits arid lands throughout much of the western United States and southern interior of western Canada (Haug et al. 1993). Suitable habitat for western burrowing owl includes open habitat with available burrowing opportunities, including agricultural fields (active and fallow), creosote scrub, desert saltbush, ephemeral washes, and ruderal areas.

Burrowing owls are unique among the North American owls in that they nest and roost in abandoned burrows, especially those created by ground squirrels, kit fox, desert tortoise, and other wildlife. Burrowing owls have a strong affinity for previously occupied nesting and wintering sites and will often return to previously used burrows, particularly if they had successful reproduction in previous years (Gervais et al. 2008). They generally depend on other species to dig suitable burrows for use but may also use anthropogenic surrogate burrows such as rubble piles or drainage pipes. If formerly occupied burrows are badly damaged or collapsed, burrowing owls cannot repair them and must seek alternate sites. The southern California breeding season (defined as the time from pair bonding of adults to fledging of the offspring) generally occurs from February to August, with peak breeding activity from April through July (Haug et al. 1993).

In the Colorado Desert, burrowing owls generally occur at low densities in scattered locations, but they can be found in much higher densities near agricultural lands where rodent and insect prey tend to be more abundant (Gervais et al. 2008). Burrowing owls tend to be opportunistic feeders, and a large portion of their diet consists of beetles, grasshoppers, and other large arthropods. The consumption of insects increases during the breeding season (Haug et al. 1993). Small mammals, especially mice and voles (*Microtus* and *Peromyscus* spp.) are important food items. Other prey animals include herpetofauna, young cottontail rabbits, bats, and birds such as sparrows and horned larks.

Seven live individuals were observed during surveys. Thirteen active burrows and two carcasses were observed.

4.1.4 **Prairie Falcon:** WL (nesting)

The prairie falcon (*Falco mexicanus*) is on the CDFW watch list and is a USFWS Bird of Conservation Concern. It inhabits dry environments in the North American west from southern Canada to central Mexico. It is found in open habitat at all elevations up to 3,350 m, but is associated primarily with perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub areas. Prairie falcons require cliffs or bluffs for nesting though will sometimes nest in trees, on power line structures, on buildings, or inside caves or stone quarries. Ground squirrels and horned larks are the primary food source, but prairie falcons will also prey on lizards, other small birds, and small rodents (CDFW 2022a).

Prairie falcon was not observed during surveys. The entire Project site contains suitable foraging habitat for this species but does not have suitable nesting habitat.

4.1.5 Loggerhead Shrike: SSC (nesting)

Loggerhead shrikes (*Lanius ludovicianus*) are small predatory birds that are common year-round residents throughout most of the southern portion of their range, including southern California. In southern California, they are generally much more common in interior desert regions than along the coast (Humple 2008). They can be found within lowland, open habitat types, including creosote scrub and other desert habitats, sage scrub, non-native grasslands, chaparral, riparian, croplands, and areas characterized by open scattered trees and shrubs. Loss of habitat to agriculture, development, and invasive species is a major threat; this species has shown a significant decline in the Sonoran Desert (Humple 2008). Loggerhead shrikes initiate their breeding season in February and may raise a second brood as late as July; they often re-nest if their first nest fails or to raise a second brood (Yosef 1996). In general, loggerhead shrikes prey upon large insects, small birds, amphibians, reptiles, and small rodents over open ground within areas of short vegetation, usually impaling prey on thorns, wire barbs, or sharp twigs to cache for later feeding (Yosef 1996).

Suitable foraging and nesting habitat for loggerhead shrike is found throughout the Project site. Thirteen observations of live individuals were documented during all surveys and avian counts.

4.1.6 Black-tailed Gnatcatcher: WL

Black-tailed gnatcatchers (*Polioptila melanura)* are permanent residents from southeastern California and Arizona to southern Texas and northern Mexico. They are found in arid scrublands, desert brush, and dry washes amongst creosote bush, ocotillo, mesquite, paloverdes, and cactus. They live in pairs all year-round, defend their territory, and forage for small insects amongst low shrubs and trees. Their nests are cup shaped and typically placed in shrubs 2-3ft above ground.

Nine live individuals were observed during surveys and avian counts. The Project site contains suitable foraging and potential nesting habitat for this species throughout the Project site.

4.1.7 Swainson's Hawk: BLM-S (nesting), FOC

Swainson's hawk (*Buteo swainsoni*) breeds in open habitats throughout much of the western United States and Canada, and in northern Mexico. In California, breeding populations of Swainson's hawks occur in desert, shrub and grassland, and agricultural habitats with tree rows; however, most of the state's breeding sites are in the Great Basin and Central Valley (Woodbridge 1998). The only desert breeding occurrences are in the Antelope Valley, over 200 miles northwest of the Project site. These birds favor open habitats for foraging, and are near-exclusive insectivores as adults, but may also forage on small mammals and reptiles.

Two live individuals were observed during surveys and avian counts. The Project site provides potential migratory foraging habitat but is outside the nesting range.

4.1.8 American Peregrine Falcon: CDF-S (nesting)

The American peregrine falcon (*Falco peregrinus anatum*) was formerly listed under CESA and ESA but has been delisted under both Acts. In California, its range is primarily central to northern California, with wintering habitat and (more recently) nesting occurrences located in southern California. Migrants occur along the coast and in

the western Sierra Nevada in spring and fall. It breeds mostly in woodland, forest, and coastal habitats, and favors open landscapes with cliffs as nest sites. They are found irregularly in the southern desert region, generally during migratory and winter seasons, but also during breeding season in recent years. They nested historically in desert mountain ranges near the Colorado River (Rosenberg et al. 1991; Patten et al. 2003) and may be re-occupying this historical part of their nesting range as their populations recover. Their diet consists primarily of birds and bats (CDFW 2022a). Waterfowl and shorebirds make up a large proportion of their prey, and nest sites are often within foraging range of large water bodies.

No American peregrine falcons were observed on the Project site during surveys or avian counts. Suitable migratory or foraging habitat is present throughout the Project site, but no suitable nesting habitat is present.

4.1.9 **Northern Harrier:** SSC, BCC (nesting)

Northern harrier (*Circus cyaneus)* inhabits most of California at various times of the year and is found at up to 3,000 meters elevation. Northern harriers frequent meadows, grasslands, open rangelands, desert sinks, and fresh and saltwater emergent wetlands. Nesting occurs on the ground at the edge of marshes, in wetlands or along lakes and rivers, or less commonly in grasslands and sagebrush flats. It is a widespread winter resident and migrant in suitable habitat. They primarily feed on small mammals, birds, frogs, small reptiles, crustaceans, and insects (CDFW 2022a).

No northern harriers were observed during surveys or avian counts on the Project site. There is suitable foraging throughout the Project site, but no suitable nesting habitat.

4.1.10 **California black rail:** BLM-S, CFP, ST

California black rail (*Laterallus jamaicensis coturniculus*) inhabits the freshwater marshes of the Colorado River. This species occurs most commonly in tidal emergent wetlands dominated by pickleweed, or in brackish marshes supporting bulrushes in association with pickleweed (Manolis 1977). It typically occurs in the high wetland zones near the upper limit of tidal flooding, and not in low wetland areas with considerable annual and/or daily fluctuations in water levels. During extreme high tides, it may depend on the upper wetland zone and adjoining upland or freshwater wetland vegetation for cover (Repking and Ohmart 1977). Along the Colorado River, it occupies dense bulrush stands, shallow water, gently sloping shorelines, and wetlands without significant water level fluctuations.

No California black rails were observed during surveys or avian counts on the Project site. There is occupied and potential habitat starting approximately 2,000 ft east of the proposed transmission corridor, in more densely vegetated seepage areas along the south side of the All-American Canal (Blackhawk Environmental 2020). On the Project site, wetlands only occur on the banks of the All-American Canal within the 500kV loop-in transmission line corridor. These wetland areas are not considered suitable habitat since they are lined with a mature stand of common reed (*Phragmites australis*), steeply sloped, and adjacent to water of depths too deep for use by California black rails. These areas were likely excluded from prior survey efforts due to this lack of suitable habitat (Blackhawk Environmental 2020). There is no suitable foraging or nesting habitat for California black rails on the Project site, but individuals may be observed incidentally as flyovers.

4.1.11 Bank Swallow: BLM-S (nesting)

Bank swallow (*Riparia riparia*) is a neotropical migrant found primarily in riparian and other lowland habitats in California, occurring west of the deserts during the spring-fall period. In summer, it is restricted to riparian, lacustrine, and coastal areas. Bank swallows use vertical banks, bluffs, cliffs, and riverbanks with fine-textured or sandy soils to dig holes for cover and nesting. It will also roost on logs, shoreline vegetation, and telephone wires. In migration, it flocks with other swallows over many open habitats.

No bank swallows were observed during surveys or avian counts on the Project site. There is suitable foraging habitat throughout the Project site, but no suitable nesting habitat.

4.1.12 Yuma Ridgway's Rail: CFP, FE

Yuma Ridgway's rail *(Rallus obsoletus yumanensis),* formerly known as Yuma clapper rail *(Rallus longirostris yumanensis),* nests in freshwater marshes with less than one foot of water depth, low stem density, and lack of residual vegetation (Conway et al. 1993, Gould 1975). Its preferred habitat is emergent marsh dominated by southern cattail (*Typha domingensis*) or California bulrush (*Schoenoplectus acutus*). Other important habitat requirements include strips of high ground or islands that allow for movement through the marsh (Gould 1975) and younger marshes with lower stem density and low thatching, allowing for more movement through a marsh and greater foraging potential (Conway et al 1993, Hinojosa-Huerta et al 2008). Yuma Ridgway's rails are found along the lower Colorado River, southward to its terminus at the Sea of Cortez, along the Gila River drainage in Arizona, at Lake Mead (and the Overton Arm) and its local tributaries, along the Virgin River in Nevada and Utah, and at the Salton Sea/Imperial Valley areas of California (BLM and USFWS 2014). The diet of Yuma Ridgway's rail is predominantly crayfish; other food items include clams, isopods, fish, and water beetles (Ohmart 1977).

No Yuma Ridgway's rails were observed during surveys or avian counts on the Project site in 2023. In 2020, Yuma Ridgway's rails were detected twice in a wetland area south of the All-American Canal, starting approximately 2,000 ft east of the Project's 500kV loop-in transmission line corridor (Blackhawk Environmental 2020). The Project site is also more than ¼ mile away from areas deemed as potentially suitable and occupied habitat from the same study (Figure 11). Surveys north of the Canal were not warranted because of a lack of suitable habitat. On the Project site, wetlands occur only along the banks of the All-American Canal within the 500kV loop-in transmission line corridor. These areas are not considered suitable habitat since they are lined with mature stands of common reed (*Phragmites australis*), steeply sloped, and adjacent to water depths too deep for use by Yuma's Ridgway's rails (Blackhawk Environmental 2020). Conway et al. 1993 determined that Yuma Ridgway's rail prefers shallow water for nesting and water of a moderate depth for foraging. The steep banks of the All-American Canal are neither shallow nor provide moderate depths for foraging. There is no suitable nesting or foraging habitat for Yuma Ridgway's rail on or within close proximity of the Project site, but individuals may be observed incidentally as flyovers.

4.1.13 Southwestern Willow Flycatcher: SE, FE

Southwestern willow flycatcher (*Empidonax traillii extimus)* is found primarily in dense riparian habitats with cottonwood/willow and tamarisk vegetation and microclimatic conditions that are dictated by the local surroundings. Recurrent flooding and a natural hydrograph are important to withstand invading non-native species like tamarisk. Saturated soils, standing water or nearby streams, pools, or cienegas are a component of

nesting habitat that also influences the microclimate and density vegetation component. Habitat not suitable for nesting may be used for migration and foraging.

No southwestern willow flycatchers were observed during surveys or avian counts on the Project site. There is no suitable nesting habitat, but the Project site may be used for foraging during migration.

4.1.14 Gila Woodpecker: SE, BLM-S

Gila woodpeckers (*Melanerpes uropygialis*) live in strictly arid environments, especially deserts and dry forests of the southwestern U.S. and adjacent Mexico, usually below elevations of 3,300 feet. The species is often most common in low swales and arroyos, including riparian corridors with cottonwood, willow, and mesquite. It is fairly tolerant of human development, so long as sufficient habitat for foraging and nesting remains. For nesting, many Gila woodpecker pairs in Arizona use giant saguaro cactus, but in Mexico and southeastern California, they nest in many tree species as well.

No Gila woodpeckers were observed during surveys or avian counts on the Project site. There is suitable foraging habitat throughout the Project site, but minimal suitable nesting habitat in the small areas of microphyll woodland that are still currently part of the Project footprint.

4.1.15 Avian Counts

A total of thirty-seven avian species were observed when avian counts were conducted during spring surveys in the mornings. Appendix C-5 summarizes all species observed during avian counts.

4.1.16 American Badger: SSC

The American badger is associated with dry open forest, shrub, and grassland communities with an adequate burrowing rodent population and friable soils. Badgers generally are associated with treeless regions, prairies, parklands, and cold desert areas (CDFW 2022a). Badgers inhabit burrows and often prey on small mammals that inhabit burrows, as evidenced by claw marks along the edges of burrows. Suitable habitat exists for American badgers throughout the Project site.

No American badgers or active badger burrows were observed during surveys on the Project site.

4.1.17 Desert Kit Fox: FOC

Desert kit fox (*Vulpes macrotis arsipus*) is protected by the California Code of Regulations (Title 14, CCR: §460) and Fish and Game Commission Section 4000 as a fur-bearing mammal. Title 14 of the California Code of Regulations, Section 460, stipulates that desert kit fox may not be taken at any time. Desert kit fox is a fossorial mammal that occurs in arid open areas, shrub grassland, and desert ecosystems within the Mojave and Sonoran Deserts. Desert kit fox typically occurs in association with its prey base, which includes small rodents, primarily kangaroo rats, rabbits, lizards, insects, and in some cases, immature desert tortoises (CDFW 2022a). Burrow complexes that have multiple entrances provide shelter, escape, cover, and reproduction, but desert kit fox may utilize single burrows for temporary shelter. Litters of one to seven young are typically born in February through April (McGrew 1979). Many of desert kit fox burrows observed within the Project site are part of a complex with multiple entrances.

There is suitable habitat for desert kit fox on the Project site, but no desert kit foxes were observed during surveys on the Project site. Two active desert kit fox burrows/complexes and thirty-nine inactive burrows were observed within the Project site (Figure 12). The number of burrows will likely change over time since kit fox distribution is dynamic and changes under natural conditions due to prey availability and other environmental factors such as the presence of coyotes that prey on kit fox pups.

4.1.18 Burro Deer: CPGS, FOC

Burro deer (*Odocoileus hemionus eremicus*) is a subspecies of mule deer (*Odocoileus hemionus*) that inhabits desert dry wash woodland communities in the Colorado region of the Sonoran Desert, near the Colorado River. Some burro deer are year-round residents along the Colorado River, while others are transient and move between mesic and arid desert areas in response to seasonal water and forage availability. During hot summers burro deer concentrate along the Colorado River or the Coachella Canal where water developments have been installed and where microphyll woodland is dense and provides good forage and cover. With late summer thundershowers and cooler temperatures, burro deer move away from the Colorado River and Coachella Canal into larger washes or wash complexes in the foothills and nearby mountains (BLM and CDFG 2002).

The Project site is within range of burro deer, but no burro deer individuals were observed during surveys on the Project site. Scat and tracks were observed throughout the Project site and one very old piece of carcass was observed (Figure 12). This species likely moves through the Project site to access the All-American Canal.

4.1.19 Yuma hispid cotton rat: SSC

Yuma hispid cotton rat (*Sigmodon hispidus eremicus*) occurs along the Colorado River and in the Imperial Valley. Establishment of cotton rats in the Imperial Valley was in response to agricultural irrigation practices (Dixon 1922). It is most common in grassland and cropland habitats near water (Fleharty and Mares 1973, Kaufman and Fleharty 1974), including grass-forb understories in early successional stages of other habitats (McClenaghan and Gaines 1978). It also occurs in overgrown clearings, and herbaceous borders of fields and brushy areas (Hall and Dalquest 1963).

It feeds mainly on grasses, eating insects seasonally, and sometimes feeds on sugar beets, citrus, and other crops. This species uses tall, dense grass as cover, making runways through dense herbaceous growth, similar in appearance to vole runways but much larger. Their nests of woven grass are constructed either in burrows or on the surface (Baar et al. 1974).

No Yuma hispid cotton rats were observed during surveys on the Project site.

4.1.20 Bat Surveys

During the initial habitat assessment, there were no incidental observations of bat roosts within the Project site (no structures or abandoned buildings occur on the Project site) or within 5-miles of the Project site at structures that have potential for roosting sites. No structures, abandoned buildings, or large trees suitable for bat roosts occur on the Project site. Areas of microphyll woodland just outside Project site boundaries that had some potential for suitable habitat were searched, but no roosts were observed. The most likely roost area was around an Imperial Irrigation District facility along the All-American Canal approximately 500 m south of the

Project site that consisted of canal structures, bridges, housing, and large non-native trees. These areas were carefully inspected, but no roosts or live individuals were detected during visual search efforts. Telemetry for bats has determined that bats can travel 15 miles one way from a roost while foraging (Brown et al 1993). Within the Project site area, bats can roost in Mexico and forage in the United States.

Acoustic bat surveys recorded 118 bat calls in June and 226 in July (Table 4). Site 2, which is just outside the Project site in desert dry wash woodland, had the highest number of recorded bat calls with 164 detections. Common species such as canyon bat (*Parastrellus hesperus*), Mexican free-tailed bat (*Tadarida brasiliensis*), and California myotis (*Myotis californicus*) were the most frequently detected species. There was a single detection of California leaf-nosed bat (*Macrotis californicus*) which is discussed below.

Acoustic call files are often very difficult to narrow down to species, and in many cases, impossible. Calls not identifiable to specific species were categorized based on call frequency (Denzinger and Shcnitzler 2013). Based on the frequencies detected, none of the call files can be attributed to the following special status species: Western yellow bat (*Lasiurus xanthinus*, SSC), Western red bat (*Lasiurus blossevillii,* SSC), pocketed free-tailed bat (*Nyctinomops femorosaccus*, SSC), Townsend's big-eared bat (BLM-S, SSC, USFSS) or Western mastiff bat (*Eumops perotis*, BLM-S, SSC). Table 5 summarizes bat call detections by species and call frequency categories. Note that there may be multiple species acoustic calls (Table 5) within one bat call file (Table 4).

Table 4. Summary of Acoustic Bat Call Detections by Site.

Site #	# of Bat Call Files		Bat Call Files Per Site
	Session 1 (July 10-14)	Session 2 (July 25-29)	
1	21	55	76
2	79	85	164
3	18	86	104
Total	**118**	**226**	**344**

Table 5. Summary of Acoustic Calls by Species and Species Group

Species	# of Acoustic Calls Attributed to Specific Species or Species Group			
	Site 1	Site 2	Site 3	Subtotal
Common Species				
Mexican free-tailed bat (*Tadarida brasiliensis)*	3	1	7	11
Canyon bat (*Parastrellus Hesperus)*	31	6	21	58
California myotis (*Myotis californicus)*	4	2	7	13
Special Status Species				
California leaf-nosed bat (*Macrotus californicus*)	0	1	0	1

Species Groups				
30-40 kHz[1]	4	9	5	18
40-60 kHz[2]	8	6	16	30
50-80 kHz[3]	22	58	22	102
60-90 kHz[4]	13	76	27	116
90-120 kHz[5]	27	7	8	42
			Total	**391**

Potential species groups within kHz range:

[1]Pallid bat (*Antrozous pallidus*), cave myotis (*Myotis velifer*, unlikely)

[2]Yuma myotis (*Myotis yumanensis*), California myotis, cave myotis (unlikely), pallid bat, Arizona myotis (*Myotis occultus*, unlikely)

[3]California myotis, Yuma myotis, California leaf-nosed bat

[4]California myotis, Yuma myotis, California leaf-nosed bat

[5] California myotis, California leaf-nosed bat

4.1.20.1 California Leaf-nosed Bat: BLMS, SSC, H

The California leaf-nosed bat (*Macrotus californicus*) is a BLM sensitive species and a California species of special concern. They occur in the Sonoran and Mojave desert scrub in southeastern California, southern and western Arizona, southern Nevada, and northwestern Mexico. This species of bat neither hibernate nor migrate and have a narrow thermal neutral zone – they are incapable of lowering their body temperature to become torpid (Vaughan 1959). These bats can use buildings and bridges as night roosts but depend on mines or caves for roosting and overwintering (Hoffmeister 1986, Brown and Berry 1998), with all known winter and most maternity diurnal roost sites in abandoned mines (Brown and Berry 1998). They forage in vegetation along dry washes (Brown and Berry 2004) and in marsh, mesquite shrublands, cottonwoods, willows and fan palm vegetation equally (Williams 2001). They feed on moths, diurnal insects, grasshoppers (Orthoptera) and katydids (Orthoptera: Tettigoniidae) and may also feed on cactus (Cactaceae) fruit (Vaughan 1959, Anderson 1969, Hoffmeister 1986). The nearest record of the species to the Project site is approximately 17 miles (CNDDB 2024).

California leaf-nosed bat is a quiet species that is difficult to detect acoustically and cannot be recorded at distances of more than 1 or 2 meters (O'Farrel 2006). One call file at Site 2, within desert dry wash woodland, was diagnostic of California leaf-nose for one harmonic – the presence of at least two harmonics is often necessary to successfully identify this species acoustically. Their second and third harmonic can look like the search phase calls for Yuma myotis and California myotis (Corbin 2006). Bat acoustic calls attributed to the species group (60-90kHz and 90-120kHz in Table 5) were detected confirming presence of California leaf-nosed bat at the Project site.

There is no suitable habitat within the Project for roosting, but there is suitable habitat for foraging in desert dry wash woodland areas just outside the Project site for the species. Although desert dry wash woodland provides foraging habitat for this species, their foraging behavior lacks a significant relationship between any specific vegetation type and may indicate that it may not be strictly linked.

4.1.20.2 Pallid Bat: BLMS, SSC, H

The pallid bat (*Antrozous pallidus*) is a BLM sensitive species and California species of special concern. They occur from southern British Columbia through Montana through the Pacific Northwest to California and central Mexico. They are also found as far east as western Texas, southern Kansas, Wyoming and Idaho. In the Southwest, the pallid bat is amongst the most common species found at lower elevations. Some noterhn populations are known to hibernate but populations along the lower Colorado River remain active year-round and utilize mines as night roosts rather than hibernation (Brown 2013) They forage for large prey along the ground but will also glean from vegetation. Pallid bats are a colonial species, roosting in small groups of 20 or more individuals in rock crevices and in caves, mines, rock piles and tree cavities (Adams 2003). Nearest record for the species is approximately 20 miles from the Project site (CNDDB 2024).

Acoustic survey species groups results indicated that there is some potential for them to have occurred on the Project site. There is suitable habitat for pallid bats to forage on the Project site. Roosting habitat is likely suitable for a night roost within tree cavities in the adjacent desert dry wash woodland habitat excluded from the Project site.

4.1.20.3 Yuma Myotis: BLM-S, M

The Yuma myotis (*Myotis yumanensis*) is a BLM sensitive species. This species rarely roosts in caves or mine shafts, preferring to inhabit cliffs and rocky walls, buildings, and abandoned cliff swallow mud nests (Vaughan 1980). Colonies can number as high as 10,000 individuals (Cockrum et al 1996). This species is active in proximity to standing water where it forages for flies, moths, and termites (Adams 2003). It is a common bat species and year-round resident along many stretches along the lower Colorado River, especially in the vicinity of water impoundments (Brown 2013). Nearest record of Yuma myotis is approximately 35 miles from the Project site (CNDDB 2024).

Acoustic survey results indicated that there is some potential for Yuma myotis to have occurred in the species groups results. There is no suitable habitat for roosting on or near the Project site for the species, but there is suitable habitat for foraging in the adjacent desert dry wash woodland areas excluded from the Project site.

4.1.20.4 Cave Myotis: BLM-S, H

The cave myotis (*Myotis velifer*) is a BLM sensitive species. They are found from Honduras up to Kansas, and west to southeastern California. In California, their range is limited to the lowlands of the Colorado River and nearby mountain ranges in San Bernardino, Riverside, and Imperial counties. Their habitats in California include desert scrub, desert succulent shrub, desert wash, and desert riparian areas and is a year-round resident along the lower Colorado River (Brown 2013). They tend to forage near riparian vegetation and have an opportunistic nature and tendency to hunt a variety of flying insects (Vaughan 1980). Roosts are in caves and mines, usually

near the entrance. In the summers they roost occasionally in buildings, while they are hibernating in the winter in humid/wet caves or tunnels (Tinkle and Patterson 1965, Jagnow 1998).

There have been dramatic declines in the populations along the Colorado River in California and loss of foraging habitat due to agriculture and the use of aerial pesticides that reduce their prey base and directly poison bats (Pierson and Rainey in Brylski et al 1998). Nearest record for this species is approximately 20 miles from the Project site (CNDDB 2024).

Although this species had some overlap in the acoustic survey species group results, it is unlikely for the species to occur in this area since there have not been any recent capture records near the Project site (Brown 2013). There is no suitable roosting habitat on the Project site and only moderately suitable foraging habitat in the adjacent desert dry wash woodland areas excluded from the Project site.

4.1.20.5 Arizona Myotis: SSC

The Arizona myotis (*Myotis occultus*) is a California species of special concern. This species is seasonally migratory over short distances and predominately found in Sonoran desert scrub with creosote bush, brittlebush (*Encelia farinosa*), palo verde, and cacti (Hoffmeister 1986). Cave myotis roost in caves, tunnels, mine shafts, under bridges, and sometimes in buildings within a few miles of water (Fitch et al 1981).

The nearest record to the Project site is from 1910 within Imperial County (CNDDB 2024). The last known colony along the lower Colorado River was in Blythe Bridge in Riverside County, California and La Paz County, Arizona (Stager 1943) which was replaced in the 1950s. It is only most recently that species has seen a small resurgence at the Ahakhav Tribal Preserve riparian habitat restoration area in La Paz County, Arizona where 15 individuals were captured between 2007-2010 (Calvert and Neiswenter 2012).

Although this species had some overlap in the acoustic survey species group results, it is unlikely for the species to occur in this area since there have been no recent capture records nearby and is suspected to be extirpated. There is no suitable habitat for roosting on the Project site and only moderately suitable habitat for foraging in the adjacent desert dry wash woodland areas excluded by the Project site.

4.1.20.6 Western Yellow Bat: SSC, H

The western yellow bat (*Lasiurus xanthinus*) is a CDFW Species of Special Concern. It is found in Arizona, New Mexico, Mexico, and year-round in California. It is found in arid regions, in riparian, desert riparian, desert wash and palm oasis habitat. The western yellow bat is insectivorous, and roosts and feeds in palm oases and riparian habitats (CDFW 2022a). This species feeds on flying insects and forages over water and among trees. Roost sites are primarily trees in riparian habitats.

The nearest record is approximately ten miles west of the Project site, from the town of Holtville in 1993 (CNDBB, 2023). No western yellow bats or roosts were observed during surveys and no acoustic calls were attributed to the species in acoustic surveys. Suitable foraging habitat and roosting habitat is found on the Project site within the adjacent desert dry wash woodland excluded from the Project site.

4.1.21 Western Bumble Bee: SE (candidate)

The Western bumble bee (*Bombus occidentalis*) is a CDFW species of special concern and a candidate endangered species under CESA. They are generalist foragers and have been associated with plants in the Fabaceae, Asteraceae, Rhamnaceae, and Rosaceae families. They are found in grasslands, shrublands, and urban grassy areas. They are distributed throughout the Western United States and Canada but have undergone dramatic declines in recent decades (Hatfield et al. 2015). One observation of this species was recorded in 1993 approximately 22 miles from the Project boundary in the Algodones Dunes (CNDDB, 2023), but the Project site is well outside the current and historic range for the species (CDFW 2023).

The western bumble bee was not observed during surveys. Suitable habitat on the Project site does occur, but the active agriculture and developments adjacent to the Project site could lower habitat suitability with the potential use of pesticides.

4.1.22 Crotch's Bumble Bee: SE (candidate)

Crotch's bumble bee (*Bombus crotchii*) is a CDFW species of special concern and a candidate endangered species under CESA. They inhabit grasslands and shrublands throughout southwestern California. They are generalist foragers and have been associated with plants in the Fabaceae, Apocynaceae, Lamiaceae, Hydophyllaceae, Asclepiadoideae, and Asteraceae families (Thorp et al 1983). They have also been observed using plants Asclepias, Chaenactis, Lupinus, Meicago, Phacelia, and Salvia, as food (Williams et al 2014). There is one record of the bee, approximately 29 miles from the Project site near the town of Brawley from 1948 (CNDDB 2023).

Suitable habitat occurs on the Project site since some of the plant families associated with the species also occur. However, the active agriculture and developments adjacent to the Project site could lower the habitat suitability with the potential use of pesticides. The Project site is outside of the current and historic range of the species (Figure 13, CDFW 2023). Crotch's bumble bee was not observed during surveys.

4.1.23 Monarch Butterfly: FCT

Monarch butterfly (*Danaus Plexippus*) is a federal candidate to be classified as an endangered species. Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Overwintering sites have specific microhabitat requirements such as protection from wind, exposure to dappled sunlight, and presence of high humidity (Chaplin and Wells 1982, Masters et al 1988, Leong 1999). Overwintering roosts are typically located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Monarch butterfly larvae forage on milkweed (*Asclepias* sp.) and use them as larval hosts (Front, 2019), but adults have shown preference to oviposit/reproduce at sites with milkweed and increased plant species diversity that provide more sources of nectar for energy (Kral-O'Brien et al 2020).The suitable habitat model for monarch butterflies that considers all associated milkweed species except tropical milkweeds, indicate that the Project site is located within low suitable habitat (Dilts et al 2019, Figure 15). Nearest record of observations of an individual monarch is approximately 15 miles east of the Project site and nearest breeding records are over 60 miles from the Project site in the Cleveland National Forest and near Palm Springs (Western Monarch and Milkweed Occurrence Database 2018) – these records are consistent with the model for higher suitable habitat than the Project site, and likely have higher plant diversity for nectar (Figure 15).

There are no large trees that can protect the species from wind or provide dappled sunlight so overwintering roosting habitat is not present on the Project site. There is one common species of milkweed – skeleton milkweed (*Asclepias subulata*) - that occurs on the Project site in low numbers,and there is also a low diversity of nectar plants, so foraging and breeding habitat is marginal on the Project site, consistent with the habitat suitability model. In addition, nearby agricultural activities also lower plant diversity in the area and would be less desirable for the species. . . Monarch butterfly was not observed during surveys.

4.2 Special Status Plant Species

Ten special status plant species were reviewed for their potential to occur within the Project site and its vicinity based on regional plans and database records (Appendix B). Probability of occurrence for all plant species, along with a description of range, habitat, and conservation status, are identified in Appendix B, and use the same categories of potential for occurrence as wildlife (see section 4.1).

Special status plant species detected within the Project site or having moderate to high potential to occur based on the presence of suitable habitat are discussed in detail in this section. Noteworthy plant observations are summarized in Appendix C in Figure 12. A comprehensive list of all plant species observed during surveys is included in Appendix D.

Conservation status for plant species is defined below:

Federal

FE = Federally listed endangered: species in danger of extinction throughout a significant portion of its range

FT = Federally listed, threatened: species likely to become endangered within the foreseeable future

State

SE = State listed as endangered

ST = State listed as threatened

SR = State listed as rare

California rare plant ranks (CRPR) are defined below:

CRPR 1A = Presumed extirpated in California and either rare or extinct elsewhere

CRPR 1B = Rare, threatened, or endangered in California and elsewhere

CRPR 2A = Presumed extirpated in California but more common elsewhere

CRPR 2B = Rare, threatened, or endangered in California but more common elsewhere

CRPR 3 = Plants which need more information

CRPR 4 = Limited distribution – a watch list

CBR = Considered, But Rejected

.1 = Seriously endangered in California (high degree/immediacy of threat; over 80% of occurrences threatened)

.2 = Fairly endangered in California (moderate degree/immediacy of threat; 20%-80% of occurrences threatened)

.3 = Not very endangered in California (low degree/immediacy of threats or no current threats known; <20% of occurrences threatened or no current threats known)

4.2.1 Peirson's milk vetch: FT, SE, CRPR 1B.2

Peirson's milk vetch (*Astragalus magdalenae* var*. Peirsonii*) is a perennial herb in the Fabaceae (Legume) family that is listed as threatened under the FESA and endangered under the CESA. It occurs in sand dunes in creosote bush scrub communities in California, Arizona and Baja California, Mexico (Calflora 2023). It has silvery-canescent leaves and stems from 20-90 cm, with 5-20 pink-purple, often white tipped flowers and papery single chambered fruit (Jepson 2023). The nearest record is approximately 1.5 miles east of the Project site. There is suitable habitat on the Project site for Peirson's milkvetch, but it was not observed during surveys.

4.2.2 Wiggin's croton: SR, CRPR 2B.2

Wiggin's croton (*Croton wigginsii*) is a state listed rare species that is fairly threatened in California but more common elsewhere throughout its range in Baja California, Sonora, Mexico and Arizona. It is a subshrub to shrub in the Euphorbiaceae (Spurge) family that can be found in sand dunes within creosote bush scrub communities (Calflora 2023). The nearest database record is approximately six miles to the east of the Project site. There is suitable habitat on the Project site for Wiggin's croton, but it was not observed during surveys.

4.2.3 Abram's spurge: CRPR 2B.2

Abram's spurge (*Euphorbia abramsiana*) is an annual herb in the Euphorbiaceae (Spurge) family that is fairly threatened in California but more common elsewhere within its range in the western US and northwestern Mexico. It occurs in silty and gravelly soils, and sandy flats in creosote bush scrub communities and typically tolerates salty soils. Contact with the sap of this plant can cause skin irritation (Calflora 2023). It has prostrate, repeatedly forked stems and opposite 2-12 mm ovate to elliptic-oblong leaves (Jepson Flora Project 2023). The nearest database record of this species is approximately ten miles to the west of the Project site in what is now an agricultural area. There is marginal habitat on the Project site due to the fine sand on a majority of the Project site. Abram's spurge is expected to have a low potential for occurrence due to the type of soils on the Project site and the nearest record being more than 10 miles away on agricultural land. Due to its low potential for occurrence, fall plant surveys were not conducted on the Project site. it was

4.2.4 Algodones sunflower: SE, CRPR 1B.2

Algodones sunflower (*Helianthus niveus ssp. tephrodes*) is a perennial herb in the Asteraceae (Sunflower) family. It is fairly threatened throughout its range in California, Arizona and Sonora, Mexico. The stem and leaves are covered in soft white appressed hairs, and the leaves are oval or lanced shaped. The flower heads are fringed with 13-21 bright yellow ray florets up to 2.5 cm long surrounding a center of yellow to purple-red disc florets. Suitable habitat occurs in sand dunes in creosote bush scrub communities (Jepson Flora Project 2023). The nearest database record of this species is approximately seven miles to the east of the Project site. There is suitable habitat for Algodones sunflower on the Project site, but it was not observed during surveys.

4.2.5 Ribbed cryptantha: CRPR 4.3

Ribbed cryptantha (*Johnstonella costata [=Cryptantha costata]*) is an annual herb in the Boraginacae (Borage) family. It has limited distribution but is not very threatened in California. It occurs in creosote bush scrub communities in California, Arizona, and Baja Mexico. It is found in fine sand deposits in coarser soils in the Sonoran and Mojave deserts. It is 10-20 cm tall with bristly stems and narrow leaves folded along the midvein

(Jepson 2023). The nearest records are near the Interstate 8 Freeway. There is suitable habitat on the Project site for ribbed cryptantha, but it was not observed during surveys.

4.2.6 Slender cottonheads: CRPR 2B.2

Slender cottonheads (*Nemacaulis denudata* var. *gracilis*) is an annual herb in the Polygonaceae (Buckwheat) family that is fairly threatened in California but more common elsewhere in its range. It is found outside of California in Baja California, Sonora Mexico, and Arizona. It occurs in sand dunes in creosote bush scrub and coastal strand communities. It has a small basal rosette of linear to spatulate leaves; erect stems and flowers obscured by hairs (Jepson 2023). This species has a moderate chance of occurrence on the project site but was not observed during 2023 surveys. The nearest record of this species is within 15 miles from the Project site. There is suitable habitat for slender cottonheads on site, but it was not observed during surveys.

4.2.7 Giant Spanish needle: CRPR 1B.2

Giant Spanish needle (*Palafoxia arida* var. *gigantea*) is an annual or perennial herb in the Asteraceae (Sunflower) family. It is fairly threatened throughout its range in California and Sonora, Mexico. This species is found in sand dune habitat in creosote bush scrub and alkali sink communities (Calflora 2023). The nearest record of this species is near Highway 8. There is suitable habitat for giant Spanish needle on site, but it was not observed during surveys.

4.2.8 Sand food: CRPR 1B.2

Sand food (*Pholisma sonorae*) is a parasitic perennial herb in the Lennoaceae (Lennoa) family. It is fairly threatened in California and is native to western Arizona and northwestern Mexico. It is found in sand dunes habitat in creosote bush scrub communities. It has a mushroom-like inflorescence with small pink to purple flowers, and is a parasite of *Eriogonum, Tiquilla, Ambrosia* and *Pluchea* (Jepson 2023). The nearest database record of this species is approximately five miles northwest of the Project site. There is suitable habitat within the Project site for sand food but it was not observed during surveys.

4.2.9 Cacti, Yucca, and Native Trees

Native cacti, succulents, and trees are generally not ranked as special status plant species, but the harvesting of these native plants is regulated under the California Native Plant Protection Act (Fish and Game Code §§ 1900-1913) and the California Desert Native Plant Act of 1981 (Food and Agricultural Code § 80001 et. seq.; Fish & Game Code §§ 1925-1926). Any vegetation to be salvaged and removed from the site (such as cactus or yucca) would be subject to sale at appraised value, according to CFR 43:5420.0-6. If the cacti or yucca is salvaged and/or transplanted offsite, as approved by BLM, then this resource is not subject to sale but remains in BLM ownership. No cactus or yucca were observed within the Project site.

The following native tree species were observed on the Project site:

- Honey mesquite (*Propsis glandulosa*)
- Honey mesquite (*Propsis glandulosa var torreyana*)
- Screw bean mesquite (*Prosopsis pubescens*)

4.3 Invasive Weeds

Invasive weeds are non-native (exotic) plants included on the weed lists of the California Invasive Plant Council (Cal-IPC), or those weeds of special concern identified by the BLM. There are also some weeds designated as "noxious" by California Department of Food and Agriculture (CDFA) or the U.S. Department of Agriculture. Invasive weeds are of concern in wildlands because of their potential to degrade habitat and disrupt the ecological functions (Cal-IPC 2023). The following invasive weeds were identified on the Project site during 2023 field surveys and are summarized in Figure 14.

4.3.1 Sahara Mustard *(Brassica tournefortii)*

Sahara mustard has a highly invasive rating on Cal-IPC (Cal-IPC 2022). It has severe ecological impacts on physical processes, plant and animal communities, and vegetation structure, as well as having reproductive biology and other attributes that are conducive to moderate to high rates of dispersal and establishment (Cal IPC 2023). Sahara mustard is native to the deserts of North Africa, the Middle East, and the Mediterranean regions of southern Europe (Bossard et al. 2000). Initial establishment of this species in California occurred through the importation of date palms from the Middle East to the Coachella Valley during the early 1900s (Bossard et al. 2000). Sahara mustard currently occurs across Imperial County, as well as all neighboring counties (Cal-IPC 2023). During the field surveys, Sahara mustard was found in multiple areas throughout the Project site.

4.3.2 Russian Thistle *(Salsola tragus)*

Russian thistle has a Limited-to-Moderate rating by the Cal-IPC, indicating a species that is invasive but has an ecological impact that is minor on a statewide level, or there was not enough information to justify a higher score. Its reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but it may be locally persistent and problematic. Russian thistle is listed on the CDFA Noxious Weed List, making it subject to state laws and regulations regarding its spread and pollution of an area (CDFA 2021). Russian thistle is an annual herb that is found in open and disturbed areas in the Mojave Desert and throughout western North America (MacKay 2003). Otherwise known as tumbleweed, it becomes large and round with age, the dried plant breaking off and rolling with the wind to aid in seed dispersal. Native to Eurasia, this plant was likely introduced around the turn of the century. It typically occurs on sandy soils on disturbed sites, cultivated and abandoned fields, and disturbed natural and semi-natural plant communities (CDFA 2021). During the field surveys, Russian thistle was found on the Project site.

