

**Aquatic Resources Delineation and
Habitat Assessment
Lancaster Clean Energy Center
Lancaster, Los Angeles County, California**



TETRA TECH

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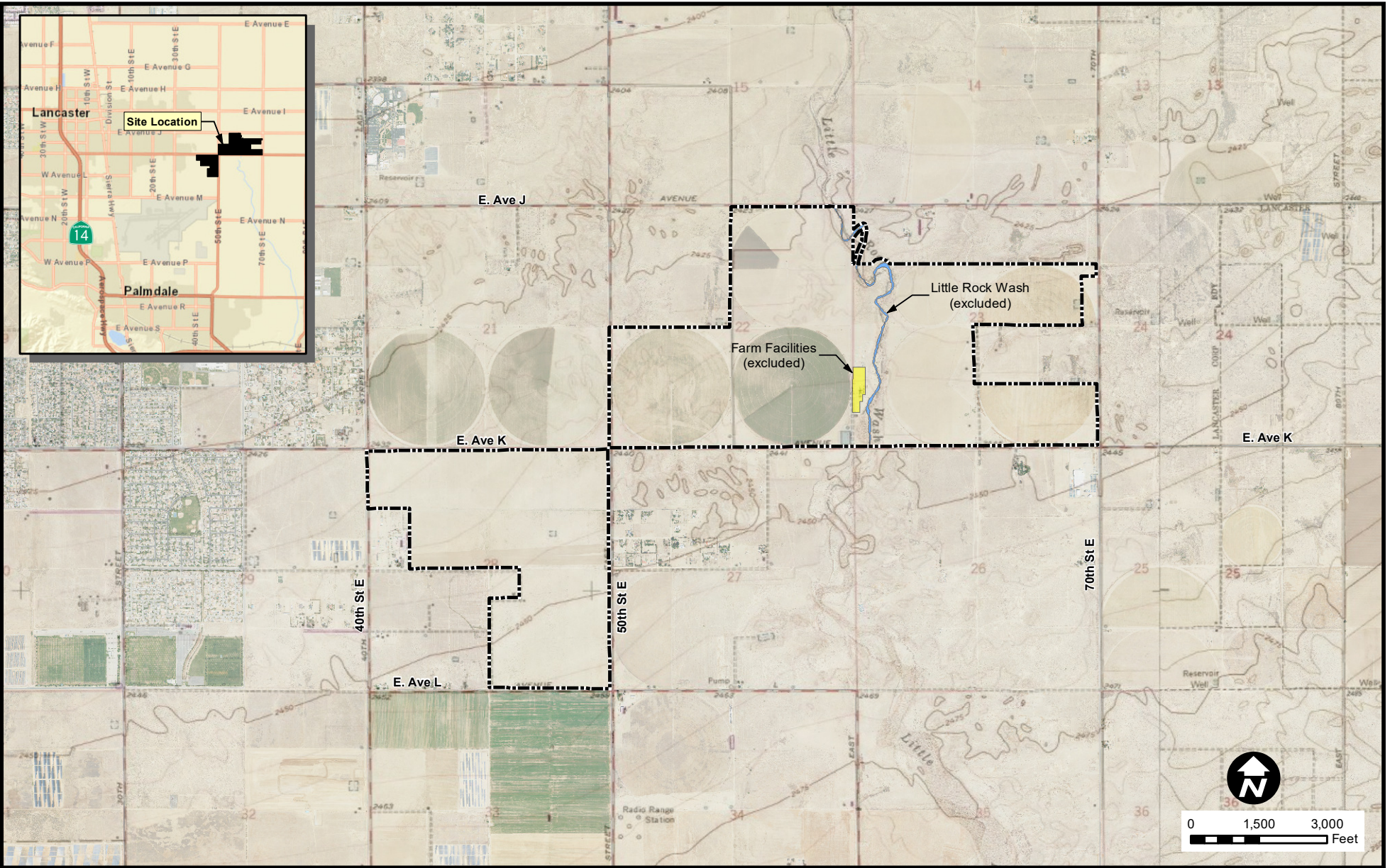
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SECTION 1 PROJECT LOCATION AND SETTING

