



11.2 Biological Report/ Jurisdictional Delineation

The following technical studies may contain references to or impact analyses related to the development of a cannabis facility within the proposed overlay zone. This component of the project has since been removed and is no longer proposed as part of the project. All cannabis-related uses and activities have been removed from the project. Refer to Draft EIR Section 2.3, *Notice of Preparation/Early Consultation (Scoping)*, for additional information.

June 7, 2022

JN 188955

CITY OF LANCASTER

Attn: Cynthia Campana, Senior Planner
44933 Fern Avenue
Lancaster, CA 93534

SUBJECT: Results of a Biological Resources Due Diligence Assessment for the Lancaster East Side Project – Light Industrial Overlay Zone – City of Lancaster, County of Los Angeles, California

Dear Ms. Campana:

Michael Baker International (Michael Baker) has prepared this report to document the results of a biological resources assessment for the Lancaster East Side Project – Light Industrial Overlay Zone (project or project site) located in the City of Lancaster, County of Los Angeles, California. Michael Baker conducted a thorough literature review to assess the potential for special-status plant and wildlife species¹ that have been documented or that are likely to occur on or within the immediate vicinity of the project site. No field surveys were conducted in support of this specific effort. Specifically, this report provides an assessment of the known occurrences of the special-status plant and wildlife species that were identified in the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database RareFind 5 (CNDDDB; CDFW 2022a), the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CIRP; CNPS 2022), the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation Project Planning Tool (IPaC; USFWS 2022a), and other databases as potentially occurring in the vicinity of the project site.

Project Location

The project site is generally located north of State Route 138 (SR-138), east of SR-14, south of SR-58, and west of SR-395 in the City of Lancaster, County of Los Angeles, California (refer to Figure 1, *Regional Vicinity*). The project site is depicted in Sections 21, 22, 23, 24, 25, 26, 27, and 28 of Township 7 North, Range 11 West, on the U.S. Geological Survey’s (USGS) *Lancaster East, California* 7.5-minute quadrangle; and Sections 24 and 25 of Township 7 North, Range 11 West and Sections 19, 20, 21, 28, 29,

¹ As used in this report, “special-status” refers to plant and wildlife species that are federally/State listed, proposed, or candidates; plant species that have been designated a California Rare Plant Rank species by the California Native Plant Society; wildlife species that are designated by the California Department of Fish and Wildlife as Fully Protected, Species of Special Concern, or Watch List species; State/locally rare vegetation communities; and species that warrant protection under local or regional preservation policies.

and 30 of Township 7 North, Range 10 West on the USGS *Alpine Butte, California* 7.5-minute quadrangle (refer to Figure 2, *Project Vicinity*). Specifically, the project site is located north of East Avenue L, east of 40th Street East, south of East Lancaster Boulevard, and west of 110th Street East in the City of Lancaster and totals 5,841 acres (refer to Figure 3, *Project Site*).

Methodology

Literature Review

Michael Baker conducted thorough literature reviews and records searches to determine which special-status biological resources have the potential to occur on or within the general vicinity of the project site. Previous special-status plant and wildlife species occurrence records within the USGS *Lancaster East, Alpine Butte, Rosamond, Rosamond Lake, Redman, Rogers Lake South, Hi Vista, Lovejoy Buttes, Littlerock, Palmdale, Ritter Ridge, and Lancaster West, California* 7.5-minute quadrangles were researched through a query of the CNDDDB (CDFW 2022a) and CIRP (CNPS 2022), and for the project region through a review of the IPaC (USFWS 2022a).

The current regulatory/conservation status of special-status plant and wildlife species was verified through lists and resources provided by the CDFW, specifically the *Special Animals List* (CDFW 2022b), *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2022c), *State and Federally Listed Endangered and Threatened Animals of California* (CDFW 2022d), and *State and Federally Listed Endangered, Threatened, and Rare Plants of California* (CDFW 2022e). USFWS-designated Critical Habitat for species listed under federal Endangered Species Act (FESA) was reviewed online via the Environmental Conservation Online System: Threatened and Endangered Species Active Critical Habitat Report (USFWS 2022b). In addition, Michael Baker reviewed previously prepared reports, survey results, and literature, as available, detailing the biological resources previously observed on or within the vicinity of the project site to understand existing site conditions, confirm previous species observations, and note the extent of any disturbances, if present, that have occurred within the project site that would otherwise limit the distribution of special-status biological resources. Standard field guides and texts were reviewed for specific habitat requirements of special-status species, as well as the following resources for species information, previous data, and general context:

- *Biological Constraints Analysis for the Green Beanworks B Solar Project, City of Lancaster, Los Angeles County, California* (SWCA Environmental Consultants [SWCA] 2017)
- *Biological Resource Assessment of APN 3386-007-035* (Hagan 2017)
- *Biological Resource Assessment of APN 3386-007-007, Lancaster, California* (Hagan 2020)
- *Lancaster East Side Project – Cannabis Facility Project Biological Resources Assessment* (Michael Baker 2022)
- *Custom Soil Resource Report for Antelope Valley Area, California* (U.S. Department of Agriculture [USDA] 2022)
- National Wetlands Inventory (NWI) Mapper (USFWS 2022c)

-
- Google Earth Pro Historical Aerial Imagery from 1985 to 2018 (Google, Inc. 2022)
 - *City of Lancaster General Plan 2030* (City of Lancaster 2009)
 - Calflora Database (Calflora 2022)
 - Species Accounts provided by Birds of the World (Billerman et. al 2020)
 - Cornell Lab of Ornithology’s eBird Database (eBird 2022)

Biological Field Survey/Habitat Assessment

A field survey was not conducted specifically for the Light Industrial Overlay Zone project. However, a field survey was conducted by Michael Baker biologists Lauren Mapes, Tom Millington, and Ryan Winkleman on April 13th, 2022, to document existing conditions and assess the potential for special-status biological resources to occur within the boundaries of the proposed Lancaster East Side Project – Cannabis Facility Project (cannabis facility) in the southwest corner of the project site bounded generally by East Avenue K to the north, 50th Street East to the east, East Avenue L to the south, and 40th Street East to the west. Although special-status species observations from this April 2022 survey are incorporated into this report, vegetation mapping is not incorporated as the cannabis facility site is only located on a small and discrete portion of the overall Light Industrial Overlay Zone project site. For a description of field survey methodology during the April 2022 field survey of the cannabis facility site, refer to Michael Baker 2022.

Summary of Regulations

This section discusses relevant laws, policies, and ordinances that may pose constraints to any future development within the project site on a holistic level. It should be noted that this section is not intended to be exhaustive and that additional policies may apply for proposed developments within the project site.

Federal

Federal Endangered Species Act of 1973

As defined within the FESA, an endangered species is any animal or plant listed by regulation as being in danger of extinction throughout all or a significant portion of its geographical range. A threatened species is any animal or plant that is likely to become endangered within the foreseeable future throughout all or a significant portion of its geographical range. Without a special permit, federal law prohibits the “take” of any individuals or habitat of federally listed species. Under Section 9 of the FESA, take is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.” The term “harm” has been clarified to include “any act which actually kills or injures fish or wildlife and emphasizes that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.” Enforcement of FESA is administered by the USFWS.

Under the definition used by the FESA, “Critical Habitat” refers to specific areas within the geographical range of a species that were occupied at the time it was listed that contain the physical or biological features

that are essential to the survival and eventual recovery of that species and that may require special management considerations or protection, regardless of whether the species is still extant in the area. Areas that were not known to be occupied at the time a species was listed can also be designated as Critical Habitat if they contain one or more of the physical or biological features that are essential to that species' conservation and if the occupied areas are inadequate to ensure the species' recovery. If a project may result in take or adverse modification to a species' designated Critical Habitat and the project has a federal nexus, the project proponent may be required to provide suitable mitigation. Projects with a federal nexus may include projects that occur on federal lands, require federal permits (e.g., federal Clean Water Act [CWA] Section 404 permit), or receive any federal oversight or funding. If there is a federal nexus, then the federal agency that is responsible for providing funds or permits would be required to consult with the USFWS under the FESA.

Whenever federal agencies authorize, fund, or carry out actions that may adversely modify or destroy Critical Habitat, they must consult with USFWS under Section 7 of the FESA. The designation of Critical Habitat does not affect private landowners, unless a project they are proposing uses federal funds, or requires federal authorization or permits (i.e., funding from the federal Highway Administration or a permit from the U.S. Army Corps of Engineers [USACE]).

Migratory Bird Treaty Act

Pursuant to the federal Migratory Bird Treaty Act (MBTA) (16 U.S. Government Code [USC] 703) of 1918, as amended in 1972, federal law prohibits the taking of migratory birds or their nests or eggs (16 USC 703; 50 CFR 10, 21). The statute states:

“Unless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill...any migratory bird, any part, nest, or egg of any such bird...included in the terms of the [Migratory Bird] conventions...”

The MBTA covers the taking of any nests or eggs of migratory birds, except as allowed by permit pursuant to 50 CFR, Part 21. Disturbances causing nest abandonment and/or loss of reproductive effort (i.e., killing or abandonment of eggs or young) may also be considered a “take.” This regulation seeks to protect migratory birds and active nests.

In 1972, the MBTA was amended to include protection for migratory birds of prey (e.g., raptors). Six families of raptors occurring in North America were included in the amendment: Accipitridae (kites, hawks, and eagles); Cathartidae (New World vultures); Falconidae (falcons and caracaras); Pandionidae (ospreys); Strigidae (typical owls); and Tytonidae (barn owls). The provisions of the 1972 amendment to the MBTA protects all species and subspecies of the families listed above. The MBTA protects over 800 species including geese, ducks, shorebirds, raptors, songbirds and many relatively common species.

Clean Water Act

Since 1972, the USACE and U.S. Environmental Protection Agency (EPA) jointly regulate discharges of dredged or fill material into “waters of the U.S.” (WoUS), including wetland and non-wetland aquatic features, pursuant to Section 404 of the CWA. Section 404 is founded on the findings of a significant nexus (or connection) between the aquatic or other hydrological features in question and interstate commerce via Relatively Permanent Waters (RPW), and ultimately Traditional Navigable Waters (TNW), through direct or indirect connection as defined by USACE regulations. However, the limits to which this is applied have changed over time as discussed below.

SWANCC and Rapanos. In 1984, the Migratory Bird Rule enabled the USACE to expand jurisdiction over isolated waters, and in 1985, the U.S. Supreme Court upheld the inclusion of adjacent wetlands in the regulatory definition of WoUS. However, in 2001, the USACE’s jurisdiction was narrowly limited following the Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers (SWANCC) in which the U.S. Supreme Court held that the use of “isolated” non-navigable intrastate ponds by migratory birds was not, by itself, sufficient basis for the exercise of federal regulatory authority under the CWA. In 2006, a majority of the U.S. Supreme Court overturned two Sixth Circuit Court of Appeals decisions in the consolidated cases of Rapanos v. United States and Carabell v. United States (collectively referred to as Rapanos), concluding that wetlands isolated by surface connection are WoUS nonetheless if they significantly affect the chemical, physical, and biological integrity of other covered waters (significant nexus). The Navigable Waters Protection Rule (NWPR) eliminated the case specific application of the significant nexus test articulated in the Rapanos decision.

2015 Clean Water Rule. In 2015, the USACE and EPA published the “Clean Water Rule” clarifying the scope of coverage of the CWA. Upon issuance however, numerous lawsuits were filed and consolidated in the Sixth Circuit, immediately putting a “stay” on its implementation. In January 2018, the U.S. Supreme Court ruled that the Sixth Circuit did not have jurisdiction over the case, and in February 2018, dismissed it and dissolved the stay. In August 2018, a federal judge found that the suspension failed to give an adequate public notice and therefore violated the Administrative Procedure Act. The 2015 Clean Water Rule remained in effect in 22 states, including California, the District of Columbia, and the U.S. territories until December 23, 2019.

Repeal of 2015 Clean Water Rule. On October 22, 2019, the EPA and the USACE published a final rule to repeal the 2015 Clean Water Rule and restore the regulatory methodology that existed prior to the 2015 Rule. Under this rule, which became effective on December 23, 2019, jurisdictional WoUS were defined by the 1986/1988 regulatory definition of WoUS under CWA regulations 40 CFR 230.3(s).

Navigable Waters Protection Rule. On January 23, 2020, the EPA and the USACE finalized the NWPR to define WoUS. On April 21, 2020, the EPA and the USACE published the NWPR in the Federal Register. On June 22, 2020, 60 days after publication in the Federal Register, the NWPR became effective across the nation including the state of California.

Remand And Vacatur of the Navigable Waters Protection Rule. On August 30, 2021, the NWPR was remanded and immediately vacated by the United States District Court For The District Of Arizona. In light of this order, the EPA and the USACE halted implementation of the NWPR nationwide and reinstated the pre-2015 definition of WoUS. Under the pre-2015 definition of the WoUS, the USACE and EPA require the case specific application of the significant nexus test, as articulated in the Rapanos decision, to determine WoUS.

State

California Environmental Quality Act

The California Environmental Quality Act (CEQA) provides for the protection of the environment within the State of California by establishing State policy to prevent significant, avoidable damage to the environment through the use of alternatives or mitigation measures for projects. It applies to actions directly undertaken, financed, or permitted by State lead agencies. If a project is determined to be subject to CEQA, the lead agency will be required to conduct an Initial Study (IS); if the IS determines that the project may have significant impacts on the environment, the lead agency will subsequently be required to write an Environmental Impact Report (EIR). A finding of non-significant effects will require either a Negative Declaration or a Mitigated Negative Declaration instead of an EIR. Section 15380 of the CEQA Guidelines independently defines “endangered” species as those whose survival and reproduction in the wild are in immediate jeopardy, while “rare” species are defined as those who are in such low numbers that they could become endangered if their environment worsens.

California Endangered Species Act

In addition to federal laws, the State of California has its own California Endangered Species Act (CESA), enforced by the CDFW. The CESA program maintains a separate listing of species beyond the FESA, although the provisions of each act are similar.

State-listed threatened and endangered species are protected under provisions of the CESA. Activities that may result in “take” of individuals (defined in CESA as; “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”) are regulated by CDFW. Habitat degradation or modification is not included in the definition of “take” under CESA. Nonetheless, CDFW has interpreted “take” to include the destruction of nesting, denning, or foraging habitat necessary to maintain a viable breeding population of protected species.

The State of California considers an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is considered as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A candidate species is one that potentially qualifies for listing under CESA, pending a formal review and assessment of available data; these species are afforded all of the same legal protections as if they were already listed. A rare species is one that is considered present in

such small numbers throughout its range that it may become endangered if its present environment worsens. State threatened, endangered, and candidate species are fully protected against take, as defined above.

The CDFW has also produced a species of special concern list to serve as a species watch list. Species on this list are either of limited distribution or their habitats have been reduced substantially, such that a threat to their populations may be imminent. Species of special concern may receive special attention during environmental review, but they do not have formal statutory protection. At the federal level, USFWS also uses the label “species of concern” as an informal term that refers to species which might be in need of concentrated conservation actions.

As the species of concern designated by USFWS do not receive formal legal protection, the use of the term does not necessarily ensure that the species will be proposed for listing as a threatened or endangered species.

California Fish and Game Code

Sections 3503, 3503.5, 3511, and 3513. The CDFW administers the California Fish and Game Code (CFGC). There are particular sections of the CFGC that are applicable to natural resource management. For example, Section 3503 makes it unlawful to destroy any birds’ nest or any birds’ eggs that are protected under the MBTA. Further, any birds in the orders Falconiformes or Strigiformes (Birds of Prey), such as hawks, eagles, and owls, are protected under Section 3503.5 which makes it unlawful to take, possess, or destroy their nest or eggs. A consultation with CDFW may be required prior to the removal of any bird of prey nest that may occur on a project site. Section 3511 lists fully protected bird species, where the CDFW is unable to authorize the issuance of permits or licenses to take these species. Pertinent species that are State fully protected include golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*). In addition, Section 3513 makes it unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Sections 1600 et seq. Sections 1600 et seq. of the CFGC establishes a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not adversely affect fish and wildlife resources, or when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided.

Section 1602 of the CFGC requires any person, State, or local governmental agency or public utility to notify CDFW before beginning any activity that will do one or more of the following:

- (1) substantially obstruct or divert the natural flow of a river, stream, or lake;
- (2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake;
- or
- (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

This applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State, including the maintenance of existing drain culverts, outfalls, and other structures. To avoid the need for a Lake or Streambed Alteration Agreement (LSAA) from CDFW, all proposed impacts should remain outside of the top of active banks and the canopy/dripline of any associated riparian vegetation, whichever is greater.

Native Plant Protection Act

Sections 1900–1913 of the CFGC were developed to preserve, protect, and enhance Rare and Endangered plants in the State of California. The act requires all State agencies to use their authority to carry out programs to conserve Endangered and Rare native plants. Provisions of the Native Plant Protection Act prohibit the taking of listed plants from the wild and require notification of the CDFW at least ten days in advance of any change in land use which would adversely impact listed plants. This allows the CDFW to salvage listed plant species that would otherwise be destroyed.

Porter-Cologne Act

Applicants for a federal license or permit for activities that may discharge to WoUS must seek a Water Quality Certification (WQC) from the State or Indian tribe with jurisdiction². In California, there are nine (9) Regional Water Quality Control Boards (RWQCB) that issue or deny Certification for discharges within their geographical jurisdiction. Such Certification is based on a finding that the discharge will meet water quality standards, which are defined as numeric and narrative objectives in each RWQCB’s Basin Plan, and other applicable requirements. The State Water Resources Control Board has this responsibility for projects affecting waters within multiple RWQCBs. The RWQCB’s jurisdiction extends to all WoUS, including wetlands, and to waters of the State (described below).

The Porter-Cologne Act gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Porter-Cologne Act has become an important tool for the regulatory environment following the SWANCC³ and Rapanos⁴ court cases, with respect to the state’s authority over isolated and otherwise insignificant waters. Generally, in the event that there is no nexus to a TNW, any person proposing to discharge waste into waters of the State that could affect its water quality must file a Report of Waste Discharge. Although “waste” is partially defined as any waste substance associated with human habitation, the RWQCB also interprets this to include fill discharged into water bodies.

On April 2, 2019, the State Water Resources Control Board adopted a 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 consist of four major elements: 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

2 Title 33, United States Code, Section 1341; Clean Water Act Section.

3 *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001).

4 *Rapanos v. United States*, 547 U.S. 715 (2006).

for WQCs and Waste Discharge Requirements (WDRs) for dredge or fill activities. The Procedures were approved by the Office of Administrative Law on August 28, 2019 and became effective May 28, 2020.

Local Policies and Ordinances

City of Lancaster Municipal Code

Chapter 15.66, *Biological Impact Fee*, of the *Lancaster Municipal Code* (Municipal Code) establishes a biological impact fee to mitigate long-term incremental impacts of new development on biological resources on a regional basis. The fee is based upon expected regional effects from new development and fees necessary to contribute to the City of Lancaster’s “fair share” to mitigate impacts on a regional basis. The fee applies to all new development on vacant land which has not been previously developed. This includes land subdivisions, new development approvals, and requests for extension. The current Biological Impact Fee as of April 23, 2021 is \$770 per acre of new development on vacant land.⁵ Future development projects within the project site are expected to be subject to the biological impact fee established in Chapter 15.66 of the Municipal Code.