4.3.3 Saltcedar *(Tamarix sp.)*

Saltcedar, also known as tamarisk, is a BLM weed species of concern. *Tamarix chinensis*, *T. ramosissima, T. gallica*, and *T. parviflora* are all rated as highly invasive by Cal-IPC, and *T. aphylla* is rated B by CDFA, meaning it is a pest of known economic or environmental detriment of limited distribution. Saltcedar can be found throughout California along lake shores streams and is detrimental to native plant and wildlife communities. These species can cause dramatic changes in soil chemistry, groundwater availability, geomorphology, and fire frequency (Cal-IPC 2023). Saltcedar was observed within the western edge of the Project site and in the transmission corridor.

4.3.4 Mediterranean grass *(Schismus barbatus)*

Mediterranean grass has a limited invasive potential (Cal-IPC 2023) and is not listed by CDFA. It is an annual grass found in both central and southern California, particularly in disturbed areas and deserts, probably introduced at the turn of the century (CDFA 2020). It contributes to increased fire ignition and spread due to accumulation of dry thatch during dry seasons. Wildfire, in turn, contributes to the type-conversion of desert shrubland into annual grassland. These species' reproductive biology and other attributes result in low to moderate rates of invasiveness. Spread may occur from seed dispersal associated with soil disturbance, vegetation cutting, and from vehicle tires and footwear. Increase of these species is most likely to occur in areas where it already exists. BLM and other agencies recognize that because of its widespread distribution, Mediterranean grass is not feasible to eradicate. During the field surveys, Mediterranean grass was found on the Project site.

4.3.5 Bermuda grass *(Cynodon dactylon)*

Bermuda grass has a moderate invasive potential (Cal-IPC 2023) and is not listed by CDFA. Ecological amplitude and distribution may range from limited to widespread. These species have substantial and apparent, but generally not severe, ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. It is a warm season perennial grass that has become a cosmopolitan weed in warm regions worldwide, due in part to cultivation for turf. Plants reproduce via rhizomes and seeds and can out-compete native species in riparian areas (Cal-IPC 2023). During the field surveys, Bermuda grass was found on the Project site.

4.3.6 Common Reed *(Phragmites australis)*

Common reed is a perennial grasslike herb that is native to California and is found worldwide. It typically occurs in wetlands but can also be found in creosote bush scrub and many other plant communities. It is widely distributed across California but can be considered invasive outside of its natural range. It is difficult to distinguish between native and non-native populations (Cal-IPC 2023). CDFA lists the non-native common reed, subspecies *Phragmites australis ssp. altissimus* as a Class C noxious weed of known economic and environmental detriment. During the field surveys, common reed was found on the Project site alongside the All American Canal.

4.3.7 Red brome *(Bromus rubens)*

Red brome has an invasive rating of high according to Cal-IPC and is not listed on the CDFA noxious weed list. It has severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Its reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. It is widely distributed ecologically. Red brome is a cool-season annual grass (family Poaceae) found throughout California, especially in the southern part of the state. Red brome invades disturbed areas, roadsides, agricultural fields, rangelands, and forestry sites, in addition to native communities. Red brome is spreading rapidly in desert shrublands, pinyon pine – juniper communities, three-needle pine woodlands, and

coastal scrub, where it outcompetes native annuals, increases fire frequency and converts habitat to annual grassland. During field surveys, red brome was observed on the Project site.

4.3.8 Redstem filaree *(Erodium cicutarium)*

Redstem filaree is an aggressive annual/biannual (family Geraniaceae) that is very widespread throughout California and is commonly found along roadsides, grasslands, fields, and semi-desert areas. It often carpets large areas, out-competing native grasses and forbs but is listed as having limited impact since their ecological impacts are minor on a statewide level and currently have a low to moderate rate of invasiveness (Cal-IPC 2023). This species is not listed by the CDFA. During the field surveys, redstem filaree was found on the Project site.

4.3.9 Stinknet *(Oncosiphon pilulifer)*

Stinknet is a strongly-scented annual herb (family Asteraceae) with round yellow flowers and finely dissected leaves found in the south coast and desert ranges of Southern California. It is native to South Africa. It favors dunes, scrub, and chaparral habitat. It spreads via seeds which travel through human activities and machinery (Cal-IPC 2023). CDFA lists this species as Q. During the field surveys, stinknet was found on the Project site.

4.3.10 Other Non-natives

Other non-native plant species observed on the Project that are not considered invasive but have become naturalized include:

- Date palm (*Phoenix dactylifera*)
- Mexican fan palm (*Washingtonia robusta*)
- Prickly lettuce (*Lactuca serriola*)
- Spiny sowthistle (*Sonchus asper*)
- Sowthistle (*Sonchus oleraceus*)

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Appendix A: Figures

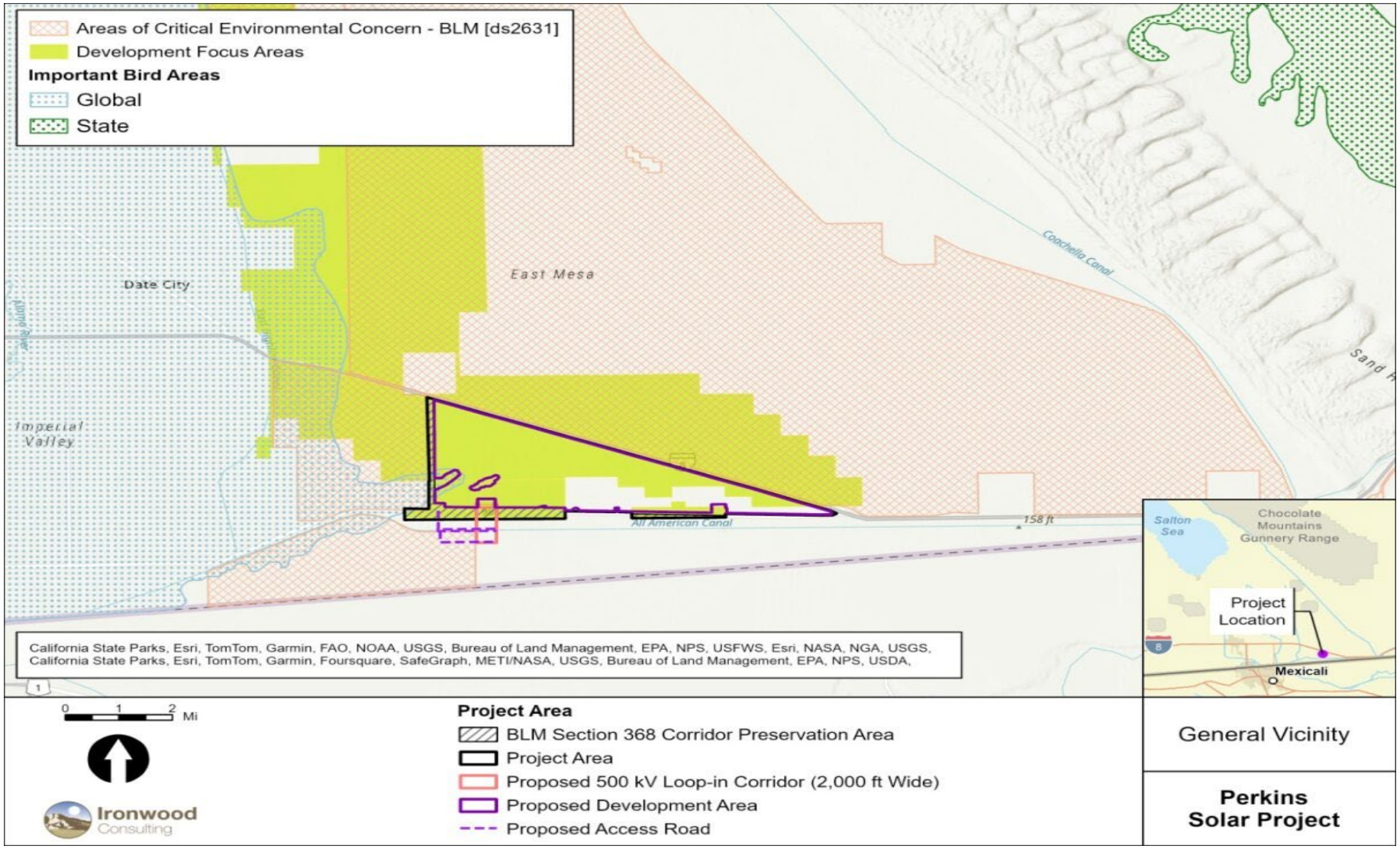

Figure 1. General Vicinity.

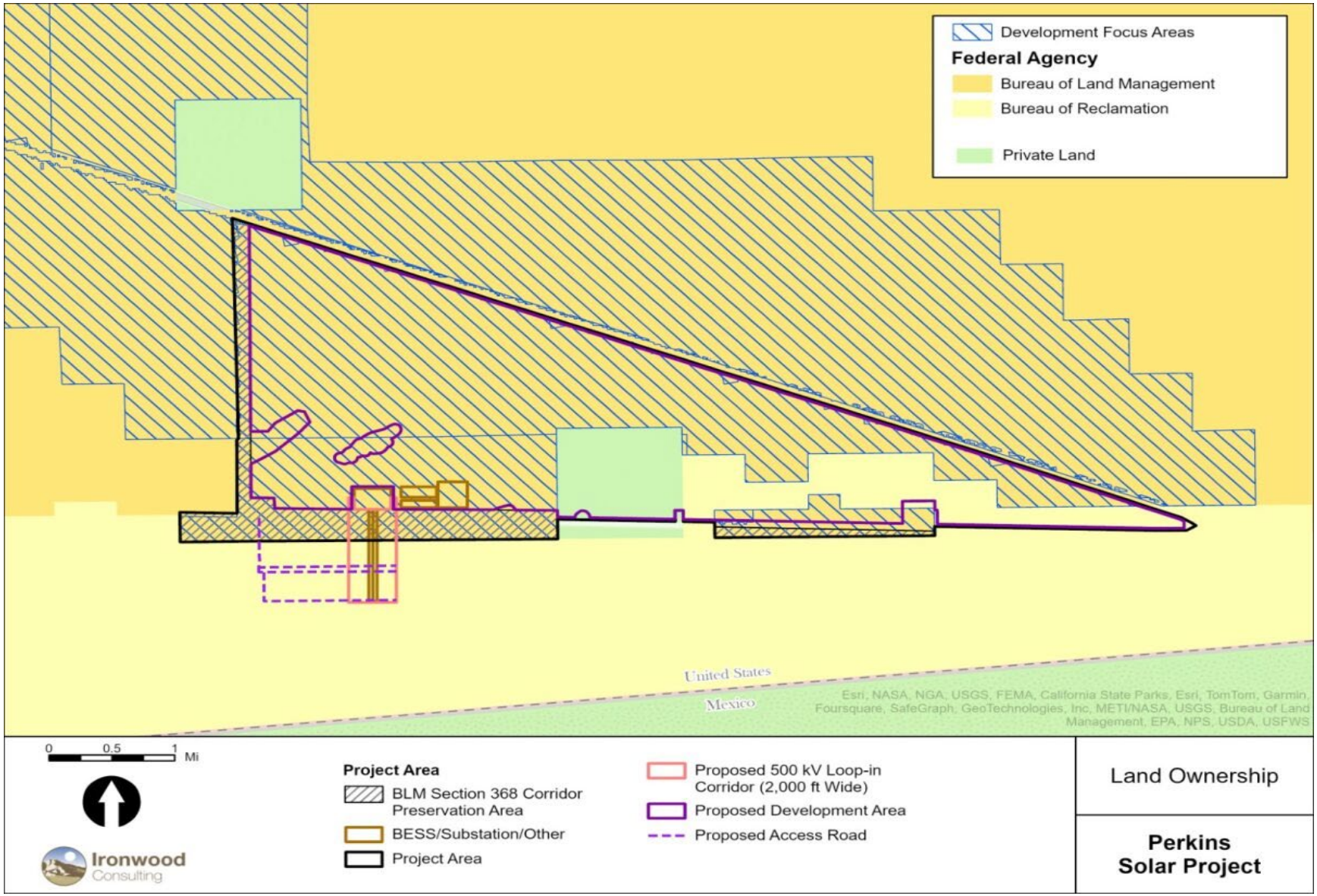

Figure 2. Land Ownership.

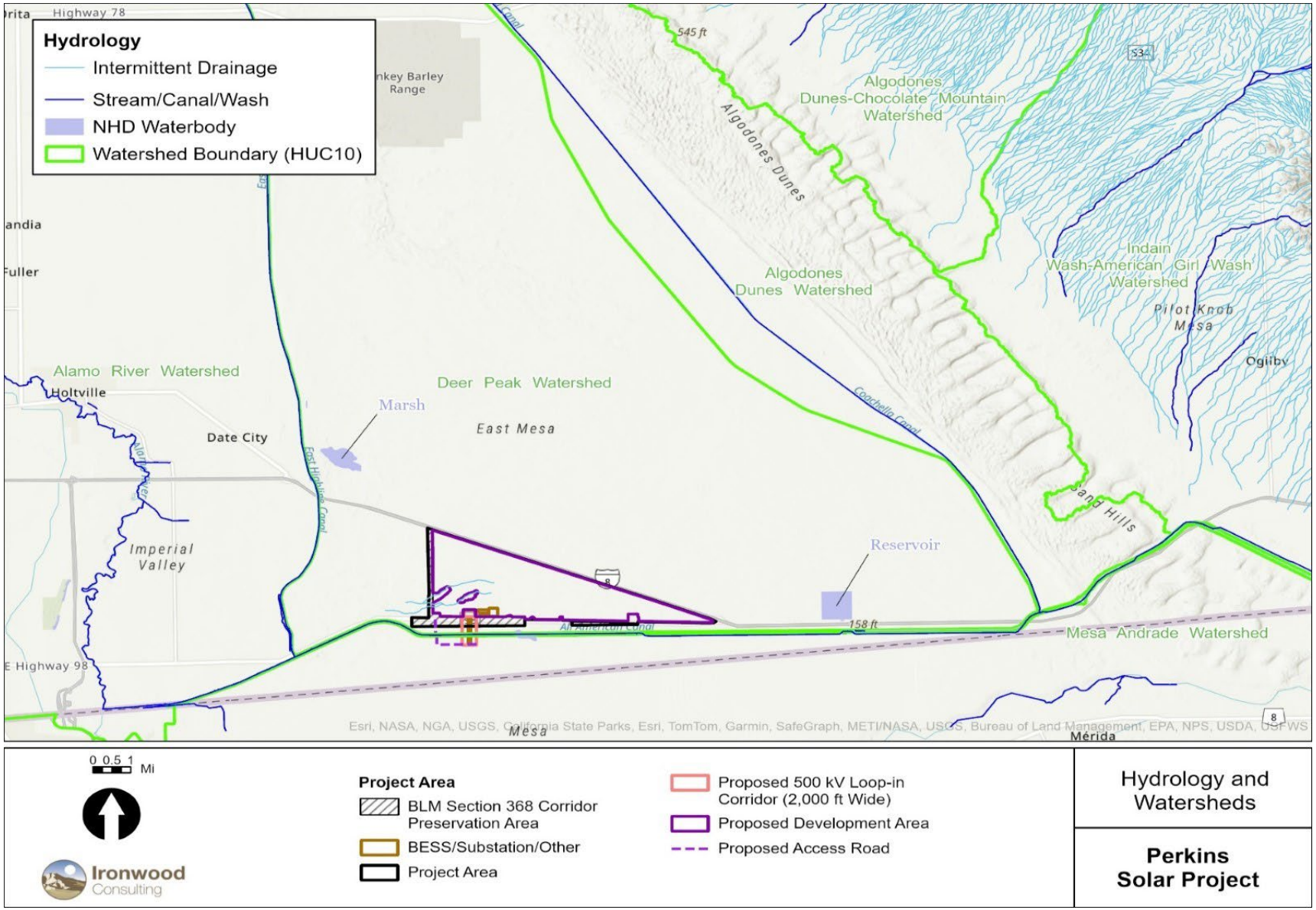

Figure 3. Hydrology and Watersheds.

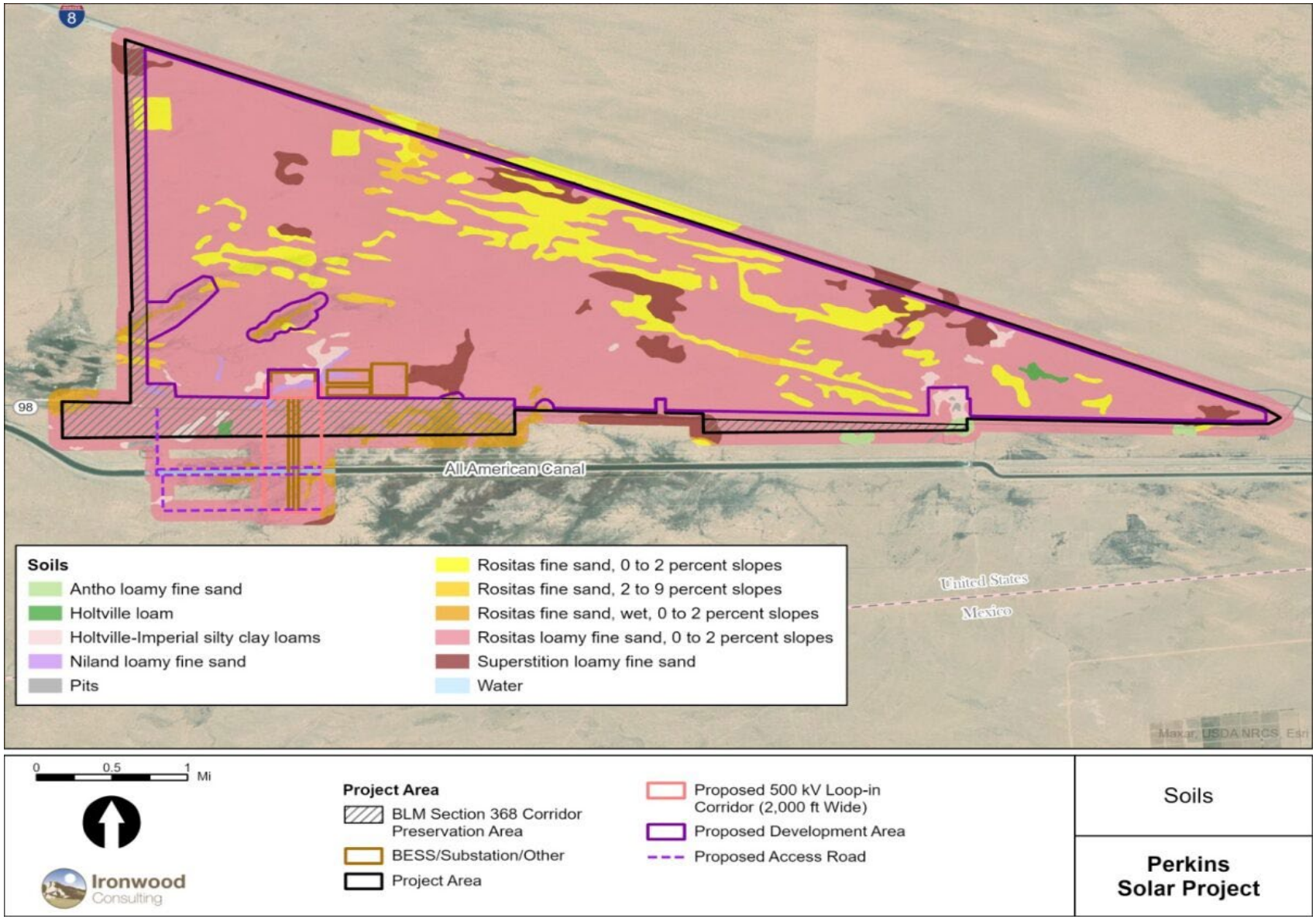

Figure 4. Soils.

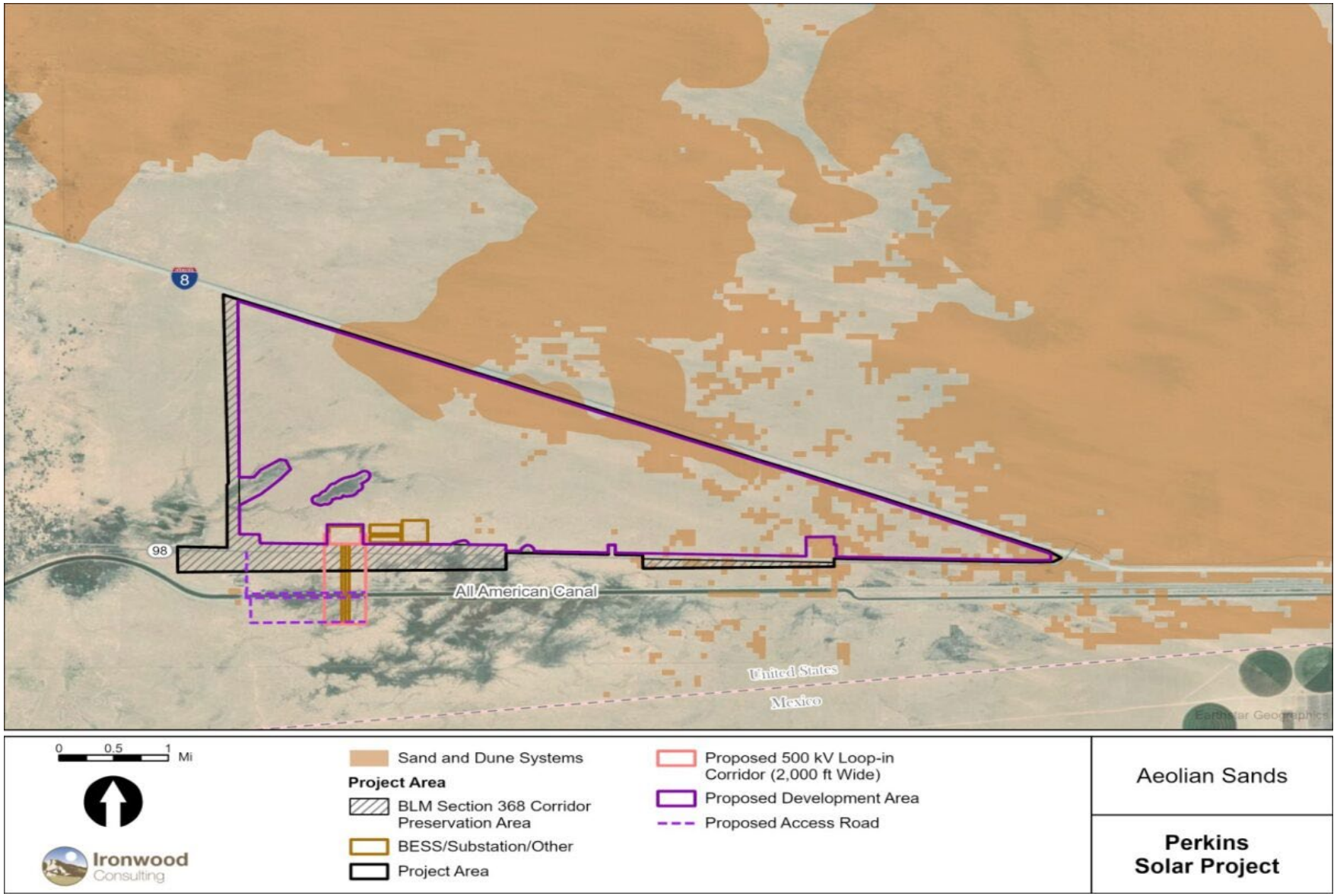

Figure 5. Sand Transport.

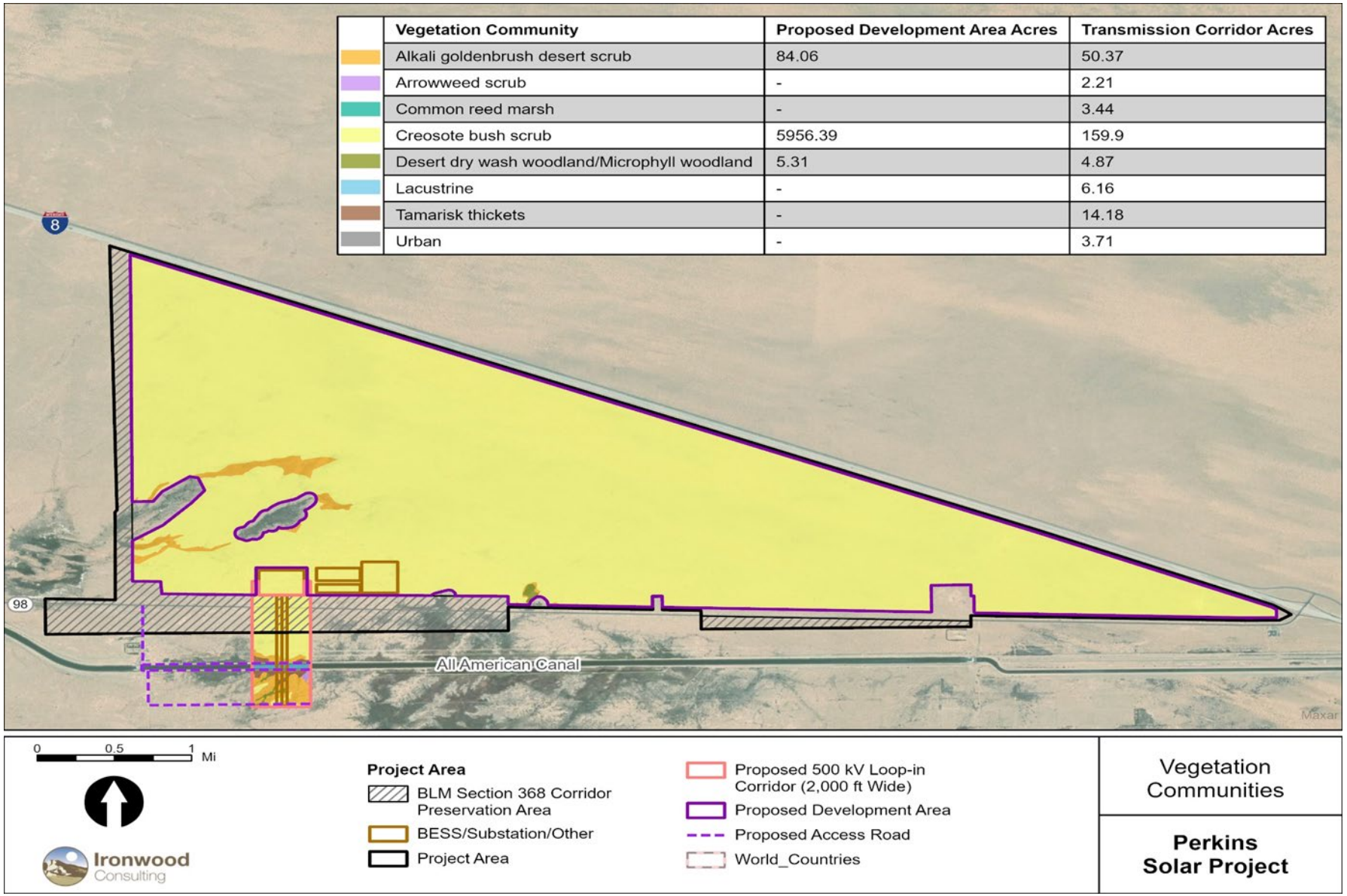

Figure 6. Vegetation Communities.

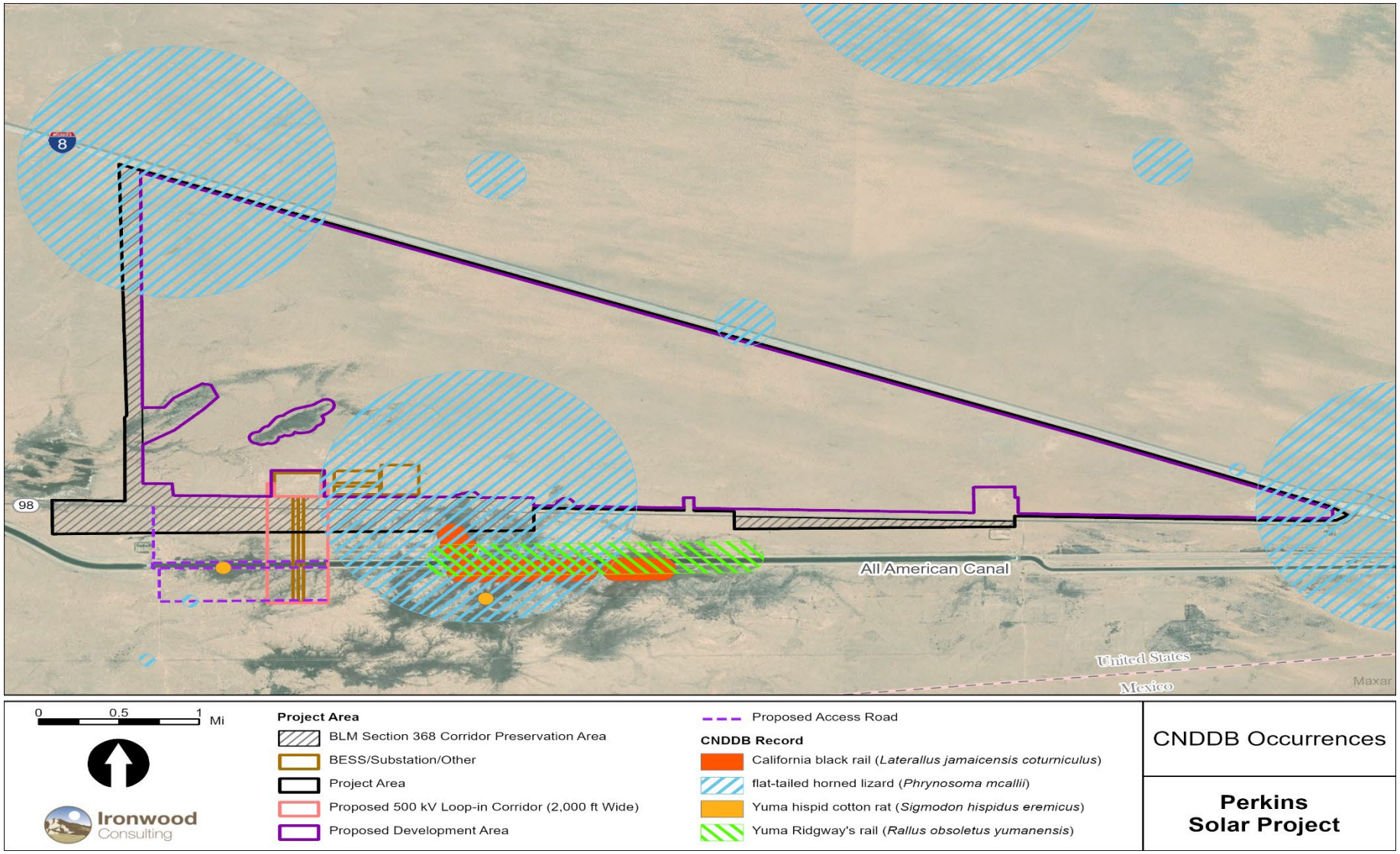

Figure 7. CNDDB Occurrences.

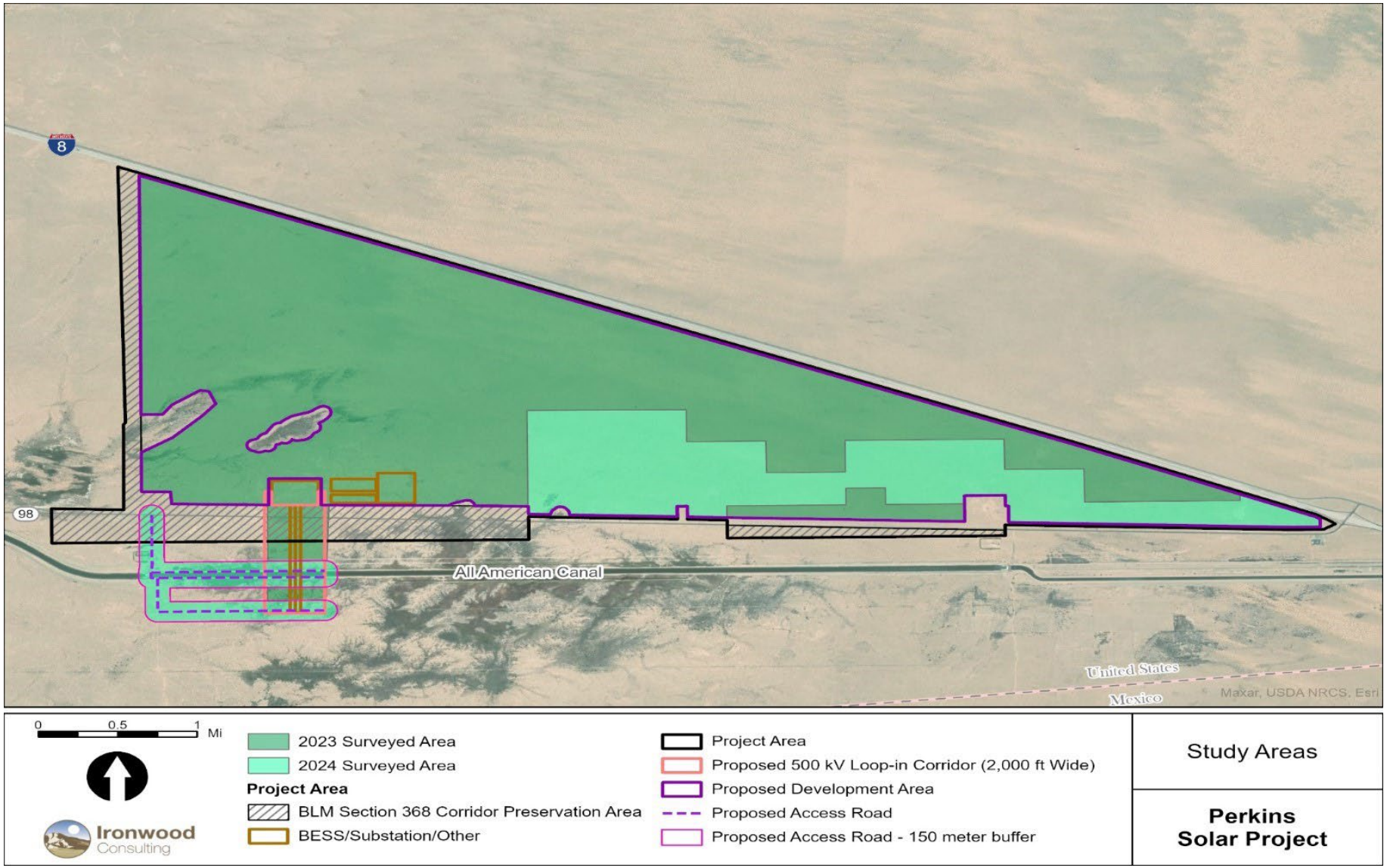

Figure 8. Study Areas.

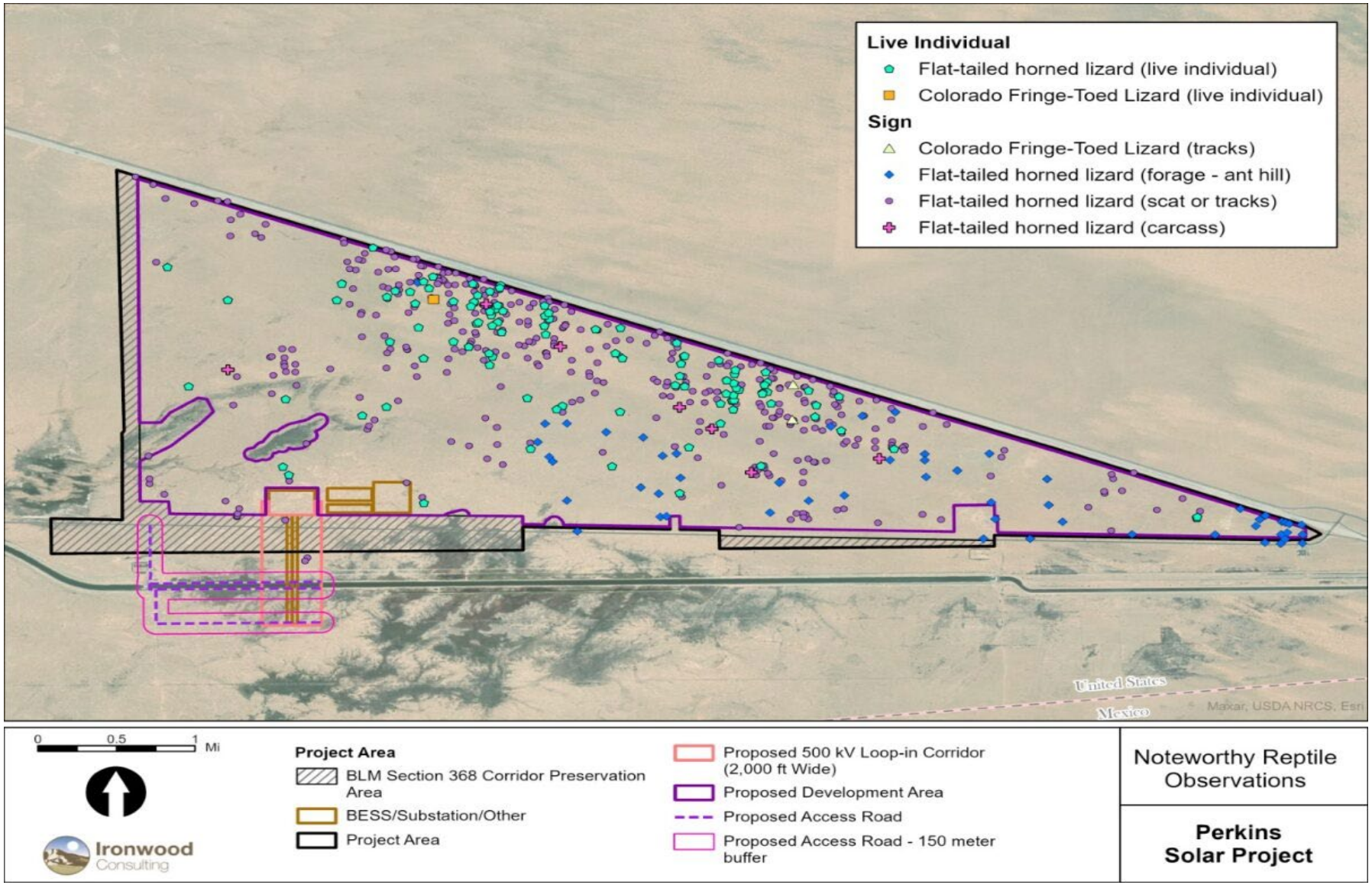

Figure 9. Noteworthy Reptile and Amphibian Observations

1.