Tetra Tech was contracted to conduct an aquatic resources delineation (ARD) and habitat assessment of the portion of Little Rock Wash that is associated with the Lancaster Clean Energy Center in Lancaster, Los Angeles County, California herein identified as the study area (Figure 1). The study area is part of a proposed project area comprised of continuous parcels in two discontinuous areas totaling approximately 1,338 acres. Based on Google Earth images, most of the project area appears to be under active agricultural practices. The eastern most portion of the project areas may not currently be under active agricultural practices but appears to have been under agricultural practices in the past. East Avenue J is located at the northern boundary of the eastern portion of the site. East Avenue K is located at the southern boundary of the eastern portion of the site and the northern boundary of the western portion of the site. East Avenue L is along the southern boundary of the western portion of the site. The study area is located with the Lancaster East 7.5 minute topographic U.S. Geological Survey quadrangle (USGS 1974). Little Rock Wash is a local ephemeral drainage that originates in the San Gabriel Mountains found south of the project area and terminates in Rosamond Dry Lake located to the north on Edwards Air Force Base. This wash traverses the eastern portion of the project site.



 Lancaster Clean Energy Center Project Boundary

LANCASTER CLEAN ENERGY CENTER

Figure 1
Site Location Map

SECTION 2 REGULATORY SETTING

2.1 WATERS OF THE UNITED STATES

The Clean Water Act (CWA) Sections 404 and 401 have provisions for protecting biological resources within the aquatic environment through prohibitions on discharges of fill in wetlands or other Waters of the U.S. and identification of beneficial uses. Other waters include non-tidal, perennial, and intermittent watercourses and tributaries to such watercourses. The Army Corps of Engineers (USACE) jurisdiction for Waters of the U.S. is the Ordinary High Water Mark (OHWM). The USACE defines OHWM as “the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area” (33 CFR Section 329.11(a)(1)). The primary functions of the CWA in protecting biological resources are to ensure that any impacts to wetlands or other waters are compensated for and to provide a framework for ensuring that water quality is maintained or improved.

Discharge of dredged or fill material is regulated by the USACE under Section 404 of the CWA. Impacts caused by the addition of fill material into Waters of the U.S., including but not limited to the placement of fill (rock, sand, dirt, or other material as necessary) to construct structures, fill for intake or outfall pipes, and roadway fills. The presence of an OHWM helps to define the boundaries of aquatic features for a variety of federal, state, and local regulatory purposes. Under the Clean Water Act, the OHWM defines the lateral limits of federal jurisdiction for non-tidal waters of the U.S. in the absence of adjacent wetlands (including Section 404, which regulates the discharge of dredge and fill material into Waters of the U.S.) (Wetlands Regulatory Assistance Program 2022). In addition, Section 401 of the CWA requires a Water Quality Certification or waiver when a permit is authorized for discharge of a pollutant (fill) into Waters of the U.S. In California, the Regional Water Quality Control Board (RWQCB) has oversight over Section 401.

Definition of a Waters of the U.S. (WOTUS) wetland. Wetlands are areas where water covers the soil or where water is present either at or near the surface of the soil all year or for varying periods of time during the year, including during the growing season. Water saturation (hydrology) largely determines how the soil develops and the types of plant and animal communities living in and on

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the soil. Wetlands may support both aquatic and terrestrial species. The prolonged presence of water creates conditions that favor the growth of specially adapted plants (hydrophytes) and promote the development of characteristic wetland (hydric) soils.