Los Angeles County’s Significant Ecological Area Program

The County of Los Angeles has identified Significant Ecological Areas (SEA) as lands that contain irreplaceable biological resources. These areas support sustainable populations of their component species and include undisturbed or lightly disturbed habitats that support valuable and threatened species, as well as linkages and corridors that promote species movement. SEAs are not considered wilderness preserves, but instead much of the land is privately held or used for public recreation. The SEA program is intended to ensure that privately held lands within the SEAs keep the right of reasonable use, while avoiding activities and development that are incompatible with the long-term survival of the SEAs. Cumulatively, twenty-one (21) SEAs have been identified within Los Angeles County.

Los Angeles County Code

Los Angeles County Code Chapter 22.102, *Hillside Management and Significant Ecological Areas*, establishes development guidelines and required permits for development in or near SEAs.

Existing Site Conditions

The project site is flat with an approximate elevation range of 2,427 to 2,457 feet above mean sea level. According to the *Custom Soil Resource Report for Antelope Valley Area, California* (USDA 2022), the project site is underlain by the following soil units (refer to Figure 4, *USDA Soils*):

- Cajon loamy sand, 0 to 2 percent slopes (CaA)
- Cajon loamy sand, 2 to 9 percent slopes (CaC)
- Cajon loamy sand, loamy substratum, 0 to 2 percent slopes (CbA)

⁵ City of Lancaster Fee Schedule: <https://www.cityoflancasterca.org/home/showpublisheddocument/43416/637686855310168407>

-
- Cajon loamy fine sand, 0 to 2 percent slopes, hummocky (CcA2)
 - Dune land (DuD)
 - Hesperia loamy fine sand, 0 to 2 percent slopes (HgA)
 - Hesperia loamy fine sand, 0 to 2 percent slopes, hummocky (HgA2)
 - Hesperia fine sandy loam, 0 to 2 percent slope (HkA)
 - Riverwash (Rg)
 - Rosamond loamy fine sand (Rm)
 - Rosamond loamy fine sand, hummocky (Rm2)
 - Rosamond fine sandy loam (Ro)
 - Rosamond loam (Rp)
 - Rosamond loam, saline-alkali (Rr)
 - Rosamond silty clay loam (Rt)

Based on a review of historic aerial imagery, most of the project site has remained undeveloped since at least the 1980s (Google, Inc. 2022). The undeveloped portions of the project site can be divided into areas that are relatively undisturbed and contain native vegetation, and areas that are generally used for agricultural purposes. Outside of the project site there is additional agricultural land and some residential land uses.

Vegetation Communities and Land Cover Types

A field survey of the entire project site was not conducted as part of this effort and thus, specific vegetation mapping is not available. However, vegetation mapping in the City of Lancaster General Plan 2030 indicates that the project site is a mixture of desert wash, desert woodland, ruderal areas, agricultural land, and developed areas (City of Lancaster 2009). Contemporary field surveys with vegetation mapping conforming to *A Manual of California Vegetation* (Sawyer et al. 2009) would be required in order to remap on-site vegetation with current accepted protocols that are adequate to determine potential mitigation requirements.

Wildlife

Natural vegetation communities provide foraging habitat, nesting/denning sites, and shelter from adverse weather or predation. This section provides a general discussion of common wildlife species that are known to have been detected on-site by Michael Baker or other biologists based on published biological reports, or that are expected to occur based on existing site conditions.

Fish

No fish or hydrogeomorphic features (e.g., perennial creeks, ponds, lakes, reservoirs) that would support populations of fish are known to occur within the project site. Although Little Rock Wash is present within the project site, it is not a perennial feature and is not expected under normal conditions to have any fish or aquatic life. Therefore, no fish are expected to occur.

Amphibians

No amphibians or hydrogeomorphic features (e.g., perennial creeks, ponds, lakes, reservoirs) that would provide suitable breeding habitat for amphibians are known to occur within the project site. Although Little Rock Wash is present within the project site, it is not a perennial feature and within the project site is not expected under normal conditions to have any amphibians or aquatic life. Therefore, no amphibians are expected to occur.

Reptiles

No reptile species have been observed in the project site during the project-specific field surveys that have occurred in the past (SWCA 2017, Hagan 2017, Hagan 2020, Michael Baker 2022). However, the project site is expected to provide habitat for reptilian species that are acclimated to edge or urban environments. Common reptilian species that may be present within the project site include western side-blotched lizard (*Uta stansburiana elegans*), Great Basin whiptail (*Aspidoscelis tigris tigris*), red racer (*Coluber flagellum piceus*), northern Mohave rattlesnake (*Crotalus scutulatus scutulatus*), and Mohave desert sidewinder (*Crotalus cerastes cerastes*).

Birds

Some of the avian species that have been detected within the project site during various previous field surveys include mourning dove (*Zenaida macroura*), rock pigeon (*Columba livia*), Eurasian collared-dove (*Streptopelia decaocto*), red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk (*Buteo swainsoni*, a State Threatened [ST] species), great horned owl (*Bubo virginianus*), common raven (*Corvus corax*), California quail (*Callipepla californica*), northern mockingbird (*Mimus polyglottos*), California horned lark (*Eremophila alpestris actia*; a State Watch List [WL] species), yellow-headed blackbird (*Xanthocephalus xanthocephalus*, a State Species of Special Concern [SSC]), house finch (*Haemorhous mexicanus*), and white-crowned sparrow (*Zonotrichia leucophrys*) (SWCA 2017, Hagan 2017, Hagan 2020, Michael Baker 2022). A potentially large variety of avian species could occur on-site, including both year-round residents, seasonal residents, and transient migrants, but this is largely determined by on-site habitat. Examples of other avian species that may occur within the project site include killdeer (*Charadrius vociferus*), American kestrel (*Falco sparverius*), Say's phoebe (*Sayornis saya*), American pipit (*Anthus rubescens*), long-billed curlew (*Numenius americanus*), mountain bluebird (*Sialia currucoides*), European starling (*Sturnus vulgaris*), savannah sparrow (*Passerculus sandwichensis*), western meadowlark (*Sturnella neglecta*), and Brewer's blackbird (*Euphagus cyanocephalus*).

Nesting birds are protected pursuant to the MBTA and the CFGC⁶. To maintain compliance with the MBTA and CFGC, clearance surveys are typically required prior to any ground disturbance or vegetation removal

⁶ Section 3503 makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the California Fish and Game Code or any regulation made pursuant thereto; Section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey); and Section 3513 makes it unlawful to take or possess any migratory non-game bird except as provided by the rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act, as amended (16 U.S.C. § 703 *et seq.*).

activities to avoid direct or indirect impacts to active bird nests and/or nesting birds. Consequently, if an active bird nest is destroyed or if project activities result in indirect impacts (e.g., nest abandonment, loss of reproductive effort) to nesting birds, it is considered “take” and is potentially punishable by fines and/or imprisonment. Although the project site provides suitable nesting habitat for various year-round and seasonal bird species, no active nests or birds displaying overt nesting behavior were observed during the field survey.

Mammals

The project site provides marginal habitat for a limited number of mammalian species adapted to living in edge or urban environments. Some of the mammalian species detected within the project site during previous surveys include California ground squirrel (*Otospermophilus beecheyi*), white-tailed antelope ground squirrel (*Ammospermophilus leucurus*), desert cottontail (*Sylvilagus audubonii*), and black-tailed jackrabbit (*Lepus californicus*) (SWCA 2017, Hagan 2017, Hagan 2020, Michael Baker 2022). Other common mammalian species that may occur within the project site include opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), domestic dog (*Canis lupus familiaris*), and coyote (*Canis latrans*). Bats occur throughout most of California. Bats may forage throughout much of the project site, especially if there are areas where insects accumulate (e.g. over agricultural fields). There may also be roosting habitat in the project site if there are any hollow tree trunks/limbs, trees with particularly dense foliage, bridges, or abandoned buildings).

Migratory Corridors and Linkages

Wildlife corridors and linkages are key features for wildlife movement between habitat patches. Wildlife corridors are generally defined as those areas that provide opportunities for individuals or local populations to conduct seasonal migrations, permanent dispersals, or daily commutes, while linkages generally refer to broader areas that provide movement opportunities for multiple keystone/focal species or allow for propagation of ecological processes (e.g., for movement of pollinators), often between areas of conserved land.

The project site is mostly undeveloped and is located along the eastern edge of the City of Lancaster, where generally less development is present in the surrounding areas. The most obvious natural corridor within the project site is Little Rock Wash, which crosses from south to north in the western half of the project site, originating in the San Gabriel Mountains as Little Rock Creek and terminating approximately two miles north of the project site. Little Rock Wash is not recognized as a corridor by the City of Lancaster General Plan (City of Lancaster 2009) or the *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion* (South Coast Wildlands 2008). However, Little Rock Wash is recognized by Los Angeles County as part of the Antelope Valley SEA, which provides dispersal and migration opportunities between the San Gabriel Mountains and the playa lakes on Edwards Air Force Base. Other potential migratory pathways would generally be opportunistic across open space areas between agricultural fields, or possibly even through agricultural fields but generally would likely reduced by the presence of surrounding roadways and existing agricultural, commercial, and residential developments within the

project site. These developments have fragmented the connection between the project site and surrounding naturally occurring vegetation communities. Elevated noise levels, vehicle roadway/traffic, lighting, and presence of humans and domestic pets are also expected to further decrease the suitability of the project site to be used as a wildlife movement corridor or linkage.

State and Federal Jurisdictional Resources

There are three agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The USACE Regulatory Branch regulates discharge of dredged or fill material into WoUS pursuant to Section 404 of the CWA and Section 10 of the Rivers and Harbors Act. Of the State agencies, the RWQCB regulates discharges to surface waters pursuant to Section 401 of the CWA and Section 13263 of the California Porter-Cologne Water Quality Control Act, and the CDFW regulates alterations to streambed and associated vegetation communities under Section 1600 *et seq.* of the CFGC.

According to the NWI Mapper, numerous potentially jurisdictional features may be located within the project site (USFWS 2022c). Little Rock Wash in particular is the most prominent potentially jurisdictional feature within the project site, and may qualify as a WoUS and/or water of the State regulated by the USACE, RWQCB, and/or CDFW. As a result, prior to any development occurring within the project site it is recommended that a jurisdictional delineation be conducted to document the presence or absence of potentially jurisdictional features and the potential requirement of permits under the USACE, RWQCB, and/or CDFW.

Special-Status Biological Resources

The CNDDDB (CDFW 2022a), CIRP (CNPS 2022), and IPaC (USFWS 2022a) were queried for reported locations of special-status plant and wildlife species as well as special-status natural vegetation communities in the USGS *Lancaster East, Alpine Butte, Rosamond, Rosamond Lake, Redman, Rogers Lake South, Hi Vista, Lovejoy Buttes, Littlerock, Palmdale, Ritter Ridge, and Lancaster West, California 7.5-minute quadrangles* and project region. Twenty-three (23) special-status plant species and thirty (30) special-status wildlife species were identified during the records search. No special-status vegetation communities were identified. The potential for these species to occur within the project site generally cannot be determined without a recent biological survey of the area, and the only recent survey that has been conducted was Michael Baker's survey of the cannabis facility site in April 2022. As a result, this section provides only a preliminary discussion of those special-status species that have been recorded within or adjacent to the project site in the past, but a more detailed discussion of the potential for additional special-status species to occur would require a contemporary field survey(s) across the entire project site to properly characterize on-site habitat. This information provided below is based primarily on the CNDDDB (CDFW 2022a), the Calflora database (Calflora 2022), the eBird database (eBird 2022), and the aforementioned previous biological survey reports (SWCA 2017, Hagan 2017, Hagan 2020, Michael Baker 2022). A depiction of known special-status species occurrences is shown in Figure 5, *Special-Status Species Occurrences*. Because the eBird database does not typically provide specific locations of records unless

provided by the original observer, Figure 5 only includes special-status species recorded in the CNDDDB and occurrences from Michael Baker's April 2022 field survey of the cannabis facility site.

Special-Status Plants

A total of twenty-three (23) special-status plant species have been recorded in the USGS *Lancaster East, Alpine Butte, Rosamond, Rosamond Lake, Redman, Rogers Lake South, Hi Vista, Lovejoy Buttes, Littlerock, Palmdale, Ritter Ridge, and Lancaster West, California* 7.5-minute quadrangles by the CNDDDB and CIRP (refer to Attachment B). Based on available data, the only special-status plant species that has been identified within the project site is western Joshua tree (*Yucca brevifolia brevifolia*; a State Candidate [SC] species for listing). This species is known to occur in scattered locations within the project site. No other special-status plant species are known to occur within the project site. Most of the special-status plant records within the search radius are located more than five miles away from the project site and because of the distance, habitat fragmentation, and general habitat conditions of the project site (i.e. much of the project site is either being used for agriculture or is already developed), are less likely to occur within the project site. According to data available in the CNDDDB (CDFW 2022a) and the Calflora database (Calflora 2022), the closest known occurrence of a special-status plant species other than Joshua tree to the project site is approximately 2.2 miles to the northwest, a 2005 record of alkali mariposa lily (*Calochortus striatus*; California Rare Plant Rank [CRPR] 1B.2). Although the full records search results are included in Attachment B, based on the CNDDDB (CDFW 2022a) and the Calflora database (Calflora 2022), other special-status plant species that have been recorded within 5 miles of the project site and thus may be more likely to occur include Mojave spineflower (*Chorizanthe spinosa*; CRPR 4.2), sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiaru*; CRPR 2B.2), crowned muilla (*Muilla coronata*; CRPR 4.2) Lancaster milk-vetch (*Astragalus preussii* var. *laxiflorus*; CRPR 1B.1), white pygmy-poppy (*Canbya candida*; CRPR 4.2), Mojave Indian paintbrush (*Castilleja plagiotoma*; CRPR 4.3), Parry's spineflower (*Chorizanthe parryi* var. *parryi*; CRPR 1B.1), Rosamond eriastrum (*Eriastrum rosamondense*; CRPR 1B.1), and golden goodmania (*Goodmania luteola*; CRPR 4.2). It should be noted that known records of the last six species were all recorded closer to five miles from the project site, most of the records are over 40 years old (some over 100 years old), and some of these may now be extirpated due to the development of the surrounding region.

Special-Status Wildlife

A total of thirty (30) special-status wildlife species have been recorded in the USGS *Lancaster East, Alpine Butte, Rosamond, Rosamond Lake, Redman, Rogers Lake South, Hi Vista, Lovejoy Buttes, Littlerock, Palmdale, Ritter Ridge, and Lancaster West, California* 7.5-minute quadrangles by the CNDDDB and project region by the IPaC (refer to Attachment B). The special-status species Swainson's hawk (a ST species), California horned lark (a State WL species), loggerhead shrike (*Lanius ludovicianus*; a State SSC) and yellow-headed blackbird (a State SSC) were all observed during Michael Baker's April 2022 field survey of the cannabis facility site in the southwest corner of the project site. According to records within the CNDDDB (CDFW 2022a) and the eBird database (eBird 2022), other special-status wildlife species that have been previously recorded within the project site include Cooper's hawk (*Accipiter cooperii*; a State

WL species), tricolored blackbird (*Agelaius tricolor*; a ST species), burrowing owl (*Athene cunicularia*; a State SSC), short-eared owl (*Aseo flammeus*; a State SSC), ferruginous hawk (*Buteo regalis*; a State WL species), mountain plover (*Charadrius montanus*; a State SSC), northern harrier (*Circus hudsonius*; a State SSC), merlin (*Falco columbarius*; a State WL species), prairie falcon (*Falco mexicanus*; a State WL species), and white-faced ibis (*Plegadis chihi*; a State WL species). Desert kit fox (*Vulpes macrotis arsipus*; a CFGC furbearing mammal) and American badger (*Taxidea taxus*; a State SSC) sign, but not live animals, have been observed on-site (SWCA 2017). Although not documented within the project site according to the records that were consulted, desert tortoise (*Gopherus agassizii*; a ST and federally threatened [FT] species) and Mohave ground squirrel (*Xerospermophilus mohavensis*; a ST species) are both known to occur in the region and suitable habitat may be present on-site, particularly in areas that are contiguous with undeveloped open space.

Critical Habitat

Under the definition included in the FESA, designated Critical Habitat refers to specific areas within the geographical range of a species that were occupied at the time it was listed that contain the physical or biological features that are essential to the survival and eventual recovery of that species. Areas of Critical Habitat may require special management considerations or protection, regardless of whether the species is still extant in the area. Areas that were not known to be occupied at the time a species was listed can also be designated Critical Habitat if they contain one or more of the physical or biological features that are essential to that species' conservation and if the other areas that are occupied are inadequate to ensure the species' recovery. If a project may result in take or adverse modification to a species' designated Critical Habitat and the project has a federal nexus, the project proponent may be required to provide suitable mitigation. Projects with a federal nexus may include projects that occur on federal lands, require federal permits (e.g., CWA Section 404 permit), or receive any federal oversight or funding. If there is a federal nexus, then the federal agency that is responsible for providing funds or permits would be required to consult with the USFWS pursuant to the FESA.

The project site is not located within USFWS-designated Critical Habitat for any federally listed species (refer to Figure 6, *Critical Habitat*).

Significant Ecological Areas

The project site is located within the Antelope Valley SEA (refer to Figure 7, *Significant Ecological Areas*). The SEA extends from the Angeles National Forest to the playa lakes within Edwards Air Force Base, encompassing the whole of the two largest drainages exiting the northern slope of the San Gabriel Mountain range, and its geographical features serve as a major habitat linkage and movement corridor for all wildlife species within its vicinity. Ecologically "generalist" species have the ability to move across such vast areas and through changing habitat types. For such species, the SEA may serve as an important system for long-term inter-population genetic exchange. For smaller or less-mobile species, or taxa which are more narrowly restricted in their habitat needs, the SEA can serve as a broad linkage zone, in which individual movement can take place during seasonal or population dispersal. This provides essential genetic

exchange within and between metapopulations. The two drainages, combined with the upland terrestrial desert-montane transect portion of the SEA, ensure linkage values and direct movement zones for all of the wildlife species present within the Los Angeles County portion of the Antelope Valley.

However, the SEA Program and the SEA Ordinance only apply to adopted SEAs located within unincorporated areas.⁷ SEAs that are designated within incorporated areas in Los Angeles County are not subject to the restrictions of the SEA Ordinance. Within the project site, the Antelope Valley SEA is located within the incorporated boundaries of the City of Lancaster, and thus is not subject to any development restrictions associated with the SEA Program or SEA Ordinance or with Los Angeles County Code Chapter 22.102.

Conclusions and Recommendations

All findings of this report as described above and summarized in this section should be considered preliminary and are based on a review of limited data available from previous studies and online databases. No field surveys were conducted specifically in support of this report. This section summarizes the primary findings of this report and provides general recommendations and guidance for future proposed activities within the project site.