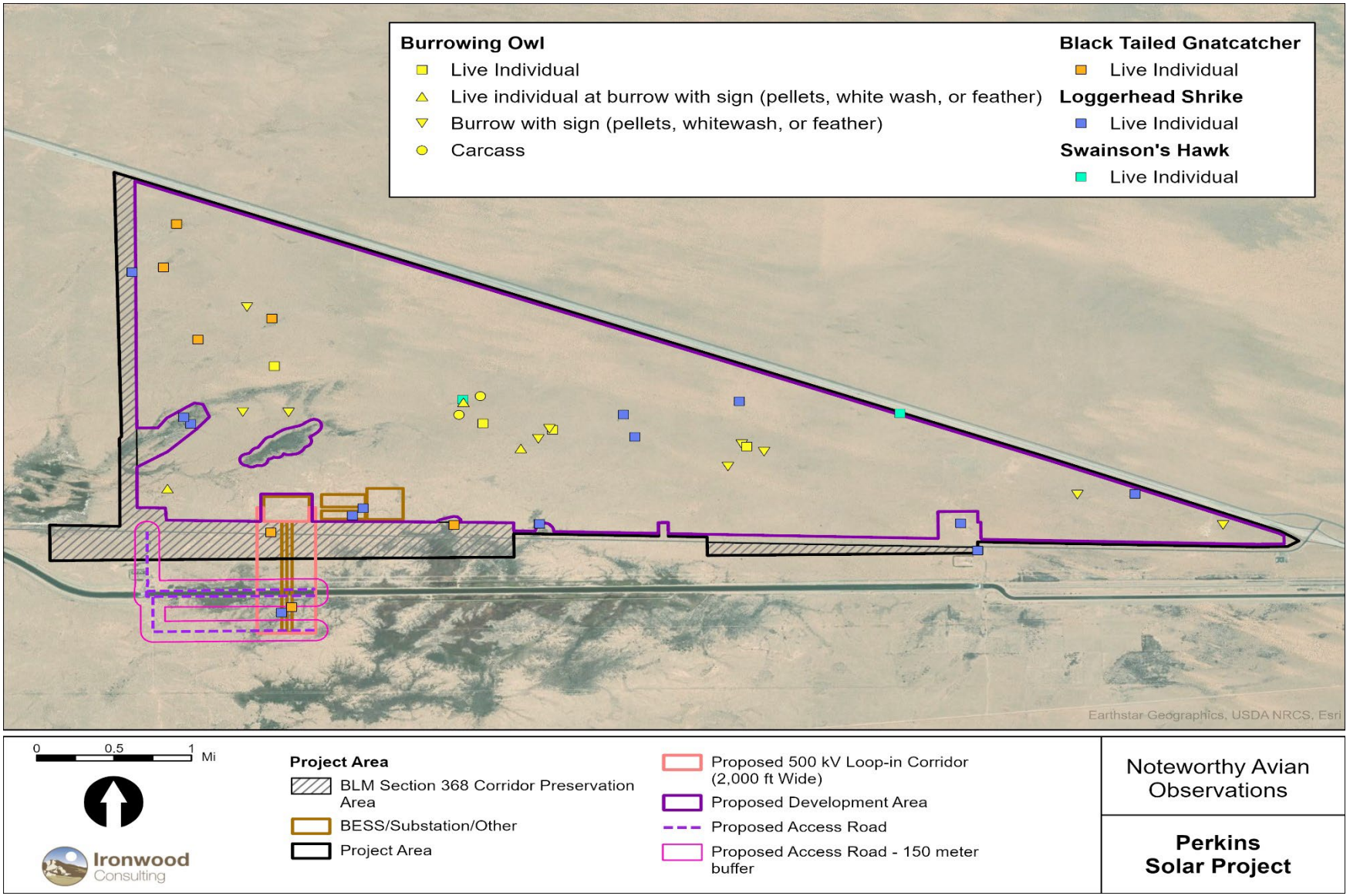

Figure 10. Noteworthy Avian Observations.

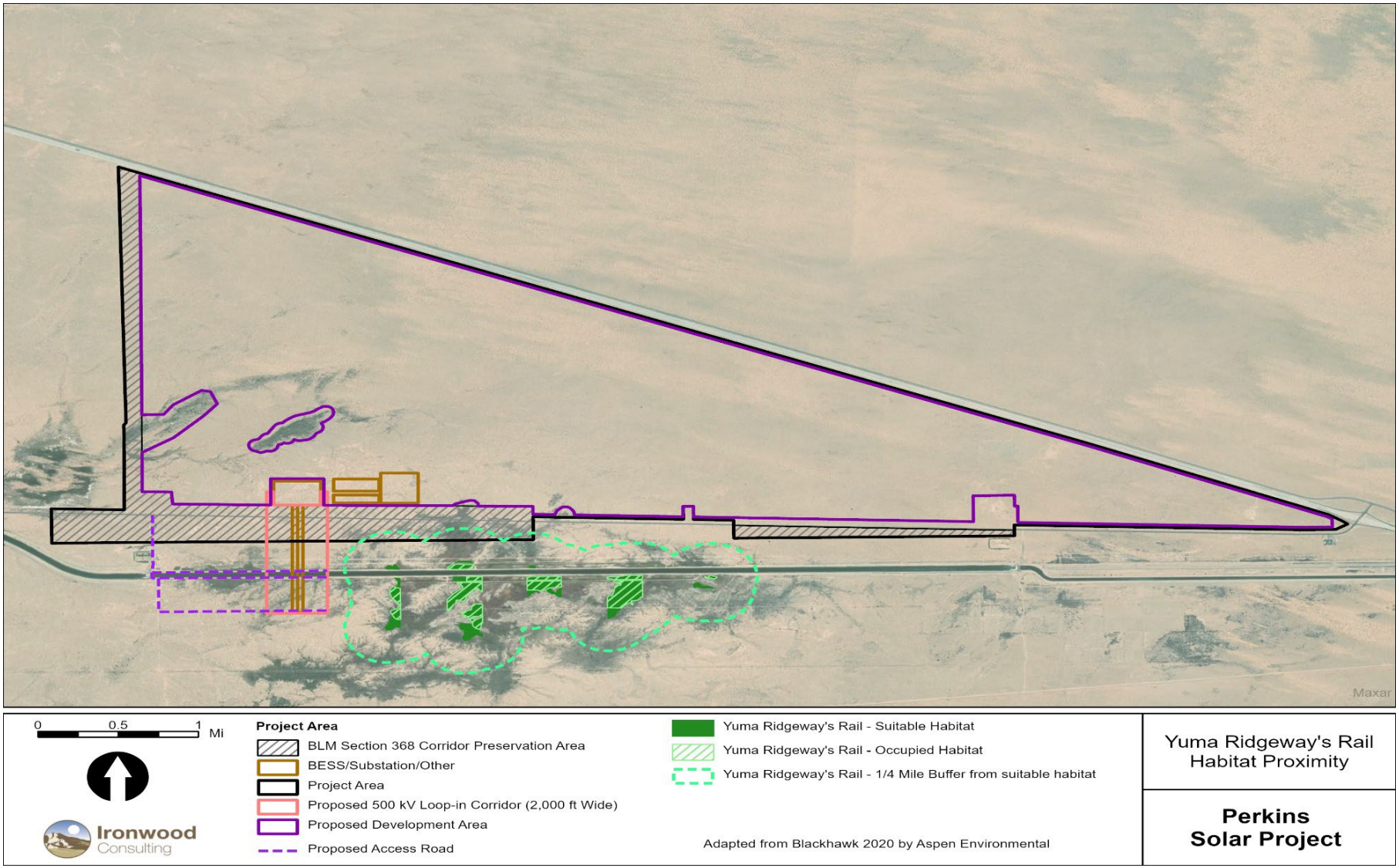

Figure 11. Yuma Ridgway's Rail Habitat Proximity.

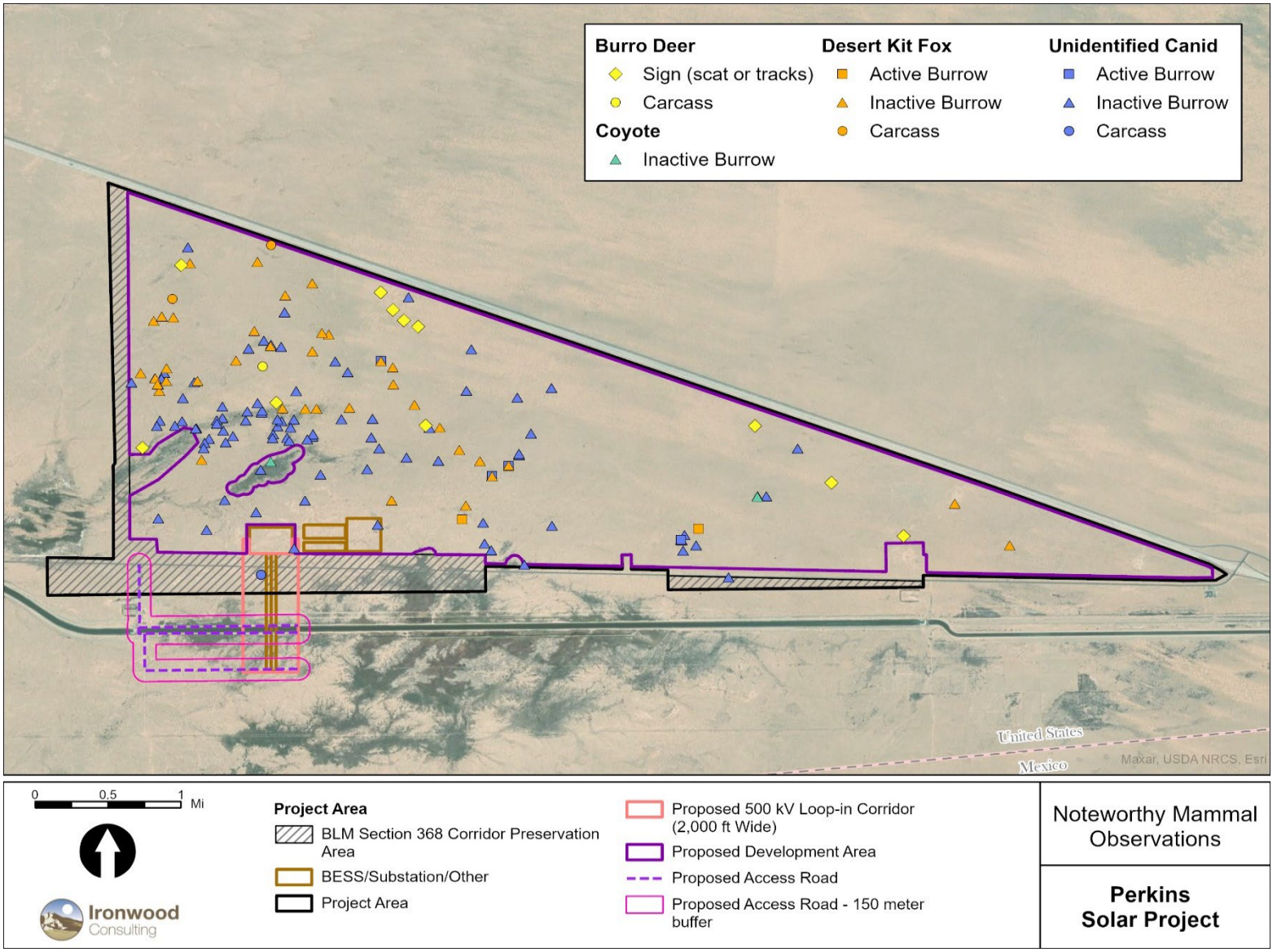

Figure 12. Noteworthy Mammal Observations.

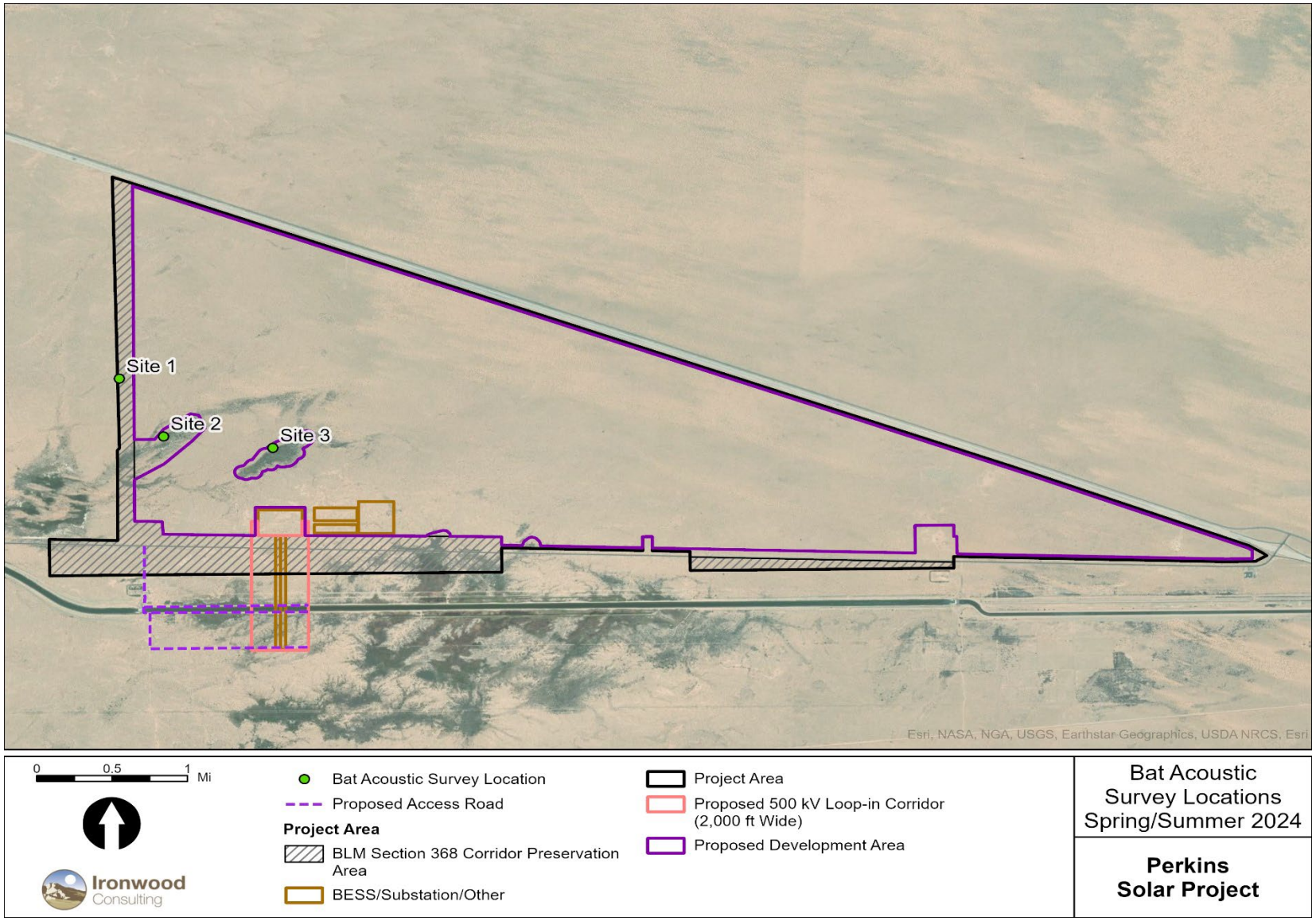

Figure 13. Bat Acoustic Stations

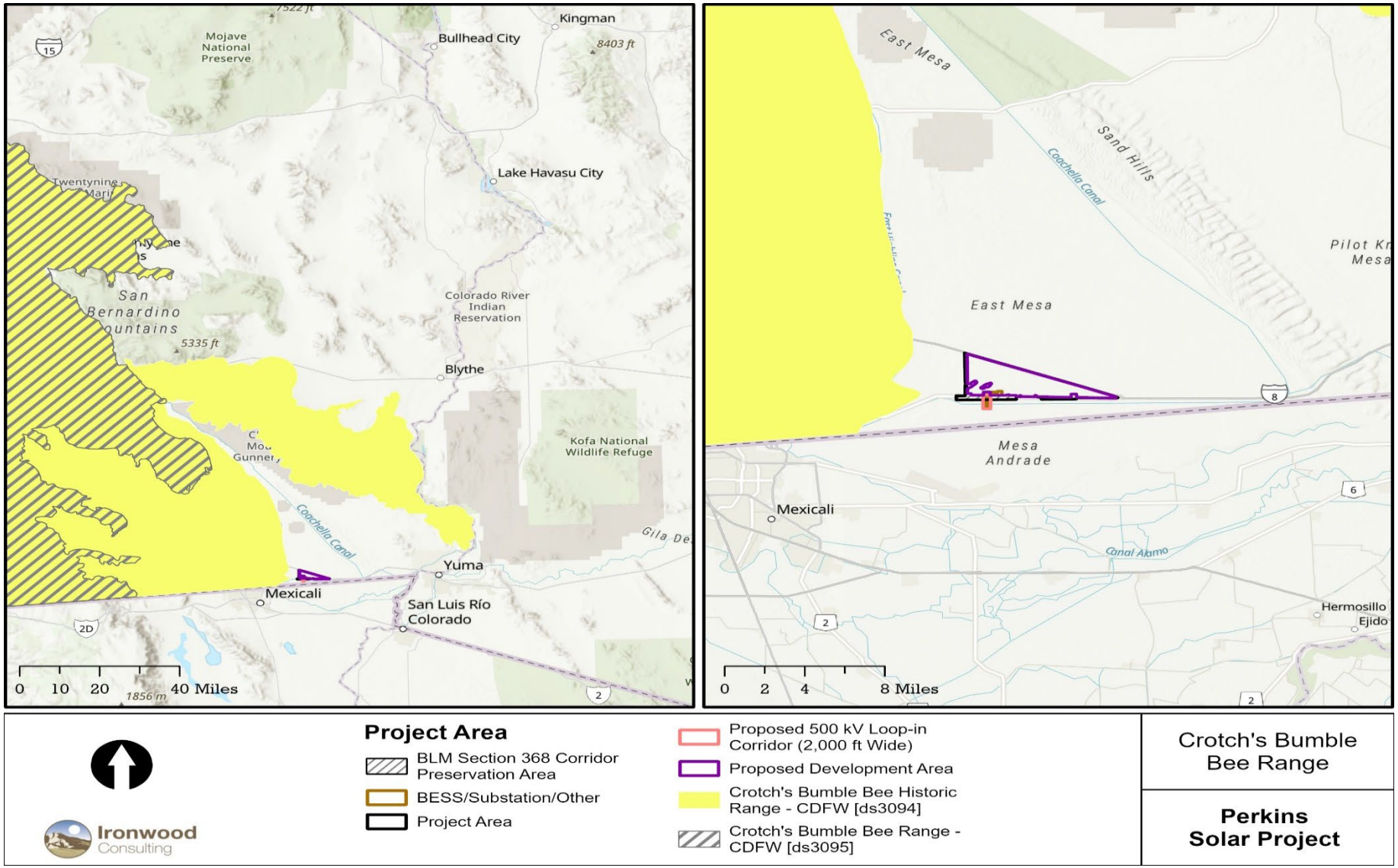

Figure 14. Crotch's Bumblebee Range

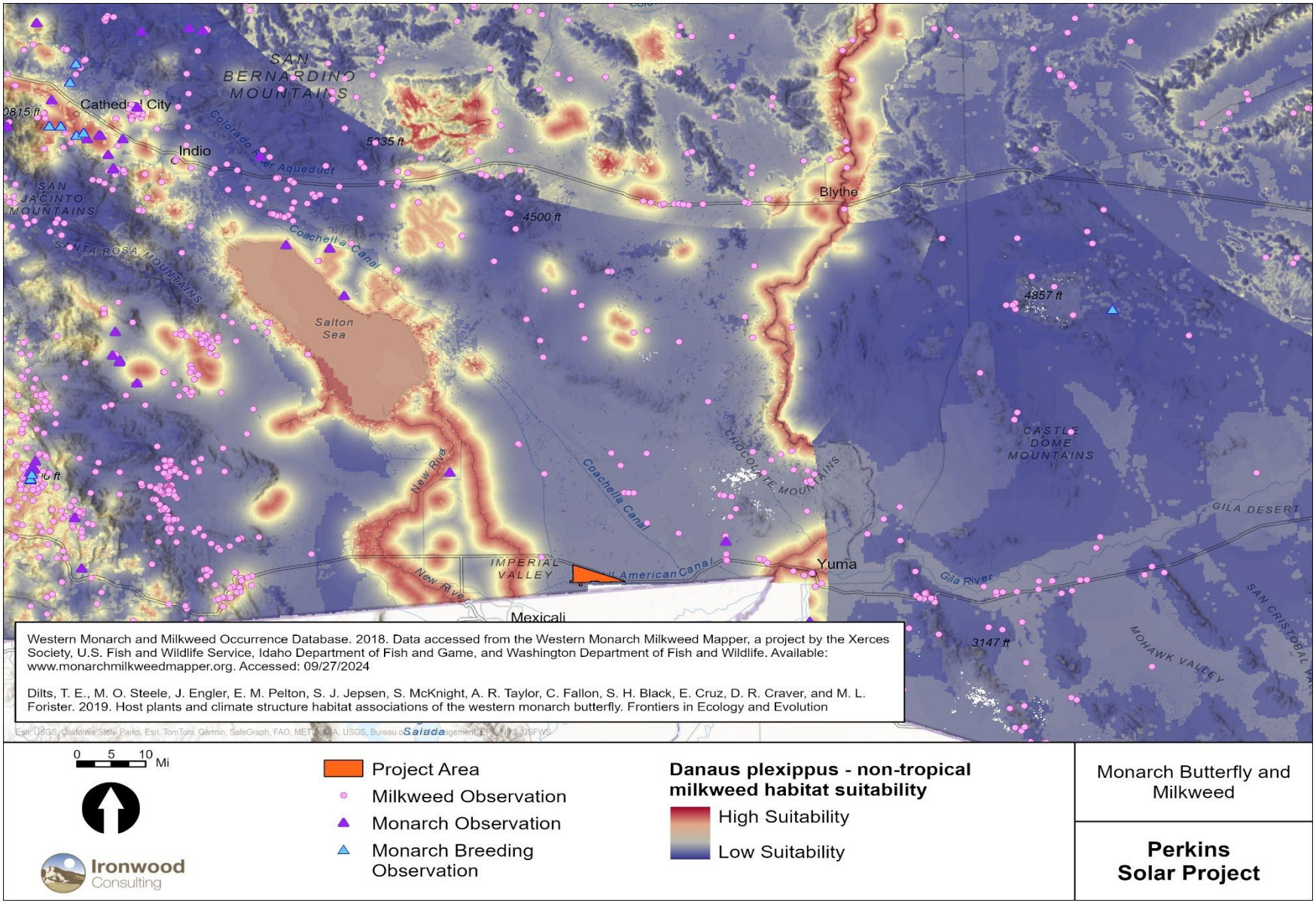

Figure 15. Monarch butterfly and Milkweed Habitat Suitability

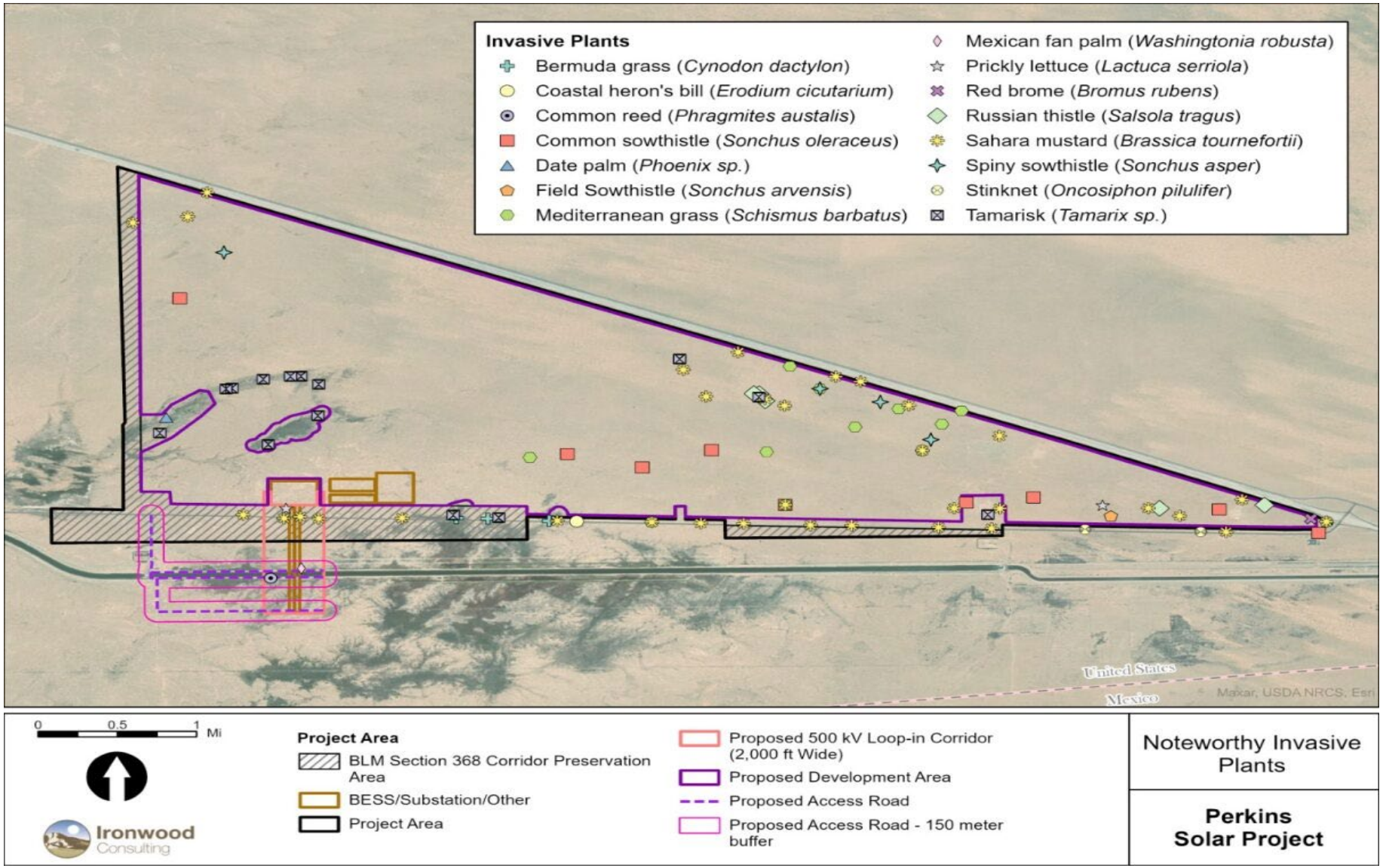

Figure 16. Noteworthy Invasive Plant Observations.

Appendix B: Potential for Special Wildlife Species to Occur

Species		Status		Potential to Occur on Project Site	Regional Occurrence Records and Comments
	State	Federal	Other		
Reptiles					
Flat-tailed horned lizard *Phrynosoma mcalli*	SSC	BLM-S	-	**Present**	One hundred and three live individuals observed on the Project site during surveys.
Colorado desert fringe-toed lizard *Uma notata*	SSC	BLM-S	-	**Present**	One individual was observed on project. Habitat on site is suitable for Colorado Desert fringe-toed lizards.
Mammals					
Yuma hispid cotton rat *Sigmodon hispidus eremicus*	SSC	-	-	Moderate	Occurrences are located near the freshwater marshes associated with the All-American Canal within the transmission corridor of the Project site.
Burro deer *Odocoileus hemionus eremicus*	CPGS	-	FOC	High	No live individuals detected. Scat, tracks, and a carcass were observed during surveys. Burro deer may use site to access All-American Canal.
American badger *Taxidea taxus*	SSC	-	-	Moderate	No individuals or sign observed on site, suitable habitat is present.
Desert kit fox *Vulpes macrotis*	-	-	FOC	High	No live individuals detected. Two active burrows and multiple inactive burrows were observed during surveys.
Bats					
Pallid bat *Antrozous pallidus*	-	BLM-S	H	Roosting – low Foraging – moderate	Not observed, but potentially detected in acoustic surveys. Nearest record is approximately 20 miles from the Project site.
Western yellow bat *Lasiurus xanthinus*	SSC	-	H	Roosting – low Foraging - moderate	Not observed or detected in acoustic surveys. Nearest record of western yellow bat 10 miles from the Project site.
California leaf-nosed bat *Macrotis californicus*	SSC	BLM-S	H	**Present -** foraging Roosting – low	Not observed but detected in acoustic surveys. Nearest record is approximately 17 miles from the Project site.

Species		Status		Potential to Occur on Project Site	Regional Occurrence Records and Comments
	State	Federal	Other		
Arizona myotis *Myotis occultus*	SSC	-	-	Roosting - No Foraging - low	Not observed. There is one record in Imperial County from 1910 and is typically only confirmed if observed or with genetic sampling. Likelihood of occurrence is low.
Yuma myotis *Myotis yumanensis*	-	BLM-S	M	Roosting - No Foraging - moderate	Not observed, but potentially detected in acoustic surveys. Nearest record is approximately 35 miles from Project site.
Cave myotis *Myotis velifer*	-	BLM-S	H	Roosting – No Foraging - moderate	Not observed, but potentially detected in acoustic surveys. Nearest record is approximately 20 miles from the Project site.
Birds					
Western burrowing owl *Athene cunicularia hypugaea*	SSC	BLM-S BCC	FOC	Present	Six live individuals were observed during surveys. Thirteen active burrows were observed. Two carcasses were observed.
Swainson's hawk *Buteo swainsoni*	ST	BLM-S (nesting)	FOC	Present Nesting - Low	Two observations of flyovers were documented during surveys. There are no CNDDB records in Imperial County, but historical observation from 1978 in area (Ebird 2023).
Northern harrier *Circus hudsonius*	SSC	BCC (nesting)	-	Nesting - Low Wintering or Migration - Moderate	Not observed. No CNDDB observations in Imperial County, but observations recorded recently in area (Ebird 2023).
Prairie falcon *Falco mexicanus*	WL (nesting)	-	-	Nesting - Low Foraging - Moderate	Not observed. Nearest record approximately 30 miles east of Project site (CNDDB 2023) and observed in area 2021 (Ebird 2023).
American peregrine falcon *Falco peregrinus anatum*	CDF-S (nesting)	-	-	Nesting - Low Foraging - Moderate	Not observed. No CNDDB records in Imperial County but observed recently in 2011 within area (Ebird 2023).
Loggerhead shrike (Nesting) *Lanius ludovicianus*	SSC (nesting)	-	-	**Present**	Thirteen observations on Project site during surveys.

Species		Status		Potential to Occur on Project Site	Regional Occurrence Records and Comments
	State	Federal	Other		
Black-tailed gnatcatcher *Polioptila melanura*	WL	-	-	**Present** Nesting - Moderate	Nine observations were recorded during surveys.
California black rail *Laterallus jamaicensis coturniculus*	CFP, ST	BLM-S	-	Moderate Nesting- low	Not observed. Occupied habitat in freshwater marsh 2,000 east of transmission corridor. (CNDDB 2023). They may fly over the Project site; however suitable nesting habitat within transmission corridor where is crosses the All-American Canal, and foraging habitat is marginal.
Ridgway's [Yuma Ridgway's] rail *Rallus obsoletus yumanensis*	ST, CFP	FE	-	Moderate Nesting - low	Not observed. Occupied habitat in freshwater marsh 2,100 ft southeast of southern transmission corridor (CNDDB 2023). They may fly over the Project site; however, no suitable nesting habitat occurs within transmission corridor where it crosses the All-American Canal, and foraging habitat is marginal.
Bank swallow *Riparia riparia*	ST	BLM-S (nesting)	-	Nesting- Low Migration - Moderate	Not observed. No CNDDB records in Imperial County but observed in the area in 2014 (Ebird 2023). No suitable nesting habitat.
Southwestern Willow Flycatcher *Empidonax traillii extimus*	SE	FE	-	Nesting – low Migration - moderate	Not observed. Nearest record 34 miles from the Project site in 2004 (CNDDB).

Species		Status		Potential to Occur on Project Site	Regional Occurrence Records and Comments
	State	Federal	Other		
Gila Woodpecker *Melanerpes uropygialis*	SE	BLM-S	-	Nesting – low Migration - moderate	Not observed. Nearest record 16 miles from the Project site in 2003 (CNDDB).
Invertebrates					
Western bumble bee *Bombus occidentalis*	SE candidate	-	-	Low	Not observed. Nearest record 22 miles from Project site (CNDDB 1993).
Crotch's bumble bee *Bombus crotchii*	SE candidate	-	-	Low	Not observed. Nearest record of observation 29 miles from Project site near the town of Brawley from 1948 (CNDDB 2023).
Monarch butterfly *Danaus plexippus*	-	FCT, FSS	-	Low	Not observed. Nearest record of observation approximately 15 miles from Project site.

Species		Status		Potential to Occur on Project Site	Regional Occurrence Records and Comments
	State	Federal	Other		
Monarch butterfly *Danaus plexippus (overwintering populations)*	-	FCT	-	Low for overwintering, moderate for foraging	Not observed. Nearest record of observation 108 miles from the Project site in 2014 (CNDDB). May forage on milkweed that occur on the Project site.

Conservation Status

Federal
- FE = Federally listed endangered: species in danger of extinction throughout a significant portion of its range
- FT = Federally listed, threatened: species likely to become endangered within the foreseeable future
- FCT = Proposed for federal listing as a threatened species
- BCC = Fish and Wildlife Service: Birds of Conservation Concern
- FSS = United States Forest Service Sensitive

State
- SSC = State Species of Special Concern
- CFP = California Fully Protected
- SE = State listed as endangered
- ST = State listed as threatened
- WL = State watch list
- CPF = California Protected Furbearing Mammal
- CPGS = California Protected Game Species
- CDF-S = California Department of Forestry & Fire Protection Sensitive

Bureau of Land Management
- BLM-S = BLM Sensitive
- FOC = DRECP Focus and Planning Species

Western Bat Working Group (WBWG)
- H = imperiled or at high risk of imperilment
- M = warrant closer evaluation, more research, and conservation actions
- L = most of the existing data support stable populations

**Species not detected during surveys may have the potential to occur on the Project site in the future

Appendix C: Potential for Special Status Plant Species to Occur

Plant Species	Form; Habitat; Distribution (Counties)	Conservation Status	Elevation (Meters)	Blooming Period	Potential To Occur on the Project Site
Harwood's milkvetch *Astragalus insularis* var. *harwoodii*	Annual herb; sandy or gravelly, desert dunes, Mojavean Desert scrub; Riverside, San Bernardino, San Diego, Inyo.	Federal: none CRPR: 2B.2	0-710	Jan-May	Minimal No suitable habitat, outside range. Not observed. Nearest record 17 miles from Project site.
Pierson's milkvetch *Astragalus magdalenae* var. *Peirsonii*	Perennial herb; sandy, desert dunes, Sonoran Desert scrub; San Diego, Riverside, Imperial, Los Angeles.	Federal: FT CESA: SE CRPR: 1B.2	50-250	Dec-Apr	Moderate Not observed. Nearest record1.5 miles from Project site.
Wiggin's croton Croton wigginsii	Perennial shrub; sandy, desert dunes, Sonoran Desert scrub; Imperial.	Federal: none CESA: SR CRPR: 2B.2	<100	Mar-May	Moderate Not observed. Nearest record 6 miles from Project site.
Abram's spurge *Euphorbia abramsiana*	Annual herb; silty and gravelly soils, sandy flats, Mojavean desert scrub, Sonoran Desert scrub; Imperial, San Bernardino, San Diego, Riverside.	Federal: none CRPR 2B.2	<200	Sept-Nov	Low Not observed. Nearest record 10 miles from Project site.
Utah vine milkweed *Funastrum utahense*	Perennial herb; sandy or gravelly, Mojavean desert scrub, Sonoran Desert scrub; Imperial, Riverside, San Bernardino, San Diego.	Federal: none CRPR: 4.2	<1000	Apr-Jun	Minimal No suitable habitat, outside range. Not observed. Nearest record 51 miles from Project site.

Plant Species	Form; Habitat; Distribution (Counties)	Conservation Status	Elevation (Meters)	Blooming Period	Potential To Occur on the Project Site
Ribbed cryptantha *Johnstonella costata*	Annual herb; sandy, desert dunes, Mojavean desert scrub, Sonoran Desert scrub; Imperial, Inyo, Riverside, San Bernardino, San Diego.	Federal: none CRPR: 4.3	<600	Feb-May	Moderate Not observed. Nearest record near Interstate-8 Freeway close Project site.
Algodones sunflower *Helianthus niveus subsp. tephrodes*	Perennial herb; sandy-Desert dunes-Sonoran Desert scrub Imperial, Riverside, San Diego.	Federal: none CESA: SE CRPR: 1B.2	<100	Sept-May	Moderate Not observed. Nearest record 7 miles from Project site.
Slender cottonheads *Nemacaulis denudata var. gracilis*	Annual herb; coastal dunes, desert dunes, Sonoran Desert scrub; Imperial, Riverside, San Bernardino, San Diego.	Federal: none CRPR: 2B.2	10-500	Jan-May	Moderate Not observed. Nearest record 15 miles from Project site.
Giant Spanish needle *Palfixia arida var. gigantea*	Annual or perennial herb; sandy, desert dunes and alkali sink, Sonoran Desert scrub; Imperial, Riverside.	Federal: none CRPR: 1B.3	<610	Feb-May	Moderate Not observed. Nearest record near Interstate 8 Freeway close to Project site.
Sand food *Pholisma sonorae*	Perennial shrub; Saline habitats, playa margins of Palen Dry Lake; Riverside	Federal: none CRPR: 1B.2	<200	Apr-May	Moderate Not observed. Nearest record 5 miles from Project site.

Federal FE = Federally listed endangered: species in danger of extinction throughout a significant portion of its range

FT = Federally listed, threatened: species likely to become endangered within the foreseeable future

California Rare Plant Rank (CRPR)

CRPR 1A = Presumed extirpated in California and either rare or extinct elsewhere

CRPR 1B = Rare, threatened, or endangered in California and elsewhere

CRPR 2A = Presumed extirpated in California but more common elsewhere

CRPR 2B = Rare, threatened, or endangered in California but more common elsewhere

CRPR 3 = Plants which need more information

CRPR 4 = Limited distribution – a watch list

CBR = Considered, But Rejected

1 = Seriously endangered in California (high degree/immediacy of threat; over 80% of occurrences threatened)

2 = Fairly endangered in California (moderate degree/immediacy of threat; 20%-80% of occurrences threatened)

3 = Not very endangered in California (low degree/immediacy of threats or no current threats known; <20% of occurrences threatened, or no current threats known)

California Endangered Species Act (CESA)

SR = State listed-Rare

ST = State listed-Threatened

SE = State listed-Endangered

Appendix D: Survey Results Summary

Table C - 1. Noteworthy Reptile Observations.