Definition of non-wetland WOTUS. Other WOTUS include navigable waters of the United States which are those waters that are subject to the ebb and flow of the tide and or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

2.2 WATERS OF THE STATE

Under the Porter-Cologne Water Quality Control Act, all Waters of the U.S. that are within the borders of California are also Waters of the State. The State Water Resources Control Board (SWRCB) delegates authority to the RWQCBs, which take Section 401 water quality certification actions for activities subject to any permit issued by the USACE pursuant to Section 404 of the CWA. Under Section 401 of the CWA and the Porter-Cologne Water Quality Act, the RWQCB exercises jurisdiction over discharges that may affect jurisdictional wetlands and those non-isolated waters associated with Traditional Navigable Waters (TNW). The project area is located within the Lahontan Regional Water Quality Control Board.

The SWRCB regulates Waters of the State (WOS) which are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code 13050(e)). WOS also include various wetlands habitats plus all waters considered to be WOTUS. Where waters are not connected with a federal TNW, the SWRCB will regulate fill (discharge) into Waters of the State through the Waste Discharge Requirements (WDR) program.

In addition, under Sections 1600-1616 of the State of California Fish and Game Code, the California Department of Fish and Wildlife (CDFW) regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which support fish or wildlife (i.e., bed to bank). The CDFW defines a “stream” (including creeks and rivers) as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation.” The CDFW has interpreted the term “streambed” to encompass all portions of the bed, banks, and channel of any stream, including intermittent and ephemeral streams, extending laterally to the upland edge of riparian vegetation. Construction and

maintenance actions that may affect the streambed would be subject to creation of a Streambed Alteration Agreement under Section 1602. This agreement would include measures to protect fish, wildlife, and vegetation that may be affected during construction in the streambed.

Definition of WOS of California. WOS for the State of California include any surface or groundwater (including saline waters) within the boundaries of the state, various wetlands, plus all waters considered to be WOTUS.

2.3 PROTECTED BIOLOGICAL RESOURCES

2.3.1 Federal-Sensitive Biological Resources

Federal Regulatory Status. The Federal Endangered Species Act (FESA) of 1973 describes two categories for declining species as endangered and threatened. The United States Fish and Wildlife Service (USFWS) is the government agency that enforces FESA. “Endangered” describes any species that is in danger of extinction throughout all or a significant portion of its range. “Threatened” is assigned to any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. “Candidate” describes species that have been studied and the USFWS has concluded that they should be proposed for addition to the Federal endangered and threatened species list.

2.3.2 California-Sensitive Biological Resources

California Regulatory Status. The California Endangered Species Act (CESA) states that all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation, will be protected or preserved.

Endangered and Threatened Species. Under CESA, the term "endangered species" is defined as a species of plant, fish, or wildlife which is "in serious danger of becoming extinct throughout all, or a significant portion of its range" and is limited to species or subspecies native to California. Threatened species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts.

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Fully Protected Species. The classification of Fully Protected was California's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction prior to implementation of CESA. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Species of Special Concern. Species of Special Concern (SSC) is a species, subspecies, or distinct population of an animal native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria as defined by the CDFW:

- Is extirpated from the State or, in the case of birds, in its primary seasonal or breeding role;
- Is listed as Federally-, but not State-, threatened or endangered; meets the State definition of threatened or endangered but has not formally been listed;
- Is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; and/or
- Has naturally small populations exhibiting high susceptibility to risk from any factor(s) that if realized, could lead to declines that would qualify it for State threatened or endangered status.

Sensitive Plants Identified by the Native Plant Society (CNPS). The following provides a general definition of the CNPS listings.

- List 1A: Plants believed to be extinct;
- List 1B: Plants that are rare, threatened, or endangered in California and elsewhere;
- List 2: Plants that are rare, threatened, or endangered in California, but are more numerous elsewhere;
- List 3: Plants about which we need more information (a review list); and
- List 4: Plants of limited distribution (a watch list), as defined by CNPS.