The only special-status plant species that is known to occur within the project site is western Joshua tree (a SC species). As a candidate for listing under CESA, western Joshua trees are protected from take without an Incidental Take Permit. Other special-status plant species that have been recorded in the general project vicinity include alkali mariposa lily (CRPR 1B.2), Mojave spineflower (CRPR 4.2), sagebrush loeflingia (CRPR 2B.2), crowned muilla (CRPR 4.2) Lancaster milk-vetch (CRPR 1B.1), white pygmy-poppy (CRPR 4.2), Mojave Indian paintbrush (CRPR 4.3), Parry's spineflower (CRPR 1B.1), Rosamond eriastrum (CRPR 1B.1), and golden goodmania (CRPR 4.2). For any future proposed development on undisturbed (i.e., undeveloped and non-agriculture) lands, it is recommended that a species-specific habitat assessment and/or focused plant surveys be conducted if suitable habitat is present to support these species or any other special-status plant species that are known to occur in the region.

- Removal of western Joshua trees would require an accurate census of the number of trees to be impacted, as well as an approved Incidental Take Permit from the CDFW.
- Potential presence of other special-status plant species may support conducting focused plant surveys. Plants protected under CESA or with a CRPR 1 or 2 are considered for significant impacts during CEQA analyses. Plants with CRPR 3 or 4 are typically not considered during CEQA analyses.

Special-status wildlife species that have been documented on-site or in the immediate vicinity include Swainson's hawk (a ST species), California horned lark (a State WL species), loggerhead shrike (a State SSC), yellow-headed blackbird (a State SSC), Cooper's hawk (a State WL species), tricolored blackbird (a

⁷ <https://planning.lacounty.gov/site/sea/wp-content/uploads/2019/05/Regional-Planning-Commission-Complete-Hearing-Package-2-27-19.pdf>

ST species). burrowing owl (a State SSC), short-eared owl (a State SSC), ferruginous hawk (a State WL species), mountain plover (a State SSC), northern harrier (a State SSC), merlin (a State WL species), prairie falcon (a State WL species), and white-faced ibis (a State WL species). Desert kit fox (CGFC protected furbearing mammal) and American badger (a State SSC) sign has been documented within the project site, and both desert tortoise (a FT and ST species) and Mohave ground squirrel (a ST species) are known to occur in the region.

- In areas of suitable habitat, focused surveys for burrowing owl, desert kit fox, American badger, desert tortoise, and/or Mohave ground squirrel may be required in support of a CEQA analysis.
- Regardless of focused survey findings, if suitable habitat for burrowing owl is present, two (2) separate preconstruction surveys are required prior to any ground disturbance, one no less than 14 days prior to disturbance, and the other within 24 hours prior to ground disturbance.
- If any renewable energy uses are proposed within the project site, focused surveys for Swainson's hawks conforming to the 2010 Antelope Valley protocol (CEC and CDFW 2010) may be required.
- Take of any wildlife species that are protected under FESA, CESA, and/or are designated as SSC or fully protected species in California would potentially qualify for significant impacts during CEQA analyses. Species that are protected under FESA and/or CESA would also require consultation with the USFWS under Section 7 or Section 10 of FESA and/or an Incidental Take Permit from the CDFW under Section 2081 of CESA.
- Take of burrowing special-status animals is likely to require a relocation plan and extensive coordination to move animals offsite.

Potentially federal and State jurisdictional resources are known to be present within the project site but were not analyzed as part of this report.

- As part of the CEQA analysis of any proposed development within the project site, a regulatory specialist should be consulted to determine if a jurisdictional delineation is necessary. If so, a jurisdictional delineation should be conducted to determine the presence or absence of potentially jurisdictional features within a proposed impact area.
- Impacts to jurisdictional features may require regulatory permits from the USACE, RWQCB, and/or the CDFW as applicable.

In order to develop a clearer understanding of on-site biological resources, future impacts that could occur, and future mitigation and/or permitting that may be required, it is recommended that a biological field survey of the entire proposed Light Industrial Overlay Zone be conducted, followed by a detailed biological resources assessment and focused species surveys as appropriate to determine baseline data for the project site. Regardless of whether project-wide focused surveys are conducted within the entire Light Industrial Overlay Zone, additional focused surveys may be required for individual proposed developments at a later date.

Please do not hesitate to contact me at (949) 533-0918 or ryan.winkleman@mbakerintl.com or Tom Millington at (949) 246-7004 or tommillington@mbakerintl.com should you have any questions or require further information.

Sincerely,



Ryan Winkleman
Senior Biologist



Tom Millington
Senior Biologist

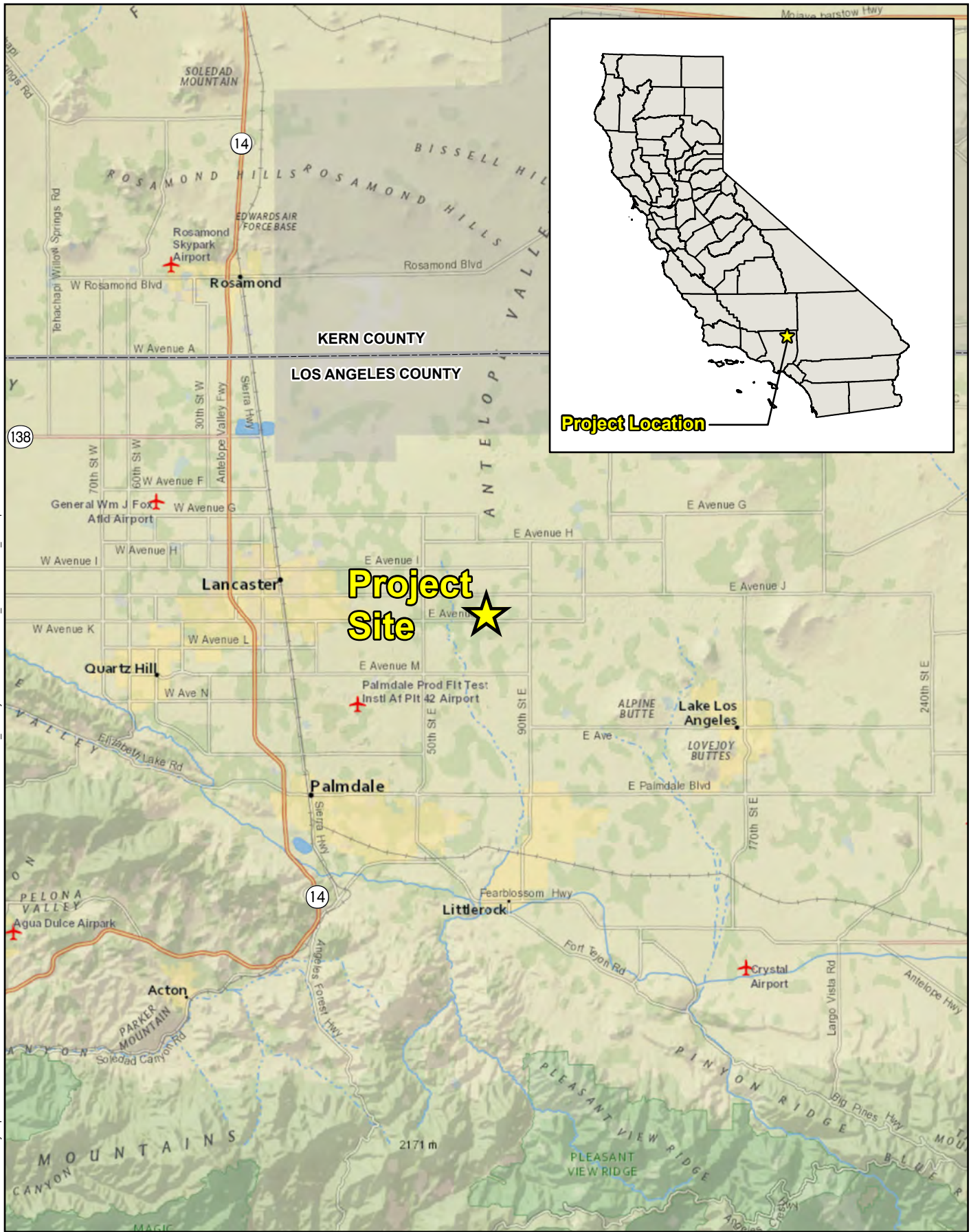
Attachments:

- A. *Project Figures*
- B. *Literature Review Results*
- C. *References*

Attachment A

Project Figures

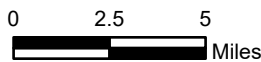
6/6/2022 JN C:\Users\ryan.phaneuf\OneDrive - Michael Baker International\Documents\GIS\188955 - Lancaster Cannabis_Overlay\GIS\APRX\Lancaster_East\Lancaster_East.aprx



LANCASTER EAST SIDE PROJECT – LIGHT INDUSTRIAL OVERLAY ZONE
BIOLOGICAL RESOURCES DUE DILIGENCE ASSESSMENT

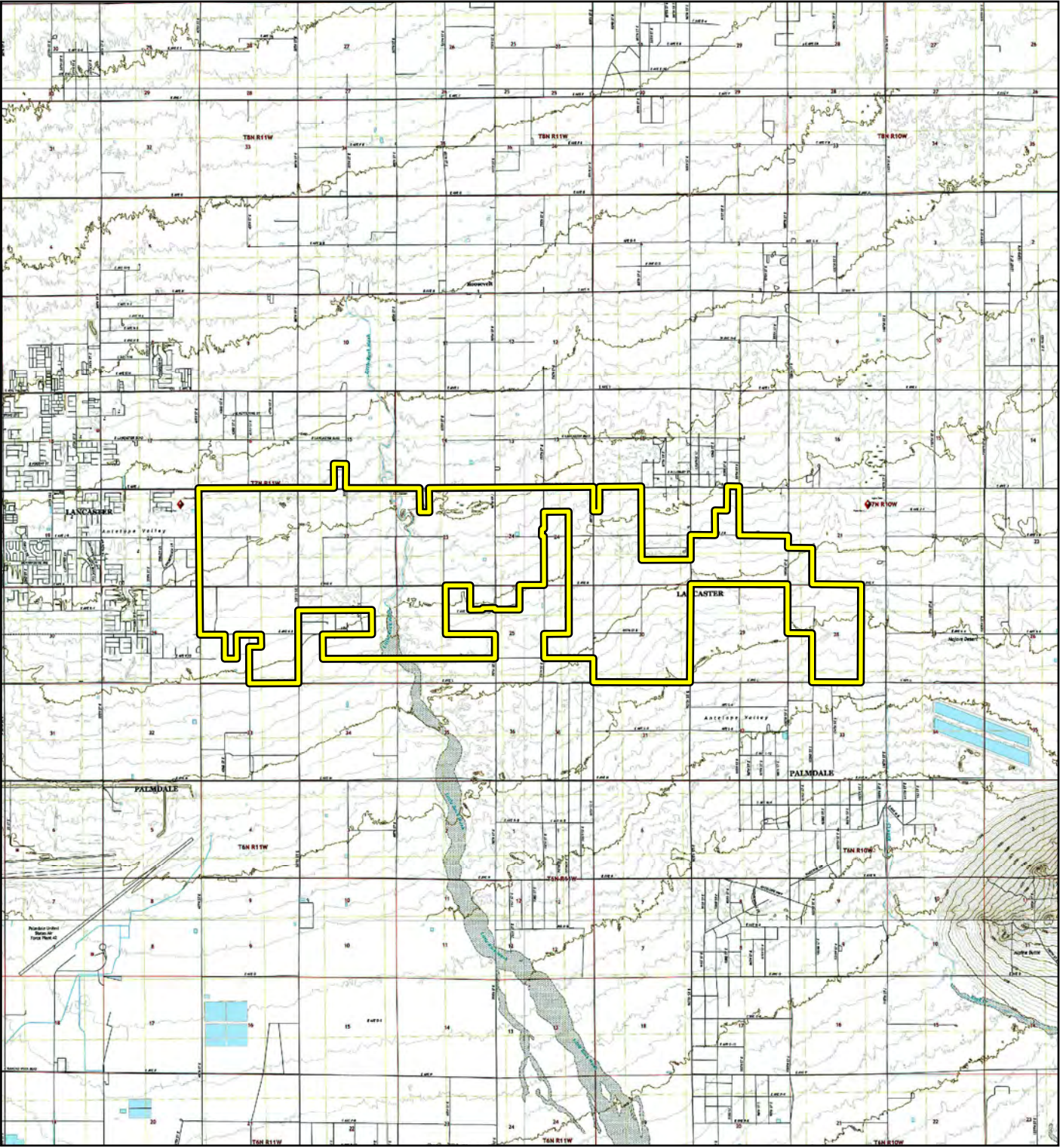
Regional Vicinity

Figure 1



Source: ArcGIS Online, 2018

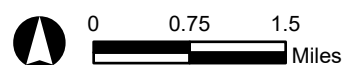
6/6/2022 10:00:00 AM C:\Users\ryan.phaneuf\OneDrive - Michael Baker International\Documents\GIS\188955 - Lancaster Camabis_Overlay\GIS\APRX\Lancaster_East.aprx



Legend

 Project Site

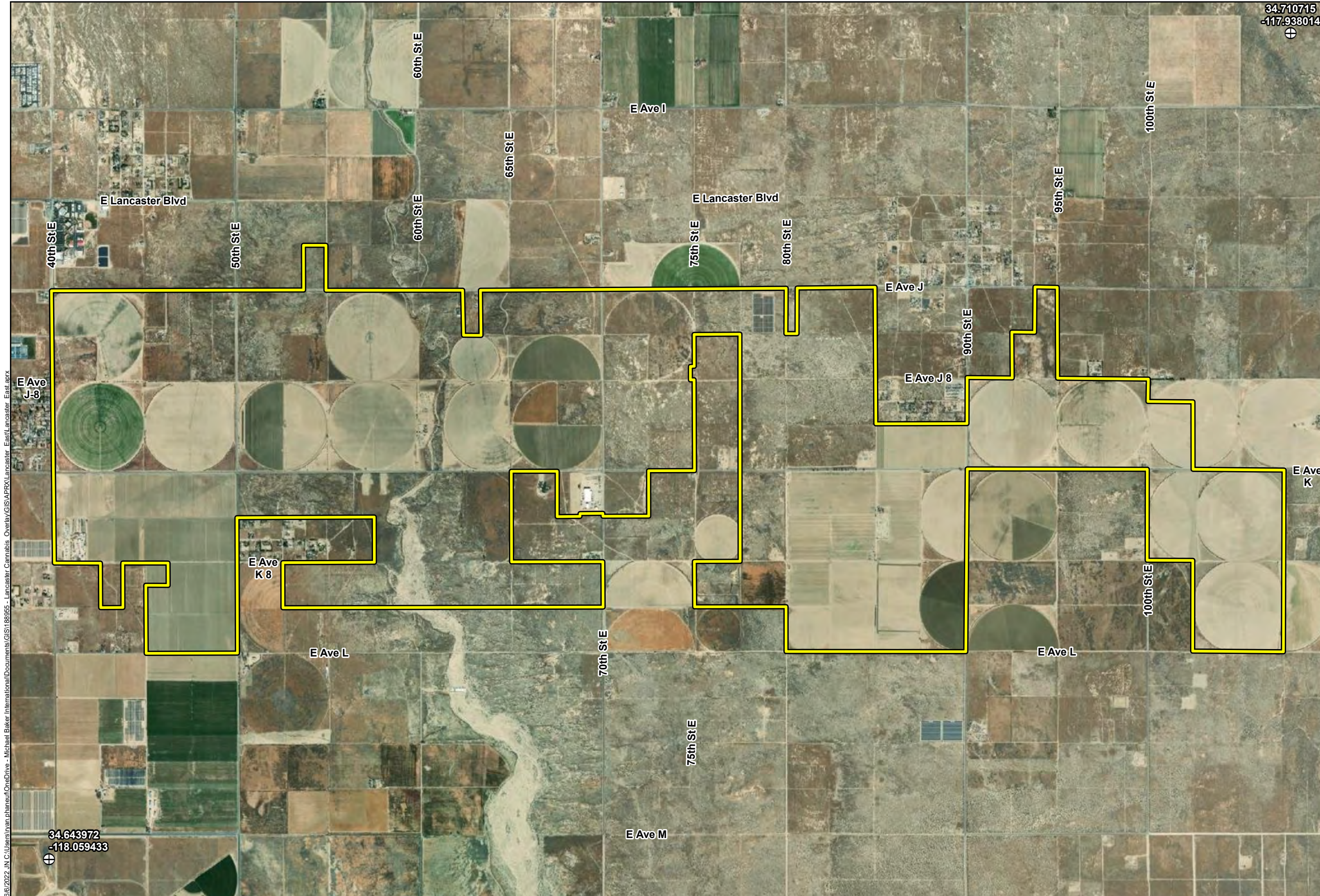
LANCASTER EAST SIDE PROJECT – LIGHT INDUSTRIAL OVERLAY ZONE
BIOLOGICAL RESOURCES DUE DILIGENCE ASSESSMENT



Project Vicinity


Source: USGS 7.5-Minute topographic quadrangle maps: *Alpine Butte, Little Rock, and Palmdale, and Rosemond Lake, California (2021), Little Rock, and Redman, California (2022)*