Species	Sign Types	Notes	Date
Colorado Desert fringe-toed lizard	Live Individual	-	2023-07-03
Flat-tailed horned lizard	Live Individual	-	2023-03-21
Flat-tailed horned lizard	Live Individual	-	2023-03-24
Flat-tailed horned lizard	Live Individual	With scat and tracks. Found buried in sand after following tracks.	2023-03-24
Flat-tailed horned lizard	Live Individual	-	2023-03-25
Flat-tailed horned lizard	Live Individual	-	2023-03-25
Flat-tailed horned lizard	Live Individual	-	2023-03-27
Flat-tailed horned lizard	Live Individual	-	2023-03-27
Flat-tailed horned lizard	Live Individual	-	2023-03-27
Flat-tailed horned lizard	Live Individual	-	2023-03-28
Flat-tailed horned lizard	Live Individual	-	2023-03-28
Flat-tailed horned lizard	Live Individual	-	2023-03-28
Flat-tailed horned lizard	Live Individual	-	2023-03-28
Flat-tailed horned lizard	Live Individual	Gravelly substrate.	2023-03-31
Flat-tailed horned lizard	Live Individual	-	2023-04-26
Flat-tailed horned lizard	Live Individual	FTHL was found sleeping in a small burrow near the base of a creosote.	2023-05-17
Flat-tailed horned lizard	Live Individual	Followed tracks to a creosote mound to a live individual resting near the base of creosote.	2023-05-18
Flat-tailed horned lizard	Live Individual	-	2023-05-22
Flat-tailed horned lizard	Live Individual	-	2023-05-22
Flat-tailed horned lizard	Live Individual	-	2023-05-22
Flat-tailed horned lizard	Live Individual	FTHL found basking outside of small burrow.	2023-05-24
Flat-tailed horned lizard	Live Individual	-	2023-06-12
Flat-tailed horned lizard	Live Individual	Resting in the shade of a creosote.	2023-06-12
Flat-tailed horned lizard	Live Individual	An adult and juvenile found resting in the shade together.	2023-06-12
Flat-tailed horned lizard	Live Individual	An adult and juvenile found resting in the shade together.	2023-06-12
Flat-tailed horned lizard	Live Individual	-	2023-06-14
Flat-tailed horned lizard	Live Individual	-	2023-06-14
Flat-tailed horned lizard	Live Individual	-	2023-06-26
Flat-tailed horned lizard	Live Individual	-	2023-06-27
Flat-tailed horned lizard	Live Individual	-	2023-06-28
Flat-tailed horned lizard	Live Individual	-	2023-06-29

Species	Sign Types	Notes	Date
Flat-tailed horned lizard	Live Individual; Scat; Tracks	Tracks found near any pile tracks lead away towards creosote mound; scar found and then lizard.	2023-05-18
Flat-tailed horned lizard	Live Individual; Scat; Tracks	-	2023-05-25
Flat-tailed horned lizard	Live Individual; Scat; Tracks	Tracks scat and live individual found.	2023-06-12
Flat-tailed horned lizard	Live Individual; Scat; Tracks	-	2023-06-21
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-03-25
Flat-tailed horned lizard	Live Individual; Tracks	Tracks followed to FTHL sleeping in sand.	2023-05-23
Flat-tailed horned lizard	Live Individual; Tracks	Tracks followed to FTHL sleeping in the sand.	2023-05-23
Flat-tailed horned lizard	Live Individual; Tracks	Tracks followed to FTHL buried in the sand with only head exposed.	2023-05-23
Flat-tailed horned lizard	Live Individual; Tracks	Tracks followed to horned lizard completely buried in the sand.	2023-05-23
Flat-tailed horned lizard	Live Individual; Tracks	FTHL tracks lead to creosote mound and lizard found sleeping in the sand.	2023-05-23
Flat-tailed horned lizard	Live Individual; Tracks	Tracks lead to lizard sleeping in the shade.	2023-05-23
Flat-tailed horned lizard	Live Individual; Tracks	Tracks lead up a creosote mound to a FTHL resting exposed on sand.	2023-05-23
Flat-tailed horned lizard	Live Individual; Tracks	Tracks found near any pile followed to juvenile FTHL buried in the sand.	2023-05-23
Flat-tailed horned lizard	Live Individual; Tracks	Tracks followed to FTHL sleeping partially buried in sand.	2023-05-24
Flat-tailed horned lizard	Live Individual; Tracks	Tracks followed to FTHL on creosote.	2023-05-24
Flat-tailed horned lizard	Live Individual; Tracks	Tracks followed to FTHL buried in sand less than 5m from previous individual.	2023-05-24
Flat-tailed horned lizard	Live Individual; Tracks	Tracks followed to FTHL sleeping in sand.	2023-05-24
Flat-tailed horned lizard	Live Individual; Tracks	Adult lizard found resting in sand on creosote mound.	2023-05-24
Flat-tailed horned lizard	Live Individual; Tracks	Tracks followed to juvenile FTHL.	2023-05-24
Flat-tailed horned lizard	Live Individual; Tracks	Tracks followed to juvenile FTHL sleeping in the sand.	2023-05-24
Flat-tailed horned lizard	Live Individual; Tracks	Tracks followed to FTHL sleeping on top of sand.	2023-05-24
Flat-tailed horned lizard	Live Individual; Tracks	Tracks followed to FTHL sleeping buried in sand.	2023-05-24
Flat-tailed horned lizard	Live Individual; Tracks	Tracks followed to sleeping FTHL; buried in sand.	2023-05-24
Flat-tailed horned lizard	Live Individual; Tracks	Tracks followed to sleeping FTHL.	2023-05-24
Flat-tailed horned lizard	Live Individual; Tracks	Tracks lead to FTHL fully submerged in sand.	2023-05-24
Flat-tailed horned lizard	Live Individual; Tracks	FTHL found buried in the sand.	2023-05-24

Species	Sign Types	Notes	Date
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-05-24
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-05-25
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-05-25
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-05-25
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-05-25
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-05-25
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-05-25
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-05-25
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-05-25
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-12
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-12
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-12
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-13
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-13
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-14
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-14
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-14
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-14
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-15
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-15
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-15
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-15
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-15
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-15
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-15
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-15
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-15
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-15
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-15
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-16
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-16
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-16
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-16
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-16
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-16
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-16
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-19
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-20
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-20

Species	Sign Types	Notes	Date
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-20
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-21
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-21
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-21
Flat-tailed horned lizard	Live Individual; Tracks	-	2023-06-28
Flat-tailed horned lizard	Scat	-	2024-04-08
Flat-tailed horned lizard	Live Individual	-	2024-04-09
Flat-tailed horned lizard	Live Individual	-	2024-04-10
Flat-tailed horned lizard	Scat	-	2024-04-10
Flat-tailed horned lizard	Carcass	-	2024-04-12
Flat-tailed horned lizard	Live Individual	-	2024-04-15
Flat-tailed horned lizard	Scat	-	2024-04-15
Flat-tailed horned lizard	Scat	-	2024-04-15
Flat-tailed horned lizard	Scat	-	2024-04-15

Table C - 2. Noteworthy Avian Observations.

Species	Sign Types	Notes	Date
Black Tailed Gnatcatcher	Live Individual	-	2023-03-24
Black Tailed Gnatcatcher	Live Individual	-	2023-03-25
Black Tailed Gnatcatcher	Live Individual	-	2023-03-29
Black Tailed Gnatcatcher	Live Individual	-	2023-03-30
Black Tailed Gnatcatcher	Live Individual	-	2023-03-30
Black Tailed Gnatcatcher	Live Individual	-	2023-03-31
Black Tailed Gnatcatcher	Live Individual	2 Black tailed gnatcatchers	2023-04-01
Black Tailed Gnatcatcher	Live Individual	-	2024-04-09
Burrowing Owl	Burrow; Pellets; Whitewash; Feather(s)	-	2023-03-21
Burrowing Owl	Burrow; Pellets; Whitewash	-	2023-03-21
Burrowing Owl	Burrow; Pellets; Whitewash	5 openings.	2023-03-22
Burrowing Owl	Burrow; Pellets; Whitewash	-	2023-03-23
Burrowing Owl	Live Individual	Owl flew out while conducting survey.	2023-03-23
Burrowing Owl	Live Individual	-	2023-03-23
Burrowing Owl	Burrow; Pellets	Pellet seen near DKF complex.	2023-03-24
Burrowing Owl	Carcass	-	2023-03-25
Burrowing Owl	Live Individual	Uncertain of adult status.	2023-03-25
Burrowing Owl	Live Individual; Burrow; Pellets; Whitewash	Flushed owl.	2023-03-25

Species	Sign Types	Notes	Date
Burrowing Owl	Carcass	Wing is possibly from the same bird as carcass.	2023-03-25
Burrowing Owl	Burrow; Pellets	-	2023-03-29
Burrowing Owl	Live Individual	-	2023-03-29
Burrowing Owl	Burrow; Pellets	DKF scat near burrow.	2023-03-29
Burrowing Owl	Burrow; Whitewash	-	2023-03-29
Burrowing Owl	Live Individual, Burrow, Pellets, Whitewash	Flushed owl	2024-04-03
Burrowing Owl	Burrow; Whitewash	-	2024-04-15
Burrowing Owl	Burrow; Feathers; Whitewash; Pellets	-	2024-07-11
Burrowing Owl	Burrow; Feathers; Whitewash; Pellets	-	2024-07-11
Burrowing Owl	Burrow; Live individual; Pellets; Feathers; Whitewash	-	2024-07-11
Loggerhead Shrike	Live Individual	-	2023-03-20
Loggerhead Shrike	Live Individual	-	2023-03-21
Loggerhead Shrike	Live Individual	-	2023-03-22
Loggerhead Shrike	Live Individual	-	2023-03-23
Loggerhead Shrike	Live Individual	-	2023-03-23
Loggerhead Shrike	Live Individual	-	2023-03-24
Loggerhead Shrike	Live Individual	-	2023-03-27
Loggerhead Shrike	Live Individual	-	2023-03-27
Loggerhead Shrike	Live Individual	Perched in Prosopis.	2023-03-30
Loggerhead Shrike	Live Individual	-	2023-03-31
Loggerhead Shrike	Live Individual	-	2023-04-01
Loggerhead Shrike	Live Individual	Two adults seen feeding chicks in nearby tree.	2024-04-09
Loggerhead Shrike	Live Individual	-	2024-04-15
Swainson's Hawk	Live Individual	Migrating.	2023-03-21
Swainson's Hawk	Live Individual	-	2023-03-25

Table C - 3. Noteworthy Mammal Observations.

Mammal Species	Sign Types	Notes	Date
Burro Deer	Scat	-	2023-03-20
Burro Deer	Scat	-	2023-03-21
Burro Deer	Scat	A few clusters of scat.	2023-03-22
Burro Deer	Scat	-	2023-03-27
Burro Deer	Scat	-	2023-03-27
Burro Deer	Scat	-	2023-03-27

Mammal Species	Sign Types	Notes	Date
Burro Deer	Scat	-	2023-03-27
Burro Deer	Scat	-	2023-03-28
Burro Deer	Scat	-	2023-03-29
Burro Deer	Carcass	Very old bone.	2023-03-29
Burro Deer	Scat	-	2023-03-30
Burro Deer	Tracks	300 m radius thru dry wash.	2023-03-31
Burro Deer	Scat	-	2023-03-31
Canid	Burrow	DKF scat at entrance.	2023-03-22
Canid	Burrow; Scat	Old scat.	2023-03-22
Canid	Burrow	-	2023-03-22
Canid	Burrow; Scat	Inactive, most entrances collapsed.	2023-03-22
Canid	Burrow	-	2023-03-22
Canid	Burrow	-	2023-03-22
Canid	Burrow	-	2023-03-22
Canid	Burrow; Scat	Collapsed burrow; old scat.	2023-03-23
Canid	Burrow; Scat	Old and recent scat.	2023-03-23
Canid	Burrow; Scat	-	2023-03-23
Canid	Burrow; Scat	3 entrances partially buried and 2 entrances obvious.	2023-03-23
Canid	Burrow	-	2023-03-24
Canid	Burrow	Burrow narrows 1m inward. Possibly utilized by rabbit.	2023-03-24
Canid	Burrow	-	2023-03-24
Canid	Burrow	Rabbit scat seen around burrow.	2023-03-24
Canid	Burrow	Burrow curves to left. No canid signs.	2023-03-24
Canid	Burrow; Scat	-	2023-03-25
Canid	Burrow	-	2023-03-25
Canid	Burrow	Potential for burrowing owl.	2023-03-27
Canid	Burrow	-	2023-03-27
Canid	Burrow	-	2023-03-27
Canid	Burrow	-	2023-03-27
Canid	Burrow	-	2023-03-27
Canid	Burrow; Dig Marks; Scat	Large; obscured by ephedra.	2023-03-28
Canid	Burrow; Scat	-	2023-03-28
Canid	Burrow	Possible owl pellet.	2023-03-28
Canid	Burrow; Scat	-	2023-03-28
Canid	Burrow	-	2023-03-28
Canid	Burrow; Scat	-	2023-03-28
Canid	Burrow	-	2023-03-28
Canid	Burrow	-	2023-03-28

Mammal Species	Sign Types	Notes	Date
Canid	Burrow; Scat	Collapsed; under *Ambrosia Dumosa*.	2023-03-28
Canid	Burrow	-	2023-03-29
Canid	Burrow	-	2023-03-29
Canid	Burrow	Large opening; under *Isocoma acradenia*.	2023-03-29
Canid	Burrow; Scat	-	2023-03-29
Canid	Burrow	Complex, snake skin in one burrow.	2023-03-29
Canid	Burrow	Potential canid burrow. Could be collapsed soil, opening large.	2023-03-29
Canid	Burrow; Scat	DFK scat; BUOW pellets seen at mouth of burrow.	2023-03-29
Canid	Burrow	Potentially a burrowing owl site.	2023-03-29
Canid	Burrow	North end of mound with dead vegetation.	2023-03-29
Canid	Burrow	Large collapsed burrow. *Isocoma* by entrance on north.	2023-03-29
Canid	Burrow	-	2023-03-29
Canid	Burrow	Old burrow. No scat sign.	2023-03-29
Canid	Burrow	-	2023-03-29
Canid	Burrow	-	2023-03-29
Canid	Burrow	Old burrow; partially eroded. No scat sign.	2023-03-29
Canid	Burrow	South end of mound. *Isocoma*.	2023-03-29
Canid	Burrow	Whitewash within 2 m	2023-03-29
Canid	Burrow	Turning tunnel, end not visible. SE end of ephedra mound.	2023-03-29
Canid	Burrow; Scat	-	2023-03-29
Canid	Burrow	Very shallow.	2023-03-29
Canid	Burrow	Small but possible for owl.	2023-03-29
Canid	Burrow; Scat	-	2023-03-30
Canid	Burrow	-	2023-03-30
Canid	Burrow	-	2023-03-30
Canid	Burrow	-	2023-03-30
Canid	Burrow	-	2023-03-30
Canid	Burrow	-	2023-03-30
Canid	Burrow; Scat	-	2023-03-30
Canid	Burrow	-	2023-03-30
Canid	Burrow	-	2023-03-30
Canid	Burrow	Some old white wash.	2023-03-30
Canid	Burrow	-	2023-03-30
Canid	Burrow	-	2023-03-30
Canid	Burrow	-	2023-03-30
Canid	Burrow	-	2023-03-30

Mammal Species	Sign Types	Notes	Date
Canid	Burrow	-	2023-03-30
Canid	Burrow	-	2023-03-31
Canid	Burrow	No scat; possibly rabbit.	2023-03-31
Canid	Burrow; Scat	-	2023-03-31
Canid	Burrow	-	2023-03-31
Canid	Burrow	-	2023-03-31
Canid	Burrow; Scat	-	2023-03-31
Canid	Burrow	Inactive. maybe rabbit.	2023-03-31
Canid	Burrow; Scat	-	2023-03-31
Canid	Burrow	-	2023-03-31
Canid	Burrow	-	2023-03-31
Canid	Burrow	-	2023-03-31
Canid	Burrow	-	2023-03-31
Canid	Burrow	Probably rabbit.	2023-03-31
Canid	Carcass	Old skull of coyote or fox.	2023-04-01
Canid	Burrow	2 burrow entrances; likely being used by rabbits.	2023-04-03
Canid	Burrow	-	2023-04-03
Canid	Burrow	-	2023-04-03
Canid	Burrow	-	2024-04-08
Canid	Burrow; Scat	-	2024-04-08
Canid	Burrow; Dig Marks; Tracks; Scat	-	2024-04-09
Canid	Burrow; Scat	Old burrowing owl sign (whitewash; pellets) on one entrance to complex.	2024-04-09
Canid	Burrow	-	2024-04-09
Canid	Burrow	-	2024-04-09
Canid	Burrow	2 collapsed entrances and 1 open entrance.	2024-04-15
Canid	Burrow	-	2024-04-15
Desert Kit Fox	Burrow; Scat	Very old.	2023-03-20
Desert Kit Fox	Scat	Very old scat. Multiple scat seen within a 10 m radius.	2023-03-20
Desert Kit Fox	Burrow	-	2023-03-20
Desert Kit Fox	Dig Marks; Scat	-	2023-03-22
Desert Kit Fox	Tracks	-	2023-03-22
Desert Kit Fox	Burrow	DKF burrow complex.	2023-03-24
Desert Kit Fox	Burrow; Scat	-	2023-03-24
Desert Kit Fox	Burrow	Burrow narrows at ~1m in.	2023-03-24
Desert Kit Fox	Burrow; Scat	2 entrances have collapsed, old complex.	2023-03-24
Desert Kit Fox	Burrow; Scat	-	2023-03-24

Mammal Species	Sign Types	Notes	Date
Desert Kit Fox	Burrow; Tracks; Scat	Tracks slightly visible seen in burrow - south entrance.	2023-03-24
Desert Kit Fox	Burrow; Scat	Large complex. Fresh scat seen outside of 1 burrow entrance.	2023-03-24
Desert Kit Fox	Burrow	-	2023-03-24
Desert Kit Fox	Burrow; Scat	-	2023-03-24
Desert Kit Fox	Burrow	-	2023-03-25
Desert Kit Fox	Burrow; Scat	Inactive.	2023-03-25
Desert Kit Fox	Burrow	-	2023-03-27
Desert Kit Fox	Burrow; Scat	-	2023-03-27
Desert Kit Fox	Burrow; Scat	Some scat seems relatively recent so potentially active; another burrow to the west.	2023-03-27
Desert Kit Fox	Burrow; Scat	Single large burrow. Old DKF scat.	2023-03-28
Desert Kit Fox	Burrow; Scat	Mostly filled in.	2023-03-28
Desert Kit Fox	Burrow; Scat	Burrow curves left.	2023-03-28
Desert Kit Fox	Burrow; Scat	-	2023-03-28
Desert Kit Fox	Burrow; Scat	DKF burrow complex. Fresh and old scat all throughout complex. One Burrow ~10m east of complex.	2023-03-28
Desert Kit Fox	Burrow; Scat	Burrow opening partially closed. Very old DKF scat.	2023-03-28
Desert Kit Fox	Burrow	-	2023-03-28
Desert Kit Fox	Burrow	-	2023-03-28
Desert Kit Fox	Burrow; Scat	DKF burrow complex. Abundant of old scat.	2023-03-29
Desert Kit Fox	Burrow; Scat	Scat is old.	2023-03-29
Desert Kit Fox	Burrow	North end of mound; both entrances.	2023-03-29
Desert Kit Fox	Carcass	Scattered bones including part of skull.	2023-03-29
Desert Kit Fox	Burrow; Scat	DKF burrow complex. Old scat seen around burrows.	2023-03-29
Desert Kit Fox	Burrow; Scat	DKF complex. Scat old.	2023-03-29
Desert Kit Fox	Burrow	Coyote tracks and scat nearby.	2023-03-29
Desert Kit Fox	Burrow; Scat	-	2023-03-30
Desert Kit Fox	Carcass	Upper jaw bone found.	2023-03-30
Desert Kit Fox	Burrow; Scat	DKF burrow complex. Old scat around burrows.	2023-03-30
Desert Kit Fox	Burrow	-	2023-03-30
Desert Kit Fox	Burrow; Scat	DKF burrow complex. Abundance of old scat.	2023-03-30
Desert Kit Fox	Burrow; Scat	DKF complex. Old scat.	2023-03-30
Desert Kit Fox	Burrow; Scat	-	2023-03-31
Desert Kit Fox	Burrow; Scat	-	2023-03-31
Desert Kit Fox	Burrow; Scat	-	2023-03-31
Desert Kit Fox	Burrow; Scat	-	2023-03-31
Desert Kit Fox	Burrow; Scat	-	2023-04-03

Table C - 4. Noteworthy Invasive Plant Species Observations.

Plant Species	Phenology	Date
Brassica tournefortii (Sahara mustard)	Vegetative	2023-03-20
Brassica tournefortii (Sahara mustard)	Fruit Only	2023-03-20
Brassica tournefortii (Sahara mustard)	Fruit Only	2023-03-20
Brassica tournefortii (Sahara mustard)	Vegetative	2023-03-20
Brassica tournefortii (Sahara mustard)	Fruit Only	2023-03-21
Brassica tournefortii (Sahara mustard)	Flower / Fruit	2023-03-21
Brassica tournefortii (Sahara mustard)	Plant dried up / Not chlorophytic	2023-03-21
Brassica tournefortii (Sahara mustard)	Plant dried up / Not chlorophytic	2023-03-21
Brassica tournefortii (Sahara mustard)	Flower / Fruit	2023-03-21
Brassica tournefortii (Sahara mustard)	Fruit Only	2023-03-21
Brassica tournefortii (Sahara mustard)	Plant dried up / Not chlorophytic	2023-03-21
Brassica tournefortii (Sahara mustard)	Fruit Only	2023-03-22
Brassica tournefortii (Sahara mustard)	Flower / Fruit	2023-03-22
Brassica tournefortii (Sahara mustard)	Flower / Fruit	2023-03-22
Brassica tournefortii (Sahara mustard)	Flower / Fruit; Fruit Only	2023-03-22
Brassica tournefortii (Sahara mustard)	Fruit Only	2023-03-22
Brassica tournefortii (Sahara mustard)	Flower Only	2023-03-22
Brassica tournefortii (Sahara mustard)	Vegetative	2023-03-23
Brassica tournefortii (Sahara mustard)	Flower / Fruit; Plant dried up / Not chlorophytic; Vegetative	2023-03-23
Brassica tournefortii (Sahara mustard)	Vegetative	2023-03-23
Brassica tournefortii (Sahara mustard)	Flower / Fruit	2023-03-24
Brassica tournefortii (Sahara mustard)	Fruit Only	2023-03-27
Brassica tournefortii (Sahara mustard)	Flower / Fruit	2023-03-30
Brassica tournefortii (Sahara mustard)	Flower Only	2023-03-30
Brassica tournefortii (Sahara mustard)	Fruit Only	2023-03-31
Brassica tournefortii (Sahara mustard)	Fruit Only	2023-04-01
Brassica tournefortii (Sahara mustard)	Plant dried up / Not chlorophytic	2023-04-03
Brassica tournefortii (Sahara mustard)	Plant dried up / Not chlorophytic	2023-04-03
Brassica tournefortii (Sahara mustard)	Flower / Fruit	2024-04-09
Brassica tournefortii (Sahara mustard)	Flower Only	2024-04-10
Brassica tournefortii (Sahara mustard)	Flower / Fruit	2024-04-10
Brassica tournefortii (Sahara mustard)	Fruit Only	2024-04-15
Brassica tournefortii (Sahara mustard)	Fruit Only	2024-04-15
Brassica tournefortii (Sahara mustard)	Fruit Only	2024-04-16
Bromus rubens (red brome)	Fruit Only	2024-04-10
Cynadon dactylon (Bermuda grass)	Flower / Fruit	2023-03-24
Cynadon dactylon (Bermuda grass)	Fruit Only	2023-03-25

Plant Species	Phenology	Date
Cynadon dactylon (Bermuda grass)	Flower Only	2024-04-09
Erodium cicutarium (Common stork's-bill)	Flower / Fruit	2024-04-09
Lactuca serriola (prickly lettuce)	Vegetative	2023-03-31
Lactuca serriola (prickly lettuce)	Vegetative	2024-04-10
Oncosiphon pilulifer (stinknet)	Flower Only	2024-04-10
Oncosiphon pilulifer (stinknet)	Flower Only	2024-04-10
Pheonix sp. (date palm)	Vegetative	2023-04-03
Phragmites australis (Common reed)	Vegetative	2023-04-01
Salsola tragus (Russian thistle)	Plant dried up / Not chlorophytic	2023-03-22
Salsola tragus (Russian thistle)	Plant dried up / Not chlorophytic	2023-03-22
Salsola tragus (Russian thistle)	Plant dried up / Not chlorophytic	2023-03-23
*Salsola tragus (*Russian thistle)	Vegetative	2024-04-10
Salsola tragus (Russian thistle)	Vegetative	2024-04-10
Schismus barbatus (Mediterranean grass)	Flower / Fruit	2023-03-21
Schismus barbatus (Mediterranean grass)	Flower / Fruit	2023-03-21
Schismus barbatus (Mediterranean grass)	Flower / Fruit	2023-03-21
Schismus barbatus (Mediterranean grass)	Flower / Fruit	2023-03-21
Schismus barbatus (Mediterranean grass)	Flower / Fruit	2023-03-22
Schismus barbatus (Mediterranean grass)	Flower / Fruit	2023-03-22
Schismus barbatus (Mediterranean grass)	Vegetative	2023-03-23
Schismus barbatus (Mediterranean grass)	Vegetative	2023-03-23
Schismus barbatus (Mediterranean grass)	Vegetative	2024-04-08
Schismus barbatus (Mediterranean grass)	Flower Only	2024-04-10
Schismus barbatus (Mediterranean grass)	Fruit Only	2024-04-15
Schismus barbatus (Mediterranean grass)	Fruit Only	2024-04-16
Schismus barbatus (Mediterranean grass)	Vegetative	2024-04-10
Sonchus asper (Spiny sowthistle)	Flower / Fruit	2023-03-21
Sonchus asper (Spiny sowthistle)	Vegetative	2023-03-21
Sonchus asper (Spiny sowthistle)	Vegetative	2023-03-22
Sonchus asper (Spiny sowthistle)	Flower / Fruit	2023-03-30
Sonchus oleraceus (Sowthistle)	Vegetative	2023-03-30
Sonchus oleraceus (Sowthistle)	Flower / Fruit	2024-04-09
Sonchus oleraceus (Sowthistle)	Flower Only	2024-04-10
Sonchus oleraceus (Sowthistle)	Flower / Fruit	2024-04-10
Sonchus oleraceus (Sowthistle)	Flower / Fruit	2024-04-11
Sonchus oleraceus (Sowthistle)	Flower / Fruit	2024-04-11
Sonchus oleraceus (Sowthistle)	Flower / Fruit	2024-04-15
Sonchus oleraceus (Sowthistle)	Flower / Fruit	2024-04-15
Sonchus oleraceus (Sowthistle)	Flower / Fruit	2024-04-16

Plant Species	Phenology	Date
Tamarix sp. (Tamarisk)	Vegetative	2023-03-20
Tamarix sp. (Tamarisk)	Flower / Fruit; Vegetative	2023-03-22
Tamarix sp. (Tamarisk)	Flower / Fruit	2023-03-24
Tamarix sp. (Tamarisk)	Flower Only; Vegetative	2023-03-25
Tamarix sp. (Tamarisk)	Flower Only	2023-03-29
Tamarix sp. (Tamarisk)	Flower Only	2023-03-29
Tamarix sp. (Tamarisk)	Vegetative	2023-03-29
Tamarix sp. (Tamarisk)	Flower Only	2023-03-29
Tamarix sp. (Tamarisk)	Vegetative	2023-03-30
Tamarix sp. (Tamarisk)	Flower Only	2023-03-30
Tamarix sp. (Tamarisk)	-	2023-03-31
Tamarix sp. (Tamarisk)	Flower / Fruit; Vegetative	2023-04-01
Tamarix sp. (Tamarisk)	Flower / Fruit	2023-04-01
Tamarix sp. (Tamarisk)	Flower / Fruit	2023-04-03
Washingtonia robusta (Mexican fan palm)	Vegetative	2023-04-03

Table C - 5a. 2023 Avian Count Summary.

Avian Species	Spring 2023 Avian Count Dates												
	3/21	3/22	3/23	3/24	3/25	3/27	3/28	3/29	3/30	3/31	4/1	4/3	Species Totals
American coot *(Fulica americana)*											1		1
Ash-throated flycatcher (*Myiarchus cinerascens)*										1			1
Barn swallow (*Hirundo rustica)*		1		17	1				2	2	2		25
Black-tailed gnatcatcher *(Polioptila melanura)*					2						2		4
Black-throated sparrow (*Amphispiza bilineata*)										3			3
Brewer's blackbird *(Euphagus cyanocephalus)*				3									3
Brewer's sparrow *(Spizella breweri)*										2			2
Cactus wren (*Campylorhynchus brunneicapillus*)								1			1		2
Canada goose *(Branta canadensis)*											3		3
Cliff swallow (*Petrochelidon pyrrhonota)*		25	59	20						3	16		123
Common raven (*Corvus corax)*	1				1				6	2			10
Common yellowthroat *(Geothlypis trichas)*										2	6		8
Costa's hummingbird (*Calypte costae)*					1								1
Double-crested cormorant (*Phalacrocorax auritus)*		36											36

Avian Species	Spring 2023 Avian Count Dates												
	3/21	3/22	3/23	3/24	3/25	3/27	3/28	3/29	3/30	3/31	4/1	4/3	Species Totals
European starling *(Sturnus vulgaris)*											5		5
Great blue heron (Ardea herodias)		1									1		2
House finch (*Haemorhous mexicanus)*	4	1	3								2		10
Lesser nighthawk (*Chordeiles acutipennis)*	1	2					3	2	2	5		3	18
Loggerhead shrike (*Lanius ludovicianus)*	2	1	1	1						1	1		7
Mallard (*Anas platyrhynchos)*											3		3
Mourning dove (*Zenaida macroura)*	1		3	7	2	1	1	4	3	7	10	8	47
Northern flicker (*Colaptes auratus*)											1		1
Northern rough-winged swallow *(Stelgidopteryx serripennis)*		6	20	11					1	3		13	54
Osprey (*Pandion haliaetus)*											1		1
Red-tailed hawk *(Buteo jamaicensis)*				2								2	4
Red-winged blackbird (*Agelaius phoeniceus)*											3	7	10
Ruby crowned kinglet *(Corthylio calendula)*			1							1	1		3
Sagebrush sparrow (*Artemisiospiza nevadensis*)											1		1
Sage Thrasher (*Oreoscoptes montanus*)	1												1

Avian Species	Spring 2023 Avian Count Dates												
	3/21	3/22	3/23	3/24	3/25	3/27	3/28	3/29	3/30	3/31	4/1	4/3	Species Totals
Savannah sparrow *(Passerculus sandwichensis)*	1												1
Song sparrow (*Melospiza melodia*)											1		1
Swainson's hawk (*Buteo swainsoni*)	5												5
Turkey vulture (*Cathartes aura)*	1	2	4	1									8
Verdin (*Auriparus flaviceps)*			1	1	1		1	2		6	3	1	16
Violet green swallow *(Tachycineta thalassina)*	10	10	10										30
Western kingbird (*Tyrannus verticalis)*			1					1			2		4
Whimbrel (*Numenius phaeopus*)			7	5					4				16
White-crowned sparrow (*Zonotrichia leucophrys)*			3		5	1		2					11
White-throated swift *(Aeronautes saxatalis)*	5										1		6
Wilson’s warbler *(Cardellina pusilla)*										2			2
Yellow-rumped warbler (*Setophaga coronata)*		3		4	2							1	10
Yellow-rumped (Audubon’s) warbler *(Setophaga auduboni)*			3										3
Total Observed	**32**	**88**	**116**	**72**	**15**	**2**	**5**	**12**	**18**	**40**	**67**	**35**	**502**

Table C 1b. 2024 Avian Count Summary.

Avian Species	Spring 2024 Avian Count Dates						
	4/9	4/10	4/11	4/12	4/15	4/16	Species Totals
Barn swallow (*Hirundo rustica*)						1	1
Black Tailed Gnatcatcher (*Polioptila melanura*)	1						1
Bonaparte's gull (*Chroicocephalus philadelphia*)		6					6
Brewer's blackbird (*Euphagus cyanocephalus*)		3				18	21
Brewer's sparrow (*Spizella breweri*)			6	1		5	12
Brown-headed cowbird (*Molothrus ater*)		9					9
Cliff swallow (*Petrochelidon pyrrhonota*)		8			3	5	13
Common raven (*Corvus corax*)		1	1	3	1	1	7
European starling (*Sturnus vulgaris*)		6					6
Killdeer (*Charadrius vociferus*)		1					1
Lesser nighthawk (*Chordeiles acutipennis*)		2	1	1	2	1	7
Loggerhead shrike (*Lanius ludovicianus*)	1				2		3

Avian Species	Spring 2024 Avian Count Dates						
	4/9	4/10	4/11	4/12	4/15	4/16	Species Totals
Mourning dove (*Zenaida macroura*)		3		2	1	2	8
Northern rough-winged swallow (*Stelgidopteryx serripennis*)		4	3		5		12
Osprey (*Pandion haliaetus*)					1		1
Red-winged blackbird (*Agelaius phoeniceus*)		6	27			24	57
Violet green swallow (*Tachycineta thalassina*)			5			3	8
White-winged dove (*Zenaida asiatica*)					1		1
Wilson's warbler (*Cardellina pusilla*)						2	2
Yellow-rumped (Audubon's) warbler (*Setophaga audubon*i)			3				3
Total Observed	**2**	**49**	**46**	**7**	**16**	**62**	**179**

Appendix E: Wildlife and Plant Compendiums

Table D - 1. Wildlife Incidental Species Observed.

Common Name	Scientific Name
Reptiles	
Desert iguana	*Dipsosaurus dorsalis*
Flat tailed horned lizard	***Phrynosoma mccallii***
Ornate tree lizard	*Urosaurus ornatus*
Side blotched lizard	*Uta stansburyana*
Sidewinder	*Crotalus cerastes*
Western diamond-backed rattlesnake	*Crotalus atrox*
Western whiptail lizard	*Aspidoscelis tigris*
Zebra-tailed lizard	*Callisaurus draconoides*
Birds	
Ash-throated flycatcher	*Myiarchus cinerascens*
Barn swallow	*Hirundo rustica*
Black-tailed gnatcatcher	***Polioptila melanura***
Black-throated sparrow	*Amphispiza bilineata*
Blue-gray gnatcatcher	*Polioptila caerulea*
Bonaparte's gull	*Chroicocephalus philadelphia*
Brewer's sparrow	*Spizella breweri*
Brewer's blackbird	*Euphagus cyanochephalus*
Brown-headed cowbird	*Molothrus ater*
Burrowing owl	***Athene cunicularia***
Cliff swallow	*Petrochelidon pyrrhonota*
Common poorwill	*Phalaenoptilus nuttallii*
Common raven	*Corvus corax*
Common yellowthroat	*Geothlypis trichas*
Double crested cormorant	*Phalacrocorax auritus*
Horned lark	*Eremophila alpestris*
House finch	*Carpodacus menicanus*
House wren	*Troglodytes aedon*
Killdeer	*Charadrius vociferus*
Lesser nighthawk	*Chordeiles acutipennis*
Loggerhead shrike	***Lanius ludovicianus***
Mourning dove	*Zenaida macroura*
Northern harrier	***Circus cyaneus***
Northern rough-winged swallow	*Stelgidopteryx serripennis*
Red-tailed hawk	*Buteo jamaicensis*
Red-winged blackbird	*Agelaius phoeniceus*
Ruby crowned kinglet	*Regulus calendula*

Common Name	Scientific Name
Sage thrasher	*Oreoscoptes montanus*
Sagebrush sparrow	*Artemisiospiza nevadensis*
Savannah sparrow	*Passerculus sandwichensis*
Swainson's hawk	***Buteo swainsoni***
Turkey vulture	*Cathartes aura*
Verdin	*Auriparus flaviceps*
Violet green swallow	*Tacycineta thalassina*
Western kingbird	*Tyrannus verticalis*
Whimbrel	*Numenius phaeopus*
White-crowned sparrow	*Zonotrichia leucophrys*
White-winged dove	*Zenaida asiatica*
Wilson's warbler	*Wilsonia pusilla*
Yellow rumped warbler	*Setophaga coronata*
Mammals	
Black-tailed jackrabbit	*Lepus califonica*
Merriam's kangaroo rat	*Dipodomys merriami*
Round tailed ground squirrel	*Xerospermophilus tereticaudus*
Invertebrates	
Honey bee	*Apis mellifera*
Inflated beetle	*Cysteodemus armatus*
Wind scorpion	*Solifugae sp.*
Master blister beetle	*Lytta magister*
White-lined sphinx moth	*Hyles lineata*

BOLD = special status

Table D - 2. Incidental Plant Species Observed.

Family	Scientific Name	Common Name
Amaranthaceae	*Atriplex canescens*	four-winged saltbush
Amaranthaceae	*Atriplex lentiformis*	-
Amaranthaceae	*Tidestromia suffruticosa var. oblongifolia*	honeysweet
Apocynaceae	*Asclepias subulata*	skeleton milkweed
Areaceae	**Phoenix dactylifera*	date palm
Areaceae	**Washingtonia robusta*	Mexican fan palm
Asteraceae	**Lactuca serriola*	prickly lettuce
Asteraceae	**Sonchus asper*	spiny sowthistle
Asteraceae	*Ambrosia dumosa*	burbush
Asteraceae	*Ambrosia dumosa*	white bursage
Asteraceae	*Baileya pauciradiata*	lax flower
Asteraceae	*Baileya pleniradiata*	wooly marigold

Family	Scientific Name	Common Name
Asteraceae	*Bebbia juncea var. aspera*	rush sweetbush
Asteraceae	*Dicoria canescens*	desert twinbugs
Asteraceae	*Encelia farinosa*	brittlebush
Asteraceae	*Geraea canescens*	hairy desert sunflower
Asteraceae	*Geraea canescens*	desert sunflower
Asteraceae	*Isocoma acradenia*	alkali goldenbush
Asteraceae	*Palafoxia arida var. arida*	Desert needle
Asteraceae	*Pectis papposa*	manybristle chinchweed
Asteraceae	*Pectis papposa var. papposa*	chinch weed
Asteraceae	*Pluchea sericea*	arrow weed
Asteraceae	*Stephanomeria pauciflora*	brown-plume wire-lettuce
Asteraceae	*Stephanomeria pauciflora*	wire lettuce
Boraginaceae	*Johnstonella angustifolia*	marrow-leaved johnstonella
Boraginaceae	*Pectocarya heterocarpa*	-
Boraginaceae	*Cryptantha angustifolia*	narrow leaved cryptantha
Boraginaceae	*Pectocarya heterocarpa*	chuckwalla pectocarya
Boraginaceae	*Tiquilia plicata*	fanleaf crinklemat
Brassicaceae	**Brassica tournefortii*	Saharan mustard
Brassicaceae	*Dithyrea californica*	spectacle pod
Brassicaceae	*Lepidium lasiocarpum*	Shaggyfruit pepperweed
Caryophyllaceae	*Achyronychia cooperi*	frost mat
Chenopodiaceae	*Suaeda nigra*	bush seepweed
Ehretiaceae (Boraginaceae)	*Tiquilia plicata*	fanleaf crinklemat
Ephedraceae	*Ephedra trifurca*	long leafed ephedra
Euphorbiaceae	*Euphorbia polycarpa*	smallseed sandmat
Fabaceae	*Dalea mollissima*	silky dalea
Fabaceae	*Prosopis glandulosa*	honey mesquite
Fabaceae	*Psorothamnus emoryi*	dye bush
Fabaceae	*Astragalus aridus*	annual desert milk vetch
Fabaceae	*Dalea mollissima*	silky dalea
Fabaceae	*Netluma oderata*	honey mesquite
Fabaceae	*Prosopis pubescens*	screwbean mesquite
Fabaceae	*Prosopis glandulosa var. torreyana*	honey mesquite
Fabaceae	*Psorothamnus emoryi*	indigo bush
Liliaceae	*Hesperocallis undulata*	desert lily
Loasaceae	*Mentzelia longiloba*	many flowered mentzelia
Nyctaginaceae	*Abronia villosa*	sand verbena
Nyctaginaceae	*Abronia villosa var. villosa*	hairy sand verbena
Nyctaginaceae	*Allionia incarnata*	windmills

Family	Scientific Name	Common Name
Onagraceae	*Chylismia claviformis subsp. yumae*	Yuma clavate fruited primrose
Onagraceae	*Oenothera deltoides*	birdcage primrose
Onagraceae	*Chylismia brevipes subsp. brevipes*	Golden suncup
Orobanchaceae	*Aphyllon cooperi (= Orobanche cooperi)*	desert broomrape
Plantaginaceae	*Plantago spp.*	-
Plantaginaceae	*Plantago ovata*	wooly plantain
Phlox	*Loeseliastrum schottii*	Schott's calico
Poaceae	*Aristida adscensionis*	annual three-awn grass
Poaceae	*Aristida purpurea*	purple three-awn
Poaceae	*Bouteloua barbata*	sixweeks grama
Poaceae	*Bouteloua aristidoides*	needle gramma
Poaceae	*Bouteloua barbata var. barbata*	six-weeks gramma
Poaceae	*Cynodon dactylon*	bermuda grass
Poaceae	*Schismus arabicus*	Mediterranean grass
Poaceae	*Schismus barbatus*	Mediterranean grass
Poaceae	*Phragmites australis*	-
Polygonaceae	*Chorizanthe rigida*	devil's spineflower
Polygonaceae	*Eriogonum deserticola*	Colorado desert buckwheat
Polygonaceae	*Eriogonum thomasii*	Thomas' buckwheat
Polygonaceae	*Eriogonum trichopes*	little desert buckwheat
Polygonaceae	*Chorizanthe rigida*	devil's spineflower
Resedaceae	*Oligomeris linifolia*	Leaved cambess
Rosaceae	*Prunus fasciculata*	desert almond
Solanaceae	*Lycium andersonii*	Anderson's desert thorn
Tamaricaceae	**Tamarix ramossisima*	tamarisk
Tamaricaceae	**Tamarix chinensis*	tamarisk
Zygophyllaceae	*Fagonia laevis*	California fagonbush
Zygophyllaceae	*Larrea tridentata*	creosote bush

* = invasive species

Attachment C.2 Aquatics Resource Report

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AQUATIC RESOURCES REPORT

July 2024

Perkins Renewable Energy Project

Prepared for:

IP Perkins, LLC and IP Perkins BAAH, LLC

Table of Contents

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Acronyms

amsl	above mean sea level
ACEC	Area of Critical Environmental Concern
BAAH	Breaker and a half
BLM	Bureau of Land Management
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CNPS	California Native Plant Society
CWA	Clean Water Act
DFA	Development Focus Area
DRECP	Desert Renewable Energy Conservation Plan
EPA	Environmental Protection Agency
FEIS	Final Environmental Impact Statement
GIS	Geographic Information Systems
GPS	Global Positioning System
HR	Hydrologic Region
I-10	Interstate 10
LSAA	Lake and Streambed Alteration Agreement
MW	Megawatt
NEPA	National Environmental Policy Act
NECO Plan	Northern and Eastern Colorado Desert Coordinated Management Plan
NRCS	Natural Resource Conservation Service
NVCS	National Vegetation Classification System
PV	Photovoltaic
RWQCB	Regional Water Quality Control Board
ROW	Right of Way
SDG&E	San Diego Gas and Electric
SWRCB	State Water Resources Control Board
TNW	Traditionally Navigable Water
USACE	U.S. Army Corps of Engineers
USFWS	US Fish and Wildlife Service
WDR	Waste Discharge Requirements
WOTUS	Waters of the U.S.