SECTION 3 METHODOLOGY

3.1 SENSITIVE RESOURCES DATABASE REVIEWS

Prior to mobilizing to the field, the available literature on natural resources with reference to plants and wildlife in and near the site were consulted including information from the California Department of Fish and Wildlife (CDFW) California Natural Diversity Data Base (CNDDB) (California Department of Fish and Wildlife 2023) and the California Native Plant Society (CNPS) (California Native Plant Society 2020). The search radius used included observations made in the Lancaster East 7.5-minute quadrangle (United States Geological Survey 1974) and nearly adjacent Alpine Butte 7.5-minute quadrangle (United States Geological Survey 1992). Sensitive biological resources identified from the databases and literature reviewed for this survey that have the potential for presence in the survey area are found in Appendix A. The following criteria have been applied to those previously recorded sensitive biological resources or those resources determined potentially present at the site due to habitat requirements from either the databases reviewed or the results of the reconnaissance survey:

- *Present:* Species was observed in or immediately adjacent to the site within the past 5 years.
- *High:* Habitat (including vegetation, soils and elevation factors) and known historical range for the species occurs in the site and a known occurrence has been recorded within 5 miles and within the past 30 years.
- *Moderate:* Habitat for the species occurs in the site and a known occurrence has been recorded between 5 and 10 miles away within the past 30 years. Or historical range for the species occurs in the site and a known occurrence has been recorded within 5 miles and within the past 30 years with only two of three habitat parameters present (appropriate vegetation, soils and elevation).
- *Low:* Limited habitat for the species occurs in the site and known occurrences are greater than 10 miles from the site or over 30 years old. Or habitat quality is poor with only one parameter present (appropriate vegetation, soils and elevation).
- *Absent:* Beyond those factors listed for Low potential, the species is easily identifiable throughout the year and was not observed (i.e., most tree species).

3.2 AERIAL PHOTOGRAPH REVIEW

Prior to mobilizing into the field, Tetra Tech conducted a review of the 1985, 1994, 2003, 2004, 2008, 2009, 2011, 2012, 2015, 2016, 2018, 2020, 2022 and 2023 images of the study area for sign of past extreme flooding events (Google Earth 2022).

3.3 OTHER READILY AVAILABLE INFORMATION

The National Wetland Inventory (NWI) Mapper on-line access tool was used to map aquatic resources within the study area (United States Fish and Wildlife Service 2023). In addition, soil resources found within the study area were mapped using the on-line soil survey mapper (United States Department of Agriculture 2023).

The field study portion for the delineation of potential jurisdictional aquatic resources within the study area was conducted according to methodology described in the following publications:

- *U.S. Corps of Engineers Wetlands Delineation Manual* (U.S. Corps of Engineers 1987)
- *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (U.S. Corps of Engineers 2008)
- *National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams, Interim Version* (Wetland Regulatory Assistance Program 2022)