Figure 2



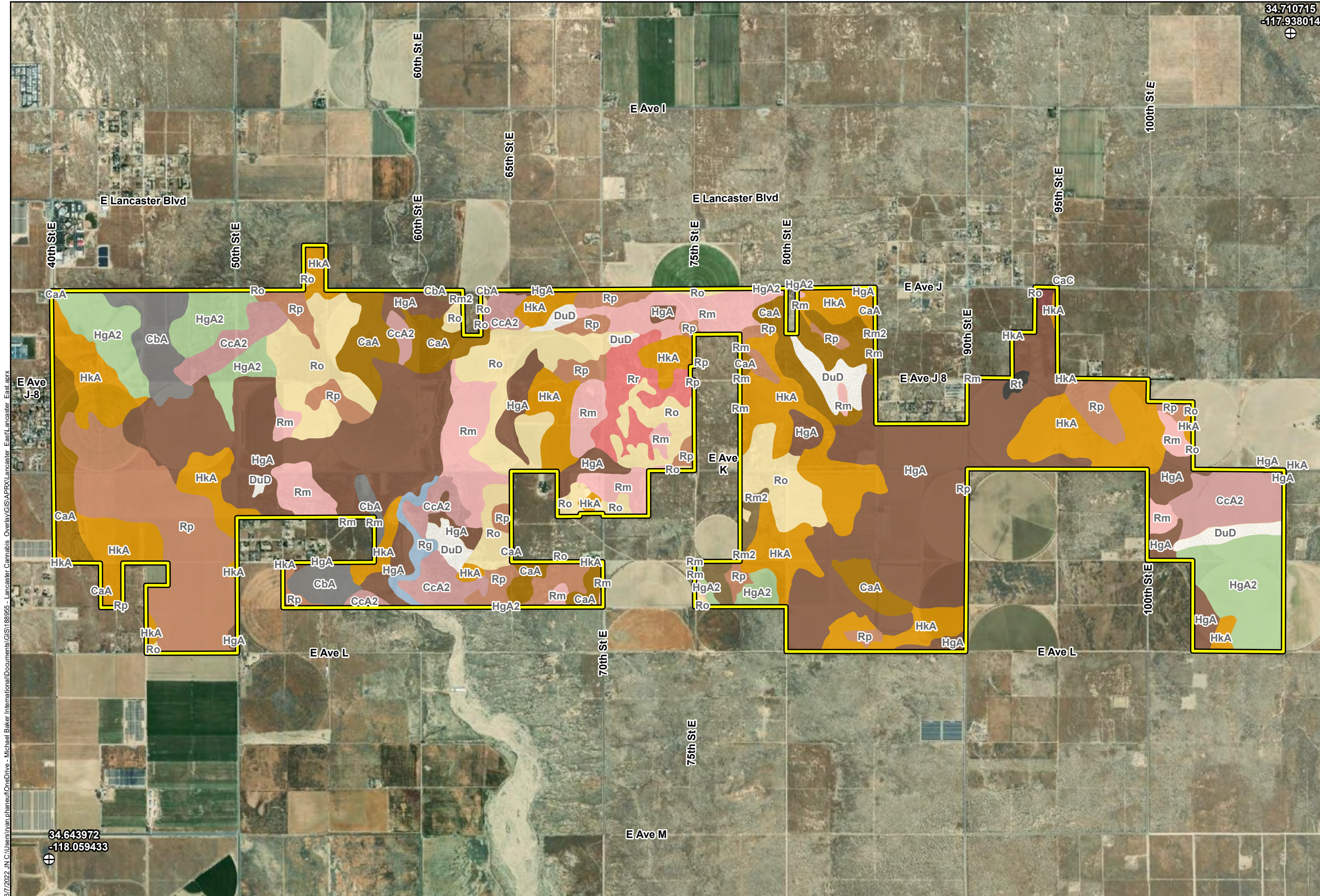
Legend

- Project Site
- Reference Point



0 1,400 2,800
Feet

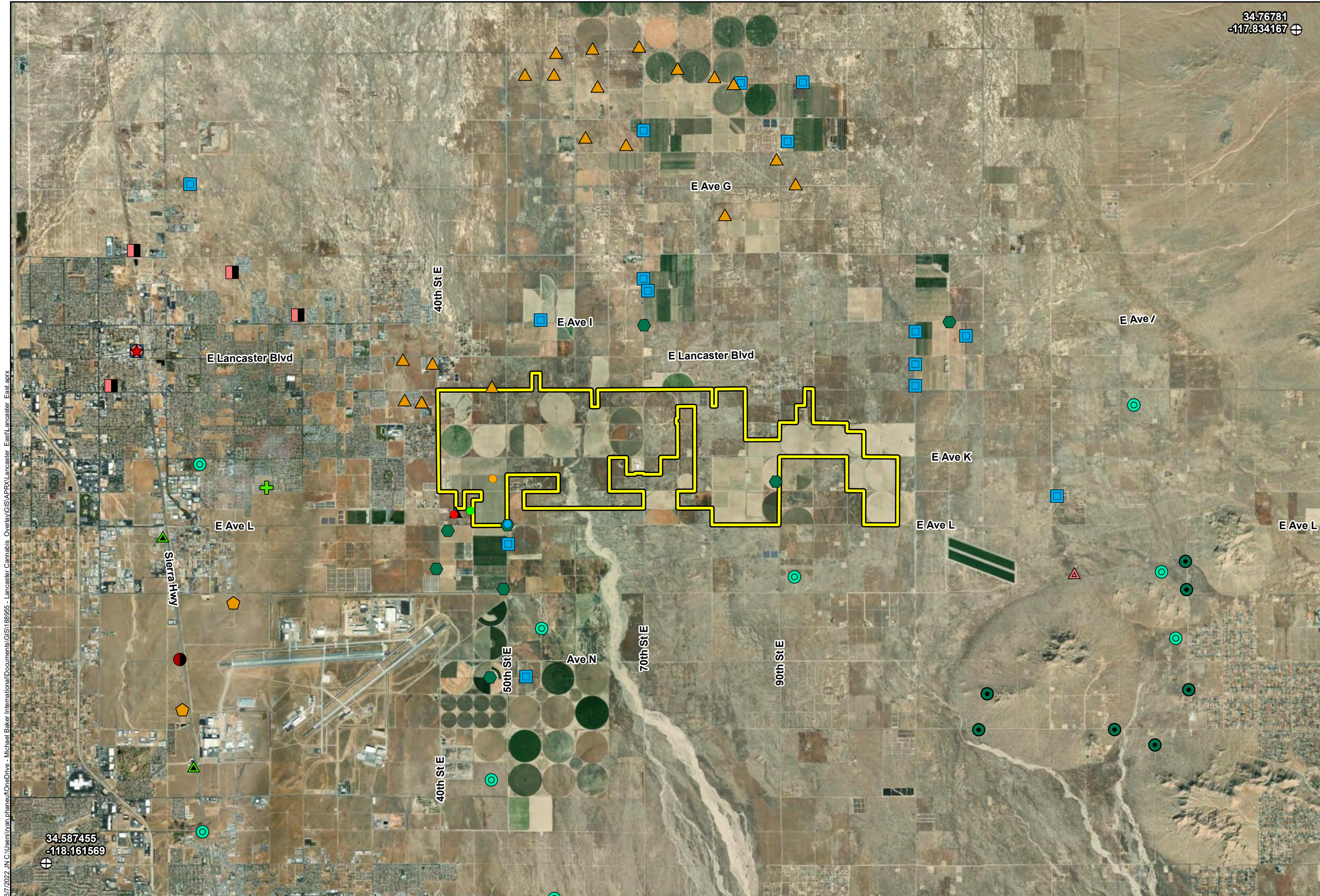
6/6/2022 J:\C:\Users\jvan.phaneul\OneDrive - Michael Baker International\Documents\GIS\189955 - Lancaster\Canabalis_Overlay\GIS\APRX\Lancaster_East\Lancaster_East.aprx



Legend

- Project Site
- CaA Cajon loamy sand, 0 to 2 percent slopes
- CaC Cajon loamy sand, 2 to 9 percent slopes
- CbA Cajon loamy sand, loamy substratum, 0 to 2 percent slopes
- CcA2 Cajon loamy fine sand, 0 to 2 percent slopes, hummocky
- DuD Dune land
- HgA Hesperia loamy fine sand, 0 to 2 percent slopes
- HgA2 Hesperia loamy fine sand, 0 to 2 percent slopes, hummocky
- HkA Hesperia fine sandy loam, 0 to 2 percent slopes
- Rg Riverwash
- Rm Rosamond loamy fine sand
- Rm2 Rosamond loamy fine sand, hummocky
- Ro Rosamond fine sandy loam
- Rp Rosamond loam
- Rr Rosamond loam, saline-alkali
- Rt Rosamond silty clay loam
- Reference Point

6/7/2022 J:\C:\Users\jvan.phaneuf\OneDrive - Michael Baker International\Documents\GIS\189355 - Lancaster Cannabis Overlay\GIS\APRX\Lancaster East\Lancaster East.aprx



Legend

- Project Site
- Reference Point

Michael Baker International

- California Horned Lark (*Eremophila alpestris actia*)
- Loggerhead Shrike (*Lanius ludovicianus*)
- Swainson's Hawk (*Buteo swainsoni*)
- Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*)

California Natural Diversity Database

Plants

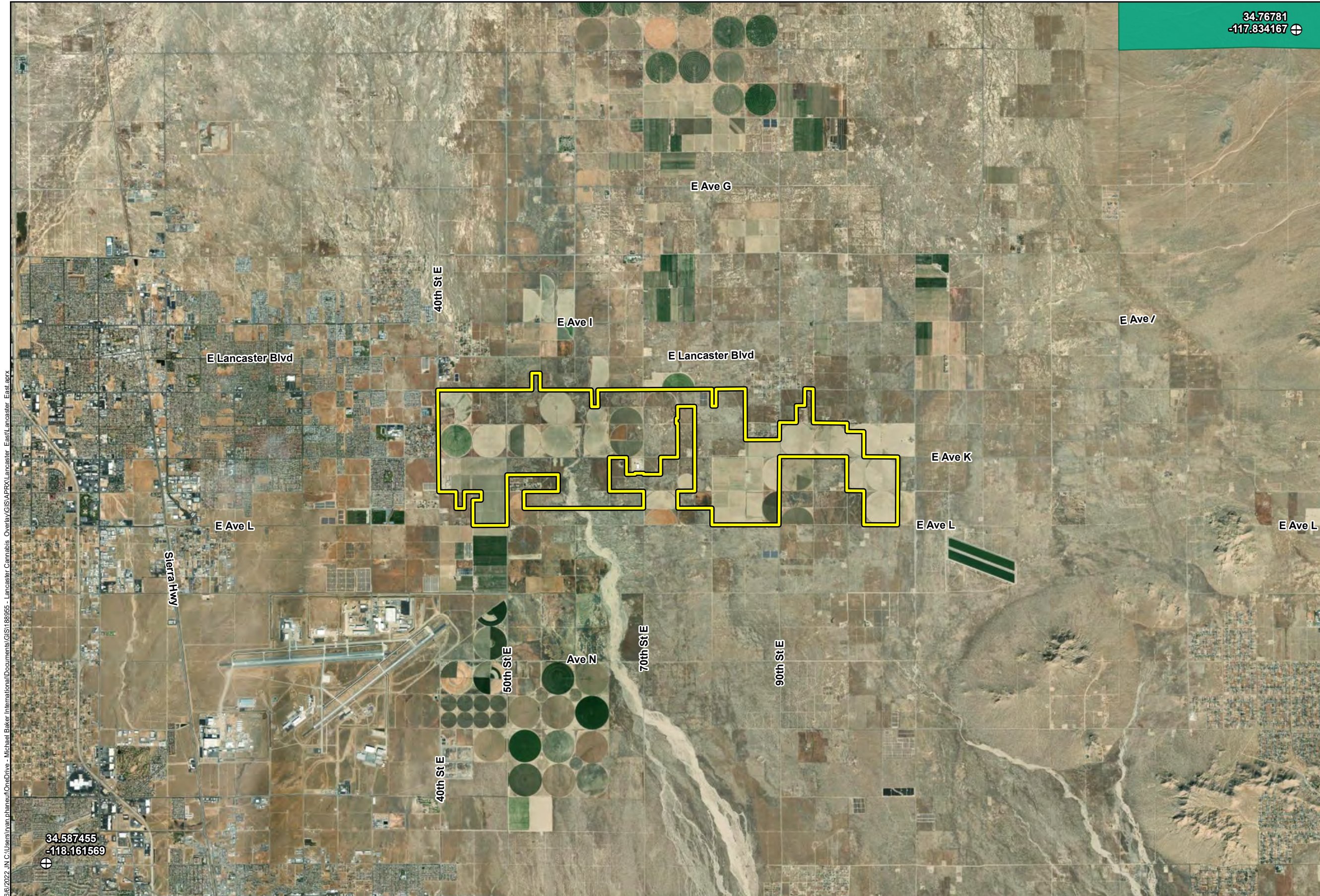
- Alkali Mariposa-lily (*Calochortus striatus*)
- Lancaster Milk-vetch (*Astragalus preussii* var. *laxiflorus*)
- Sagebrush Loefflingia (*Loeflingia squarrosa* var. *artemisiarum*)
- White Pygmy-poppy (*Canbya candida*)

Wildlife




- Burrowing Owl (*Athene cunicularia*)
- Coast Horned Lizard (*Phrynosoma blainvillii*)
- Desert Tortoise (*Gopherus agassizii*)
- Ferruginous Hawk (*Buteo regalis*)
- Le Conte's Thrasher (*Toxostoma lecontei*)
- Loggerhead Shrike (*Lanius ludovicianus*)
- Mohave Ground Squirrel (*Xerospermophilus mohavensis*)
- Mountain Plover (*Charadrius montanus*)
- Northern California Legless Lizard (*Anniella pulchra*)
- Prairie Falcon (*Falco mexicanus*)
- Swainson's Hawk (*Buteo swainsoni*)

0 3,750 7,500 Feet

6/7/2022 J:\C:\Users\ivan.phaneuf\OneDrive - Michael Baker International\Documents\GIS\1189355 - Lancaster Cannabis - Lancaster Cannabis - Overlaid\GIS\APRX\Lancaster East\Lancaster East.aprx

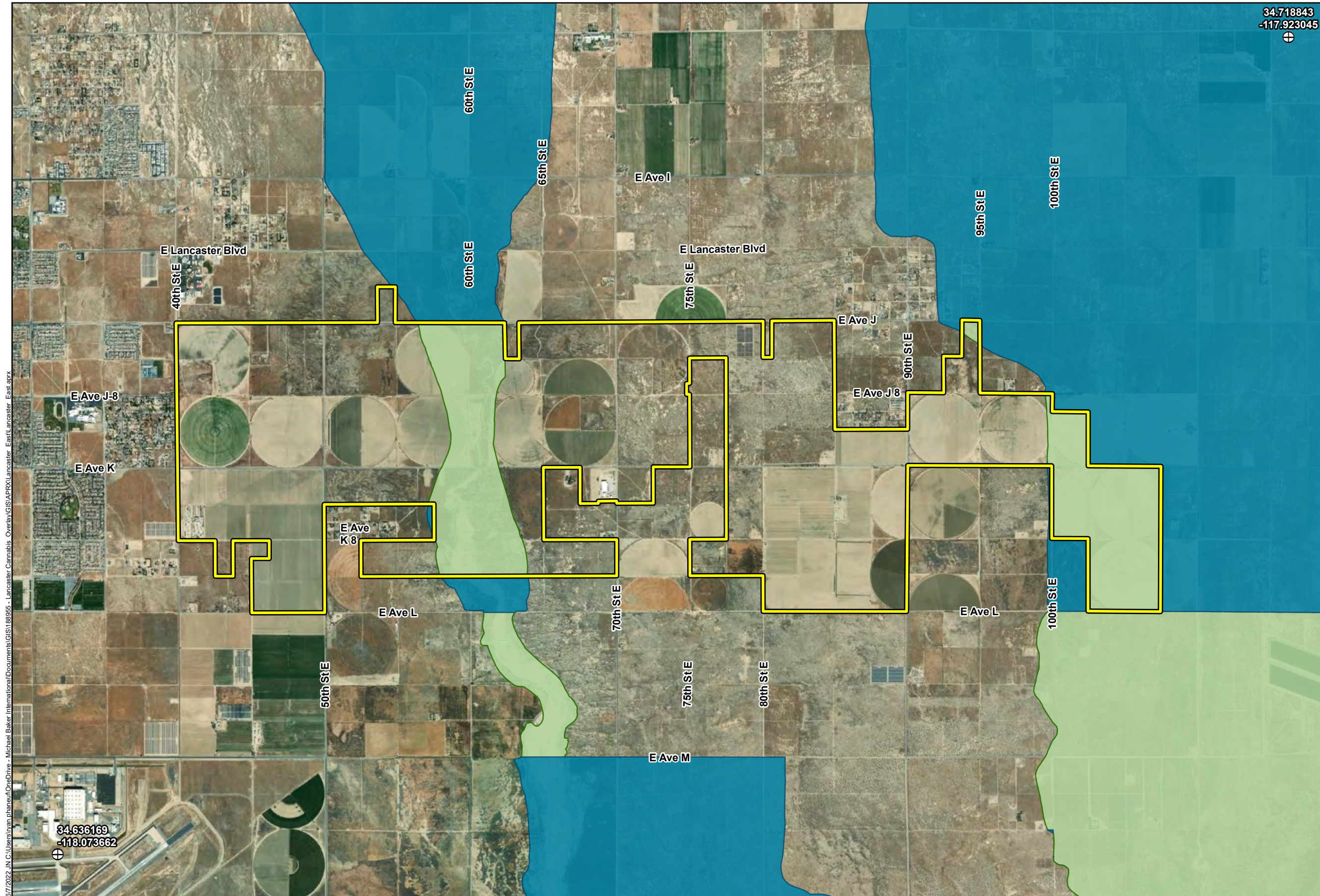


Legend

-  Project Site
-  Desert Tortoise (*Gopherus agassizii*)
-  Reference Point

0 3,750 7,500 Feet


6/6/2022 J:\C:\Users\jvan.phaneu\OneDrive - Michael Baker International\Documents\GIS\189355 - Lancaster Cannabis - Lancaster GIS\APRX\Lancaster East\Lancaster East.aprx



Legend

- Project Site
- Antelope Valley
- Antelope Valley (Incorporated City)*
- Reference Point

*Not subject to Los Angeles County's SEA Ordinance



0 1,750 3,500
Feet

6/7/2022 J:\C:\Users\jvan.phaneul\OneDrive - Michael Baker International\Documents\GIS\189355 - Lancaster Cannabis - Overlay\GIS\APRX\Lancaster East\lancaster_East.aprx

Attachment B

Literature Review Results



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad (Lancaster East (3411861) OR Lancaster West (3411862) OR Alpine Butte (3411768) OR Rosamond (3411872) OR Rosamond Lake (3411871) OR Redman (3411778) OR Rogers Lake South (3411777) OR Hi Vista (3411767) OR Lovejoy Buttes (3411757) OR Littlerock (3411758) OR Palmdale (3411851) OR Ritter Ridge (3411852)) AND Taxonomic Group (Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Astragalus hornii</i> var. <i>hornii</i> Horn's milk-vetch	PDFAB0F421	None	None	GUT1	S1	1B.1
<i>Astragalus preussii</i> var. <i>laxiflorus</i> Lancaster milk-vetch	PDFAB0F721	None	None	G4T2	S1	1B.1
<i>Calochortus striatus</i> alkali mariposa-lily	PMLIL0D190	None	None	G3?	S2S3	1B.2
<i>Canbya candida</i> white pygmy-poppy	PDPAP05020	None	None	G3G4	S3S4	4.2
<i>Chorizanthe parryi</i> var. <i>parryi</i> Parry's spineflower	PDPGN040J2	None	None	G3T2	S2	1B.1
<i>Cymopterus deserticola</i> desert cymopterus	PDAP10U090	None	None	G2	S2	1B.2
<i>Eriastrum rosamondense</i> Rosamond eriastrum	PDPLM030G0	None	None	G1?	S1?	1B.1
<i>Eriophyllum mohavense</i> Barstow woolly sunflower	PDAST3N070	None	None	G2	S2	1B.2
<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i> sagebrush loeflingia	PDCAR0E011	None	None	G5T3	S2	2B.2
<i>Opuntia basilaris</i> var. <i>brachyclada</i> short-joint beavertail	PDCAC0D053	None	None	G5T3	S3	1B.2
<i>Plagiobothrys parishii</i> Parish's popcornflower	PDBOR0V0U0	None	None	G1	S1	1B.1
<i>Puccinellia simplex</i> California alkali grass	PMPOA53110	None	None	G3	S2	1B.2