1 Introduction

1.1 Background

IP Perkins, LLC and IP Perkins BAAH, LLC (Proponents), subsidiaries of Intersect Power, LLC are proposing to develop the Perkins Renewable Energy Project (Project) southeast of El Centro, near Holtville in Imperial County, California (Error! Reference source not found.**). The proposed Project site is located on a combination of Bureau of Land Management (BLM)-managed lands, Bureau of Reclamation (BOR)-managed lands, and private lands (Figure 1. General Vicinity**

). The Project's two 500 kV loop-in transmission lines will be located within a transmission corridor that will traverse BOR lands. The BLM-managed portion of the Project site is comprised of two land parcels totaling approximately 6,255 acres. The BOR-managed portion of the site is approximately 962.8 acres, and the private land is approximately 515.1 acres. Existing access roads from Highway 98 to the proposed transmission line corridor and along the Great American Canal roads may be used for the Project. Some portions of the roads may be widened to accommodate construction. These areas, along with a 1.7-kilometer (1.06-mile) transmission line corridor, are collectively referred to as the Project site, unless otherwise described in their specific components. Ironwood Consulting, Inc. (Ironwood) was contracted to delineate jurisdictional waters and other aquatic resources on the Project site.

The following report describes delineation methods and the results of investigations to determine the presence of aquatic resources that may be subject to federal jurisdiction under the Clean Water Act, Regional Water Quality Control Board (RWQCB) jurisdiction as waters of the state (WOTS), and/or California Department of Fish and Wildlife (CDFW) jurisdiction under § 1602 of the California Fish and Game Code (CFGC). The primary purpose of this report is to provide the location, extent, and estimated impacts to potentially jurisdictional waters in support of Project compliance requirements under the RWQCB Water Quality Certification and Wetlands Program and Lake and Streambed Alteration (LSA) Program implemented by CDFW. This report updates the previous Jurisdictional Waters Delineation report to include the private and BOR-managed lands and to address comments from BLM and CDFW. Surveys were conducted within the Project site in Spring 2023 and 2024 (Figure 3).

1.2 Site Location

The Project site is in Imperial County within the Sonoran Desert of Southern California. It is located east of an irrigated agricultural region, with the nearest towns of Date City and Holtville located just west of the Project site. The Project site is approximately 36 miles southeast of the Salton Sea, 8 miles west of the Algodones Dunes, and its southernmost boundary is approximately 1.3 miles north of the United States-Mexico border (Figure 2). The Project site is located directly south of Interstate 8 and directly north of Highway 98. The Project occurs on two 7.5-minute USGS topographic quadrangles – Midway Well NW and Midway Well. Two 500 kV loop-in transmission lines would exit the western BLM site prior to crossing BOR lands where they would interconnect with the existing San Diego Gas and Electric (SDG&E) Southwest Powerlink 500 kV Transmission Line, after crossing the All-American Canal.

The entire Project site occurs on a combination of BLM-managed lands, BOR-managed lands, and private lands. Public lands managed by the BLM are within the Desert Renewable Energy Conservation Plan (DRECP)

Development Focus Area (DFA). Areas of Critical Environmental Concern (ACEC) are outside of but adjacent to the Project site (**Error! Reference source not found.**); East Mesa ACEC is to the north and Lake Cahuilla ACEC is to the west. There is a small area of the larger western BLM parcel that overlaps with an Important Bird Area (Audubon, California, 2011) on its westernmost border.

1.3 Project Summary

IP Perkins, LLC and IP Perkins BAAH, LLC propose to construct, operate, maintain, and decommission an up to 1,150 megawatt (MW) solar PV and battery energy storage facility on a combination of BLM-administered public lands, BOR-administered lands, and private lands collectively referred to as the Project site. The Project would deliver clean power to ratepayers in California, minimize environmental impacts and land disturbance associated with solar development, and bring living-wage jobs to Imperial County.

The Project would generate and store up to1,150 MW of renewable electricity via arrays of solar PV panels, a battery energy storage system (BESS), and appurtenant facilities. The final Project capacity will be based on optimization of buildable acreage and solar PV technology at the time of procurement. The Project would construct a new gen-tie line that would connect the Project substation(s) to a new high voltage breaker and a half (BAAH) switchyard. From the BAAH switchyard, two new 500 kV loop-in transmission lines would be constructed to interconnect the Project to the existing SDG&E Southwest Powerlink 500 kV Transmission Line (SWPL) that travels east-west just south of the Project site. The SWPL line crosses BOR lands and terminates at the Imperial Valley Substation (Substation) southwest of El Centro.

Depending upon the timeline of the interconnection agreement, the Project could be operational by as early as late 2027 and operate for up to 50 or more years. At the end of its useful life, the Project would be decommissioned. Revegetation would be conducted in accordance with a Decommissioning and Revegetation Plan.

2 Regulatory Setting

2.1 Clean Water Act (§ 401 and § 404)

Section 404 of the Clean Water Act (CWA) regulates the discharge of dredged or fill material into waters of the U.S. (WOTUS) to protect the physical, biological, and chemical integrity of WOTUS. Under provisions of the CWA, U.S. Army Corps of Engineers (USACE) administers the day-to-day Section 404 program, which includes general and individual permit decisions, jurisdictional determinations, developing policy and guidance, and enforcing the provisions of Section 404. WOTUS are defined in 33 CFR 328.3, which has been clarified following multiple Supreme Court decisions and supplemental guidance documents issued by USACE and the Environmental Protection Agency (EPA), the agency that is responsible for developing and interpreting policy, guidance, and environmental criteria for the Section 404 program.

On October 3, 2022, the Supreme Court heard oral arguments in the case of Sackett v. Environmental Protection Agency (Sackett v. EPA), which considered the jurisdictional scope of WOTUS, and more specifically the connectedness of waterways and wetlands.

On May 25, 2023, the Supreme Court issued a decision on Sackett v. EPA interpreting the scope of the CWA. The Supreme Court's 2023 holding is summarized as follows:

- "Waters" encompasses only those relatively permanent, standing or continuously flowing bodies of water forming geographical features that are described in ordinary parlance as streams, oceans, rivers, and lakes.
- To qualify as WOTUS, waters must also be connected to traditional navigable waters.
- The CWA extends only to those wetlands that are, as a practical matter, indistinguishable from WOTUS, meaning that the wetland has a continuous surface connection with that water, making it difficult to determine where the water ends, and the wetland begins.
- The significant nexus test, which had previously been included to determine jurisdiction of waters, is no longer applicable.
- Consistent with the Court's decision in *Sackett*, this report focuses on whether aquatic features at the project site are relatively permanent and sufficiently connected to traditional navigable waters.

Subsequently, on August 29, 2023, the agencies issued a final rule to amend the final "Revised Definition of 'Waters of the United States'" rule (88 FR 61968 61969, September 8, 2023). The amended rule conforms with the definition of WOTUS by the Supreme Court and states that parts of the January 2023 Rule were invalidated under the Supreme Court's interpretation of the CWA. Therefore, 40 CFR 120.2 and 33 CFR 328.3 now define WOTUS (88 FR 61968 61969, September 8, 2023) accordingly:

a. Waters of the United States means:
    i. Waters which are:
        1. Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
        2. The territorial seas; or
        3. Interstate waters
        4. Impoundments of waters otherwise defined as waters of the United States under this definition
        5. Tributaries of waters identified that are relatively permanent, standing, or continuous flowing bodies of water,
        6. Wetlands adjacent to the following waters:
    ii. Waters identified in paragraph (a)(1); or
    iii. Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) and with a continuous surface connection to those waters;
    iv. 5.Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) that are relatively permanent, standing, or continuous flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3).

Also relevant to the regulatory setting for this analysis, the following definitions are included in 33 CFR 328.3 (c):

- "Wetlands" means those areas that are inundated or saturated by surface or ground water 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. Wetlands generally include swamps, marshes, bogs, and similar areas.

- "Adjacent" (also revised in the recent rulings) means having a continuous surface connection.

Navigable Waters of the United States are regulated by USACE and are defined as "those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce" (33 CFR Part 329.4).

Consistent with the Court's decision in Sackett and current regulations, this report focuses on whether aquatic resources within the Project site are relatively permanent and sufficiently connected to traditional navigable waters.

2.2 California Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne), Division 7 of the California Water Code, establishes the responsibilities and authorities of the nine Regional Water Quality Control Boards (RWQCBs) and the State Water Resources Control Board (SWRCB). This act establishes that the waters of the State shall be protected for use and enjoyment by the people of the State; that the activities and factors which may affect the quality of the waters of the State shall be regulated to attain the highest water quality. Porter-Cologne also names the RWQCBs to formulate and adopt water quality control plans for all areas within the region. In the State of California, SWRCB and RWQCBs, in conjunction with USACE, administer Section 401 of the CWA (33 U.S.C. 1341) in relation to permitting fill of federally jurisdictional waters. Additionally, beyond federal jurisdiction the SWRCB and the RWQCBs may exert regulatory authority over waters of the state, which are defined in Section 13050(e) of the Porter-Cologne Water Quality Act as "any surface water or ground water, including saline waters, within the boundaries of the state." This definition may include isolated wetlands and other waters that may be outside of federal jurisdiction, which may be subject to Waste Discharge Requirements (WDRs).

Under Porter-Cologne, the RWQCB may regulate discharge of waste. All parties proposing to discharge waste that could affect waters of the State must file a report of waste discharge with the appropriate RWQCB (§ 13260 of the California Water Code). The RWQCB would then respond to the report of waste discharge by issuing WDRs, or by waiving WDRs for the proposed discharge. Both of the terms *Discharge of Waste* and *waters of the State* are broadly defined such that discharges of waste, including fill, any material resulting from human activity, or any other discharge that may directly or indirectly affect waters of the State. While all waters of the U.S. that are within the borders of California are also waters of the State pursuant to Porter-Cologne, the converse is not true. Waters of the U.S. are federally jurisdictional and legally distinct from waters of the State. While CWA Section 404 permits and Section 401 certifications are required when activity results in fill or discharge directly below ordinary high-water mark of waters of the U.S., any activity that results or may result in a discharge that directly or indirectly impacts waters of the State, or the beneficial uses of those waters may be subject to WDRs.

Effective on May 28, 2020, the SWRCB adopted the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (Procedures), for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California. The Procedures include the following four primary components:

1) a wetland definition;

2) a framework for determining if a feature that meets the wetland definition is a water of the State;
3) wetland delineation procedures; and
4) procedures for the submittal, review and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities.

The Procedures define a wetland as an area, which under normal circumstances, supports:

- continuous or recurrent saturation of the upper substrate caused by ground water, or shallow surface water, or both;
- the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and
- the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The Procedures describe a jurisdictional framework for aquatic features that meet the current, or any historic definition, of a wetland. The Water Boards rely on wetland area determinations verified by USACE following the methods described in the 1987 Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and regional supplements. The methods described are accepted for delineation of wetlands, but modified only to allow for the fact that the lack of vegetation does not preclude the determination of an area meeting the definition of a wetland. Aquatic features that do not meet the definition of a wetland may still be regulated as a non-wetland water of the state (e.g., lakes, streams, and ocean waters) but the Procedures do not include guidance for jurisdictional determinations for other waters of the State.

The following wetlands are considered "waters of the State":

1. Natural wetlands,
2. Wetlands created by modification of a surface water of the State, and
3. Artificial wetlands that meet the following criteria:
    a. Approved by an agency as compensatory mitigation for impacts to other waters of the State except where the approving agency explicitly identifies the mitigation as being of limited duration;
    b. Specifically identified in a water quality control plan as a wetland or other water of the State;
    c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the landscape; or
    d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not waters of the State unless they also satisfy the criteria set forth in 2, 3a, or 3b):
        i. Industrial or wastewater treatment or disposal,
        ii. Settling of sediment,
        iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program,
        iv. Treatment of surface waters,
        v. Agricultural crop or stock watering,

vi. Fire suppression,
vii. Industrial processing or cooling,
viii. Active surface mining – even if the site is managed for interim wetlands functions and values.

The Procedures set forth that waters of the State include all waters that meet the current or any historic definition of waters of the U.S. In other words, if at any time in the past a feature would have met the definition of waters of the U.S. pursuant to any current or historical federal rule, the feature would meet the current definition of waters of the State.

If waters of the State are determined to potentially be temporarily or permanently affected by a proposed action, an application for dredge or fill is necessary. When considering project impacts and alternatives, it is recommended to avoid waters of the State to the greatest extent feasible, then minimize permanent impacts, and lastly compensate for impacts. The application should describe how the proposed action will not result in significant degradation of the water of the State. Applications should include all items listed in the Cal. Code Regs., title 23, § 3856, a delineation report, project start/end dates, maps, description of impacted waters, and alternatives analysis (unless exemption applies). Additional application requirements (e.g., supplemental field data, a draft compensatory mitigation plan, proposed water quality monitoring plan, or draft restoration plan for temporary impacts) may be necessary based on coordination with the appropriate RWQCB office.

2.3 California Fish and Game Code §§ 1600 to 1616

Pursuant to § 1602 of the California Fish and Game Code (CFGC), notification to the California Department of Fish and Wildlife (CDFW) is required for any proposed activity that may substantially divert or obstruct a river, stream, or lake. § 1602(a) specifically provides that:

> *An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake unless all of the following occur:*
>
> *(1) The department receives written notification regarding the activity in the manner prescribed by the department…*

The program developed by CDFW to implement this notification process is generally referred to as the LSAA (Lake and Streambed Alteration Agreement) Program. CDFW traditionally defines a stream (including creeks and rivers) as a “body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life.” A stream includes watercourses with surface or subsurface flow that supports or has supported riparian vegetation. CDFW's definition of lakes include natural lakes or man-made reservoirs. Areas within CDFW jurisdiction include riparian habitats associated with watercourses, where “riparian habitat” is not defined in the statute (Title 14, Section 1.72) but typically refers to vegetation associated with a stream channel. The limits of jurisdiction include ephemeral, intermittent, and perennial watercourses and include the outermost edge of riparian vegetation or the top of bank of streams or lakes, whichever is wider. Generally, CDFW jurisdiction is often extended to include areas that exhibit any one of the three wetland indicators – vegetation, soils, or hydrology.

CDFW may require an LSAA prior to any activity that would substantially divert or obstruct the natural flow, or substantially change the bed, channel, or bank of a river, stream, or lake, or use material from a streambed. CDFW's issuance of an LSAA is subject to California Environmental Quality Act certification.

3 Site Characteristics

3.1 Regional Setting

The Project site is located in Imperial Valley within the Sonoran Desert of Southern California, just north of the US-Mexico border. The topography of the Project site is fairly flat to undulating, but generally slopes upward at a gradient of less than 1 percent toward the southeast. Ground elevations of the Project site range from approximately 65 feet (20 meters) at its lowest elevation in its southwest corner to 125 feet (38 meters) at its highest elevation in its southeast corner. Sand dunes occur on the northern part of the Project site. Anthropogenic features and land use in and near the Project site include interstate travel, agriculture, trash dumping, and recreational activities.

3.2 Hydrology

The Project site is within the Colorado River Hydrologic Region (HR). The Colorado River HR covers approximately 13 million acres (20,000 square miles) in southeastern California and is the most arid HR in California with annual precipitation averaging less than 4 inches ((WRCC) 2024). The Project site is in the Southern Mojave-Salton Sea subregion of Hydrologic Unit Code (HUC) 18 Hydrologic region, which is a closed desert basin. The Project site is located within the Deer Peak Watershed with East Highline Canal to the west, Coachella Canal to the east, and the All-American Canal bisecting the transmission line area on the southern end of the Project site (Figure 4). According to data from the National Hydrography Dataset (NHD), two small, discontinuous, intermittent streams occur on the western side of the Project site. These intermittent streams correspond to vegetated swales, likely with moderately deep ground water but appeared to lack surface flow.

3.3 Soils and Sand Transport

The Project site is sandy overall. The Project site is dominated specifically by Rositas loamy fine sand with 0 to 2 percent slopes. A small percentage of the Project site also contains Rositas fine sand, Holtville loam, Holtville-Imperial silty clay loams and Superstition loamy fine sand. Small areas that contain mesic/riparian vegetation are mapped as Rositas fine sand, wet, 0 to 2 percent slopes, which is typically found in basins and floodplains Figure 5.

The Algodones Dunes are approximately 8 miles east of the Project site and have active aeolian sand migration and deposition (Muhs et. al. 2003) and the lesser-known East Mesa north of the Project site is mostly stabilized by vegetation (Muhs 2017). The provenance of these dunes has been much debated, but the most recent study for their origin indicates that these dunes have a lot of overlap with the late Holocene lacustrine shorelines of the paleolake know as Lake Cahuilla, which is an expanded area of the current Salton Sea and Colorado River, with only a small amount of overlap with the Chocolate Mountains (Muhs 2017, Muhs et al 1995). The northern and eastern portions of the Project site are mapped as having sand dunes (Figure 6). Annual resultant drift

direction for sand-moving winds begins far southwest of the Project site form the Pacific Ocean and heads northeast towards the Algodones Dunes (Muhs 2017). Due to the composition and prevailing winds, active sand transport is likely northwest of the Project site opposite of the slope and hydrological flow on the Project site. I-8 creates a further barrier for transport, and sands that occurs on the Project site are potentially deposits that formed prior to construction of I-8 since active aeolian sand changes over time. The Project site has sand sheets stabilized by vegetation that may also contribute to a lack of defined channels.

3.4 Rainfall

Measurements of precipitation during winter (October through March) and summer (April through September) periods are important in determining the efficacy of both wildlife and special status plant surveys. Precipitation data were obtained from spatial climate datasets within grids located on the Project site prepared by the Parameter-elevation Regressions on Independent Slopes Model Climate Group (PRISM 2024) since the most proximate weather stations to the Project site, Calexico and Imperial sand dunes weather stations (approximately 15 miles and 40 miles from the Project site, respectively), did not have recent datasets (WRCC 2024).

The subtropical climate of the Colorado Desert is characterized by dry, mild winters averaging 57 degrees Fahrenheit (°F) and dry, hot summers that average 93°F. Summer highs are known to reach 122°F. Recent annual rainfall data from 2012 to 2024 were averaged, as outlined in Table 3-1 (PRISM 2024, WRCC 2024). Over the period of analysis, the highest winter rainfall occurred between October 2019 and March 2020 and the highest summer rainfall occurred between April and September 2013 and 2023. Tropical and post-tropical storm conditions impacted southern California on August 20-21, 2023 as remnants of Hurricane Hilary, which peaked as a Category 4 storm, moved onshore.

Review of aquatic resources were conducted mostly in March and April of 2023 and 2024. March and April 2023 had below average rainfall and March and April 2024 had above average rainfall.

Table 3-1. Seasonal Rainfall Summary

Year	Winter – October to March (inches)	Summer – April to September (inches)
2012	0.11	0.23
2013	0.21	0.33
2014	0.20	0.13
2015	0.22	0.19
2016	0.12	0.11
2017	0.47	0.10
2018	0.02	0
2019	0.51	0.09
2020	0.83	0.11

Year	Winter – October to March (inches)	Summer – April to September (inches)
2021	0.19	0.10
2022	0.08	0.16
2023	0.17	0.33
2024	0.38	-
Seasonal Average	**0.30**	**0.15**

3.5 Vegetation Communities

Vegetation communities in the Project site were field verified and classified by botanists, using (Holland 1986) and cross-referencing with *A Manual of California Vegetation, 2nd edition* (Sawyer, Keeler-Wolf, and Evens 2009) and the National Vegetation Classification System (NVCS) referenced in the DRECP (CDFW and AIS 2022)).

Using the NVCS vegetation layers as reference, botanists verified that these vegetation communities were correct and made adjustments by creating vegetation polygons within ArcGIS Field Maps where needed. Most mapped vegetation boundaries are accurate to within approximately 10 feet (3 meters) and were refined to submeter data collection where it may be a jurisdictional wetland or water.

Field adjusted polygons were intergraded with confirmed NVCS vegetation communities and created new shapefiles that were used to calculate areas of each vegetation type. Any vegetation map is subject to imprecision for several reasons:

- Vegetation types tend to intergrade on the landscape so that there are no true boundaries in the vegetation itself. In these cases, a mapped boundary represents best professional judgment.
- Vegetation types as they are named and described tend to intergrade; that is, a given stand of real-world vegetation may not fit into any named type in the classification scheme used. Thus, a mapped and labeled polygon is given the best name available in the classification, but this name does not imply that the vegetation unambiguously matches its mapped name.
- Vegetation types tend to be patchy. Small patches of one named type are often included within mapped polygons of another type. The size of these patches varies, depending on the minimum mapping units and scale of available aerial imagery.

Six vegetation communities were identified during field surveys (Figure 7), which are further described below.

3.5.1 Sonoran Creosote Bush Scrub

Sonoran creosote bush scrub has a state rarity rank of S5 (CDFW 2023), being demonstrably secure, and is not designated as a sensitive plant community by BLM. It is synonymous with *Larrea tridentata-Ambrosia dumosa* alliance (Sawyer, Keeler-Wolf, and Evens 2009) and *Lower Bajada and Fan Mojavean – Sonoran Desert Scrub* (NVCS). Sonoran creosote bush scrub occurs on well-drained, secondary soils of slopes, fans, and valleys and is the basic creosote bush scrub habitat of the Colorado Desert (Holland 1986). On the Project site, creosote is dominant in the shrub canopy, or creosote bush scrub and white bursage are co-dominants in the shrub canopy

with only a few shrubs sparsely distributed. Emory's indigo (*Psorothmanus emoryi*), white bursage (*Ambrosia dumosa*), cheesebush (*Ambrosia salsola*), and ephedra (*Ephedra* spp) occur in some areas with primarily an understory of annual plants. This vegetation community is the dominant vegetation community throughout most of the Project site and the transmission line corridor north of the All-American Canal.

3.5.2 Microphyll Woodland/Desert Dry Wash Woodland

Desert dry wash woodland is a sensitive vegetation community recognized with a rarity rank of S3 (CDFW 2023). Desert dry wash woodland is characteristic of desert washes and is likely to be regulated by CDFW as jurisdictional State waters. This vegetation community on the Project site is characterized by mesquite thickets that is synonymous to mesquite (*Prosopis glandulosa*) woodland alliance (Sawyer, Keeler-Wolf, and Evens 2009) and Sonoran - Coloradan Semi Desert Wash Woodland / Scrub (NVCS). (Holland 1986)) describes this community as an open to relatively densely covered, drought-deciduous, microphyll (small compound leaves) riparian scrub woodland, often supported by braided wash channels that change following every surface flow event. This vegetation community has mesquite trees that cover at least 2-3 percent of the absolute cover for trees and shrubs and was mapped as patches within the transmission line corridor and on the private parcel in the south central portion of the Project site. Other plants observed in this plant community included arrowweed (*Pluchea sericea*) and tamarisk (*Tamarix ramosissima*).

3.5.3 Alkali Goldenbush Desert Scrub

Alkali goldenbush desert scrub is a sensitive vegetation community with a state rarity rank of S3 (CDFW 2023). It is synonymous to alkali goldenbush (*Isocoma acradenia*) shrubland alliance. Within the Project site, alkali goldenbush forms an open shrub layer (up to 35% cover). The tree layer, consisting of mesquite, is mostly sparse if present. Stands generally have low cover of vegetation and may be sparse (<10% total vegetation). Sites are moist or seasonally dry flats, and margins of intermittently saturated vegetated swales. It is found primarily on low and mid-slopes at elevations ranging from approximately 25 to 300 m with northeast and southwest aspects. Soils are variable and derived from alluvium and dune sand; textures include sand and loamy sand but include sites with finer-textured soil.

3.5.4 Arrowweed Thickets

Arrowweed thickets are a sensitive vegetation community with a state rarity rank of S3 (CDFW 2023). It is synonymous to *Pluchea sericea* shrubland alliance. This vegetation community is characterized by arrowweed that is more than or equal to 2% of absolute cover with a sparse herbaceous layer of seasonal annuals. This vegetation is usually found near seasonally flooded washes and stream borders. Within the Project site, this vegetation community occurs only within a small portion of the transmission line corridor bordering the southern edge of the road berm of the All-American Canal. No standing water was observed in the area during surveys.

3.5.5 Common Reed Marsh

Common reed marsh is synonymous with *Phragmites australis* herbaceous semi-natural alliance. This vegetation community is characterized by more than 2% absolute cover and more than 50% relative cover in the

herbaceous layer. This vegetation community is sometimes considered invasive along waterways and wetlands (CDFW 2023) and is only located along the All-American Canal within the transmission line corridor.

3.5.6 Tamarisk Thickets

Tamarisk thickets are a non-native community that consists of *Tamarix ramomissima* trees (or other *Tamarix* species) that form dense thickets along rivers and streams, around the banks of lakes and ponds or in areas that have shallow ground water. Soils become alkaline, which can often exclude other species becoming established. Because it is an aggressive competitor, tamarisk has spread throughout the West causing major changes to riparian and other natural environments. The large number of seeds disperse via wind, flowing water, and animals. With such high reproductive potential, tamarisk can develop into monoculture stands, block out sunlight, reduce space for natives, deplete soil nutrients, lower water tables, and increase a fuel source for fire spread. Within the Project site, this vegetation community occurs within the transmission line corridor north and south of the All-American Canal.

4 Methods

4.1 Preliminary Data Review

Prior to conducting field surveys, analysis was performed with Geographic Information Systems (GIS) using the following digital datasets, which include the most current information, data sources, and tools:

- 7.5' US Geological Survey (USGS) topographic quadrangles
- National Agriculture Imagery Program (NAIP) aerial imagery
- National Wetlands Inventory Wetlands Mapper (USFWS 2024)
- USGS Watershed Boundary Dataset Hydrologic Unit Code (HUC) 18 mapping (USGS 2023)
- USGS NHD high-resolution mapping with flowlines (USGS 2023)
- The Consortium of California Herbaria Jepson Interchange (Consortium of California Herbaria (CCH) 2023)
- Calflora (2023)
- Manual of California Vegetation and DRECP mapping (Sawyer, Keeler-Wolf, and Evens 2009)
- Natural Resource Conservation Service (NRCS) Web Soil Survey (USDA and NRCS 2023
- Western Regional Climate Center (WRCC 2024)
- PRISM Gridded Climate Data (PRISM 2024)

Landscape features were evaluated using GIS through review of high resolution orthorectified aerial imagery, and relevant digital layers listed above, to determine the potential presence of aquatic resources such as a wetland, stream, other type of watercourse, lake or manmade reservoir. Areas found with potential aquatic resource landform features were identified for further follow-up detailed field investigations as described below.

4.2 Field Investigations

An initial field investigation (survey) for aquatic resources, including wetlands and other waters, was conducted from July 23 to July 25, 2022 (2022 site visit). During the 2022 site visit, surveys were conducted by Leigh Rouse and Michele Cloud-Hughes, both of whom are qualified with 40-hour jurisdictional water training or other appropriate wetland delineation training and have previous experience with aquatic resources associated with arid lands of the California deserts. During the 2022 site visit, wetlands were delineated in areas that are now avoided by the Project.

Between March 20 to April 4, 2023 (2023 site visit), Ironwood biologists conducted surveys for wildlife, rare plants, and aquatic resources by walking 20 meter transects in a north/south direction throughout the Project site. Leigh Rouse and Hattie Oswald conducted delineations between April 1 and April 4, 2023 where aquatic resources were noted during the initial surveys. On April 25 and 26, 2024, Leigh Rouse and Nathan Gross conducted surveys for aquatic features by traversing the new project areas on private land and BOR-managed lands. On April 30, 2024, Leigh Rouse and Marcy Bueno surveyed the areas potentially impacted by widening access roads for aquatic features.

During surveys for aquatic features, point, line, or polygon data were collected at individual features that displayed characteristic signs of episodic flow or retention of water. In some cases, data were collected in upland areas to provide a record of areas that lacked watercourse features. Aquatic Resources figures (Figure 8 through Figure 18) are provided in Appendix A. Representative photos were taken at aquatic resources and upland areas. Photo points are shown on Figure 8 through Figure 18, and photos are provided in Appendix B. Data, including the width of the ordinary high water mark (OHWM) and bank to bank, were taken for each aquatic feature that occurred within the Project site, typically at the center of each feature.

4.2.1 Wetland Determination

Wetlands potentially subject to USACE jurisdiction were delineated based on the *Corps of Engineers Wetlands Delineation Manual* (1987 Manual) (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2010). Potential wetlands as defined by the USACE 1987 manual were evaluated using a three-parameter approach: dominance of hydrophytic vegetation, hydric soils, and wetland hydrology. The indicator status for vegetation was determined by the most current National Wetland Plant List (USACE 2020) and using the nomenclature offered in the US Department of Agriculture (USDA) NRCS PLANTS Database (NRCS 2023). Hydric soil determinations followed the guidance provided by the *Regional Supplement* and indicators described in *Field Indicators of Hydric Soils in the United States* (NRCS 2018).

The boundaries of wetlands were delineated with ESRI ArcGIS Collector©. A sub-meter geographic positioning system (GPS) was used in the field to map boundaries of aquatic resource features potentially subject to USACE jurisdiction. Data forms for each data point were completed in the field (Appendix C).

4.2.2 Waters Determination

The limits of non-wetland waters potentially subject to state or federal jurisdiction were determined following the methods outlined in *U.S. Army Corps of Engineers Field Guide to the Identification of the Ordinary High*

Water Mark in the Arid West Region of the Western United States (Lichvar and McColley 2008), *Mapping Episodic Stream Activity* (*MESA)*; (Brady and Vyverberg 2013), *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plan*ts (Brady and Vyverberg 2014), and CDFW's traditional definition of bed, channel, or bank as referenced in § 1602(a) of the California Fish and Game Code. The *MESA* protocol was developed to assist with delineation of streams in dryland environments, specifically within the arid and semi-arid Mojave, Sonoran, Great Basin, and eastern Sierra regions of California, to facilitate project permitting in compliance with California Fish and Game Code.

The OHWM, defined by USACE as the "line on the shore established by the fluctuation of water and indicated by physical characteristics such as a 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 area." Ironwood evaluated all linear water features for OHWM indicators to assist with delineation of the lateral extents of waters. Ironwood staff walked apparent stream features and recorded OHWM indicators associated with the primary low flow channel and floodplain at representative cross-sections. Where indicators were apparent, Ironwood recorded GPS points at the transition line between the low flow channel, active floodplain, and low terrace for all linear aquatic features in the Project site.

Field investigations conducted in spring 2023 and 2024 did not necessarily coincide with antecedent precipitation events; therefore, Ironwood ecologists relied on fluvial transport and deposition indicators from recent or historic episodic flow, as described in the MESA Guide (Brady and Vyverberg 2013), to identify and delineate channel and watercourse ("waters") features.

Such indicators included:

- Flow lineation
- Cut banks
- Sediment sorting
- Vegetation channel alignment
- Sand/gravel bars
- Mud cracks/curls
- Wrinkle marks
- Drift/wrack lines
- Exposed roots
- Scour
- Sand filled channels

Water features and riparian communities were mapped at a minimum scale of 1:6000, often down to 1:3000, as suggested in the MESA guidance for utility solar projects (Brady and Vyverberg 2013). Where vegetation contained a mixture of upland and desert wash-dependent indicator species from two or more vegetation communities, the indicator species that appeared with the greatest vegetation coverage (absolute dominance based on percent cover) was used to identify or verify the vegetation community.

Geomorphic indicator data were recorded at each data point location using a field data form specifically developed for this methodology based on the MESA Guide indicators (Brady and Vyverberg 2014). Documentation of physical indicators providing evidence of aquatic resource areas, as opposed to upland areas, provided a technical basis for: (1) determining the presence or absence of a stream, other types of watercourse, and lake/manmade reservoir and (2) if present, determining if the landform is active, dormant, abandoned, or relict as defined by the following criteria developed by Brady and Vyverberg (2013):

- **Active**: Hydrologically active watercourse. Active channels are subject to CDFW jurisdiction.
- **Dormant**: A watercourse isolated from its principal water source by natural causes or human-constructed features such as roads, but that retains its potential for hydrologic reactivation and stream / watercourse function.
- **Abandoned**: A watercourse in which water flow no longer occurs, such as a channel isolated from its water source by faulting or stream capture, or human-constructed features like levees, incised roadways, and surface flow diversions. The presence of physical indicators of fluvial inactivity is necessary to demonstrate abandonment, and the cause of the abandonment (such as a levee or road berm) should be identified. With time and the absence of flow, an abandoned channel will become a relict landform.
- **Relict**: Surface water flow no longer occurs, as demonstrated by the presence of physical indicators of antiquity, which demonstrate that the channel is a relict landform.

4.3 Post-field analysis

Post-field analysis was conducted by Ironwood ecologists and GIS specialists, in tandem, to code, define, designate, and edit all acquired field data representing jurisdictional waters. Acreages were calculated in ESRI ArcGIS. The linear path and extents of water features were digitized using polylines with an accompanying width measurement, which were used to convert polylines to polygons, or mapped with a GPS unit by walking flow path boundaries in the field. Wetland boundaries were digitized in the field by walking the lateral extents and recording location data with a GPS, which were converted to polygon data in ArcGIS. The resulting features were reviewed and further refined based on the interpretation of high-resolution aerial imagery.

5 Aquatic Features

5.1 Overview

Irrigation from the surrounding agricultural areas of the Imperial Valley and seepage from the All-American Canal infiltrate into the groundwater. This supplemental groundwater can be close to the surface in lower elevation areas. The Project site topography generally slopes from the central portion to the southwest where mesic swales vegetated with alkali goldenbush, honey mesquite, and tamarisk occur. These mesic vegetated swales continue to the southwest beyond the Project site becoming a mosaic of vegetation communities dominated by tamarisk, arrowweed, honey mesquite, or alkali golden bush. Typically, there is no defined channel associated with vegetated swales. To the west, the vegetated swales continue to occur adjacent and down slope of the All American Canal, which provides supplemental groundwater support from canal seepage.

These mesic vegetated swales have increased structural and biological diversity and provide important wildlife habitat, especially for migratory birds, but lack surface water that supports aquatic organisms. These swales may have areas where water temporarily pools after precipitation events but quickly infiltrates into the ground.

On the southern portion of the Project site, additional mesic vegetated swales occur near the All-American Canal. North of the canal, water appears to be provided from the canal to a mitigation wetland, which occurs outside of the Project site. The water for this mitigation wetland also supports additional mesic and riparian communities of honey mesquite, tamarisk, and arrowweed. South of the canal, seepage supports more mesic and riparian vegetated swales that generally continue to the south. Seepage from the All American Canal is known to support thousands of acres of wetlands in Mexico.

Throughout the Project site, areas of sand dunes and sand sheets stabilized by vegetation lacked defined channels and other aquatic features. Where there are distinct slope breaks, short, isolated erosional features occur. Water likely erodes these slope breaks and quickly infiltrates into the ground. The dunes change over time, which also changes the drainage patterns making aquatic features indiscernible throughout much of the Project site.

5.2 Results

The Project site has two NHD-mapped intermittent drainages on the western end (Figure 4). Based on the field investigations, Ironwood designated these intermittent drainages as vegetated swales. These vegetated swales are characterized by mesic/riparian woodlands or shrublands. Non-vegetated washes (described in Section 5.1) occur upslope of and flow into the vegetated swales. Aquatic resources identified by Ironwood ecologists, including the All American Canal and associated wetlands, are shown on Figure 8 through Figure 18 and are described below. A total of 172.02 acres of aquatic resources occurs within the Project site Table 5-1.

Table 5-1. Aquatic resources within the Project site.

Aquatic Resource	Project Development Area (acres)	Transmission Line Corridor (acres)	Total (acres)
Non-vegetated wash (bank to bank)	1.42	--	1.42
Alkali goldenbush-dominated vegetated wash	84.06	50.37	134.43
Microphyll Woodland/Desert Dry Wash Woodland)	5.31	4.87	10.18
Tamarisk-dominated vegetated wash	--	14.18	14.18
Arrowweed-dominated vegetated wash	--	2.21	2.21
Wetland	--	3.44	3.44
Other waters (Canal)	--	6.16	6.16
Total	**90.79**	**81.23**	**172.02**

5.2.1 Non-vegetated Washes

Several non-vegetated washes on the western portion of the Project site occur on the slope above and drain into alkali goldenbush desert scrub vegetated swales (Figure 12 through Figure 16). To the east and in the central portion of the Project site, a non-vegetated wash flows into alkali goldenbush desert scrub and microphyll woodland dominated by honey mesquite. Characteristics of flow were present and small channels were formed where the gradient was steep enough to allow for surface runoff to become channelized. These non-vegetated washes (channels) supported evidence of scour, cut banks, headcuts, vegetation channel alignment, and sand filled channels and were typically 1 ft to 2 feet wide. Photo 2 is representative of a non-vegetated wash that has episodic flow characteristics. About 1.42 acres of non-vegetated wash from bank to bank occur within the Project site (Table 5-1).

5.2.2 Vegetated Swales

Several areas designated as vegetated swales likely have shallower ground water than the surrounding uplands, which allows dense mesic and riparian species to occur. None of these areas designated as vegetated swales met the necessary criteria to be a wetland. A portion of these vegetated swales, dominated by woodlands, were previously identified as a desert dry wash woodland or sensitive aquatic resource and would be avoided by the Project. Three types of vegetation communities comprise the vegetated swales: alkali goldenbush desert scrub, arrowweed thickets, and tamarisk thickets. These are described below. A total of 150.82 acres of vegetated swale (alkali goldenbush, tamarisk, and arrowweed) occurs within the Project site (Table 5-1).

5.2.2.1 Alkali Goldenbush-dominated Vegetated Swale

Alkali goldenbush desert scrub occurs on the upper slopes and often within and around the boundaries of woodlands dominated by honey mesquite or tamarisk (Photos 1, 3, and 5). The alkali goldenbush-dominated vegetated swales are shown on Figure 9through Figure 18. Based on site conditions during the April 2024 site visit, surface cracks occurred intermittently within the alkali goldenbush desert scrub vegetated swales, which indicate water may temporarily pool before becoming subsurface flow or continuing down gradient. Soil cracks and vegetation channel alignments are indicators of episodic flow ((Brady and Vyverberg 2013)). North of Highway 98, alkali goldenbush desert scrub swales transition into microphyll woodlands, which were eliminated from the Project site in the current design. South of Highway 98, alkali goldenbush desert scrub vegetated swales occur adjacent to the road berms of the All American Canal and likely receive supplemental groundwater from canal seepage. A total of 134.43 acres of alkali goldenbush-dominated vegetated wash occur in the Project site (Table 5-1).

5.2.2.2 Tamarisk-dominated Vegetated Swales

Some areas north and south of road berms of the All-American Canal are mapped as non-native tamarisk community (Figure 17 and Figure 18) (Photos 9 and 10). This community likely receives supplemental supportive soil moisture from the All-American Canal. Approximately 14.18 acres of tamarisk-dominated vegetated swale occur within the Project site (Table 5-1).

5.2.2.3 Arrowweed-dominated Vegetated Swales

The arrowweed community occurs in a small portion of the Transmission Corridor (Figure 18). Arrowweed is typically found near seasonally flooded washes and stream borders and is considered a mesic species. About 2.21 acres of arrowweed-dominated vegetated swale occur within the Project site (Table 5-1).

5.2.3 Microphyll Woodland/Desert Dry Wash Woodland

Desert dry wash woodland, dominated by honey mesquite, occurs in the southern portion of the Project site (Figure 16) and south of the All American Canal (Figure 18). Desert Dry Wash Woodland is a xeric riparian vegetation community (Holland 1986). Areas mapped as Desert Dry Wash Woodland were flat or a low gradient slope. Holland (1986) describes this community as an open to relatively densely covered, drought-deciduous, microphyll (small compound leaves) riparian scrub woodland. Within the Project site, this vegetation community is dominated by an open tree layer of honey mesquite with alkali goldenbush or creosote bush in the understory. Approximately 10.18 acres of Desert Dry Wash Woodland dominated by honey mesquite occurs within the Project site, including the transmission line corridor (Table 5-1). In compliance with DRECP CMA requirements, Project infrastructure would avoid this Desert Dry Wash Woodland with a 200-ft buffer, except for minor incursions.

5.2.4 Open Water - The All-American Canal

The All-American Canal is part of the Yuma Project that conveys water from the Colorado River to the Imperial Valley for year-round irrigation. The All-American Canal flows through the transmission line corridor of the

Project site and has perennial flow. Approximately 6.16 acres and 1,969 linear feet of the All-American Canal bisect the transmission line corridor (Figure 17). Project infrastructure would avoid the All-American canal.