SECTION 4 RESULTS

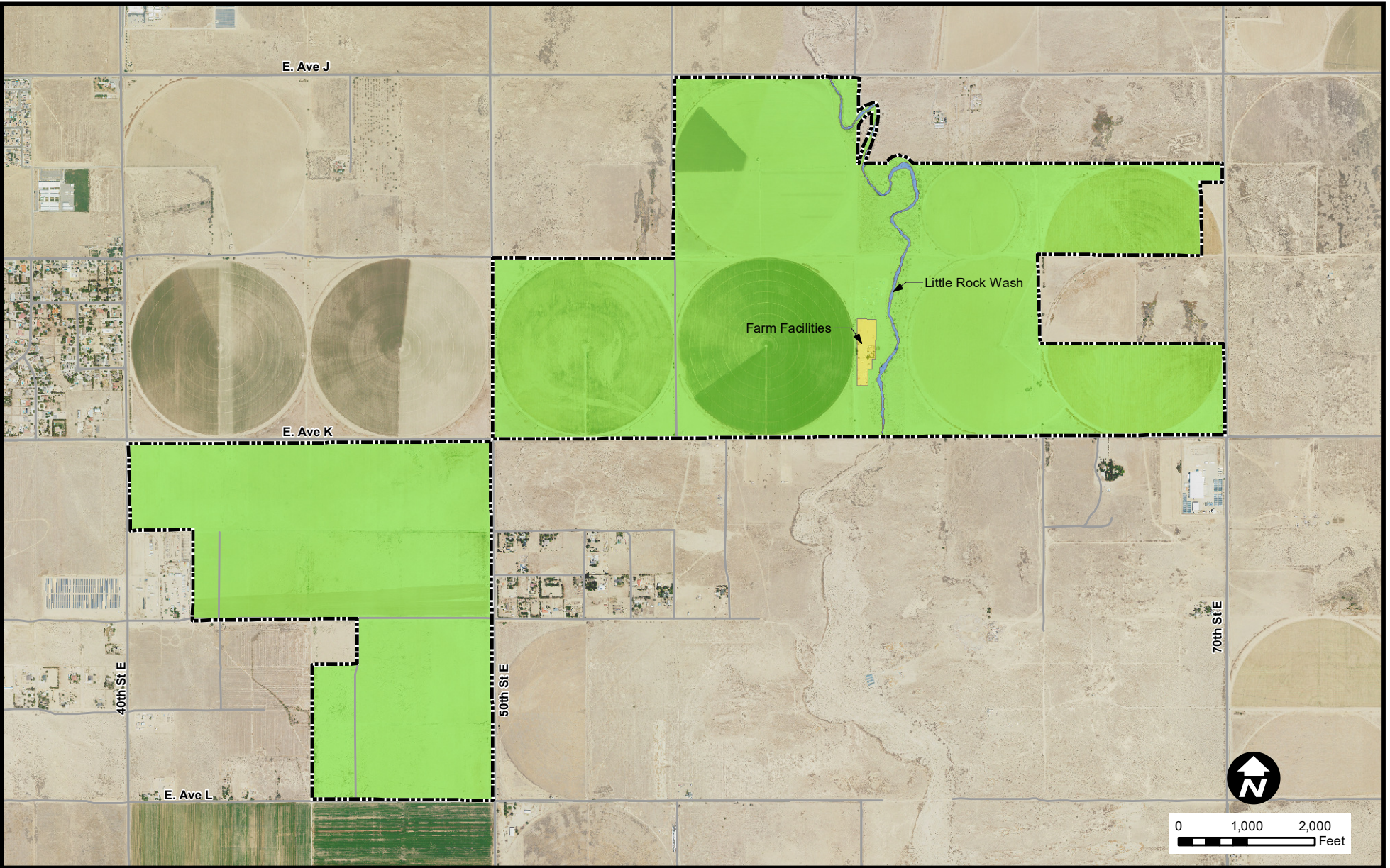
A delineation of Little Rock Wash within the study area and a habitat assessment of the study area was conducted and concluded on May 23, 2023. Weather conditions were cool and with clear skies. Weather conditions for temperature and wind speed were obtained using a web-based application for weather in the region and were recorded at the start and conclusion of the reconnaissance survey (AccuWeather 2023). Cloud cover was recorded based on visual observations. No rain had occurred within five days of the reconnaissance survey. Weather conditions at the start and conclusion of the survey are summarized in the table below.





	Time	Temperature (F°)	Cloud Cover (percent)	Wind Speed (miles per hour)
Start of the Reconnaissance Survey (05/23/23)	0730	72	Clear	0 to 1
Conclusion of the Reconnaissance Survey (05/23/23)	1000	74	Clear	2 to 4

The study area was accessed on foot. Sampling points were established within the Little Rock Wash to document sign of OHWM. In addition to mapping vegetation communities within the study area and project boundaries as illustrated in Figure 2, an evaluation for suitable habitat for sensitive species identified during the literature and database search were also conducted (Appendix A). Plants and any wildlife observed were noted and are found as Appendix B. Locations of sampling points for photographs and observation of OHWM gathered during the ARD and habitat assessment are illustrated on Figure 3. Using the Rapid OHWM Field Identification Data Sheet (US Army Corps of Engineers 2022), documentation of OHWM within Little Rock Wash was documented along with a photograph log recording conditions at each sampling point (Appendix C).