Record Count: 12



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad IS (Lancaster East (3411861) OR Lancaster West (3411862) OR Alpine Butte (3411768) OR Rosamond (3411872) OR Rosamond Lake (3411871) OR Redman (3411778) OR Rogers Lake South (3411777) OR Hi Vista (3411767) OR Lovejoy Buttes (3411757) OR Littlerock (3411758) OR Palmdale (3411851) OR Ritter Ridge (3411852))
 AND Taxonomic Group IS (Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Accipiter cooperii</i> Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
<i>Aimophila ruficeps canescens</i> southern California rufous-crowned sparrow	ABPBX91091	None	None	G5T3	S3	WL
<i>Anniella pulchra</i> Northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
<i>Arizona elegans occidentalis</i> California glossy snake	ARADB01017	None	None	G5T2	S2	SSC
<i>Artemisospiza belli belli</i> Bell's sage sparrow	ABPBX97021	None	None	G5T2T3	S3	WL
<i>Asio flammeus</i> short-eared owl	ABNSB13040	None	None	G5	S3	SSC
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Bombus crotchii</i> Crotch bumble bee	IIHYM24480	None	None	G2	S1S2	
<i>Buteo regalis</i> ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
<i>Charadrius montanus</i> mountain plover	ABNNB03100	None	None	G3	S2S3	SSC
<i>Charadrius nivosus nivosus</i> western snowy plover	ABNNB03031	Threatened	None	G3T3	S2	SSC
<i>Circus hudsonius</i> northern harrier	ABNKC11011	None	None	G5	S3	SSC
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Eumops perotis californicus</i> western mastiff bat	AMACD02011	None	None	G4G5T4	S3S4	SSC



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Falco columbarius</i> merlin	ABNKD06030	None	None	G5	S3S4	WL
<i>Falco mexicanus</i> prairie falcon	ABNKD06090	None	None	G5	S4	WL
<i>Gopherus agassizii</i> desert tortoise	ARAAF01012	Threatened	Threatened	G3	S2S3	
<i>Helminthoglypta fontiphila</i> Soledad shoulderband	IMGASC2250	None	None	G1	S1	
<i>Lanius ludovicianus</i> loggerhead shrike	ABPBR01030	None	None	G4	S4	SSC
<i>Onychomys torridus ramona</i> southern grasshopper mouse	AMAFF06022	None	None	G5T3	S3	SSC
<i>Perognathus inornatus</i> San Joaquin pocket mouse	AMAFD01060	None	None	G2G3	S2S3	
<i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
<i>Plegadis chihi</i> white-faced ibis	ABNGE02020	None	None	G5	S3S4	WL
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC
<i>Thamnophis hammondi</i> two-striped gartersnake	ARADB36160	None	None	G4	S3S4	SSC
<i>Toxostoma lecontei</i> Le Conte's thrasher	ABPBK06100	None	None	G4	S3	SSC
<i>Vireo bellii pusillus</i> least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	
<i>Xerospermophilus mohavensis</i> Mohave ground squirrel	AMAFB05150	None	Threatened	G2G3	S2S3	

Record Count: 31

Search Results

23 matches found. Click on scientific name for details

Search Criteria: Quad is one of [3411861:3411768:3411872:3411871:3411778:3411777:3411767:3411757:3411758:3411851:3411852:3411862]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
<i>Androsace elongata</i> ssp. <i>acuta</i>	California androsace	Primulaceae	annual herb	Mar-Jun	None	None	G5?T3T4	S3S4	4.2	 © 2008 Aaron Schusteff
<i>Astragalus hornii</i> var. <i>hornii</i>	Horn's milk-vetch	Fabaceae	annual herb	May-Oct	None	None	GUT1	S1	1B.1	No Photo Available
<i>Astragalus preussii</i> var. <i>laxiflorus</i>	Lancaster milk-vetch	Fabaceae	perennial herb	Mar-May	None	None	G4T2	S1	1B.1	No Photo Available
<i>Calochortus striatus</i>	alkali mariposa-lily	Liliaceae	perennial bulbiferous herb	Apr-Jun	None	None	G3?	S2S3	1B.2	No Photo Available
<i>Calystegia peirsonii</i>	Peirson's morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jun	None	None	G4	S4	4.2	No Photo Available
<i>Canbya candida</i>	white pygmy-poppy	Papaveraceae	annual herb	Mar-Jun	None	None	G3G4	S3S4	4.2	No Photo Available
<i>Castilleja plagiotoma</i>	Mojave paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Apr-Jun	None	None	G4	S4	4.3	No Photo Available
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	Polygonaceae	annual herb	Apr-Jun	None	None	G3T2	S2	1B.1	No Photo Available
<i>Chorizanthe spinosa</i>	Mojave spineflower	Polygonaceae	annual herb	Mar-Jul	None	None	G4	S4	4.2	 © 2011 Benjamin Smith
<i>Cymopterus deserticola</i>	desert cymopterus	Apiaceae	perennial herb	Mar-May	None	None	G2	S2	1B.2	No Photo Available
<i>Diplacus johnstonii</i>	Johnston's monkeyflower	Phrymaceae	annual herb	May-Aug	None	None	G4	S4	4.3	No Photo Available
<i>Eriastrum rosamondense</i>	Rosamond eriastrum	Polemoniaceae	annual herb	Apr-May(Jun-Jul)	None	None	G1?	S1?	1B.1	No Photo Available
<i>Eriophyllum mohavense</i>	Barstow woolly sunflower	Asteraceae	annual herb	Mar-May	None	None	G2	S2	1B.2	No Photo Available
<i>Goodmania luteola</i>	golden goodmania	Polygonaceae	annual herb	Apr-Aug	None	None	G3	S3	4.2	 © 2007 Steve Matson
<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>	sagebrush loeflingia	Caryophyllaceae	annual herb	Apr-May	None	None	G5T3	S2	2B.2	No Photo Available
<i>Lycium torreyi</i>	Torrey's box-thorn	Solanaceae	perennial shrub	(Jan-Feb)Mar-Jun(Sep-Nov)	None	None	G4G5	S3	4.2	No Photo Available
<i>Muilla coronata</i>	crowned muilla	Themidaceae	perennial bulbiferous herb	Mar-Apr(May)	None	None	G3	S3	4.2	No Photo Available

<i>Opuntia basilaris</i> var. <i>brachyclada</i>	short-joint beavertail	Cactaceae	perennial stem	Apr-Jun(Aug)	None	None	G5T3	S3	1B.2	No Photo Available
<i>Perideridia pringlei</i>	adobe yampah	Apiaceae	perennial herb	Apr-Jun(Jul)	None	None	G4	S4	4.3	No Photo Available
<i>Plagiobothrys parishii</i>	Parish's popcornflower	Boraginaceae	annual herb	Mar-Jun(Nov)	None	None	G1	S1	1B.1	No Photo Available
<i>Puccinellia simplex</i>	California alkali grass	Poaceae	annual herb	Mar-May	None	None	G3	S2	1B.2	No Photo Available
<i>Syntrichopappus lemmonii</i>	Lemmon's syntrichopappus	Asteraceae	annual herb	Apr-May(Jun)	None	None	G4	S4	4.3	No Photo Available
<i>Yucca brevifolia</i>							GNR	SNR	CBR	No Photo Available

Showing 1 to 23 of 23 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2022. Rare Plant Inventory (online edition, v9-01 1.5). Website <https://www.rareplants.cnps.org> [accessed 27 May 2022].

CONTACT US

Send questions and comments to rareplants@cnps.org.



Developed by
Rincon Consultants, Inc.

ABOUT THIS WEBSITE

[About the Inventory](#)
[Release Notes](#)
[Advanced Search](#)
[Glossary](#)

ABOUT CNPS

[About the Rare Plant Program](#)
[CNPS Home Page](#)
[About CNPS](#)
[Join CNPS](#)

CONTRIBUTORS

[The Calflora Database](#)
[The California Lichen Society](#)
[California Natural Diversity Database](#)
[The Jepson Flora Project](#)
[The Consortium of California Herbaria](#)
[CalPhotos](#)

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Los Angeles County, California



Local office

Carlsbad Fish And Wildlife Office

☎ (760) 431-9440

📠 (760) 431-5901

2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
California Condor <i>Gymnogyps californianus</i> There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/8193	Endangered

Reptiles

NAME	STATUS
Desert Tortoise <i>Gopherus agassizii</i> There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/4481	Threatened

Insects

NAME

STATUS

Monarch Butterfly *Danaus plexippus*

Candidate

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9743>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\)](#) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

<p>California Thrasher <i>Toxostoma redivivum</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Jan 1 to Jul 31
<p>Costa's Hummingbird <i>Calypte costae</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9470</p>	Breeds Jan 15 to Jun 10
<p>Golden Eagle <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680</p>	Breeds Dec 1 to Aug 31
<p>Lawrence's Goldfinch <i>Carduelis lawrencei</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464</p>	Breeds Mar 20 to Sep 20
<p>Marbled Godwit <i>Limosa fedoa</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481</p>	Breeds elsewhere
<p>Mountain Plover <i>Charadrius montanus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3638</p>	Breeds elsewhere
<p>Tricolored Blackbird <i>Agelaius tricolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910</p>	Breeds Mar 15 to Aug 10

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (≡)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is

the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

- The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

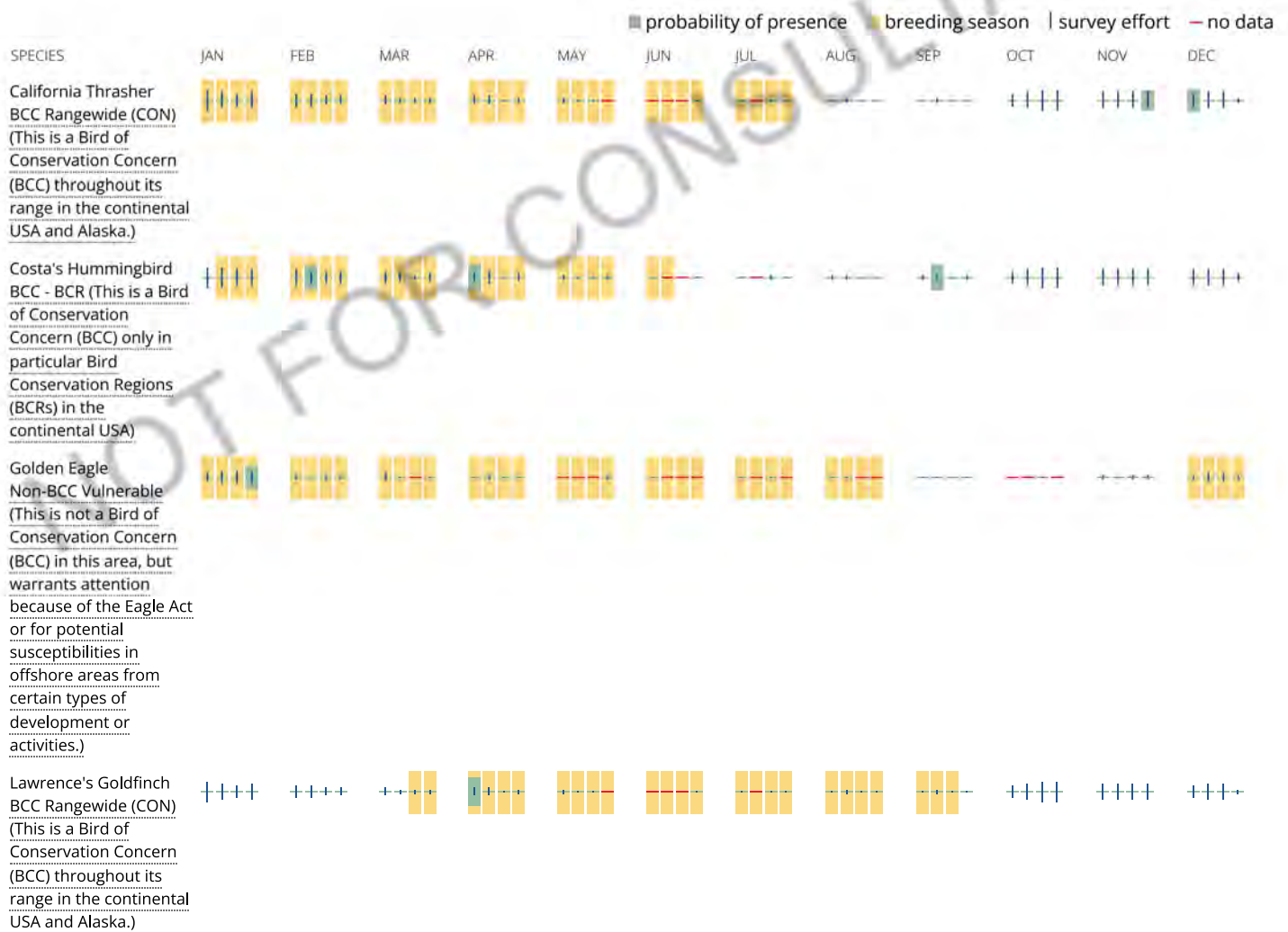
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

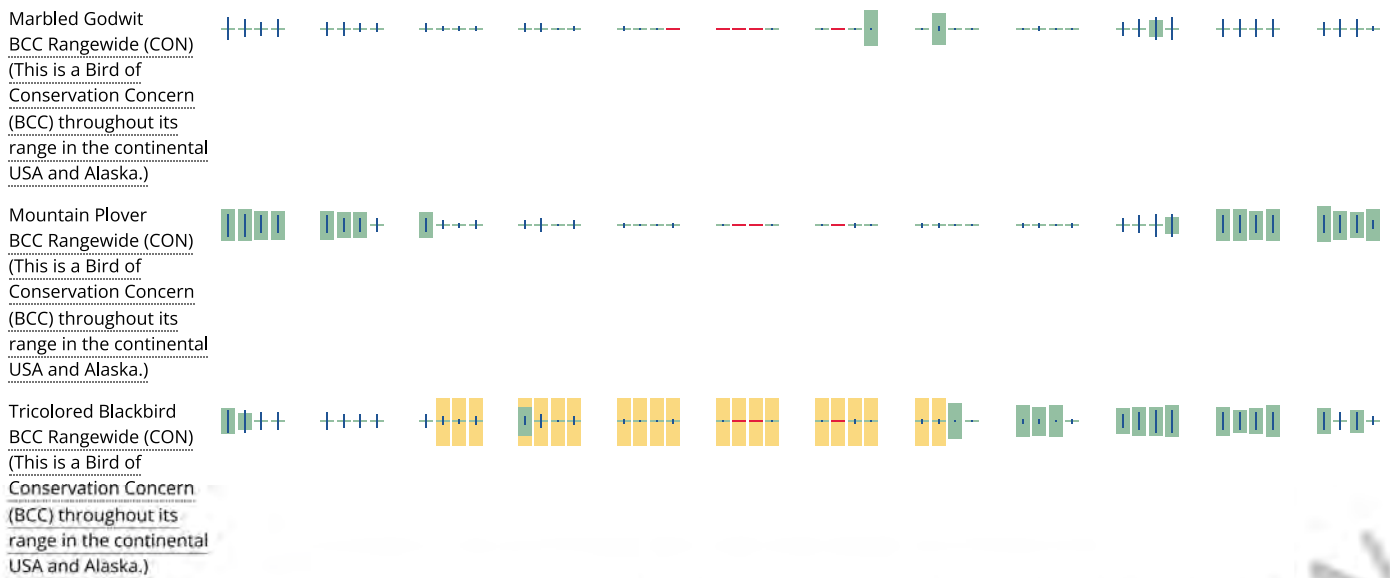
No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern \(BCC\)](#) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and

3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Coastal Barrier Resources System

Projects within the [John H. Chafee Coastal Barrier Resources System](#) (CBRS) may be subject to the restrictions on federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local [Ecological Services Field Office](#) or visit the [CBRA Consultations website](#). The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

THERE ARE NO KNOWN COASTAL BARRIERS AT THIS LOCATION.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the [official CBRS maps](#). The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: <https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation>

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND

[Palustrine](#)

LAKE

[Lacustrine](#)

RIVERINE

[Riverine](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal

zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

Attachment C

References

- Billerman, S. M., Keeney, B. K., Rodewald, P. G., and T. S. Schulenberg (Editors). 2020. Birds of the World. Cornell Laboratory of Ornithology, Ithaca, NY, USA. Accessed online at: <https://birdsoftheworld.org/bow/home>.
- California Department of Fish and Wildlife (CDFW). 2022a. RareFind 5, California Natural Diversity Data Base, California. Data base report on threatened, endangered, rare or otherwise sensitive species and communities for the USGS *Tustin, Laguna Beach, and Newport Beach, California* 7.5-minute quadrangles.
- CDFW. 2022b. *Special Animals List*. California Department of Fish and Wildlife. Sacramento, CA.
- CDFW. 2022c. *Special Vascular Plants, Bryophytes, and Lichens List*. Quarterly publication. 140 pp.
- CDFW. 2022d. *State and Federally Listed Endangered and Threatened Animals of California*. California Department of Fish and Wildlife. Sacramento, CA.
- CDFW. 2022e. *State and Federally Listed Endangered, Threatened, and Rare Plants of California*. California Department of Fish and Wildlife. Sacramento, CA.
- Calflora: Information on California plants for education, research and conservation, with data contributed by public and private institutions and individuals, including the Consortium of California Herbaria (Calflora). 2022. Berkeley, California: The Calflora Database [a non-profit organization]. Accessed online at: <https://www.calflora.org/>.
- California Energy Commission and California Department of Fish and Wildlife (CEC and CDFW). 2010. *Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California*. June 2010.
- California Native Plant Society (CNPS). 2022. Inventory of Rare and Endangered Plants of California (online edition, v9-01 1.5). Accessed online at: <http://www.rareplants.cnps.org/>.
- City of Lancaster. 2009. *City of Lancaster General Plan 2030*.
- Crother, B. I. (ed.). 2017. Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in Our Understanding pp. 1–102. SSAR Herpetological Circular 43.
- eBird. 2022. eBird: An online database of bird distribution and abundance [web application]. eBird, Cornell Lab of Ornithology, Ithaca, New York. Accessed online at: <http://www.ebird.org>.
- Google, Inc. 2022. Google Earth Pro Historical Aerial Imagery Version 7.3.4.8576. Build date 03/24/2022. Aerial Imagery dated 1985 through 2018.
- Hagan, M. 2017. *Biological Resource Assessment of APN 3386-007-035*. October 2017.
- Hagan, M. 2020. *Biological Resource Assessment of APN 3386-007-007, Lancaster, California*. September 2020.