5.2.5 Wetlands

Wetlands within the Project site occur along both banks of the All-American Canal (Figure 17). Data were collected at two paired wetland and upland points (Table 5-2) The two wetlands (EM Wetland 2 and EM Wetland 3) are dominated by common reed (*Phragmites australis*), a facultative wetland species. Arrowweed, also a facultative wetland species, was present with low cover. Hydric soil indicators were assumed because of the dominance of a facultative wetland species and an abrupt transition to uplands and the presence of saturated soils. The All-American Canal is a perennial water source that provides year-round supportive hydrology for the wetlands along its banks. The transition to upland is abrupt with the presence of a bermed road on each side of the canal. Photos 7 and 8 show the wetland and upland data points respectively for EM Wetland 2.

Wetlands within the Project site were classified according to the Cowardin classification (Cowardin et al. 1979) The Cowardin classification system is used in the USFWS' National Wetland Inventory (NWI) for describing and categorizing wetlands and deepwater habitats based on a variety of characteristics. Wetlands within the Project site have a Cowardin classification of palustrine emergent (PEM) and totaled 3.44 acres (Table 5-2).

Table 5-2. Summary of wetland resources.

Wetland ID	Size (acres)	Associated Data Point	Latitude/Longitude	Cowardin Type
EM Wetland 2	1.62	EMDP12W, EMDP13U	32.705023/-115.202362	PEM
EM Wetland 3	1.81	EMDP15W, EMDP16U	32.705624/-115.202198	PEM
Total	**3.44**	**NA**	**NA**	**NA**

Total may differ from rounding.

5.2.6 Non-wetland Data Points

Some areas within the Project site had wetland indicator species present including arrowweed (FACW) and tamarisk (FAC) where data were collected to determine if the area met wetland criteria. Data for a wetland determination form was collected for Data Point EMDP 14U (Figure 18, Photo 9). While this area had hydrophytic vegetation as a dominance of arrowweed, this area was determined to be a non-wetland area because it lacked hydric soil and wetland hydrology indicators. Alkali powder was present on the soil surface, which can be an indicator of evaporation of saline ground water that may be derived from a deep-water table.

6 Jurisdictional Findings and Recommendations

The following discussion represents the best effort at determining the jurisdictional boundaries of aquatic resources using the most current regulations and guidance from the USACE and CDFW. Table 6-1 summarizes the acreage of aquatic resources with potential jurisdictional status for the USACE, RWQCB, and CDFW. It is recommended that agencies provide the final jurisdictional determination.

Table 6-1. Summary of potential jurisdictional status of aquatic resources.

Aquatic Resource	Development Area (acres)	Transmission Line Corridor (acres)[1]	U.S. Army Corps of Engineers	RWQCB Waters of the State	CDFW 1602 Resources
Wetlands	--	3.44	Possibly subject to USACE jurisdiction; recommend requesting an approved Jurisdictional Determination if these wetlands would be impacted.	Likely subject to RWQCB jurisdiction	Subject to CDFW 1602 jurisdiction
Open Water – manmade All American Canal	--	6.16	Possibly subject to USACE jurisdiction; recommend requesting an approved Jurisdictional Determination if the canal would be impacted.	Likely subject to RWQCB jurisdiction	Subject to CDFW 1602 jurisdiction
Non-vegetated Wash (Bank to Bank)	1.42	--	Not subject to USACE jurisdiction	Subject to RWQCB jurisdiction	Subject to CDFW 1602 jurisdiction
Vegetated Swale (alkali goldenbush, tamarisk, and arrowweed)	84.06	66.76	Not subject to USACE jurisdiction	Possibly subject to RWQCB jurisdiction	Subject to CDFW 1602 jurisdiction
Microphyll Woodland/ Desert Dry Wash Woodland (Mesquite thickets)	5.31	4.87	Not subject to USACE jurisdiction	Subject to RWQCB jurisdiction	Subject to CDFW 1602 jurisdiction

[1]Impacts on aquatic resources within the Transmission Line Corridor would be smaller than what is shown in final design.

6.1 Clean Water Act (§ 401 and § 404)

The All-American Canal and its adjacent wetlands may be subject to USACE jurisdiction. Although the final design is not yet complete, the Project will likely avoid any impact to the All-American Canal and its associated wetlands, with transmission line impacts occurring outside of these areas. If the Project would result in the discharge of fill material into the All-American Canal or its wetlands, Ironwood recommends requesting an Approved Jurisdictional Determination issued by the USACE to confirm status of federal jurisdiction. If the All-American Canal is determined to be non-jurisdictional or no impacts are planned, a Section 404 permit would not be required for the discharge of fill into these aquatic resources.

6.2 California Porter-Cologne Water Quality Act

The RWQCB regulates discharges to jurisdictional waters under the California Porter-Cologne Water Quality Control Act, which is implemented through issuance of National Pollutant Discharge Elimination System permits for point source discharges and WDRs for non-point source discharges.

The California WQCB regulations adopted in 2020 require project proponents to apply to the appropriate RWQCB to obtain authorization for dredge or fill in jurisdictional waters of the State. Based on the findings above, it is likely that some or all the aquatic features within the Project site would fall under the jurisdiction of RWQCB. An application should be submitted to the Colorado River Basin RWQCB, along with the required supplemental material (including precise impact calculations) and fee. CEQA review will be required to describe the effects on jurisdictional waters of the State.

6.3 California Fish and Game Code §§ 1600–1616

California Fish and Game Code § 1602 requires project proponents to notify CDFW prior to any activity that may substantially modify CDFW-jurisdictional streambeds. Based on the findings above, a Notification of Lake or Streambed Alteration application should be submitted to CDFW, along with the required supplemental material (including precise impact calculations) and fee. CEQA review will be required to describe the effects to CDFW-jurisdictional streambeds and associated riparian habitat. The area estimated to meet the definition of CDFW-jurisdictional waters within the Project site are shown in Table 6-1.

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Appendix A — Figures

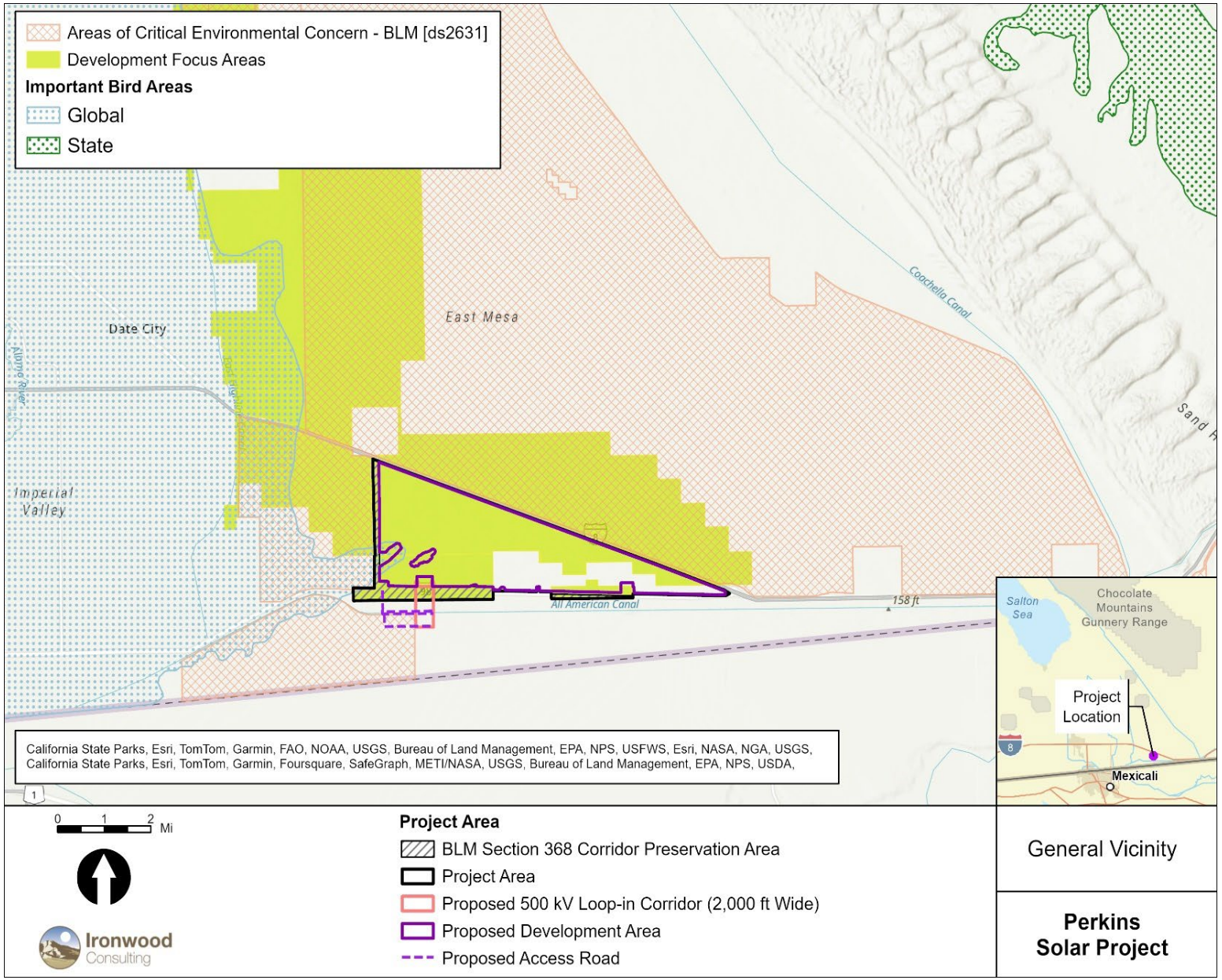


Figure 1. General Vicinity

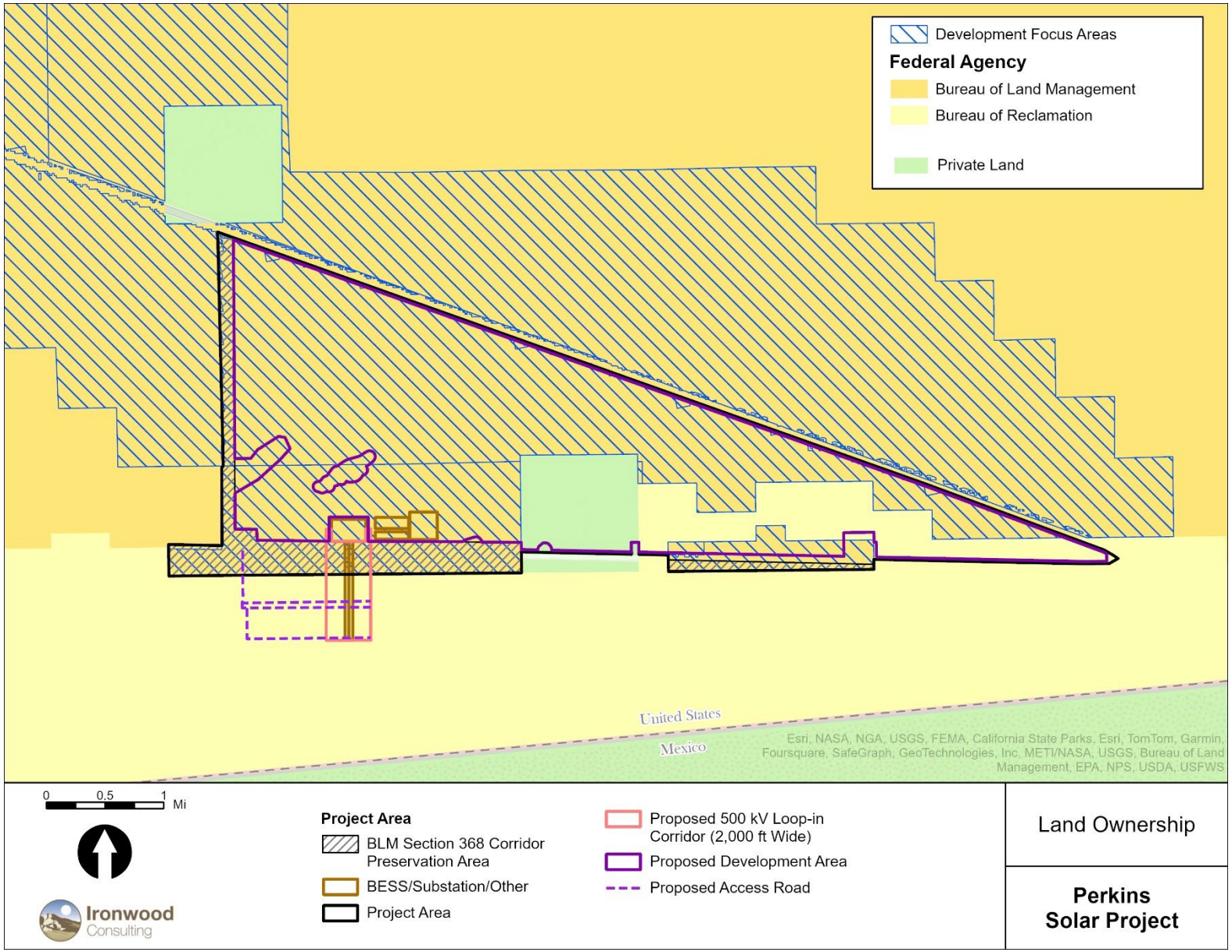


Figure 2. Land Ownership

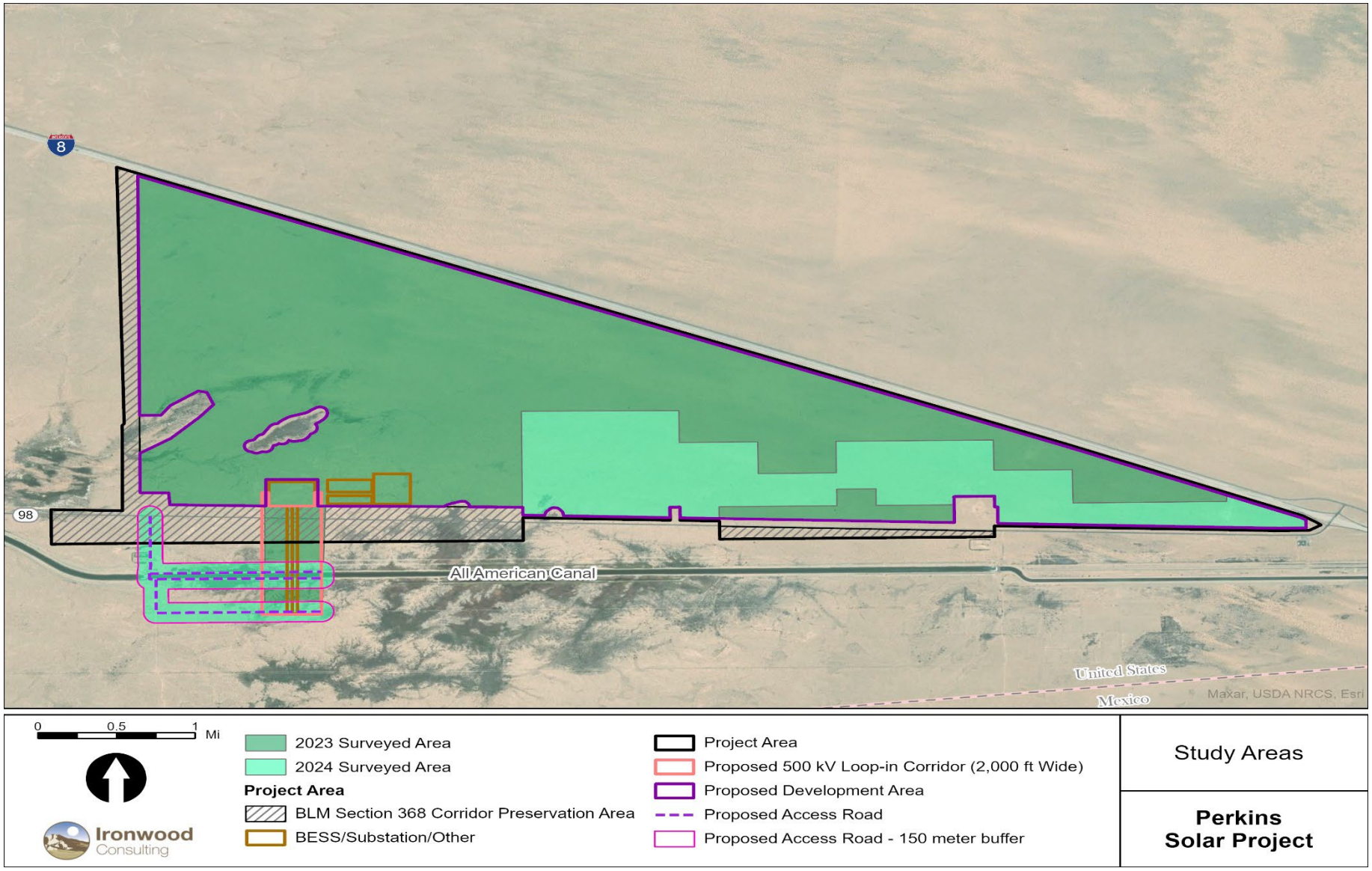


Figure 3. Study Areas

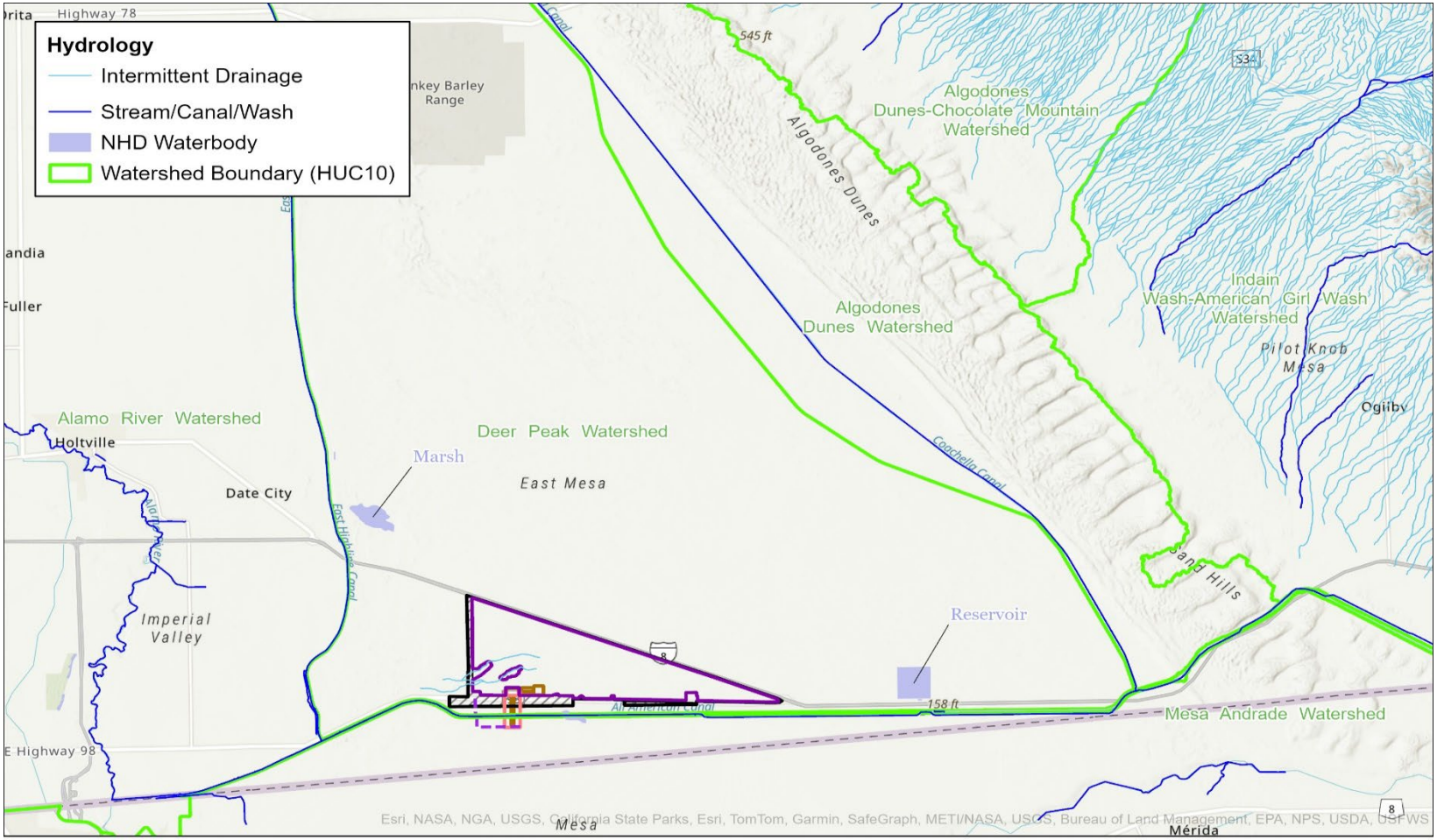


Figure 4. Hydrology and Watersheds

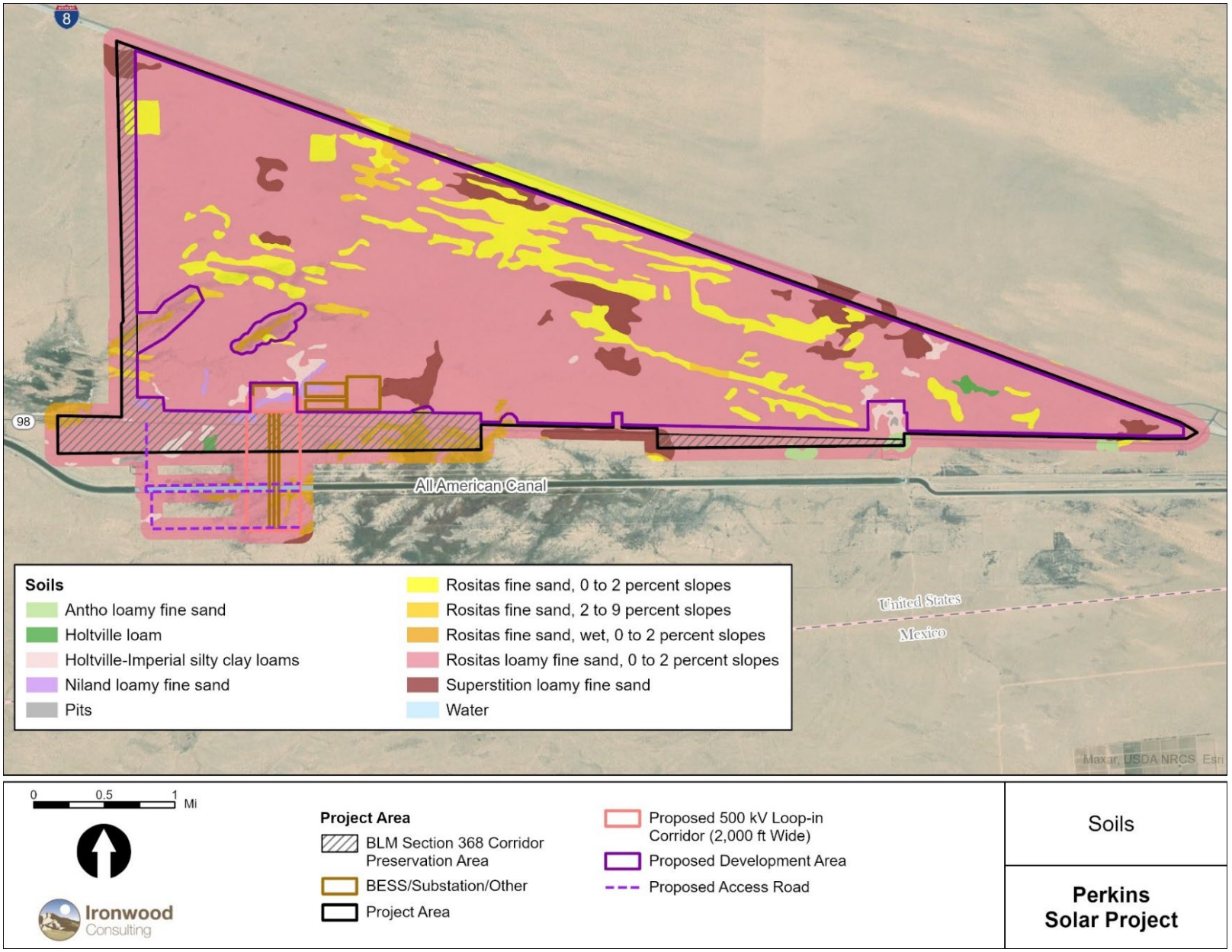


Figure 5. Soils.

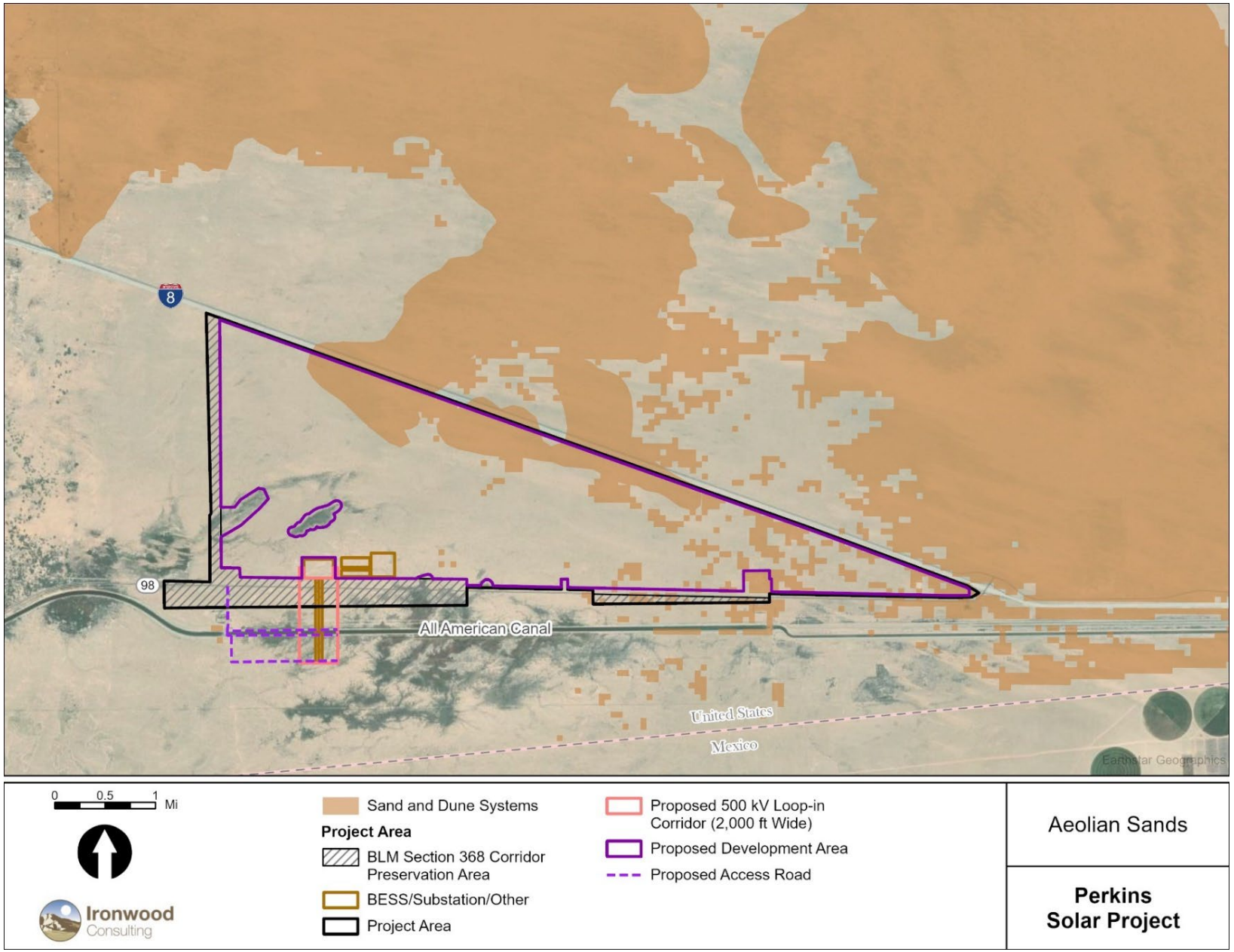


Figure 6. Aeolian Sands

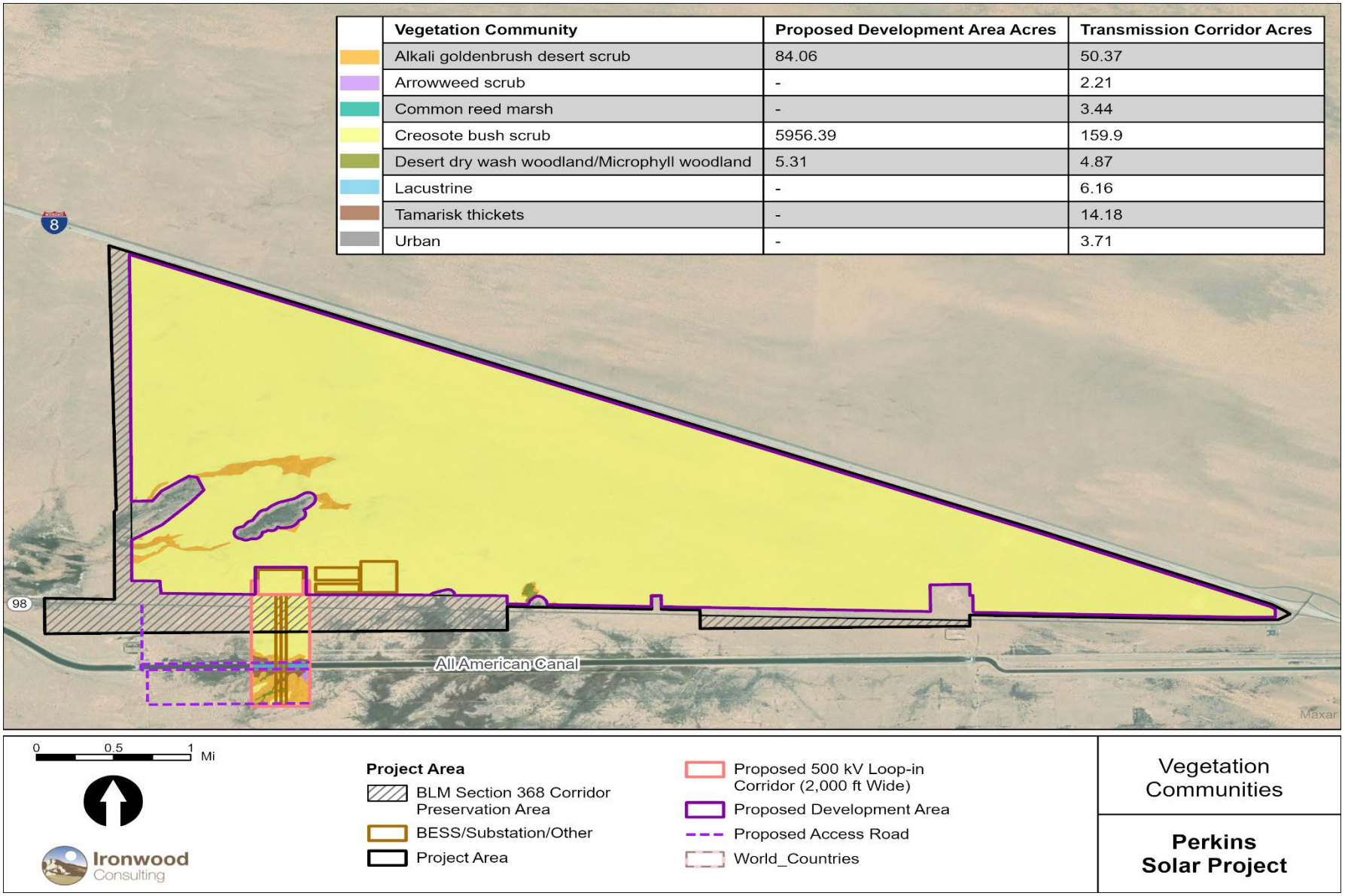


Figure 7. Vegetation Communities.

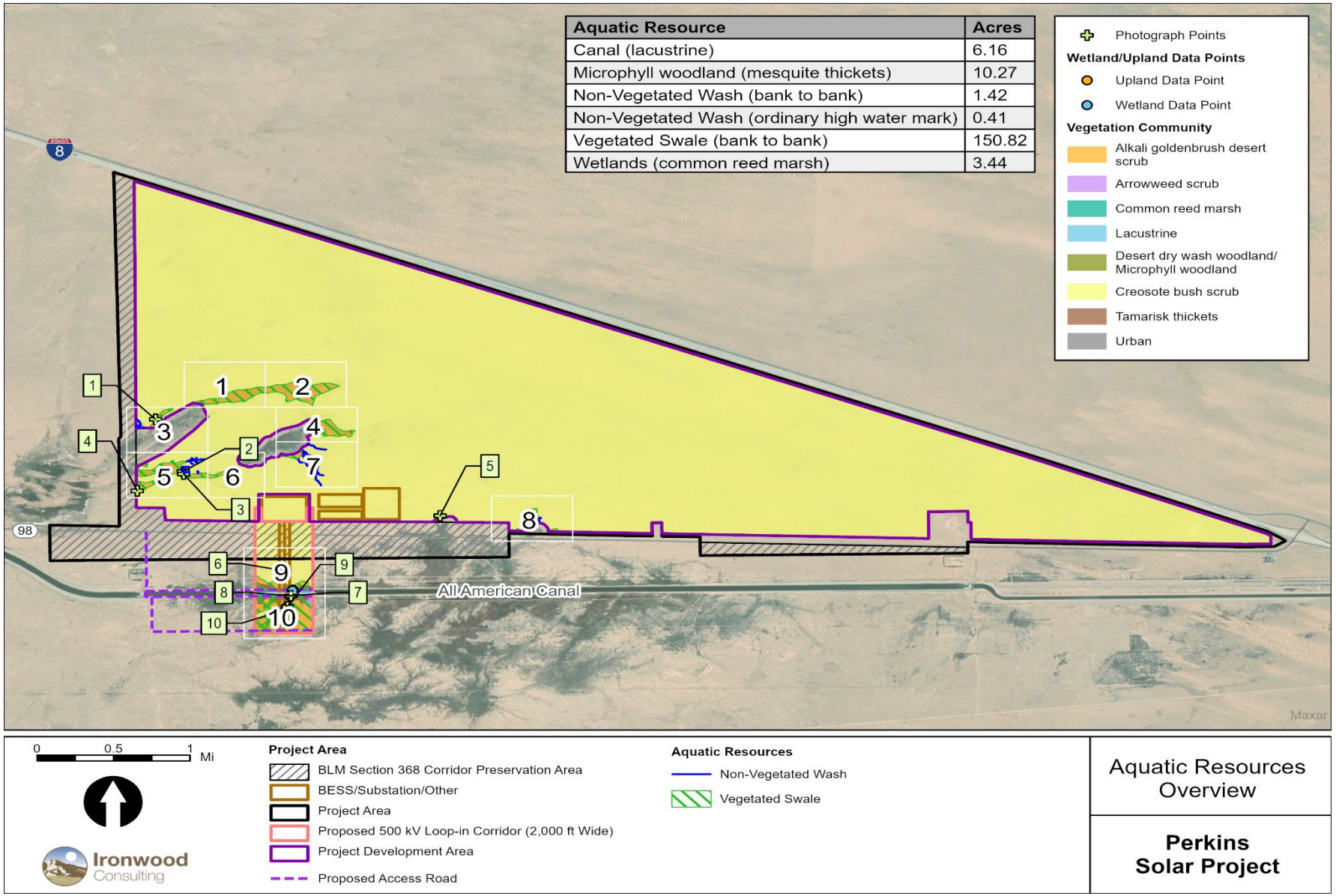


Figure 8. Aquatic Resources Overview.