4.1 SOILS AND VEGETATION

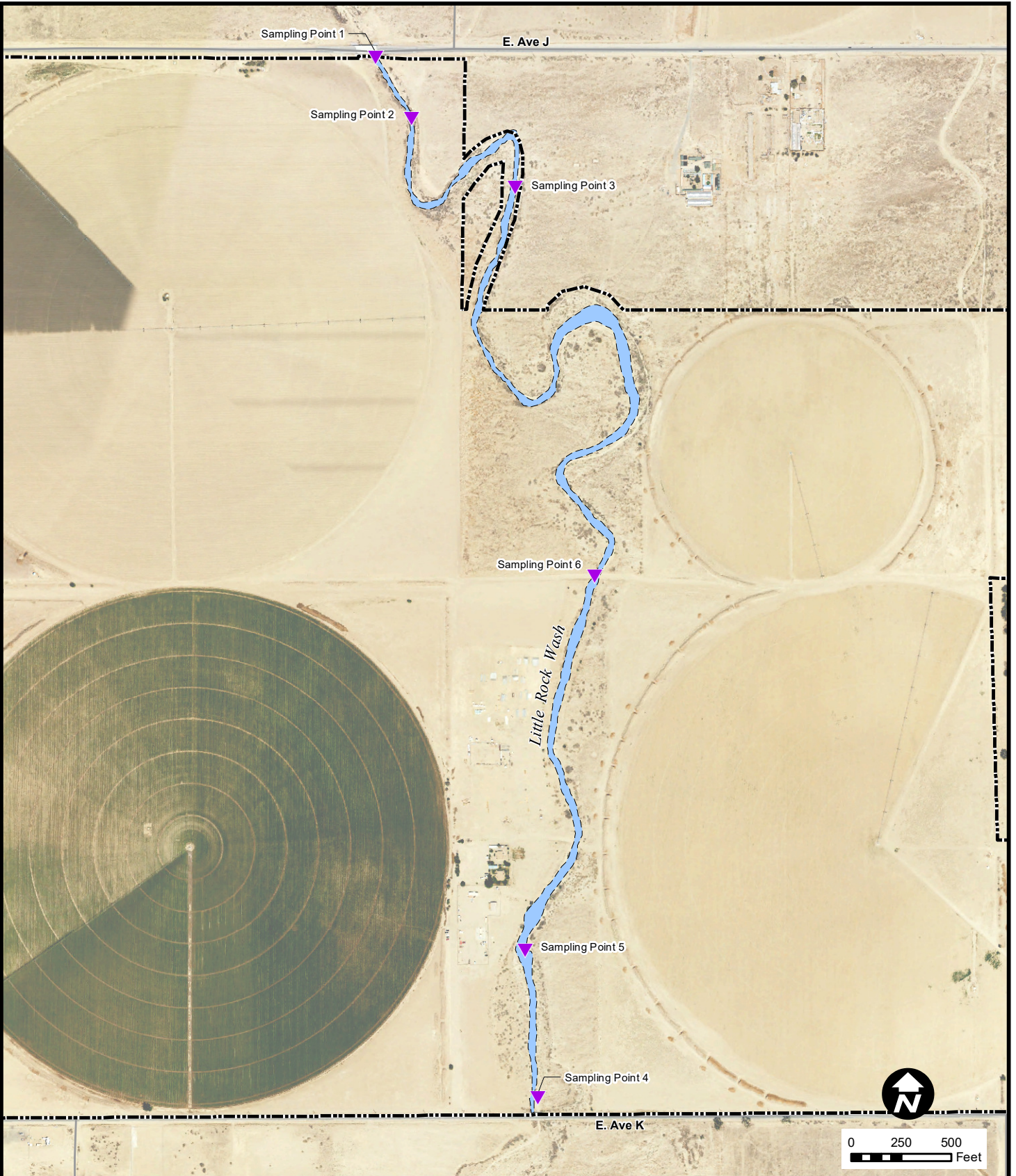
Soils. The Cajon loamy sand and Hesperia loamy fine sand series have been mapped as the dominate soils within the study area (United States Department of Agriculture 2023). The field reconnaissance confirmed mapping conducted by the United States Department of Agriculture. The soils within the study area were noted as having a fine sandy texture.