- Michael Baker International (Michael Baker). 2022. *Lancaster East Side Project – Cannabis Facility Site Biological Resources Assessment*. Prepared for City of Lancaster. June 2022.
- Sawyer, J.O., T. Keeler-Wolf, and J. Evens. 2009. *A Manual of California Vegetation (Second Edition)*. California Native Plant Society, Sacramento, California, USA.
- South Coast Wildlands. 2008. *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*. Produced in cooperation with partners in the South Coast Missing Linkages Initiative. Accessed online at: <http://www.scwildlands.org>.
- SWCA Environmental Consultants (SWCA). 2017. *Biological Constraints Analysis for the Green Beanworks B Solar Project, City of Lancaster, Los Angeles County, California*. Prepared for s-Power Sustainable Power Group. May 2017.
- U.S. Department of Agriculture (USDA). 2022. *Custom Soil Resource Report for Antelope Valley Area, California*. Accessed online at: <http://websoilsurvey.nrcs.usda.gov/app/>.
- U.S. Fish and Wildlife Service (USFWS). 2022a. IPaC Information for Planning and Consultation. Accessed online at: <https://ecos.fws.gov/ipac/>.
- USFWS. 2022b. ECOS Environmental Conservation Online System: Threatened and Endangered Species Active Critical Habitat Report. Accessed online at: <https://ecos.fws.gov/ecp/report/table/critical-habitat.html>.
- USFWS. 2022c. National Wetlands Inventory Mapper. Accessed online at: <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>.

June 10, 2022

JN 188955

CITY OF LANCASTER
Development Services Department
Attn: *Larissa De La Cruz*
44933 Fern Avenue
Lancaster, California 93534

SUBJECT: Preliminary Desktop Analysis of Potential State and Federal Jurisdictional Waters Within the Lancaster East Side Project – Light Industrial Overlay Zone, City of Lancaster, California

Dear Ms. De La Cruz:

On behalf of the City of Lancaster (City), Michael Baker International (Michael Baker) has prepared this technical letter report to document the jurisdictional authority of the U.S. Army Corps of Engineers Los Angeles District (Corps), Lahontan Regional Water Quality Control Board (Regional Board), and California Department of Fish and Wildlife (CDFW) South Coast Region within the proposed Lancaster East Side Project – Light Industrial Overlay Zone (Overlay Zone; project or project site). Specifically, this report has been prepared to describe, map, and quantify potential aquatic and other hydrologic features located within the project site as determined through a literature and desktop review.

This report explains the methodology utilized to conduct the desktop review, defines the potential jurisdictional authority of the regulatory agencies, and documents the findings made by Michael Baker. This report presents Michael Baker's determination of potential jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance provided by the regulatory agencies. However, it should be noted that a formal jurisdictional delineation should be prepared in order to receive concurrence from the regulatory agencies.

Project Location

The project site is generally located in the eastern portion of the City of Lancaster, east of State Route 14, and north of the Palmdale Regional Airport in the City of Lancaster, Los Angeles County, California (refer to Figure 1, *Regional Vicinity* in Attachment A). The project site is depicted in Sections 21 through 28 of Townships 7 and 8 north, and Range 11 west on the United States Geological Survey's (USGS) *Lancaster East* and Sections 19, 20, 24, 25, 28, 29, and 30, of Township 7 North and Range 11 west on the USGS *Alpine Butte* California 7.5-minute quadrangles (refer to Figure 2, *Project Vicinity* in Attachment A). Specifically, the project site is located immediately south of East Avenue J, east of 40th Street East, north of East Avenue L, and west of 110th Street East (refer to Figure 3, *Project Site* in Attachment A).

Project Description

The project consists of two components: 1) development of a Light Industrial Overlay Zone in the eastern portion of Lancaster; and 2) development of a cannabis facility within the proposed overlay zone. The two project components are described in further detail below.

Light Industrial Overlay Zone

The City is proposing to establish a Light Industrial Overlay Zone in the eastern portion of Lancaster over the predominantly RR-2.5 (Rural Residential, 1 du/ac) zoned project site. Anticipated light industrial uses would include, but are not limited to, alternative energy, commercial cannabis activity, distribution, light manufacturing, research and development, and warehousing. The intent of the overlay zone is to allow more flexibility and development potential in the underutilized eastern portion of Lancaster.

Cannabis Facility

A project Applicant is proposing to develop a cannabis facility at 43200 40th Street East (Assessor's Parcel Number [APN] 3170-012-002) within the proposed overlay zone. The site is approximately 480 acres and would have a maximum buildout of up to 200,000 square feet. The proposed cannabis facility would include cultivation, manufacturing, distribution, and retail delivery activities. Grow areas would occur in hoop houses and traditional tractors and agricultural farming equipment would be utilized on-site. This cannabis facility is the only site-specific cannabis facility to be analyzed at a project-level of detail within the Environmental Impact Report. Additional future proposed cannabis facilities within the overlay zone would be analyzed under a separate, stand-alone document in compliance with the California Environmental Quality Act (CEQA) at the time such development application(s) are received.

Summary of Regulations

There are three (3) key agencies that regulate activities within streams, wetlands, and riparian areas in California. The Corps Regulatory Division regulates activities pursuant to Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the CDFW regulates activities under Sections 1600 *et seq.* of the California Fish and Game Code (CFGC), and the Regional Board regulates activities pursuant to Section 401 of the CWA and Section 13263 of the California Porter-Cologne Water Quality Control Act (Porter-Cologne Act).

Literature Review

A thorough review of relevant literature and materials was conducted to obtain a general understanding of the environmental setting and preliminarily identify features/areas that may fall under the jurisdiction of the regulatory agencies. Relevant materials utilized during the literature review are summarized below with references provided in Attachment B.

Watershed

According to the Water Quality Control Plan for the Lahontan Region (Region 6), the project site is located within the Lancaster Hydrologic Area (HA 626.50) within the Antelope Hydrologic Unit. Watersheds

located within the project site include (from west to east): Piute Ponds Watershed (Hydrologic Unit Code [HUC] 180902061502), HUC 180902062402, Rosamond Lake Watershed (HUC 180902062406), Town of Roosevelt Watershed (HUC 180902061603), Brainard Canyon-Little Rock Wash Watershed (HUC 18090261103), HUC 180902061602, HUC 180902062401, and Buckthorn Lake Watershed (HUC 180902062302) in Antelope Valley.

The Antelope Valley region is a closed topographic basin with no outlet to the ocean. All water that enters the region either infiltrates into the groundwater basin, evaporates, or flows toward three dry lakes located in the region; Rosamond Lake, Buckhorn Lake, and Rogers Lake. In general, groundwater flows northeasterly from the mountain ranges to these dry lakes. Due to the relatively impervious nature of soils within these dry lakes and high evaporation rates, water that collects on the dry lakes eventually evaporates rather than infiltrating into the subsurface. Within this region, surface water flows are carried by ephemeral streams. The most significant streams begin in the San Gabriel Mountains on the southwestern edge of the region and include Big Rock Creek, Little Rock Creek, Amargosa Creek, and Oak Creek from the Tehachapi Mountains¹.

Soils

On-site and adjoining soils were reviewed using the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Web Soil Survey (refer to Attachment C). The soil types are described in the *Custom Soil Resources Report for Antelope Valley Area, California* in Attachment C.

Hydric Soils List of California

Michael Baker then reviewed the *Hydric Soils List for California* (USDA 2022) to preliminarily verify whether any of the soils indicated to be within the study area are considered to be hydric. According to the aforementioned list, the following soils within the project site are hydric:

- Cajon loamy sand, 0 to 2 percent slopes (CaA);
- Cajon loamy sand, loamy substratum, 0 to 2 percent slopes (CbA);
- Hesperia loamy fine sand, 0 to 2 percent slopes (HgA);
- Hesperia loamy fine sand, 0 to 2 percent slopes, hummocky (HgA2);
- Hesperia fine sandy loam, 0 to 2 percent slopes (HkA);
- Riverwash (Rg);
- Rosamond loamy fine sand (Rm);
- Rosamond loamy fine sand, hummocky (Rm2);
- Rosamond fine sandy loam (Ro);
- Rosamond loam (Rp);
- Rosamond loam, saline-alkali (Rr); and
- Rosamond silty clay loam (Rt).

¹ North Los Angeles/Kern County Regional Recycled Water Project Final Program Environmental Impact Report, November 2008. Prepared by Environmental Science Associates for Los Angeles County Waterworks District 40, Antelope Valley.

National Wetlands Inventory

Michael Baker reviewed the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Mapper. The predominant wetland type mapped in the project site is Little Rock Wash, classified as Riverine (R4SBJ) habitat. Other features located throughout the project site were mapped as the following wetland types: Freshwater Forested/Shrub Wetland (PSS1J), Freshwater pond (PUSJ and PUSJx), and Lake (L2USJ). Refer to Attachment D for the USFWS NWI map.

Preliminary Analysis of Potential Jurisdictional Aquatic Resources within the Overlay Zone

Little Rock Wash

The central portion of the project site is bisected by Little Rock Wash which generally flows in a south to north direction. Little Rock Wash originates in the San Gabriel Mountains located south of the project site and conveys flows north toward Rosamond Lake. Little Rock Wash is an intermittent stream/wash and enters the project site from the south as a natural earthen drainage. Little Rock Wash continues to flow north through the project site as an earthen channel, crossing underneath East Avenue K and East Avenue J within the project site, and continuing north off-site as an earthen channel (Refer to Figure 4, *Potential Jurisdictional Resources Map*).

Based on a desktop review of aerial imagery, no surface flows were identified in association with Little Rock Wash. However, visual indicators of ordinary flows and an ordinary high water mark (OHWM) are apparent and include surface color/tone, including a lighter toned substrate within Little Rock Wash as compared to the darker surface color of the surrounding upland areas, a break in bank slope, visible benches, and a change in vegetation community from sparsely vegetated within the channel to upland species beyond top of bank.

Other Potential Aquatic Resources Mapped By The National Wetlands Inventory

As presented above, multiple potential aquatic features including, Freshwater Forested/Shrub Wetland, Freshwater pond, and Lake mapped in the USFWS NWI Mapper occur within the Overlay Zone. These mapped features are located in the central portion of the Overlay Zone to the east of Little Rock Wash. Based on a review of aerial imagery, these mapped features appear as areas of potential ponding, natural surface depressions, and stock ponds or ditches associated with agricultural activities. No surface water was identified in association with any of the NWI mapped features.

Unnamed Potential Aquatic Resources

Aerial imagery from 1985 to 2022 provided by Google Earth Pro (Google, Inc. 2022) was used to identify multiple potential aquatic features which are not mapped in the NWI. The boundaries of these potential aquatic features were delineated via visual indicators of surface water (ponding), a change in plant community and vegetative cover, break in bank slope, and surface depressions. Based on a review of aerial imagery, these potential aquatic features appear to be stock ponds or ditches associated with agricultural activities. These features have been depicted as purple polygons or lines on Figure 4, *Potential Jurisdictional Resources Map*.

Regulatory Approval Process

U.S. Army Corps of Engineers

The Corps regulates discharges of dredged or fill materials into ‘waters of the U.S. (WoUS), including wetlands, pursuant to Section 404 of the CWA. As indicated above, the Antelope Valley region is a closed topographic basin and all water that enters the region either infiltrates into the groundwater basin, evaporates, or flows toward three dry lakes in the region. As such, aquatic features in this region are not anticipated to support a significant nexus (or connection) to a Relatively Permanent Water (RPW) or a Traditional Navigable Water (TNW) and would be considered isolated. Therefore, aquatic features within the Overlay Zone are not anticipated to be subject to regulation under Section 404 of the CWA and would not fall under Corps’ jurisdiction. Other CWA Approved Jurisdictional Determinations confirm isolated conditions in the region².

Regional Water Quality Control Board

The Regional Board regulates discharges to surface waters pursuant to Section 401 of the CWA and the Porter-Cologne Act. Therefore, a CWA Section 401 Water Quality Certification (WQC) and/or a Waste Discharge Requirements (WDR) issued from the Regional Board may be required prior to commencement of any construction activities within areas under Regional Board jurisdiction. The Regional Board also requires that California Environmental Quality Act (CEQA) compliance be obtained prior to issuance of the final WQC. Further, an application fee would be required, which is calculated based on both the total temporary and permanent impact acreages (as applicable) of jurisdictional impacts.

California Department of Fish and Wildlife

Pursuant to Sections 1600 et seq. of the CFGC, the CDFW regulates any activity that would divert or obstruct the natural flow or alter the bed, channel, or bank of a lake or streambed. CDFW jurisdiction further extends to the outer edge of any associated riparian vegetation. Therefore, formal notification to, and subsequent authorization from CDFW, may be required prior to commencement of any construction activities within areas potential under CDFW jurisdiction. CDFW also requires that CEQA compliance be obtained prior to issuing the final Lake or Streambed Alteration Agreement (LSAA). Further, a notification fee would be required, which is calculated based on project cost and duration.

Recommendations

The findings within this memorandum represent a preliminary analysis only and are constrained by the limitations of a desktop-based analysis. A formal jurisdictional delineation is recommended to confirm the presence or absence of any identified aquatic features, including features that are not visible via aerial imagery (i.e., agricultural, and roadside ditches). In addition, a jurisdictional delineation would determine the extent of State and Federal jurisdictional areas. However, only the regulatory agencies can make a final determination of jurisdictional limits.

² Clean Water Act Approved Jurisdictional Determination for Big Rock Wash. Project ID: SPL-2017-00511, Los Angeles County, California. Finalized November 21, 2017. HUC8 Watershed: 18090206.

Please feel free to contact me at (408) 330-4208 or at timothy.tidwell@mbakerintl.com with any questions you may have regarding the information presented in this report.

Sincerely,

A handwritten signature in black ink, appearing to read "Tim Tidwell". The signature is written in a cursive style with a horizontal line extending to the left of the first letter.

Tim Tidwell
Regulatory Specialist, PWS
Natural Resources and Regulatory Permitting

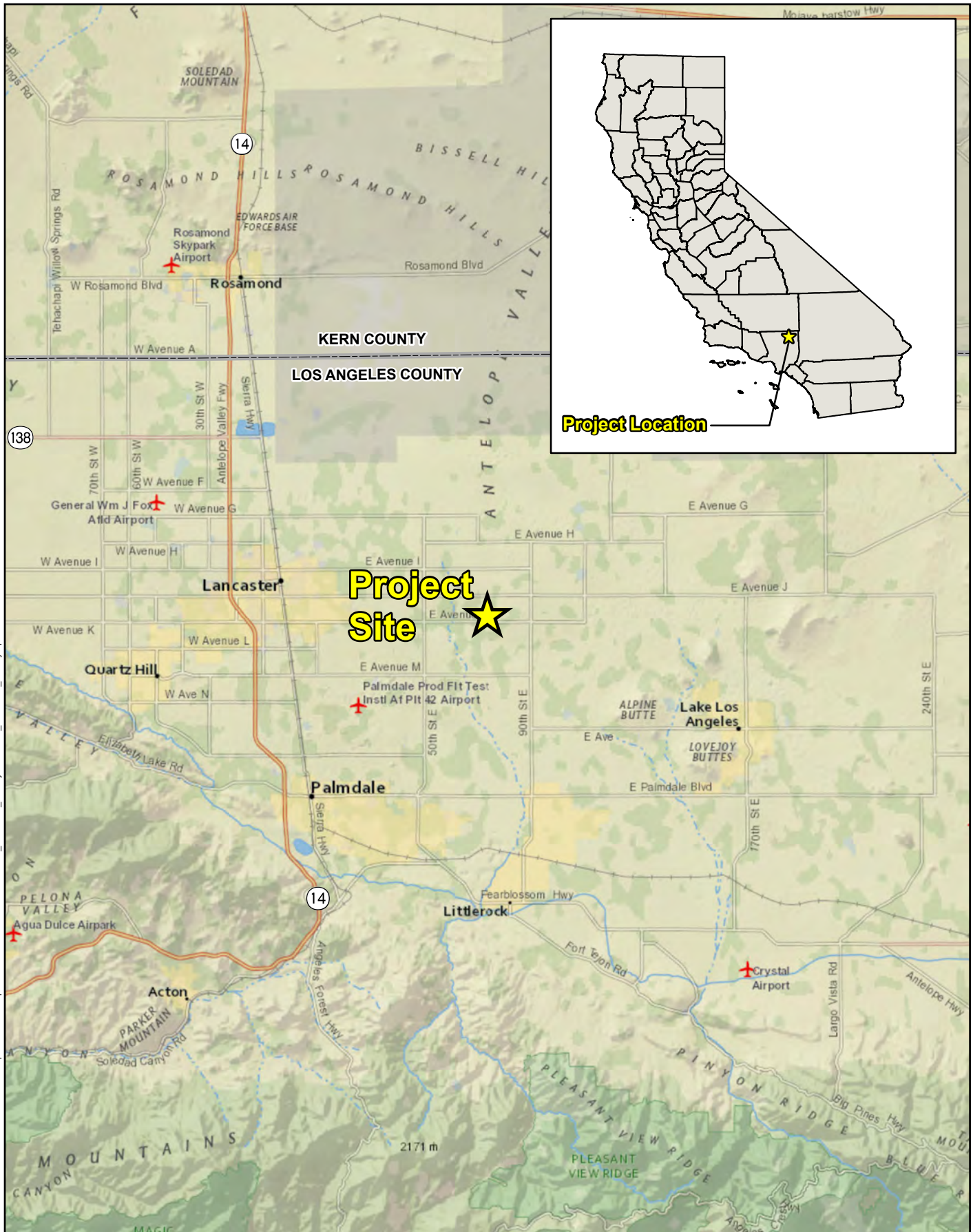
Attachments:

- A. *Project Figures*
- B. *References*
- C. *USDA Custom Soil Resources Report*
- D. *USFWS National Wetlands Inventory Map*

Attachment A

Project Figures

5/19/2022 11:51 AM \\VIRVICA\FS1\BKR\mbakercorp.com\HROOT\pdata\188955\GIS\APRX\Lancaster_Cannabis_Facility\Lancaster_Facility.aprx