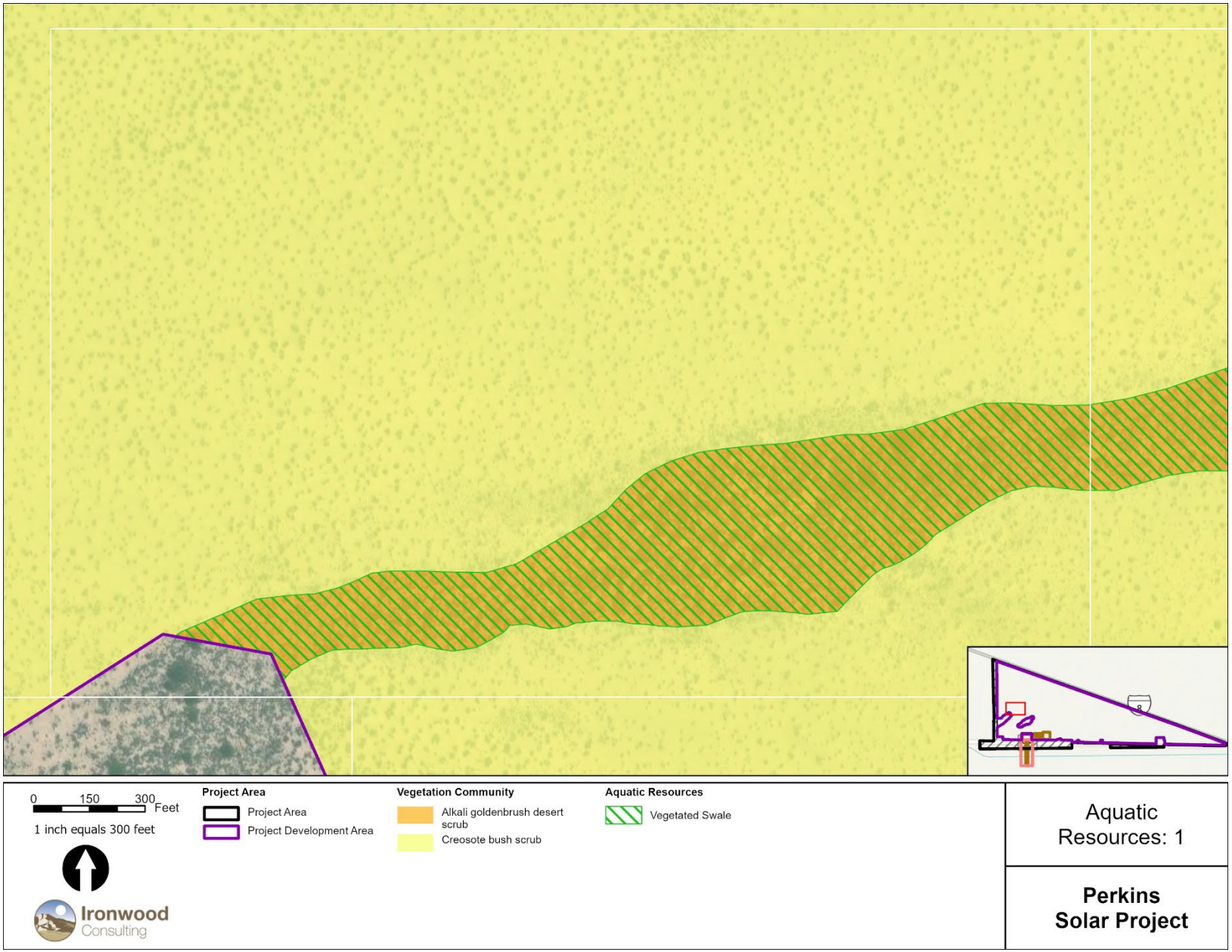


Figure 9. Aquatic Resources Map 1

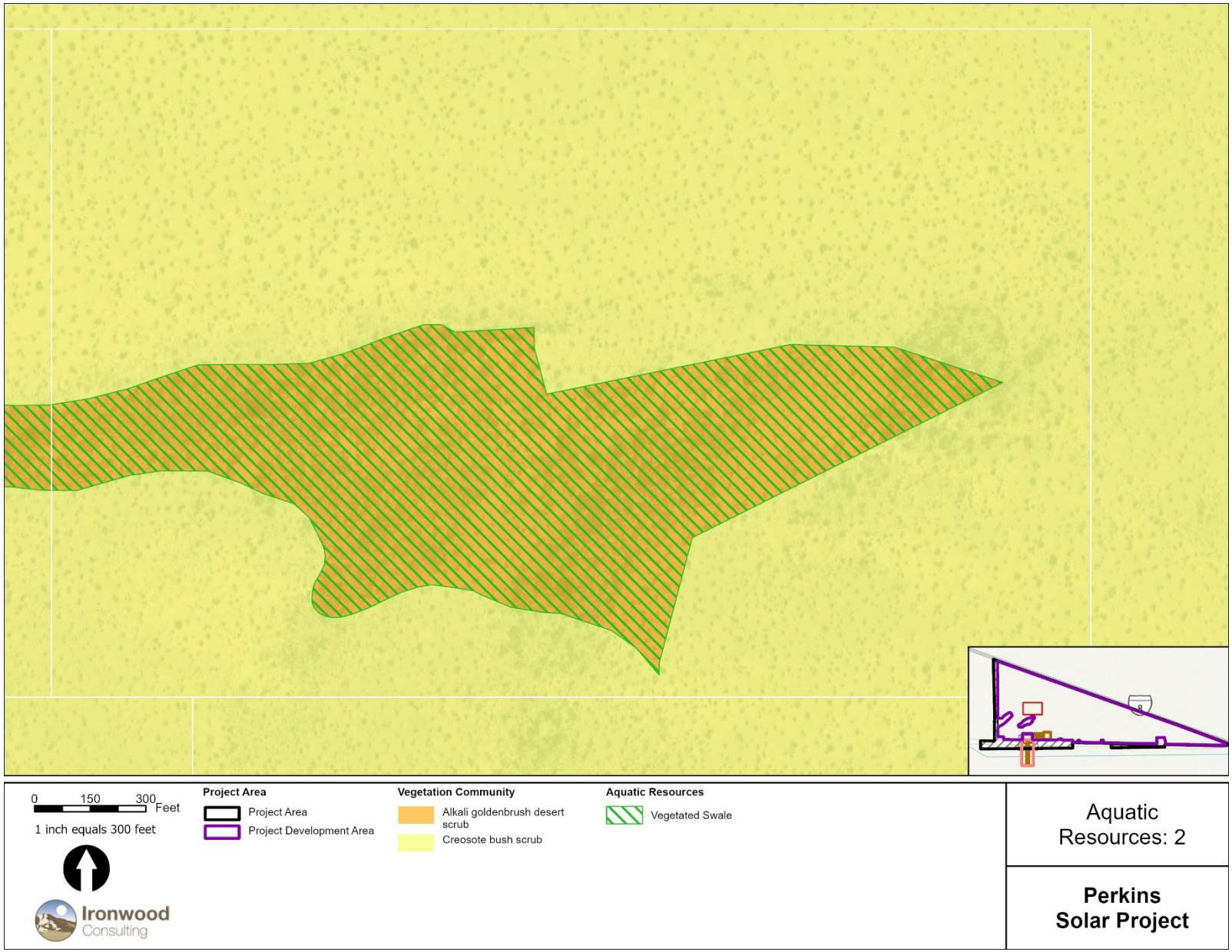
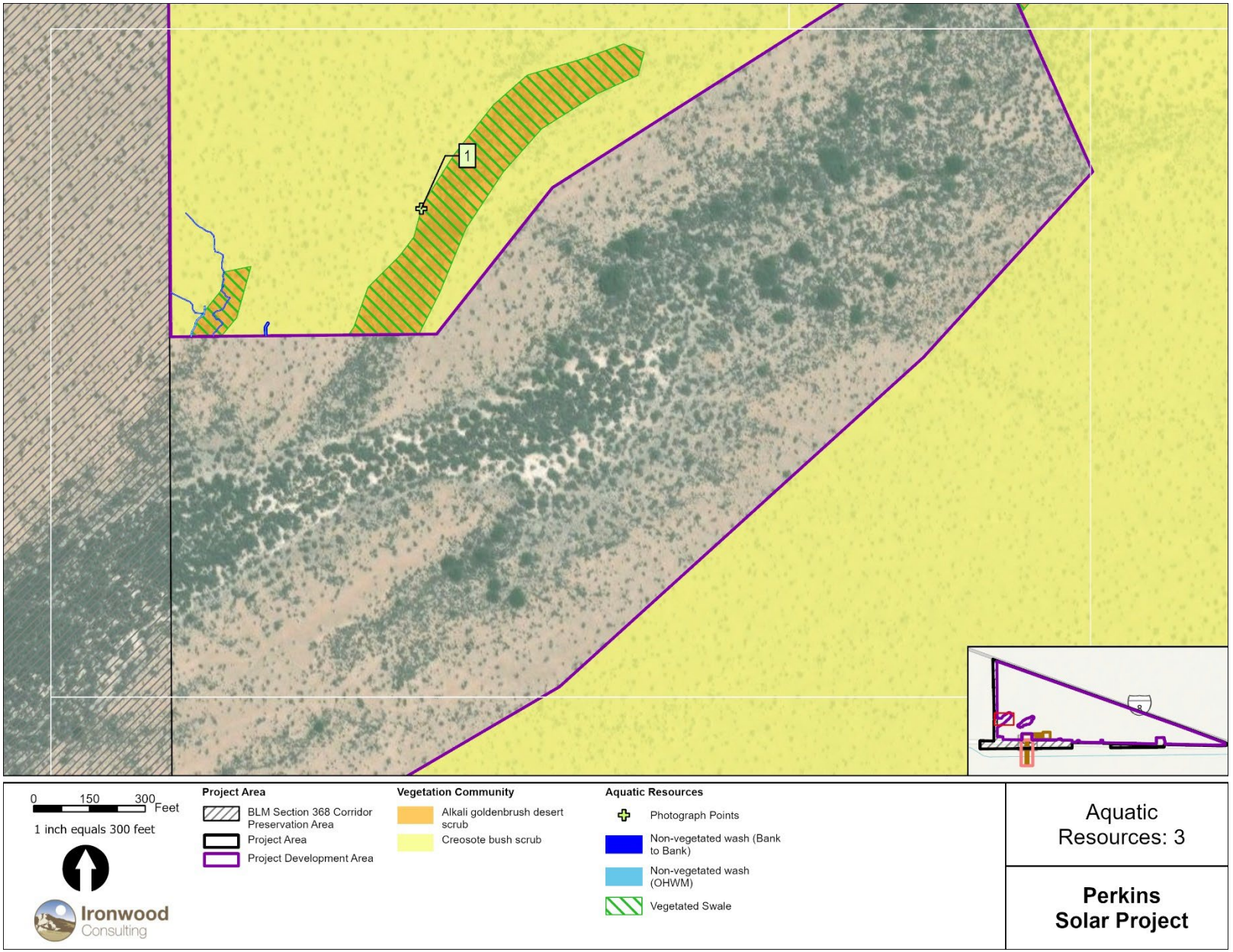


Figure 10. Aquatic Resources Map 2



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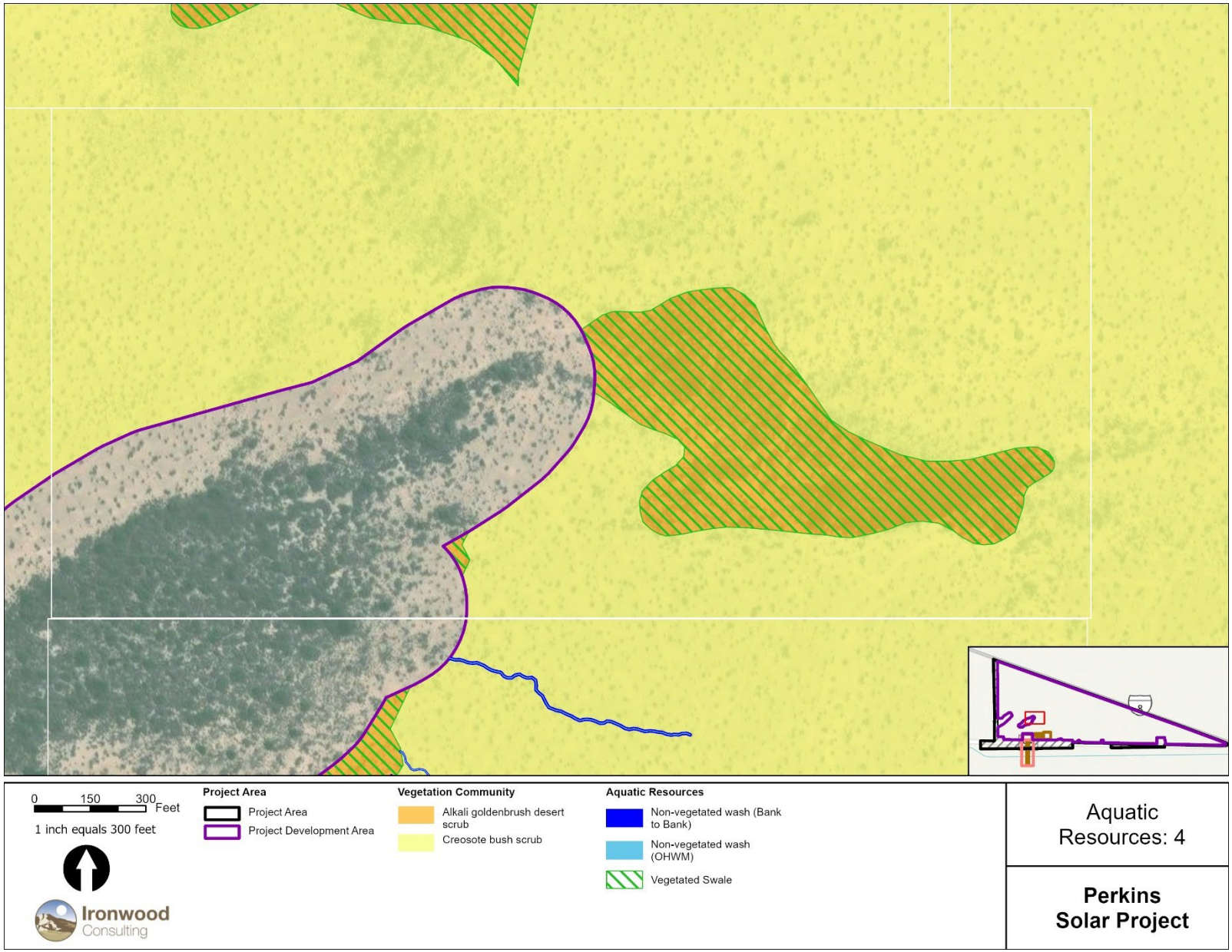

Figure 12. Aquatic Resources Map 4

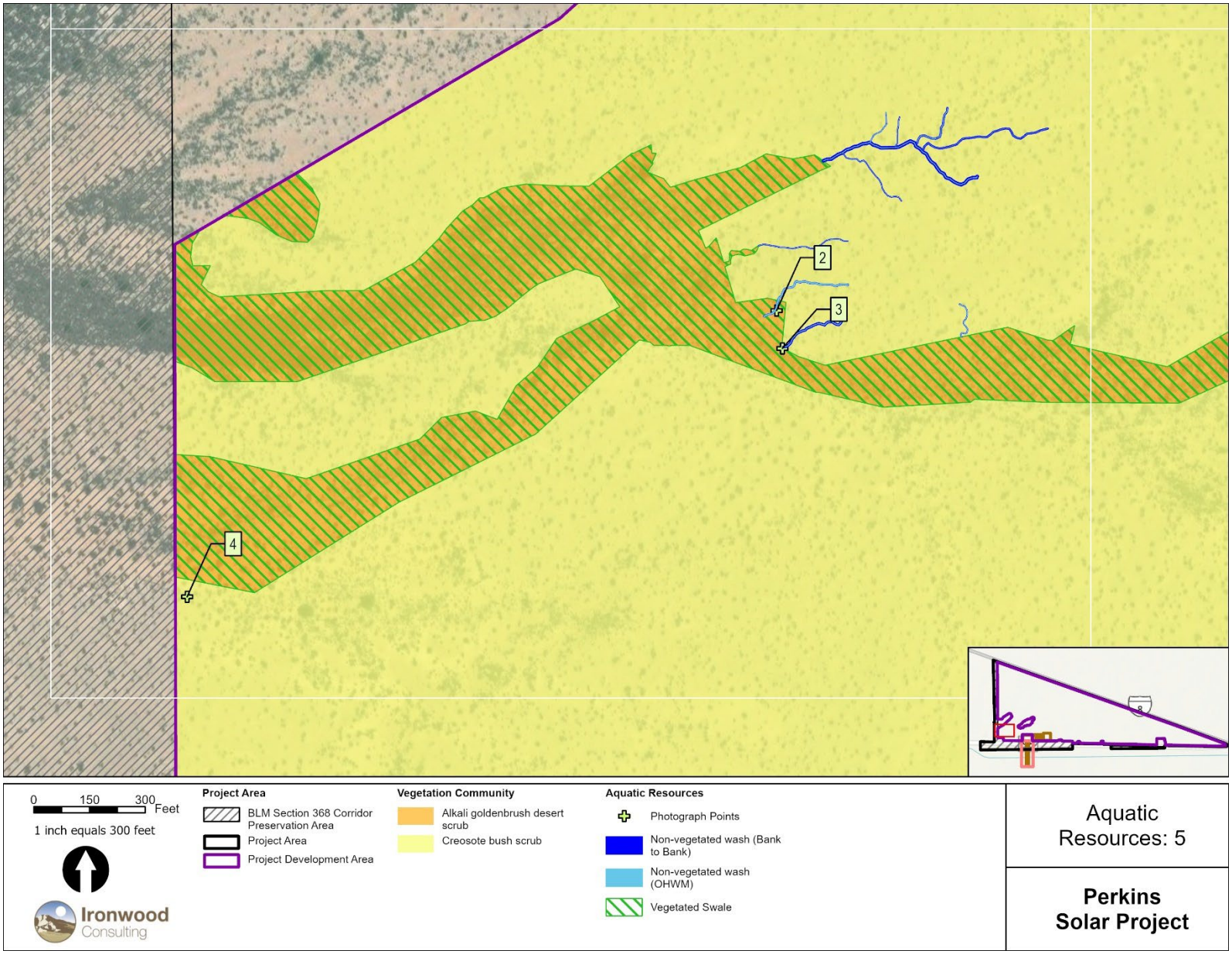

Figure 13. Aquatic Resources Map 5.

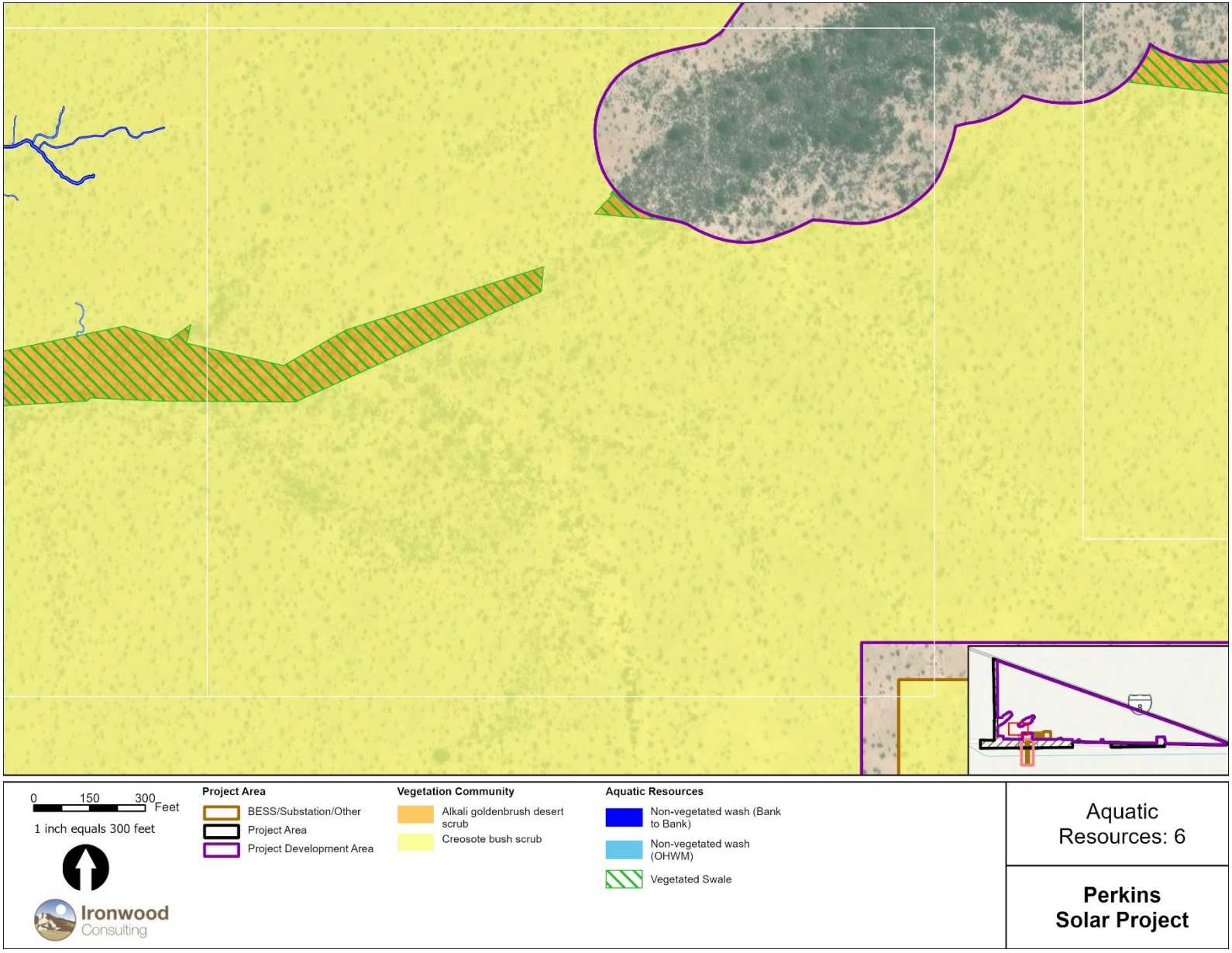

Figure 14. Aquatic Resources Map 6

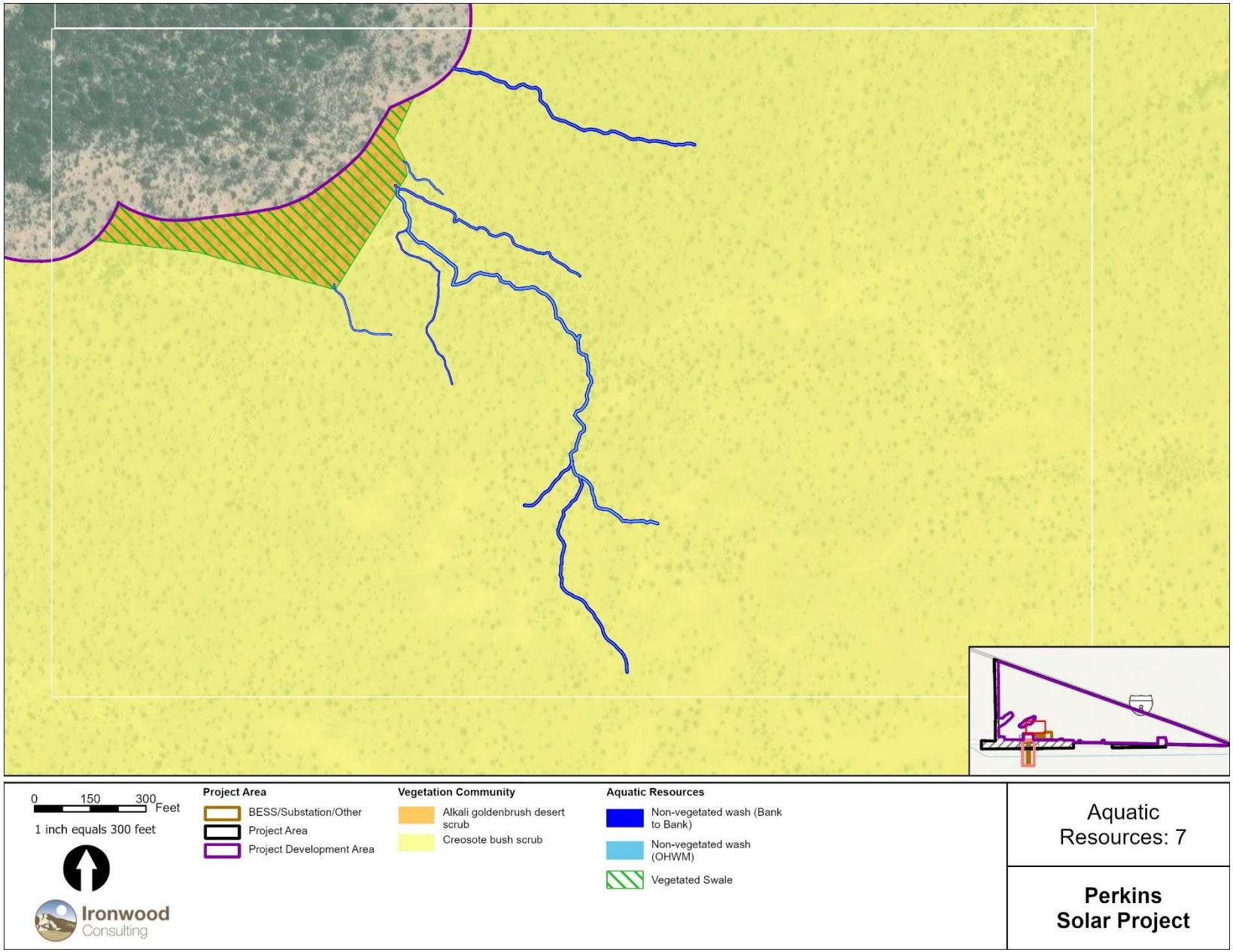

Figure 15. Aquatic Resources Map 7

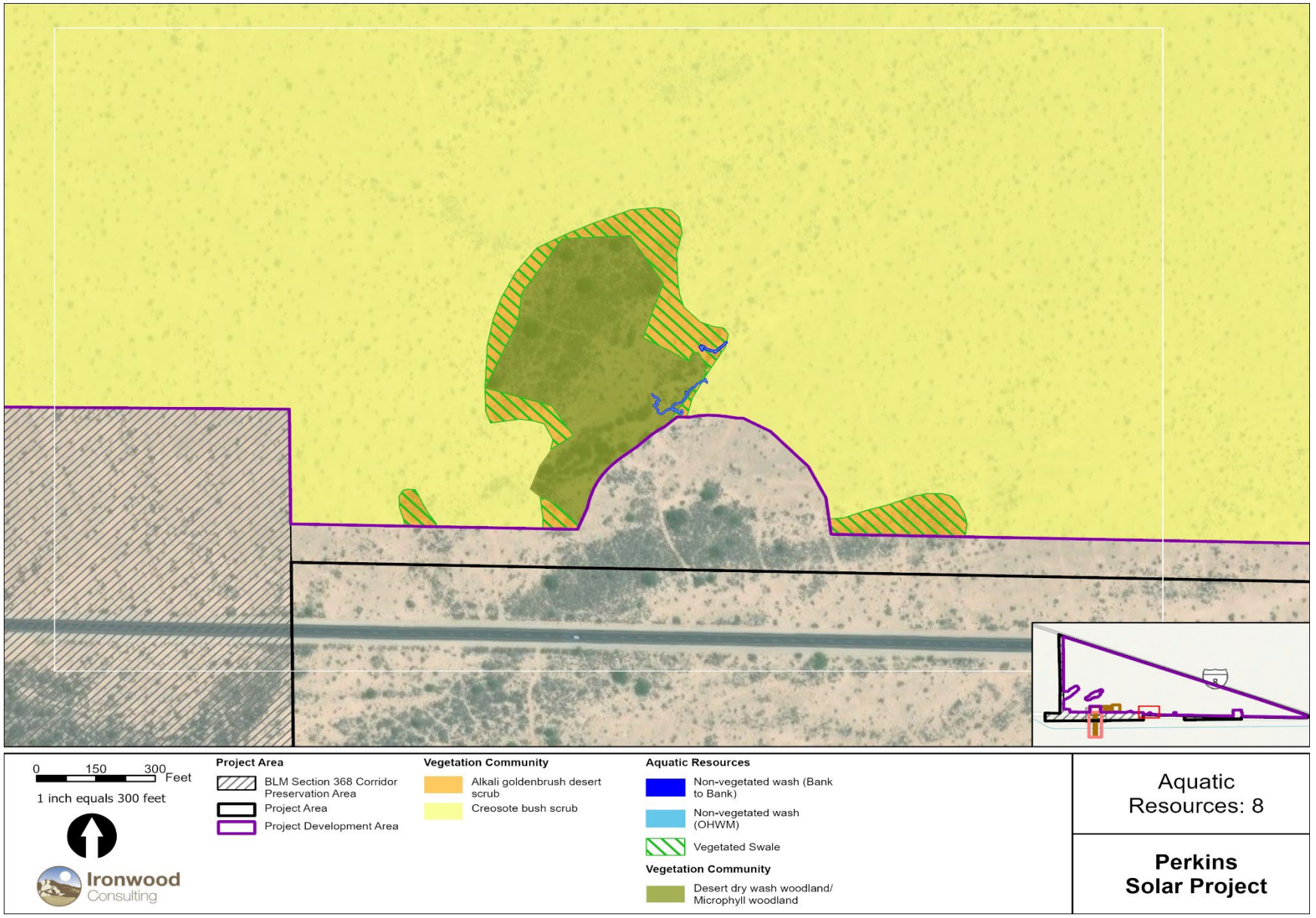

Figure 16. Aquatic Resources Map 8

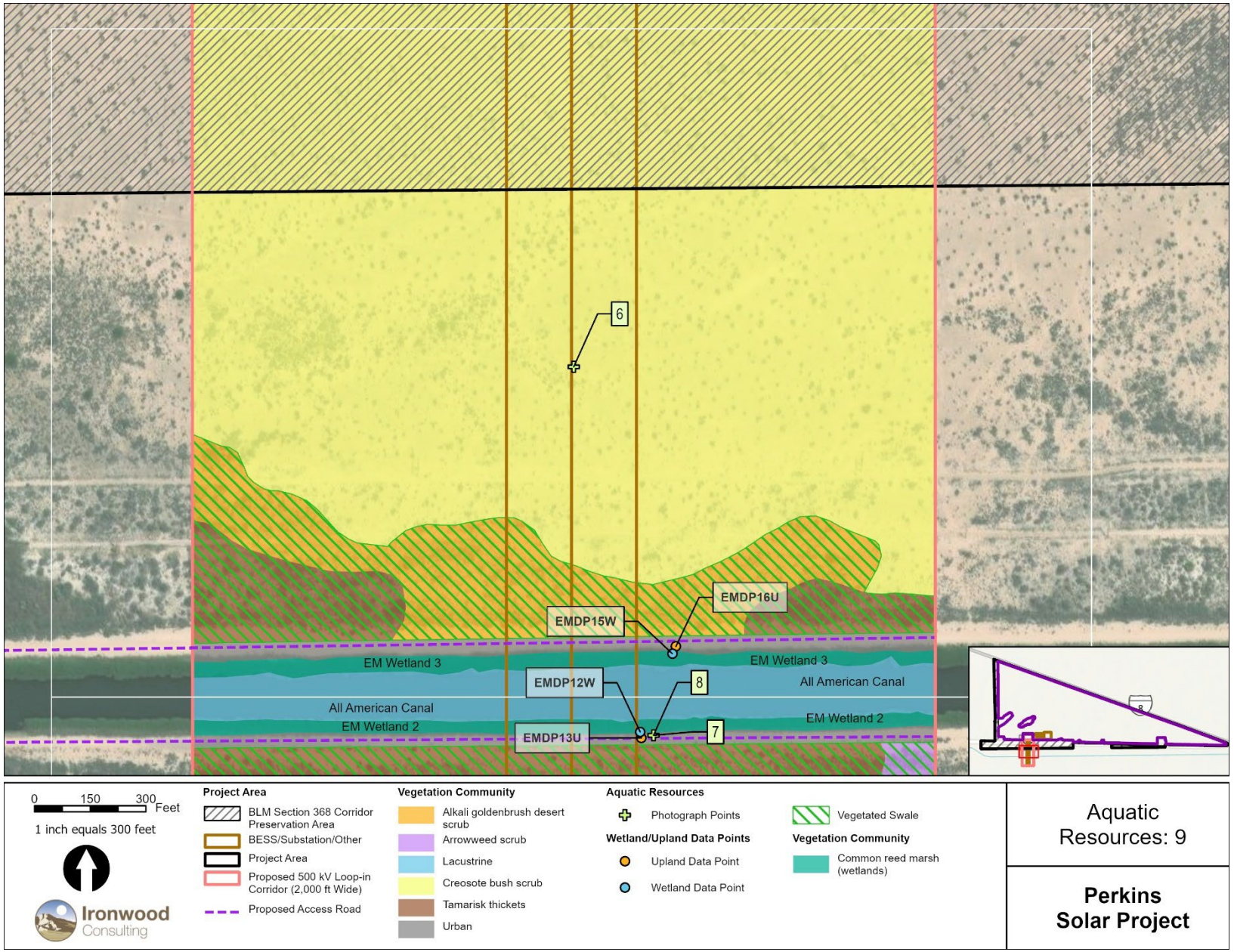

Figure 17. Aquatic Resources Map 9

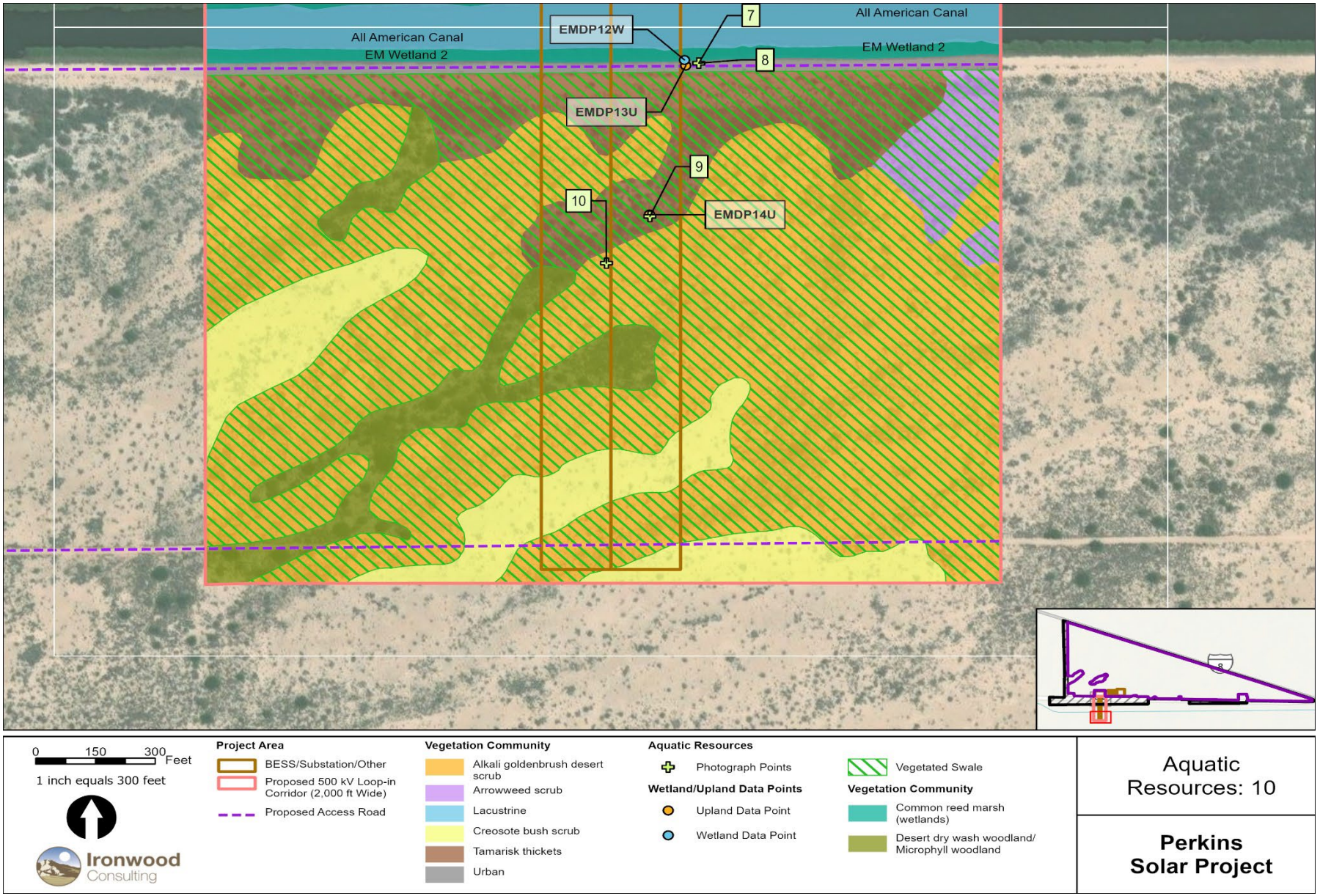

Figure 18. Aquatic Resources Map 10

Appendix B — Photo Log

Photo point 1. Alkali goldenbush-dominated vegetated swale with honey mesquite on left side of photo.

Photo Point 2. Non-vegetated Wash (channel).

Photo Point 3. Alkali goldenbush-dominated vegetated swale downslope of non-vegetated wash.

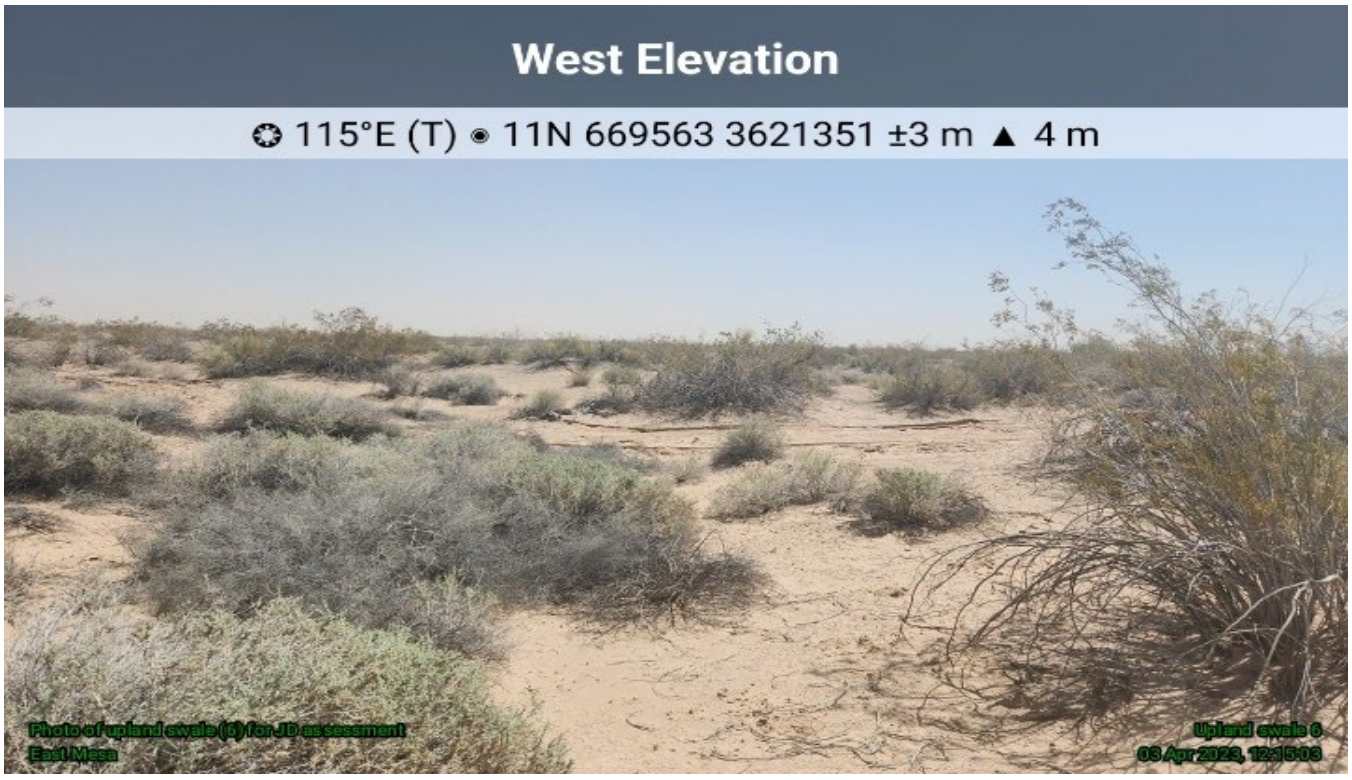

Photo Point 4. *Larrea tridentata-Ambrosia dumosa* upland area that lacks episodic flow indicators.

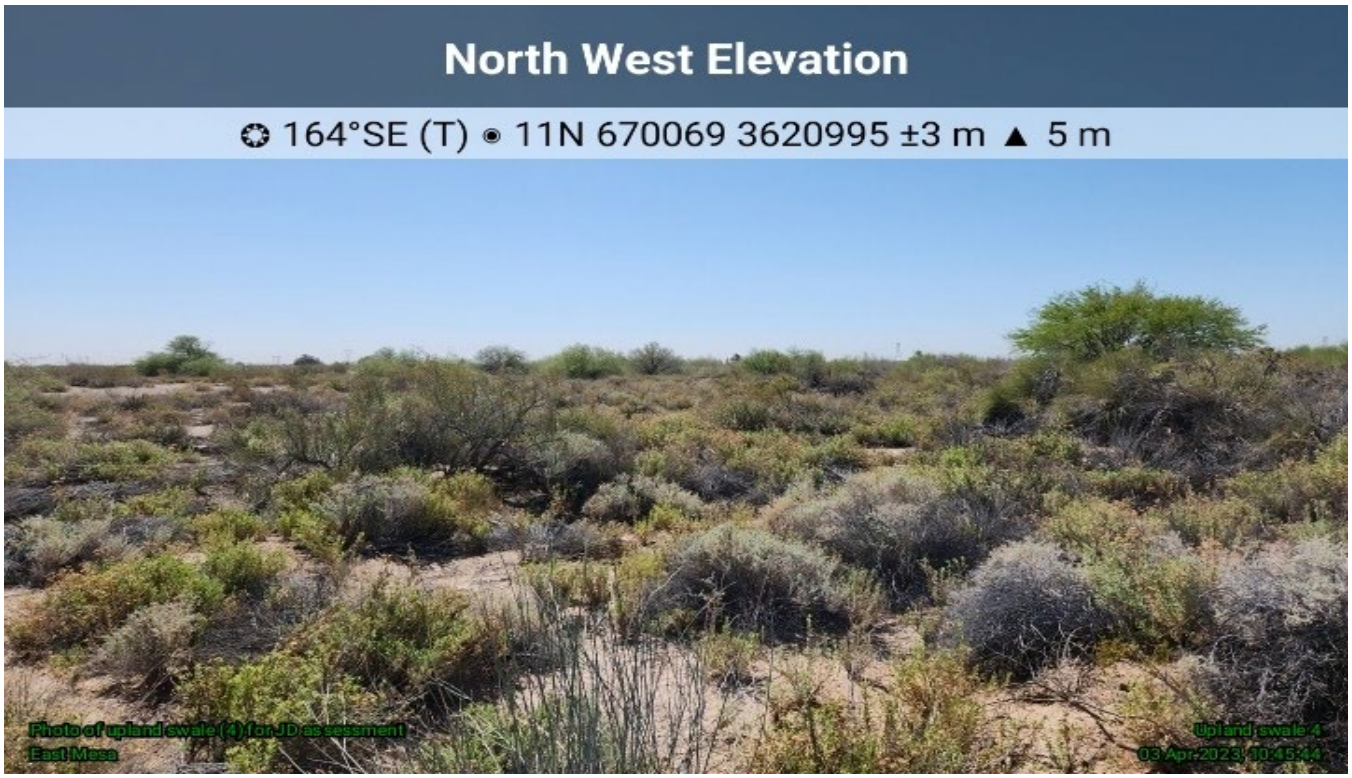

Photo Point 5. Alkali goldenbush-dominated vegetated swale.

Photo 6. Upland vegetated area that lacked indicators of episodic flow.