-  Disturbed/Agricultural Land
-  Farm Facilities
-  Little Rock Wash/Riverine Habitat
-  Lancaster Clean Energy Center Project Boundary

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Figure 2
Habitat Types



- ▼ Sampling Point
- ▭ Riverine Habitat (6.47 acres)
- ▭ Lancaster Clean Energy Center Project Boundary

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Figure 3
Regulated Waters

Vegetation. The project boundaries include fields that were observed to be under both active agricultural practices and fallow (Figure 2). Plants within the study area associated with Little Rock Wash were noted as dominated by non-native ruderal weeds. Ruderal plants are those that are first to colonize disturbed lands and tend to be non-native invasive species. No sensitive plants or habitat were observed within the study area. No emergent wetland plants or desert wash woodland habitat were observed.

4.2 HYDROLOGY

Little Rock Wash is a northwestern flowing stream that originates in the San Gabriel Mountains south of the study area and terminates in Rosamond Dry Lake north of the study area. Rosamond Dry Lake, an intrastate dry lake, is an elevational low point for all drainages located within the Antelope Valley Watershed (U.S. Army Corps of Engineers 2014).

4.3 NATIONAL WETLAND INVENTORY

The objective of the NWI is to produce reconnaissance level information about the location, area, and type of the wetlands in a given location. Little Rock Wash has been mapped as a riverine habitat that is in intermittently flooded (R4SBJ) (U.S. Fish and Wildlife Service 2023). Riverine habitats are non-tidal systems characterized by an absence of trees, shrubs or emergent vegetation. Little Rock Wash has been identified by the U.S. Fish and Wildlife Service as a system where the stream substrate is usually exposed but surface water is present for variable periods without detectable seasonal periodicity. Weeks, months or even years may intervene between periods of inundation.

4.4 WILDLIFE

Wildlife observed during the ARD and habitat assessment can be found as Appendix B. In addition to direct observations, sign of kangaroo rat (*Dipodomys* sp.) was observed. Kangaroo rat are nocturnal mammals, so no direct observations were made. No sensitive wildlife species were observed during the ARD and habitat assessment. The study area was observed to have suitable habitat for occupation by burrowing owl (*Athene cunicularia*). California ground squirrel (*Otospermophilus californicus*) were observed within the study area. Their abandoned burrows can be used by burrowing owl. Previous observations of this raptor have been made within proximity to

the study area. Fields under active agriculture tend to attract prey such as rodents for foraging raptors such as burrowing owl.

4.5 POTENTIAL WATERS OF THE U.S.

4.5.1 Wetlands

No emergent macrophytic plants typically observed in or near water were observed with Little Rock Wash. Giant reed (*Arundo donax*), an invasive non-native macrophytic plant, was observed near the wash and appeared to be associated with agricultural irrigation. Cajon loamy sand and Hesperia loamy fine sand series have been identified as not having hydric characteristics. Hydric soils are those formed under conditions of flooding or ponding long enough during the growing season to develop anaerobic conditions (U.S. Army Corps of Engineers 1987). No flowing or standing water was observed within Little Rock Wash. No jurisdictional wetlands as defined by the USACE were observed within the study area.