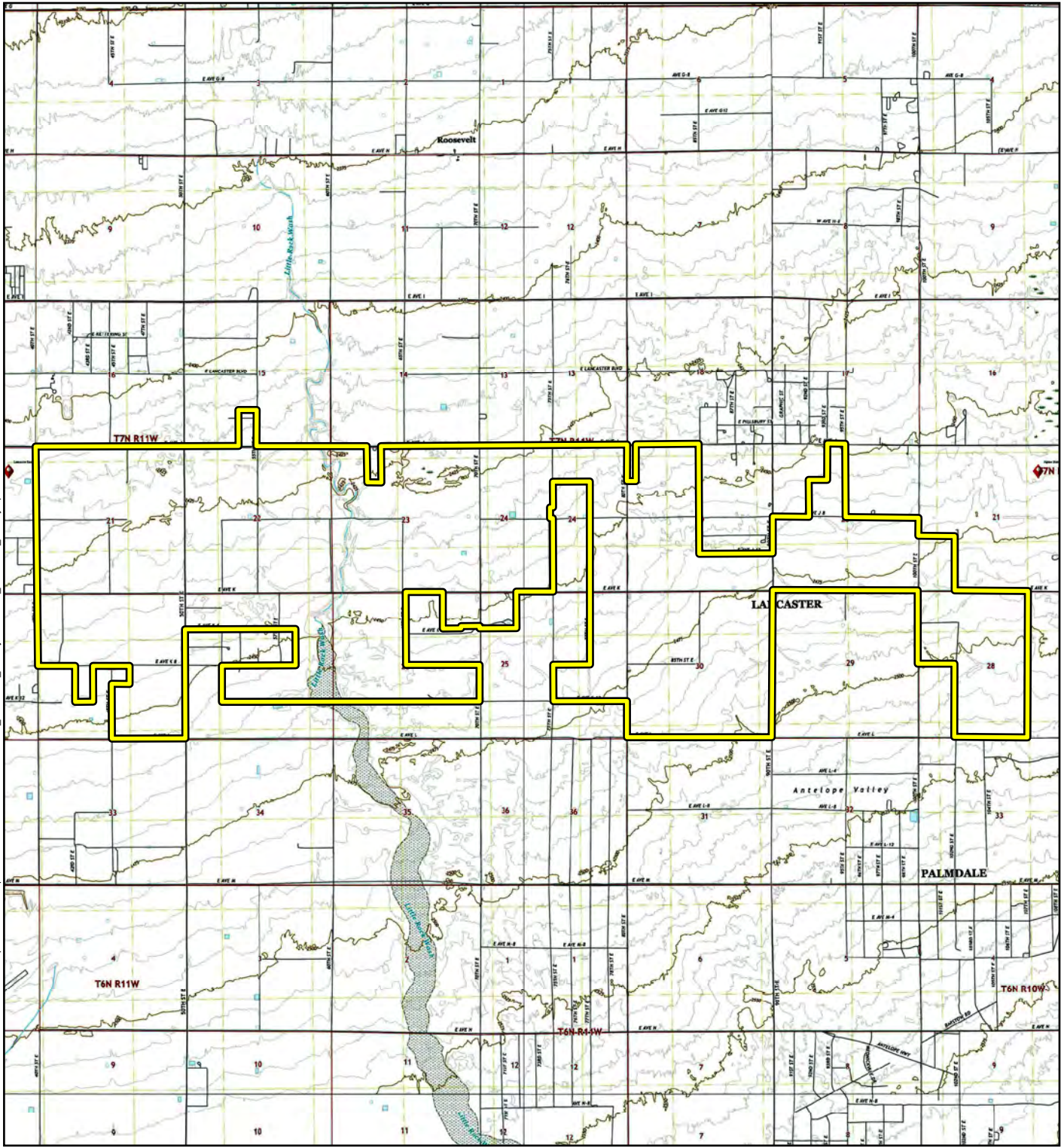


LANCASTER EAST SIDE PROJECT (OVERLAY ZONE)
PRELIMINARY DESKTOP ANALYSIS MEMORANDUM

Regional Vicinity

Figure 1


5/19/2022 JN \\IRV\CA1FS1_bkr\mbakercorp.com\HROOT\pdata\188955\GIS\APRX\Lancaster_Facility\Lancaster_Facility.aprx



Legend

 Project Site

Michael Baker
INTERNATIONAL

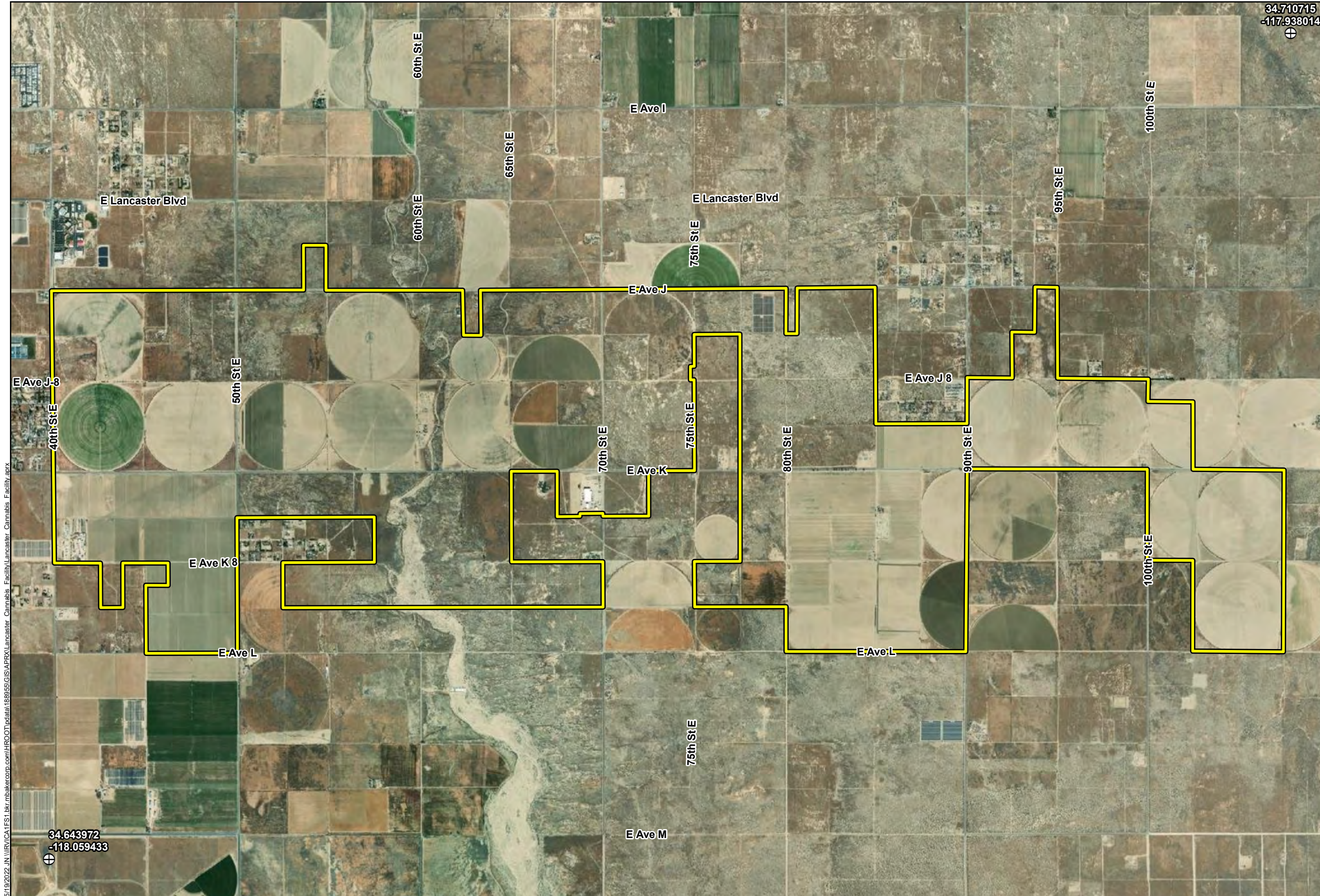


0 0.5 1 Miles

LANCASTER EAST SIDE PROJECT (OVERLAY ZONE)
PRELIMINARY DESKTOP ANALYSIS MEMORANDUM
Project Vicinity

Source: USGS 7.5-Minute topographic quadrangle maps: *Alpine Butte, Little Rock, and Palmdale, California (2021), and Little Rock, California (2022)*

Figure 2

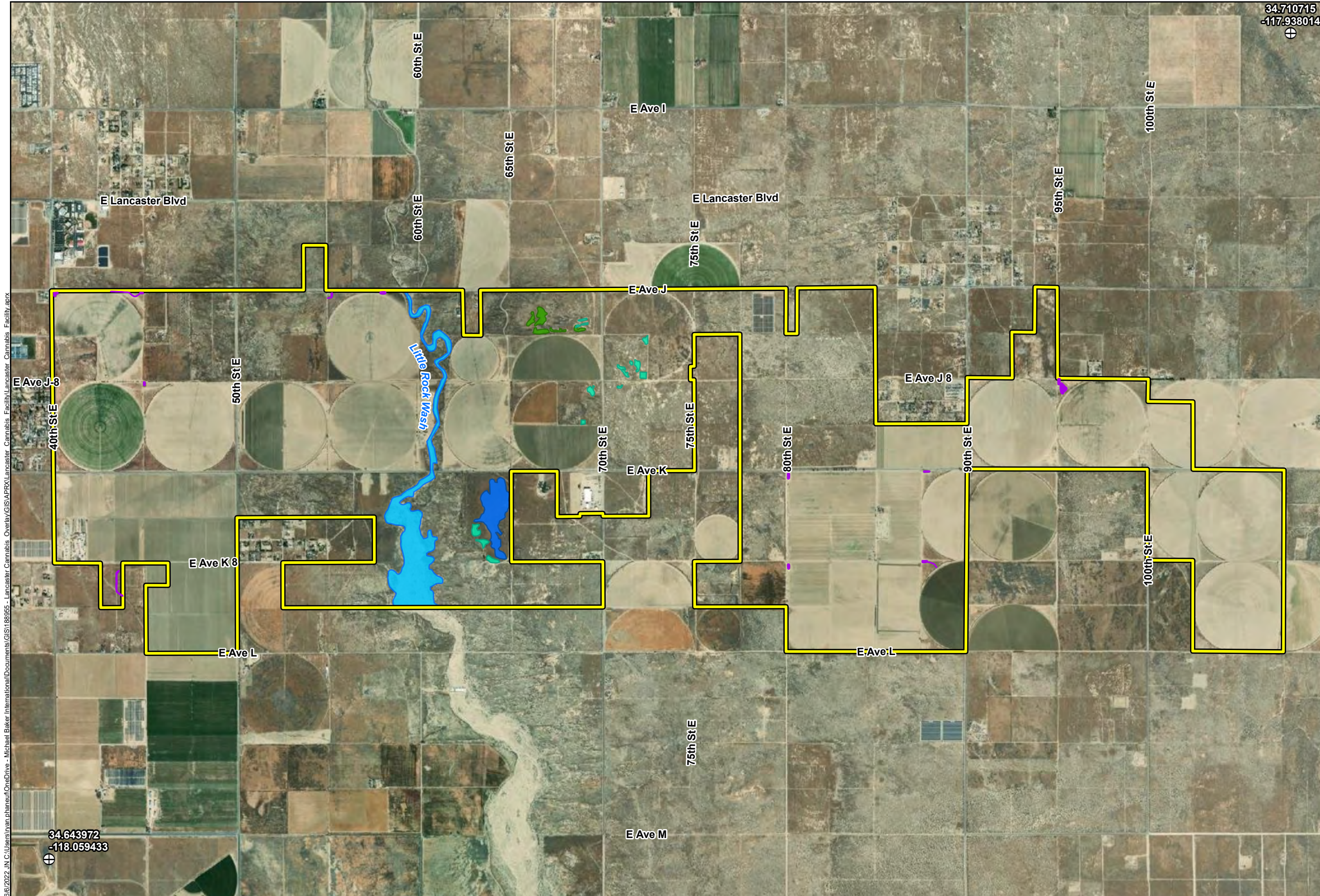


Legend

- Project Site
- Reference Point

0 1,400 2,800 Feet

5/19/2022 JN_MURVCA1.FS1_bkr.mbakercorp.com\HROOT\data\188955\GIS\APRX\Lancaster_Cannabis_Facility.aprx




Legend

- Project Site
- Potential Aquatic Features

NWI Mapped Features

- Freshwater Forested/ Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- Reference Point



0 1,400 2,800
Feet

6/6/2022 J:\C:\Users\jvan.phaneul\OneDrive - Michael Baker International\Documents\GIS\188955 - Lancaster Cannabis - Overlay\GIS\APR\LANCaster Cannabis Facility\LANCaster Cannabis Facility.aprx

Attachment B

References

- California Department of Fish and Wildlife, *Lake and Streambed Alteration Program*.
<https://www.wildlife.ca.gov/Conservation/LSA>.
- California Regional Water Quality Control Board, Lahontan, *Lahontan Basin Plan*, March 31, 1995.
Accessed online at:
https://www.waterboards.ca.gov/Lahontan/water_issues/programs/basin_plan/.
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station.
- Environmental Protection Agency. *Clean Water Act Approved Jurisdictional Determination for Big Rock Wash. Project ID: SPL-2017-00511*, Los Angeles County, California. Finalized November 21, 2017. HUC8 Watershed: 18090206. Accessed online at:
<https://watersgeo.epa.gov/cwa/CWA-JDs/>.
- Google, Inc. 2022. Google Earth Pro Imagery Version 7.3.4.8573, build date March 5 24, 2022. Aerial Image dated April 28, 2017.
- Lichvar, R.W., D.C. Finnegan, M.P. Ericsson, and W. Ochs. 2006. *Distribution of Ordinary High Water Mark Indicators and their Reliability in Identifying the Limits of “Waters of the United States” in the Arid Southwestern Channels*. ERDC/CRREL TR-06-5. Hanover, New Hampshire: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory.
- Lichvar, R.W., and S.M. McColley. 2008. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual*. ERDC/CRREL TR-08-12. Hanover, NH: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory.
- U.S. Army Corps of Engineers (USACE). 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- USACE. 2016. *Special Public Notice: Updated Map and Drawing Standards for the South Pacific Regulatory Division Regulatory Program*. Issued on February 10, 2016.
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), *Custom Soil Resources Report for Antelope Valley Area, California*. Accessed online at:
<https://websoilsurvey.nrcs.usda.gov/app/>.
- USDA, NRCS. 2018. *Hydric Soils List of California*. Accessed online at:
<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>.
- U.S. Fish and Wildlife Service (USFWS), *National Wetlands Inventory Mapper*. 2022. Accessed online at: <http://www.fws.gov/wetlands/Data/Mapper.html>.
- U.S. Geological Survey (USGS), 7.5 Minute Series Topographic Quadrangle, *Alpine Butte, California*, 2021.
- USGS, 7.5 Minute Series Topographic Quadrangle, *Lancaster East, California*, 2022.

Attachment C

USDA Custom Soil Resources Report



United States
Department of
Agriculture

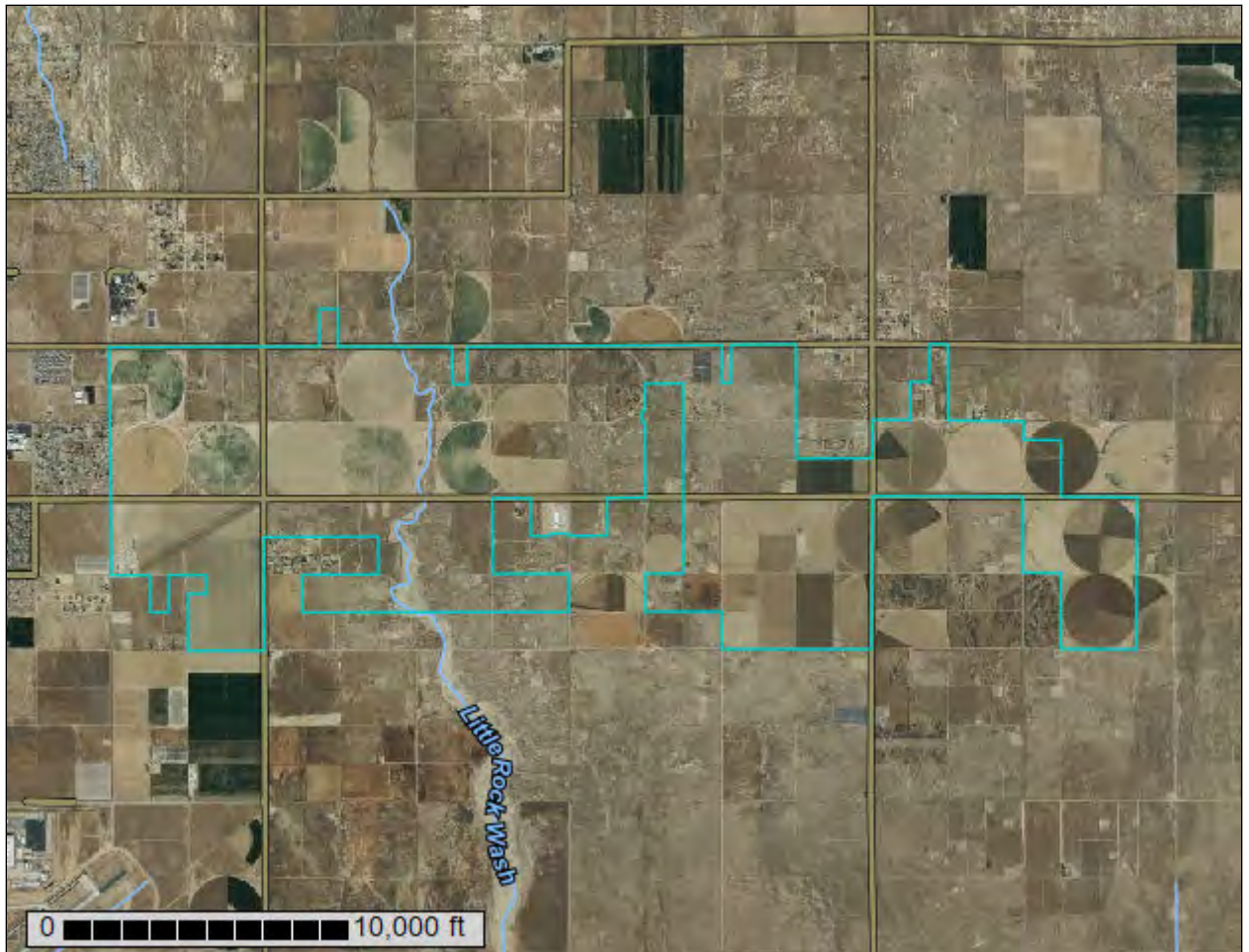
NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Antelope Valley Area, California

Lancaster East Side Project (Overlay Zone)



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	11
Map Unit Descriptions.....	11
Antelope Valley Area, California.....	14
CaA—Cajon loamy sand, 0 to 2 percent slopes.....	14
CaC—Cajon loamy sand, 2 to 9 percent slopes.....	15
CbA—Cajon loamy sand, loamy substratum, 0 to 2 percent slopes.....	16
CcA2—Cajon loamy fine sand, 0 to 2 percent slopes, hummocky.....	17
DuD—Dune land.....	19
HgA—Hesperia loamy fine sand, 0 to 2 percent slopes.....	19
HgA2—Hesperia loamy fine sand, 0 to 2 percent slopes, hummocky.....	21
HkA—Hesperia fine sandy loam, 0 to 2 percent slopes.....	22
Rg—Riverwash.....	23
Rm—Rosamond loamy fine sand.....	24
Rm2—Rosamond loamy fine sand, hummocky.....	25
Ro—Rosamond fine sandy loam.....	27
Rp—Rosamond loam.....	28
Rr—Rosamond loam, saline-alkali.....	29
Rt—Rosamond silty clay loam.....	31
References	33