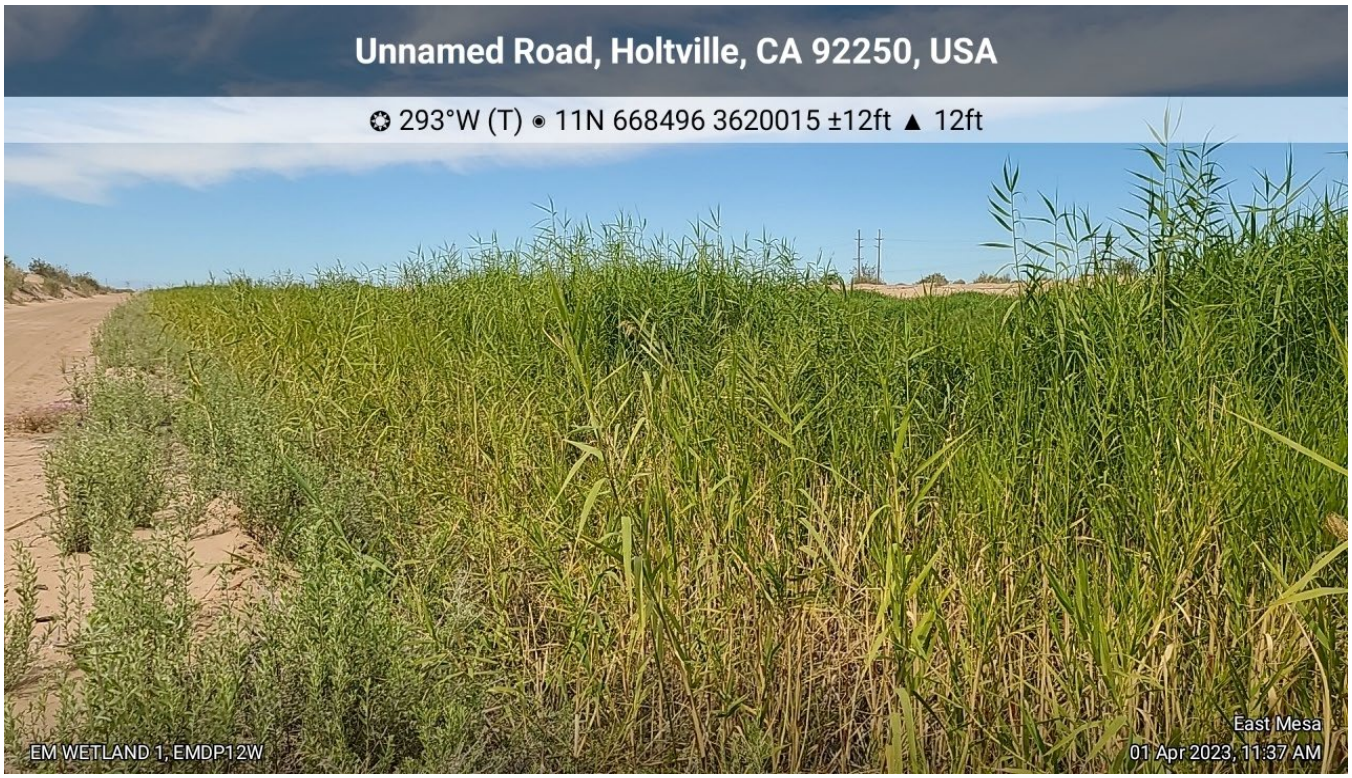

Photo Point 7. Data point EMDP14W at EM Wetland 2, along the All-American Canal.

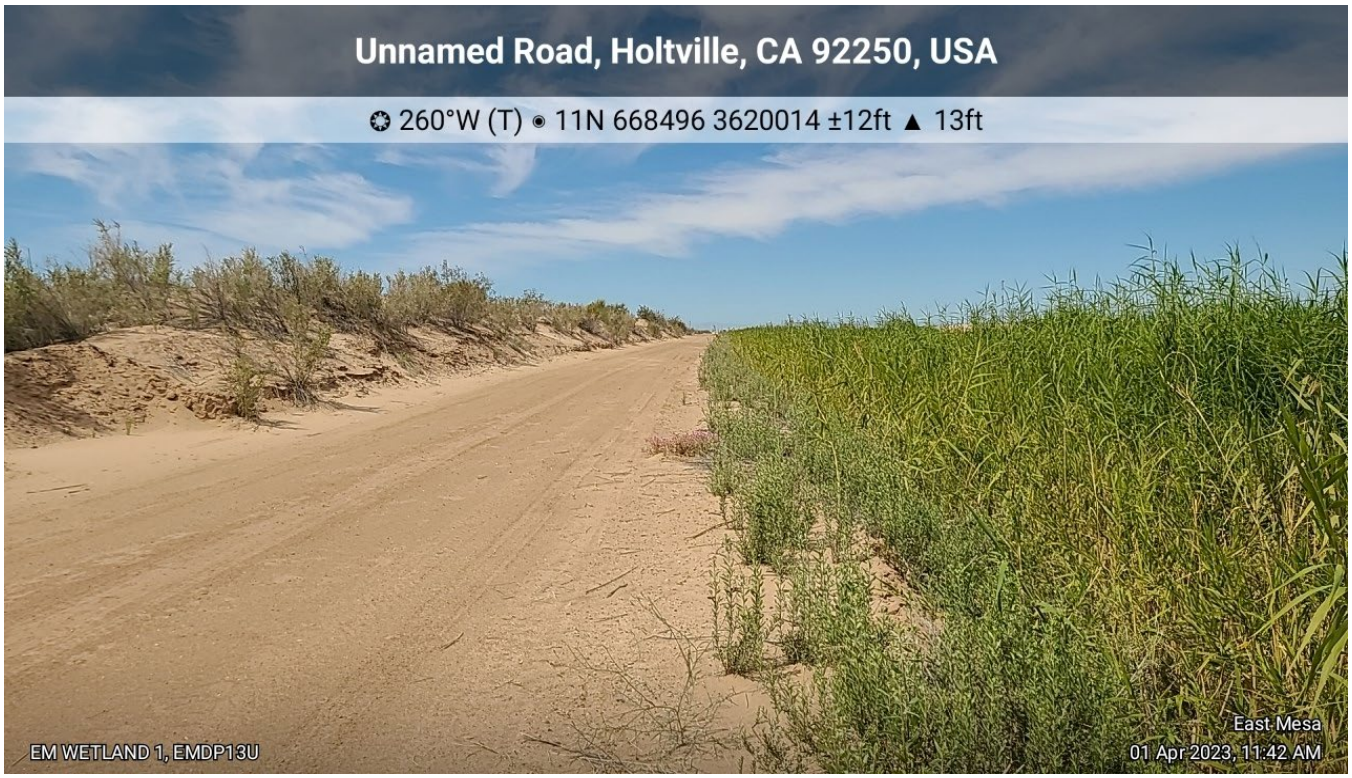

Photo Point 8. Upland Data point (EMDP15U) associated with EM Wetland 2, along the All-American Canal.

Photo Point 9. Tamarisk-dominated vegetated swale with arrowweed as a co-dominant species. Location of Upland data point EMDP14U. Hydrophytic vegetation is present, but the area lacked hydric soil and wetland hydrology indicators.

Photo 10.Tamarisk-dominated vegetated swale.

Appendix C — Wetland Determination Forms

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Perkins Renewable Energy Project City/County: Imperial Sampling Date: 4/1/2023
Applicant/Owner: IP Perkins, LLC and IP Perkins BAAH, LLC State: CA Sampling Point: EMDP12W
Investigator(s): L, Rouse ; H. Oswald Section, Township, Range: S35, T16S, R17E
Landform (hillside, terrace, etc.): canal fringe Local relief (concave, convex, none): concave Slope (%): <1
Subregion (LRR): LRR D Lat: 32.705048 Long: -115.202366 Datum: WSG84
Soil Map Unit Name: Rositas, fine sand, wet, 0 to 2 percent slopes NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation n , Soil n , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes y No ____
Are Vegetation n , Soil n , or Hydrology No 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 X No ____
Hydric Soil Present? Yes x No ____
Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? **Yes** X **No** ____

Remarks:
Wetland data point for EM Wetland 2, a wetland along the southern bank of the Great American Canal.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30)			
1. none			
2.			
3.			
4.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Pluchea sericea*	2	No	FACW
2.			
3.			
4.			
5.			
	2 =Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phragmites australis*	75	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	75 =Total Cover		
Woody Vine Stratum (Plot size:)			
1. None			
2.			
	=Total Cover		

% Bare Ground in Herb Stratum 25 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:
Monoculture of Phragmites along the banks of the Great American Canal

SOIL

Sampling Point: EMDP12W

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- x Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** ____

Remarks:
Because the vegetation was dominated by FACW species and there was an abrupt transistion to uplands, no soil data required to determine hydric soil is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No x Depth (inches): ____

Water Table Present? Yes ____ No x Depth (inches): ____

Saturation Present? Yes x No ____ Depth (inches): 12

(includes capillary fringe)

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Adjacent to the All American Canal that provides constant supportive hydrology.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Perkins Renewable Energy Project City/County: Imperial Sampling Date: 4/1/2023
Applicant/Owner: IP Perkins, LLC and IP Perkins BAAH, LLC State: CA Sampling Point: EMDP13U
Investigator(s): L, Rouse ; H. Oswald Section, Township, Range: S2, T17S, R17E
Landform (hillside, terrace, etc.): disturbed road Local relief (concave, convex, none): none Slope (%): <1
Subregion (LRR): LRR D Lat: 32.705003 Long: -115.202355 Datum: WSG84
Soil Map Unit Name: Rositas, fine sand, wet, 0 to 2 percent slopes NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation n , Soil n , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes y No ____
Are Vegetation n , Soil n , or Hydrology No 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 x	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No x	
Wetland Hydrology Present?	Yes ____	No x	

Remarks:
Paired upland data point for EM Wetland 2, adjacent to the Great American Canal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. none			
2.			
3.			
4.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Pluchea sericea*	5	Yes	FACW
2.			
3.			
4.			
5.			
	5 =Total Cover		
Herb Stratum (Plot size: 5)			
1. *Palafoxia arida*	3	No	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	3 =Total Cover		
Woody Vine Stratum (Plot size:)			
1. None			
2.			
	=Total Cover		

% Bare Ground in Herb Stratum 92 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Unvegetated canal road

SOIL

Sampling Point: EMDP13U

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	5YR 5/6	100					Sandy	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) **(LRR C)**
___ 1 cm Muck (A9) **(LRR D)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR C)**
___ 2 cm Muck (A10) **(LRR B)**
___ Iron-Manganese Masses (F12) **(LRR D)**
___ Reduced Vertic (F18)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ____ No x

Remarks:
Disturbed road fill, no hydric soil indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) **(Nonriverine)**
___ Sediment Deposits (B2) **(Nonriverine)**
___ Drift Deposits (B3) **(Nonriverine)**
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Water Marks (B1) **(Riverine)**
___ Sediment Deposits (B2) **(Riverine)**
___ Drift Deposits (B3) **(Riverine)**
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
x FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No x Depth (inches): ____
Water Table Present? Yes ____ No x Depth (inches): ____
Saturation Present? Yes ____ No x Depth (inches): ____
(includes capillary fringe)

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
On the road adjacent to the All American Canal, at least 10 feet above OHWM.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Perkins Renewable Energy Project | City/County: Imperial | Sampling Date: 4/1/2023
Applicant/Owner: IP Perkins, LLC and IP Perkins BAAH, LLC | State: CA | Sampling Point: EMDP14U
Investigator(s): L, Rouse ; H. Oswald | Section, Township, Range: S2, T17S, R17E
Landform (hillside, terrace, etc.): alkali flat | Local relief (concave, convex, none): none | Slope (%): <1
Subregion (LRR): LRR D | Lat: 32.703833 | Long: -115.202667 | Datum: WSG84
Soil Map Unit Name: Rositas, fine sand, wet, 0 to 2 percent slopes | NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation n , Soil n , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes y No ____
Are Vegetation n , Soil n , or Hydrology No 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 x	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No x	
Wetland Hydrology Present?	Yes ____	No x	

Remarks:
Upland data point in mesic area with some wetland indicator species

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. none			
2.			
3.			
4.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Pluchea sericea*	30	Yes	FACW
2. *Isocoma acradenia*	25	Yes	FACU
3. *Tamarix ramomissima*	10	No	FAC
4.			
5.			
	65 =Total Cover		
Herb Stratum (Plot size: 5)			
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
Woody Vine Stratum (Plot size:)			
1. None			
2.			
	=Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	10	x 3 =	30
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	65 (A)		190 (B)

Prevalence Index = B/A = 2.92

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks:
Woody species not great hydrophytic vegetation indicator when herbeous species are lacking.

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SOIL

Sampling Point: EMDP14U

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	5YR 5/6	100					Sandy	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** x

Remarks:
No hydric soil indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes ____	No x	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No x	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Unlikely that soil is saturated to the surface for substantial periods. Alkali powder present indicating deep groundwater.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Perkins Renewable Energy Project City/County: Imperial Sampling Date: 4/1/2023
Applicant/Owner: IP Perkins, LLC and IP Perkins BAAH, LLC State: CA Sampling Point: EMDP15W
Investigator(s): L, Rouse ; H. Oswald Section, Township, Range: S2, T17S, R17E
Landform (hillside, terrace, etc.): canal fringe Local relief (concave, convex, none): concave Slope (%): <1
Subregion (LRR): LRR D Lat: 32.705624 Long: -115.202077 Datum: WSG84
Soil Map Unit Name: Rositas, fine sand, wet, 0 to 2 percent slopes NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation n , Soil n , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes y No ____
Are Vegetation n , Soil n , or Hydrology No 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 X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes x	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Wetland data point for EM Wetland 3, a wetland along the northern bank of the Great American Canal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. none			
2.			
3.			
4.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Pluchea sericea*	2	No	FACW
2.			
3.			
4.			
5.			
	2 =Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phragmites australis*	75	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	75 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	=Total Cover		

% Bare Ground in Herb Stratum 25 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Monoculture of Phragmites along the banks of the Great American Canal

SOIL

Sampling Point: EMDP15W

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- x Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** ____

Remarks:
Because the vegetation was dominated by FACW species and there was an abrupt transistion to uplands, no soil data required to determine hydric soil is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No x Depth (inches): ____

Water Table Present? Yes ____ No x Depth (inches): ____

Saturation Present? Yes x No ____ Depth (inches): 12

(includes capillary fringe)

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Adjacent to the All American Canal that provides constant supportive hydrology.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Perkins Renewable Energy Project City/County: Imperial Sampling Date: 4/1/2023
Applicant/Owner: IP Perkins, LLC and IP Perkins BAAH, LLC State: CA Sampling Point: EMDP16U
Investigator(s): L, Rouse ; H. Oswald Section, Township, Range: S2, T17S, R17E
Landform (hillside, terrace, etc.): disturbed road Local relief (concave, convex, none): none Slope (%): <1
Subregion (LRR): LRR D Lat: 32.705678 Long: -115.202045 Datum: WSG84
Soil Map Unit Name: Rositas, fine sand, wet, 0 to 2 percent slopes NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation n , Soil n , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes y No ____
Are Vegetation n , Soil n , or Hydrology No 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 ____	No x	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No x	
Wetland Hydrology Present?	Yes ____	No x	

Remarks:
Paired upland data point for EM Wetland 3, adjacent to the Great American Canal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. none			
2.			
3.			
4.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Pluchea sericea*	5	Yes	FACW
2.			
3.			
4.			
5.			
	5 =Total Cover		
Herb Stratum (Plot size: 5)			
1. *Palafoxia arida*	5	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	5 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	=Total Cover		

% Bare Ground in Herb Stratum 92 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	10 (A)		35 (B)

Prevalence Index = B/A = 3.50

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
Unvegetated canal road on north side of Great American Canal.

ENG FORM 6116-1-SG, JUL 2018 Arid West – Version 2.0

SOIL

Sampling Point: EMDP16U

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	5YR 5/6	100					Sandy	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No x

Remarks:
Disturbed road fill, no hydric soil indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No x Depth (inches): ____

Water Table Present? Yes ____ No x Depth (inches): ____

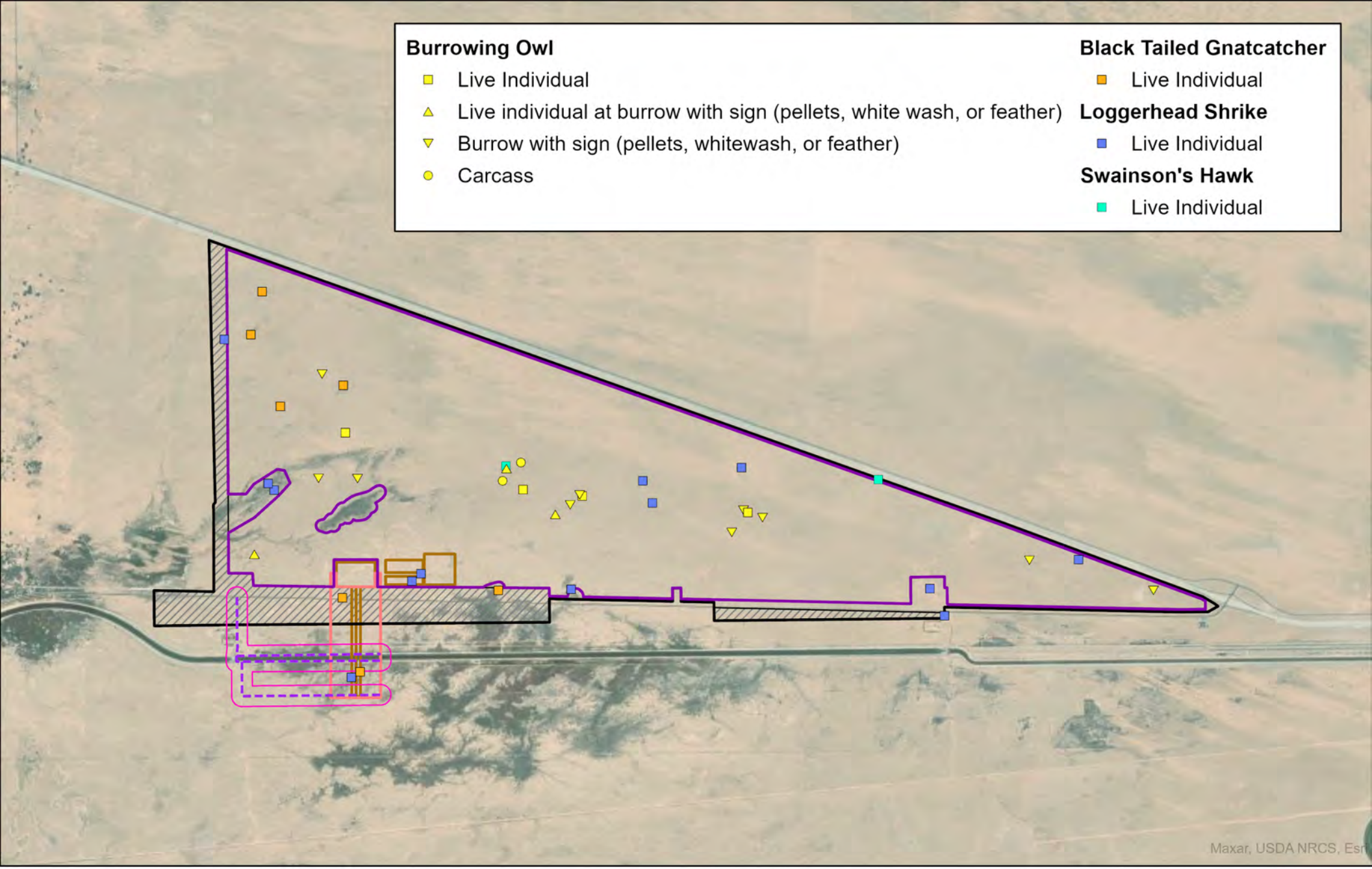
Saturation Present? (includes capillary fringe) Yes ____ No x Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
On the road adjacent to the All American Canal, at least 10 feet above OHWM.

Attachment C.3 Updated Biological Resources Figures



0 0.5 1 Mi

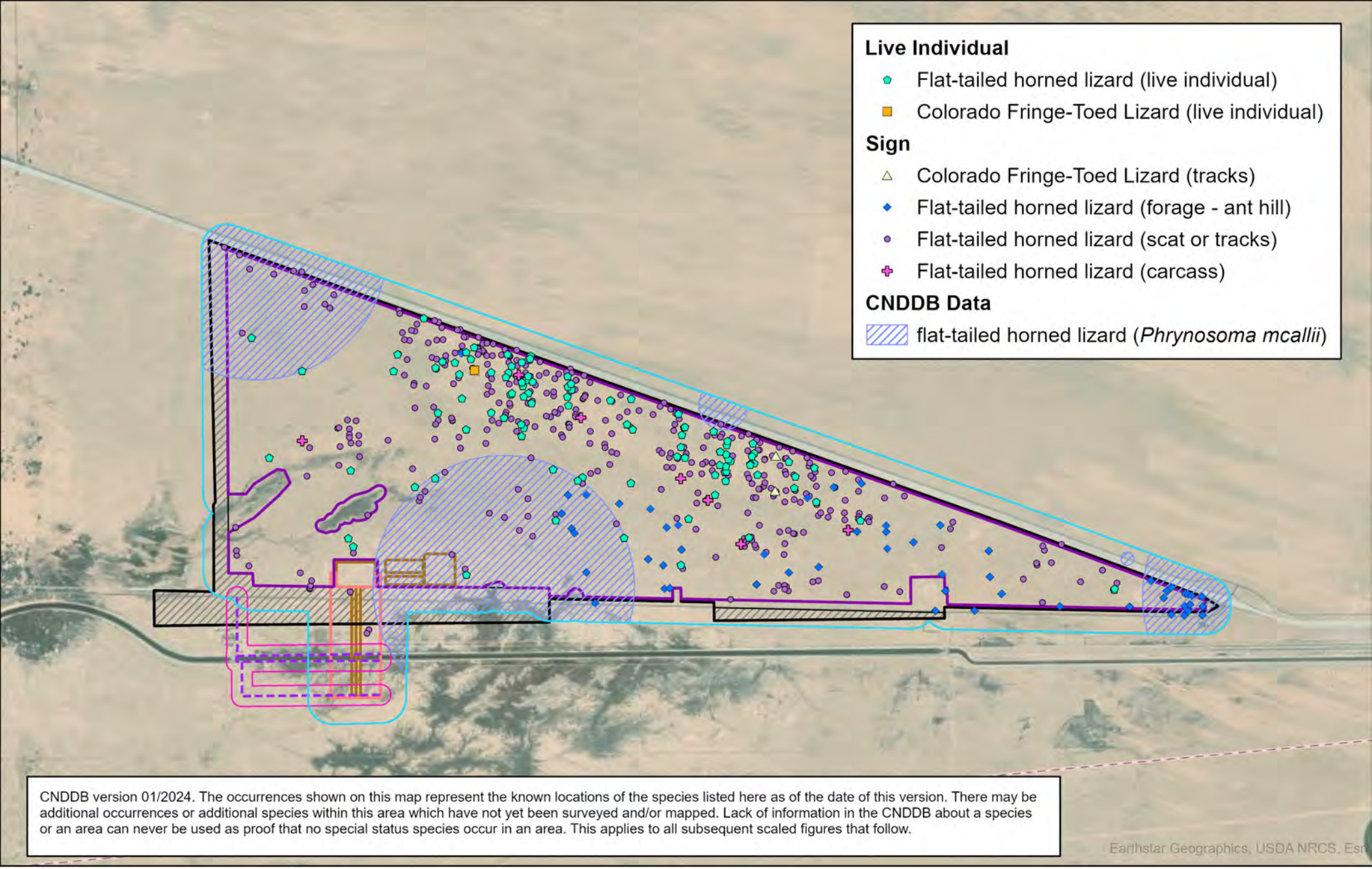
Ironwood Consulting

Project Area

- BLM Section 368 Corridor Preservation Area
- BESS/Substation/Other
- Project Area
- Proposed 500 kV Loop-in Corridor (2,000 ft Wide)
- Proposed Development Area
- Proposed Access Road
- Proposed Access Road - 150 meter buffer

Noteworthy Avian Observations

Perkins CEC



0 0.5 1 Mi

Ironwood Consulting

1000 Ft Buffer From Proposed Project Fence Line

Project Area

BLM Section 368 Corridor Preservation Area

BESS/Substation/Other

Project Area

Proposed 500 kV Loop-in Corridor (2,000 ft Wide)

Proposed Development Area

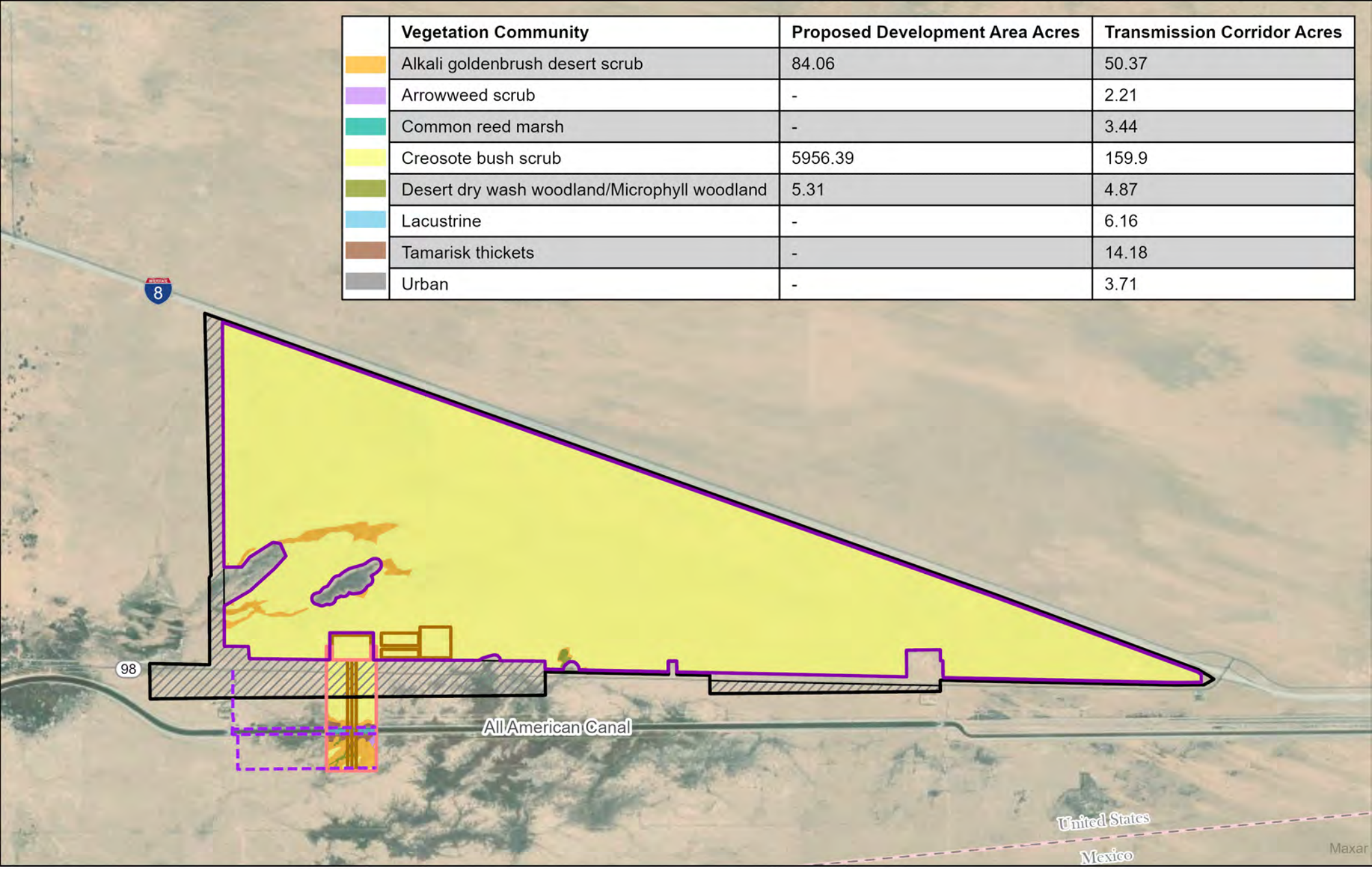
Proposed Access Road

Proposed Access Road - 150 meter buffer

Noteworthy Reptile Observations

Perkins CEC

Vegetation Community	Proposed Development Area Acres	Transmission Corridor Acres
Alkali goldenbrush desert scrub	84.06	50.37
Arrowweed scrub	-	2.21
Common reed marsh	-	3.44
Creosote bush scrub	5956.39	159.9
Desert dry wash woodland/Microphyll woodland	5.31	4.87
Lacustrine	-	6.16
Tamarisk thickets	-	14.18
Urban	-	3.71



0 0.5 1 Mi

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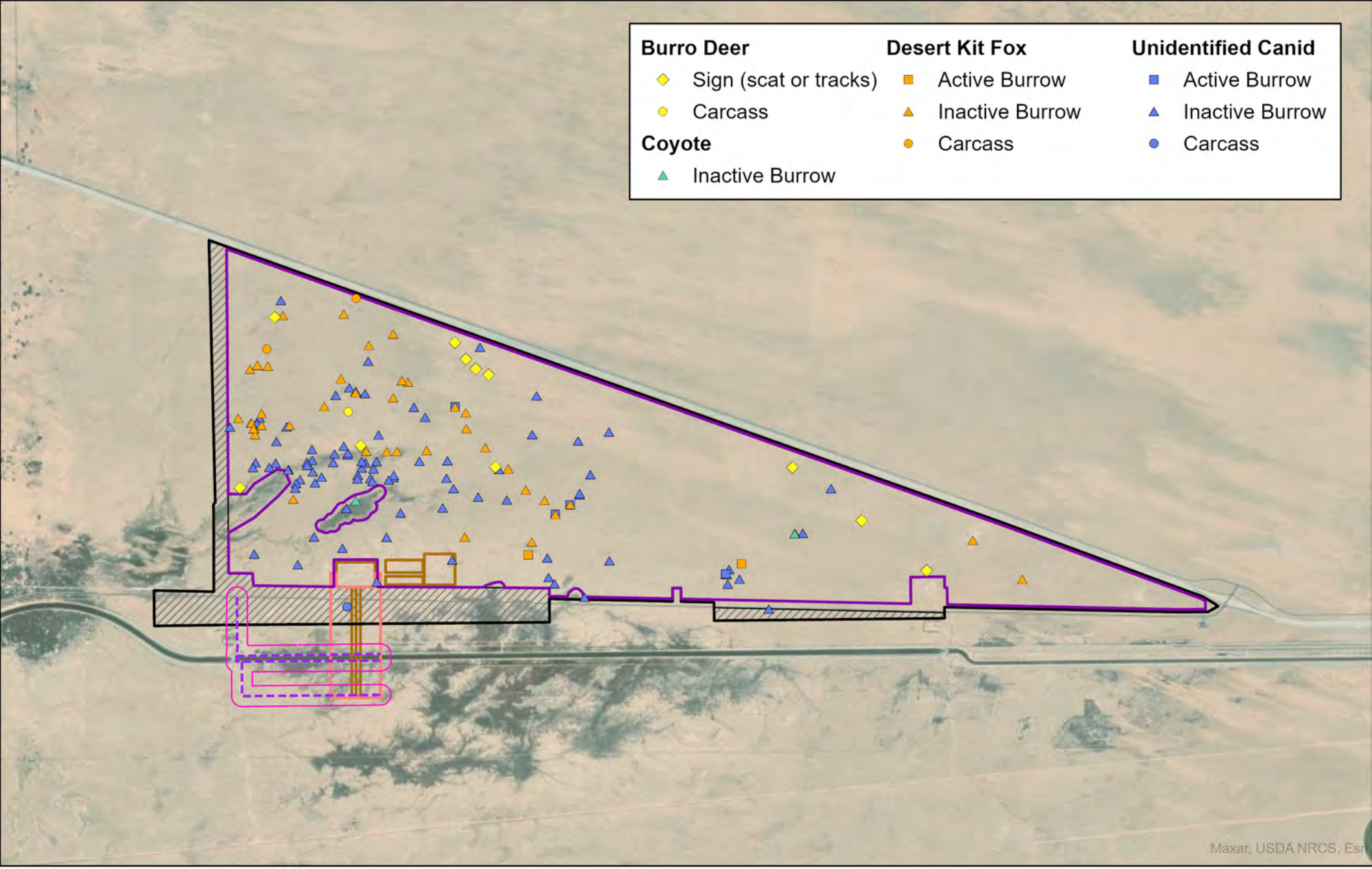
- Proposed Development Area
- Proposed Access Road

Ironwood Consulting

Vegetation Communities

Perkins CEC



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Ironwood Consulting

Project Area

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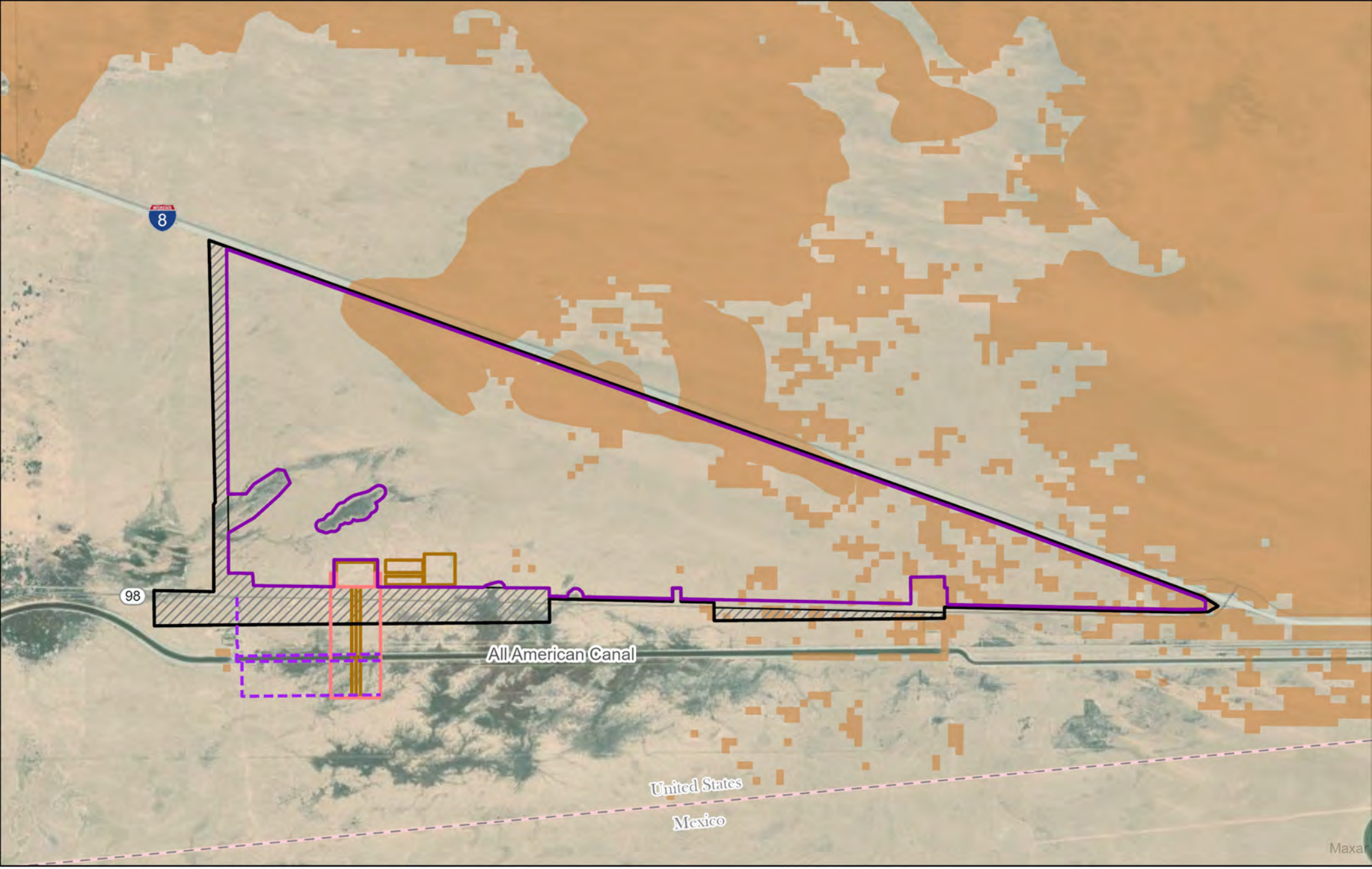
- BESS/Substation/Other
- Project Area
- Proposed 500 kV Loop-in Corridor (2,000 ft Wide)
- Proposed Development Area
- Proposed Access Road
- Proposed Access Road - 150 meter buffer

Noteworthy Mammal Observations

Perkins CEC



0 0.5 1 Mi

Sand and Dune Systems

Project Area

BLM Section 368 Corridor Preservation Area

BESS/Substation/Other

Project Area

Proposed 500 kV Loop-in Corridor (2,000 ft Wide)

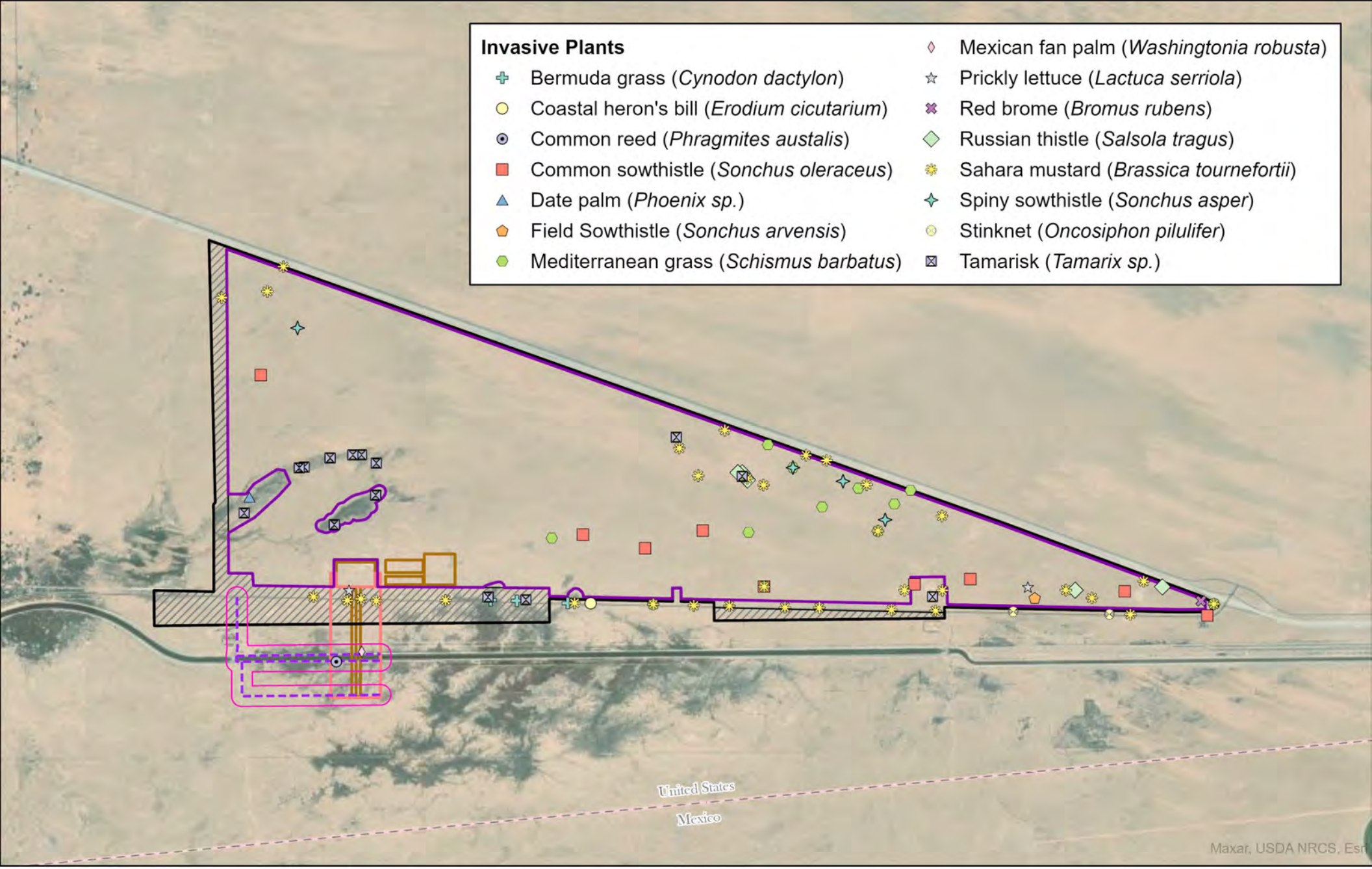
Proposed Development Area

Proposed Access Road

Ironwood Consulting

Aeolian Sands

Perkins CEC



0 0.5 1 Mi

Ironwood Consulting

Project Area

- BLM Section 368 Corridor Preservation Area
- BESS/Substation/Other
- Project Area
- Proposed 500 kV Loop-in Corridor (2,000 ft Wide)
- Proposed Development Area
- Proposed Access Road
- Proposed Access Road - 150 meter buffer

Noteworthy Invasive Plants

Perkins CEC