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

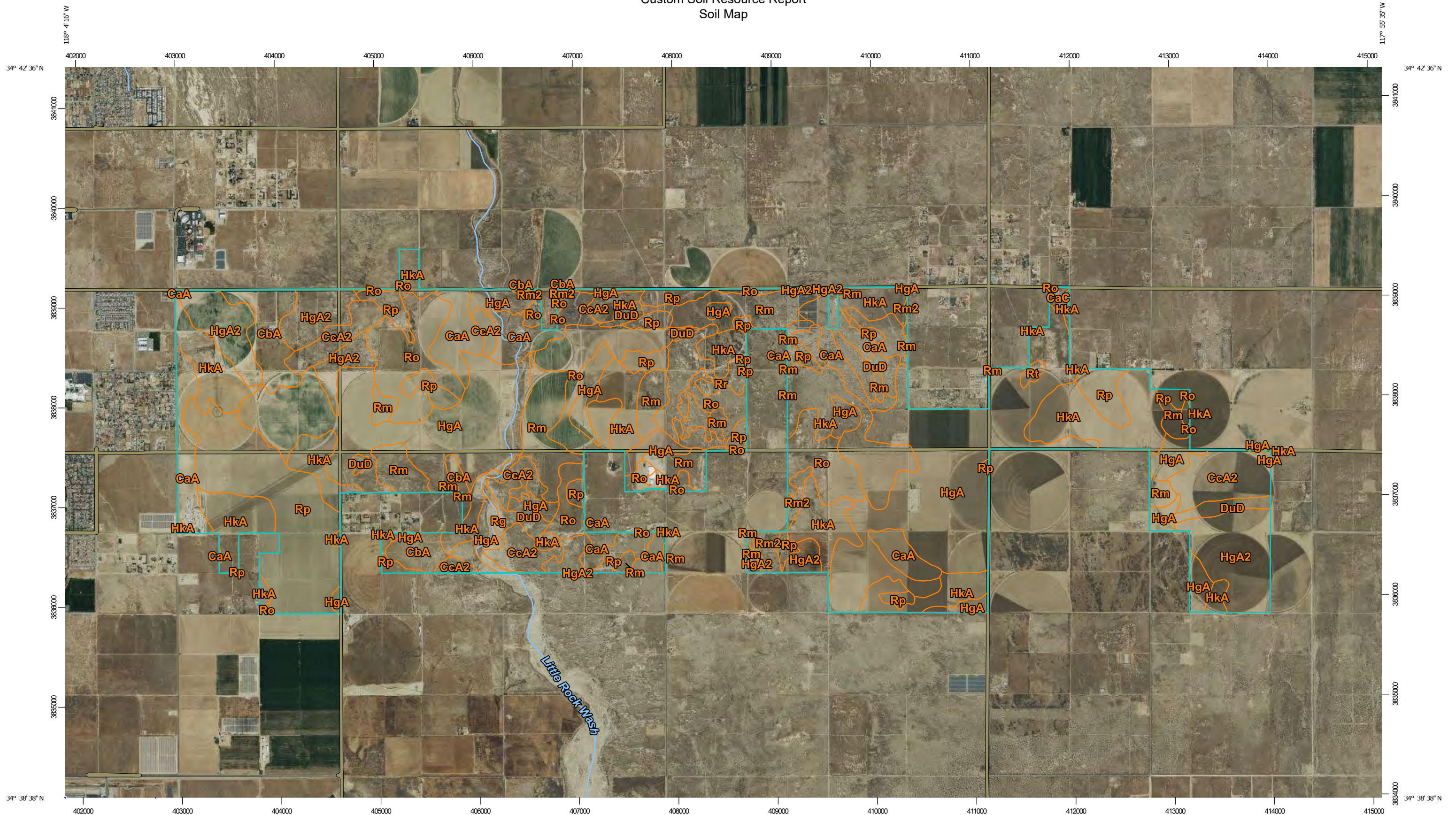
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:35,700 if printed on B landscape (17" x 11") sheet.
0 500 1000 2000 3000 Meters
0 1500 3000 6000 9000 Feet
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Antelope Valley Area, California
 Survey Area Data: Version 14, Sep 13, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 27, 2021—May 24, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CaA	Cajon loamy sand, 0 to 2 percent slopes	412.0	7.1%
CaC	Cajon loamy sand, 2 to 9 percent slopes	8.8	0.2%
CbA	Cajon loamy sand, loamy substratum, 0 to 2 percent slopes	160.9	2.8%
CcA2	Cajon loamy fine sand, 0 to 2 percent slopes, hummocky	310.6	5.3%
DuD	Dune land	122.0	2.1%
HgA	Hesperia loamy fine sand, 0 to 2 percent slopes	1,482.8	25.4%
HgA2	Hesperia loamy fine sand, 0 to 2 percent slopes, hummocky	415.5	7.1%
HkA	Hesperia fine sandy loam, 0 to 2 percent slopes	1,014.6	17.4%
Rg	Riverwash	34.4	0.6%
Rm	Rosamond loamy fine sand	421.4	7.2%
Rm2	Rosamond loamy fine sand, hummocky	43.7	0.7%
Ro	Rosamond fine sandy loam	592.8	10.2%
Rp	Rosamond loam	704.1	12.1%
Rr	Rosamond loam, saline-alkali	106.8	1.8%
Rt	Rosamond silty clay loam	9.3	0.2%
Totals for Area of Interest		5,839.8	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made

Custom Soil Resource Report

up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

Custom Soil Resource Report

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Antelope Valley Area, California

CaA—Cajon loamy sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hccx
Elevation: 400 to 4,000 feet
Mean annual precipitation: 3 to 9 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 200 to 300 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Cajon and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cajon

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 9 inches: loamy sand
H2 - 9 to 60 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R030XG022CA - SANDY 4-9"
Hydric soil rating: No

Minor Components

Arizo

Percent of map unit: 4 percent

Custom Soil Resource Report

Hydric soil rating: No

Rosamond

Percent of map unit: 4 percent

Hydric soil rating: No

Hesperia

Percent of map unit: 4 percent

Hydric soil rating: No

Unnamed

Percent of map unit: 3 percent

Landform: Playas

Hydric soil rating: Yes

CaC—Cajon loamy sand, 2 to 9 percent slopes

Map Unit Setting

National map unit symbol: hccy

Elevation: 400 to 4,000 feet

Mean annual precipitation: 3 to 9 inches

Mean annual air temperature: 63 to 70 degrees F

Frost-free period: 200 to 300 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Cajon and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cajon

Setting

Landform: Alluvial fans

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 9 inches: loamy sand

H2 - 9 to 60 inches: sand

Properties and qualities

Slope: 2 to 9 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Excessively drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)

Depth to water table: More than 80 inches

Custom Soil Resource Report

Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R030XG022CA - SANDY 4-9"
Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 5 percent
Hydric soil rating: No

Arizo

Percent of map unit: 5 percent
Hydric soil rating: No

Hesperia

Percent of map unit: 5 percent
Hydric soil rating: No

CbA—Cajon loamy sand, loamy substratum, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hccz
Elevation: 1,800 to 2,800 feet
Mean annual precipitation: 4 to 9 inches
Mean annual air temperature: 66 degrees F
Frost-free period: 240 to 260 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Cajon and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cajon

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Custom Soil Resource Report

Typical profile

H1 - 0 to 9 inches: loamy sand
H2 - 9 to 30 inches: sand
H3 - 30 to 60 inches: stratified sand to clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R030XG022CA - SANDY 4-9"
Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 10 percent
Hydric soil rating: No

Cajon

Percent of map unit: 4 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent
Landform: Playas
Hydric soil rating: Yes

CcA2—Cajon loamy fine sand, 0 to 2 percent slopes, hummocky

Map Unit Setting

National map unit symbol: hcd0
Elevation: 400 to 4,000 feet
Mean annual precipitation: 3 to 9 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 200 to 300 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Cajon and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cajon

Setting

Landform: Alluvial fans

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 9 inches: loamy fine sand

H2 - 9 to 60 inches: sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Excessively drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 5 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): 2e

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: A

Ecological site: R030XG022CA - SANDY 4-9"

Hydric soil rating: No

Minor Components

Dune land

Percent of map unit: 10 percent

Hydric soil rating: No

Hesperia

Percent of map unit: 5 percent

Hydric soil rating: No

DuD—Dune land

Map Unit Composition

Dune land: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dune Land

Setting

Landform: Hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Eolian sands

Typical profile

H1 - 0 to 6 inches: fine sand

H2 - 6 to 60 inches: sand

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydrologic Soil Group: A

Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 10 percent

Hydric soil rating: No

HgA—Hesperia loamy fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hcf9

Elevation: 200 to 4,000 feet

Mean annual precipitation: 6 to 9 inches

Mean annual air temperature: 61 to 70 degrees F

Frost-free period: 225 to 310 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Hesperia and similar soils: 85 percent

Minor components: 15 percent

Custom Soil Resource Report

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hesperia

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 8 inches: loamy fine sand
H2 - 8 to 54 inches: fine sandy loam
H3 - 54 to 77 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R030XG022CA - SANDY 4-9"
Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 9 percent
Hydric soil rating: No

Greenfield

Percent of map unit: 5 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent
Landform: Playas
Hydric soil rating: Yes

HgA2—Hesperia loamy fine sand, 0 to 2 percent slopes, hummocky

Map Unit Setting

National map unit symbol: hcfb
Elevation: 200 to 4,000 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 61 to 70 degrees F
Frost-free period: 225 to 310 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Hesperia and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hesperia

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 8 inches: loamy fine sand
H2 - 8 to 54 inches: fine sandy loam
H3 - 54 to 77 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R030XG022CA - SANDY 4-9"
Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 9 percent
Hydric soil rating: No

Dune land

Percent of map unit: 5 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent
Landform: Playas
Hydric soil rating: Yes

HkA—Hesperia fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hcfd
Elevation: 200 to 4,000 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 61 to 70 degrees F
Frost-free period: 225 to 310 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Hesperia and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hesperia

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 4 inches: fine sandy loam
H2 - 4 to 54 inches: fine sandy loam
H3 - 54 to 77 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low

Custom Soil Resource Report

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): 2e

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: A

Ecological site: R030XG021CA - LOAMY 4-9"

Hydric soil rating: No

Minor Components

Cajon

Percent of map unit: 5 percent

Hydric soil rating: No

Rosamond

Percent of map unit: 5 percent

Hydric soil rating: No

Tray

Percent of map unit: 3 percent

Hydric soil rating: No

Unnamed

Percent of map unit: 2 percent

Landform: Playas

Hydric soil rating: Yes

Rg—Riverwash

Map Unit Composition

Riverwash: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riverwash

Setting

Landform: Drainageways

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium

Custom Soil Resource Report

Typical profile

H1 - 0 to 6 inches: sand

H2 - 6 to 60 inches: stratified coarse sand to sandy loam

Properties and qualities

Slope: 0 to 2 percent

Drainage class: Excessively drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)

Depth to water table: About 0 inches

Available water supply, 0 to 60 inches: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydrologic Soil Group: A

Ecological site: R019XG905CA - Riparian

Hydric soil rating: Yes

Minor Components

Sandy alluvial land

Percent of map unit: 10 percent

Hydric soil rating: No

Unnamed

Percent of map unit: 5 percent

Hydric soil rating: No

Rm—Rosamond loamy fine sand

Map Unit Setting

National map unit symbol: hcgv

Elevation: 1,900 to 2,900 feet

Mean annual precipitation: 3 to 8 inches

Mean annual air temperature: 61 to 64 degrees F

Frost-free period: 240 to 260 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Rosamond and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rosamond

Setting

Landform: Alluvial fans

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Custom Soil Resource Report

Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 15 inches: loamy fine sand
H2 - 15 to 60 inches: stratified loam to silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R030XG022CA - SANDY 4-9"
Hydric soil rating: No

Minor Components

Hesperia

Percent of map unit: 10 percent
Hydric soil rating: No

Cajon

Percent of map unit: 4 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent
Landform: Playas
Hydric soil rating: Yes

Rm2—Rosamond loamy fine sand, hummocky

Map Unit Setting

National map unit symbol: hcgw
Elevation: 1,900 to 2,900 feet
Mean annual precipitation: 3 to 8 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 240 to 260 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Rosamond and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rosamond

Setting

Landform: Alluvial fans

Landform position (two-dimensional): Backslope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 15 inches: loamy fine sand

H2 - 15 to 60 inches: stratified loam to silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

*Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)*

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Maximum salinity: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)

Available water supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): 2e

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B

Ecological site: R030XG022CA - SANDY 4-9"

Hydric soil rating: No

Minor Components

Cajon

Percent of map unit: 5 percent

Hydric soil rating: No

Dune land

Percent of map unit: 5 percent

Hydric soil rating: No

Hesperia

Percent of map unit: 4 percent

Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent

Landform: Playas

Hydric soil rating: Yes

Ro—Rosamond fine sandy loam

Map Unit Setting

National map unit symbol: hcgy
Elevation: 1,900 to 2,900 feet
Mean annual precipitation: 3 to 8 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 240 to 260 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Rosamond and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rosamond

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 60 inches: stratified loam to silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.9 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 7c
Hydrologic Soil Group: B
Ecological site: R030XG021CA - LOAMY 4-9"
Hydric soil rating: No

Minor Components

Cajon

Percent of map unit: 10 percent
Hydric soil rating: No

Hesperia

Percent of map unit: 4 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent
Landform: Playas
Hydric soil rating: Yes

Rp—Rosamond loam

Map Unit Setting

National map unit symbol: hcgz
Elevation: 1,900 to 2,900 feet
Mean annual precipitation: 3 to 8 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 240 to 260 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Rosamond and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rosamond

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 60 inches: stratified loam to silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)

Custom Soil Resource Report

Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 7c
Hydrologic Soil Group: B
Ecological site: R030XG021CA - LOAMY 4-9"
Hydric soil rating: No

Minor Components

Cajon

Percent of map unit: 5 percent
Hydric soil rating: No

Hesperia

Percent of map unit: 5 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 4 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent
Landform: Playas
Hydric soil rating: Yes

Rr—Rosamond loam, saline-alkali

Map Unit Setting

National map unit symbol: hch0
Elevation: 1,900 to 2,900 feet
Mean annual precipitation: 3 to 8 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 200 to 260 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Rosamond and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rosamond

Setting

Landform: Alluvial fans

Custom Soil Resource Report

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 8 inches: loam

H2 - 8 to 60 inches: stratified loam to silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: Rare

Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Maximum salinity: Slightly saline to strongly saline (4.0 to 16.0 mmhos/cm)

Sodium adsorption ratio, maximum: 10.0

Available water supply, 0 to 60 inches: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): 3s

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: C

Ecological site: R030XG020CA - ALKALI FLATS 4-9"

Hydric soil rating: No

Minor Components

Tray

Percent of map unit: 5 percent

Hydric soil rating: No

Pond

Percent of map unit: 5 percent

Hydric soil rating: No

Unnamed

Percent of map unit: 4 percent

Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent

Landform: Playas

Hydric soil rating: Yes

Rt—Rosamond silty clay loam

Map Unit Setting

National map unit symbol: hch2
Elevation: 1,900 to 2,900 feet
Mean annual precipitation: 3 to 8 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 240 to 260 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Rosamond and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rosamond

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 12 inches: silty clay loam
H2 - 12 to 60 inches: stratified loam to silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.3 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 7c
Hydrologic Soil Group: B
Ecological site: R030XG021CA - LOAMY 4-9"
Hydric soil rating: No

Minor Components

Cajon

Percent of map unit: 10 percent
Hydric soil rating: No

Hesperia

Percent of map unit: 4 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent
Landform: Playas
Hydric soil rating: Yes

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

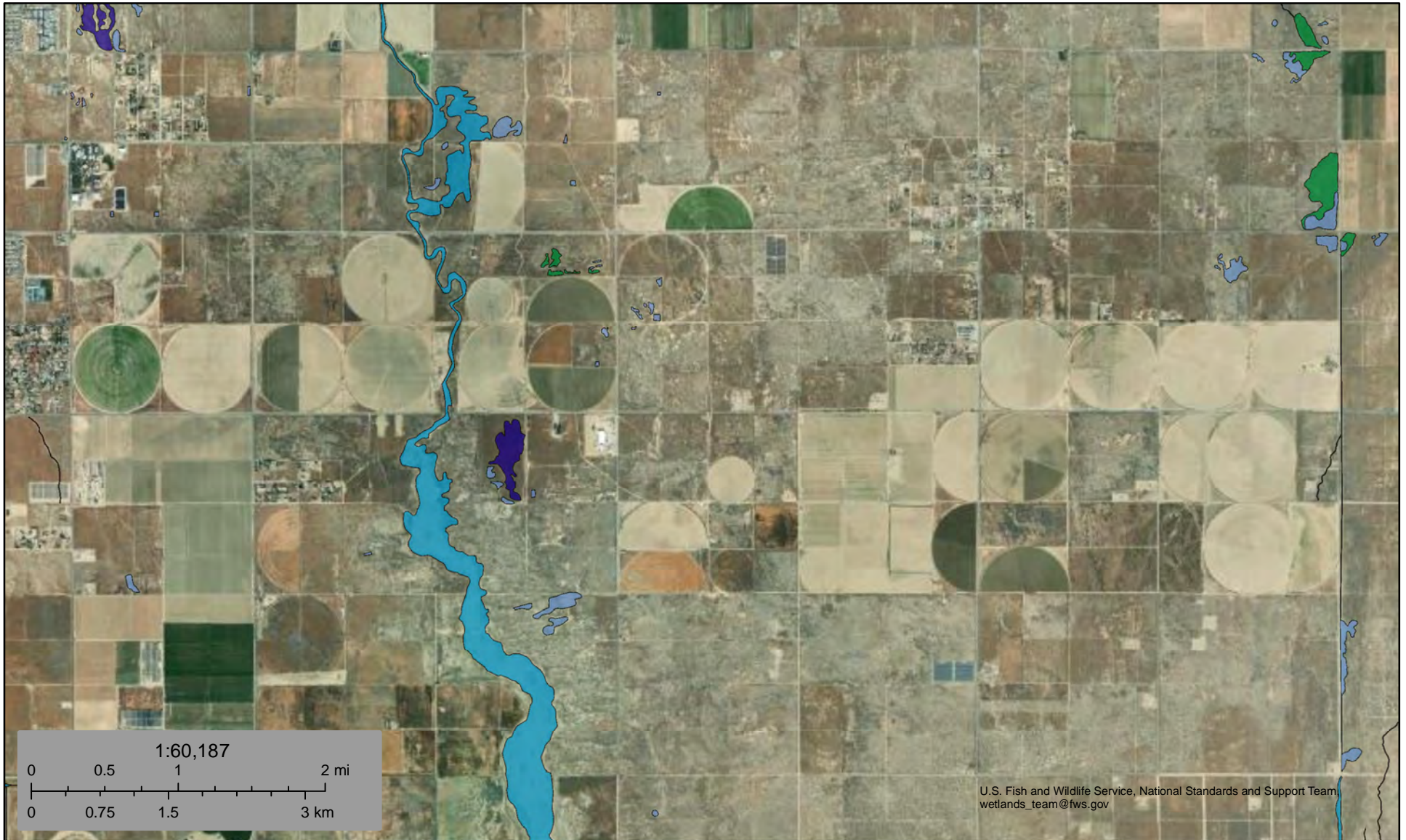
United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Attachment D

USFWS National Wetlands Inventory Map




Lancaster East Side Project (Overlay Zone)



May 20, 2022

Wetlands

- | | | | | | |
|---|--------------------------------|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Freshwater Emergent Wetland |  | Lake |
|  | Estuarine and Marine Wetland |  | Freshwater Forested/Shrub Wetland |  | Other |
| | |  | Freshwater Pond |  | Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.