4.5.2 Non-Wetland Waters (Other Waters)

Using the steps provided in the Rapid OHWM Field Identification Data Sheet, a total of 6.47 acres of aquatic habitat associated with Little Rock Wash was identified during the field effort (Figure 3). The USACE has determined, with some exceptions, that drainages within the Antelope Valley area that are tributaries to Rosamond Dry Lake are isolated waters and not a TNW and not subject to Section 404 of the Clean Water Act. Within the Antelope Valley Watershed, waters connected to Lake Palmdale including the Palmdale Ditch are subject to regulatory authority under Section 404 of the Clean Water Act (U.S. Army Corps of Engineers 2014). Little Rock Wash does not originate from Lake Palmdale or the Palmdale Ditch and is likely an isolated water and not subject to Section 404 of the Clean Water Act.

4.6 POTENTIAL WATERS OF THE STATE

4.6.1 Riverine Habitat

Little Rock Wash has been subject to past water flow that has caused incision of the channel. The incised areas were observed to be vegetated by the same mixture of native and non-native plants as observed in adjacent areas to the wash outside fields under agricultural practices. Past streambed water flow characteristics were observed to coincide with OHWM indicators. Three cottonwood trees were observed within the wash near the farm facilities located on the western side of the wash.

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No understory riparian habitat was observed associated with these trees. A total of 6.47 acres of riverine habitat potentially subject to regulation as a WOS was determined within the study area (Figure 3). Within the project boundaries, a total of 5.31 acres of riverine habitat was determined to be present.

SECTION 5 RECOMMENDATIONS

The following recommendations are provided for project-related work that would directly or indirectly impact Little Creek Wash.

- It is recommended that within 30 days and again within 24 hours of ground-disturbing activities, a burrowing owl/nesting bird survey should be conducted by a qualified biologist to determine if burrowing owl or other nesting birds are present. If present, buffer zones based on the sensitivity of the nesting bird should be established to avoid direct and indirect impacts. The buffer zone for nesting passerine (songbirds) and/or raptor birds may be species-specific based on available information including a relevant literature review and avian biology. The buffer zone may also depend on the level of project-related disturbance.
- If project development will: 1) divert or obstruct the natural flow of Little Rock Wash, 2) change the bed, channel, or bank of Little Rock Wash, 3) use materials from Little Rock Wash, or 4) deposit or dispose of material into Little Rock Wash, a Streambed Alteration Agreement permit issued by the CDFW and a WDR permit issued by the RWQCB-Lahontan Region will be required. This permit details all project impacts to the unnamed drainage plus mitigation for compensating those losses. An analysis of project impacts as per the California Environmental Quality Act (CEQA) would be required prior to issuance of either permit.
- If any site development activity (including temporary vehicle crossings or permanent utility crossings) will occur in Little Rock Wash, it is recommended to request concurrence from the U.S. Army Corps of Engineers that Little Rock Wash is an isolated water and not subject to Section 404/401 under the CWA. A recent decision from the Supreme Court narrowed protection for wetlands that only directly adjoin rivers, lakes or other bodies of water subject to Sections 404/10 of the CWA (Sackett et ux v. Environmental Protection Agency et. al). As a result, the U.S. Army Corps of Engineers is limiting their decision on the regulatory status of an aquatic resource pending direction from the Department of Justice to issuance of Preliminary Jurisdictional Determinations.

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United States Geological Survey

1974 Lancaster East 7.5-minute topographic quadrangle, 1958. Updated 1974

1992 Alpine Butte, 7.5-minute topographic quadrangle, 1957. Updated 1992

Appendix A
Sensitive Biological Resource Database Reviews
Lancaster Clean Energy Project
Lancaster, California

Resource	Habitat and Distribution	Status Designation	Occurrence Probability
Plants			
Lancaster milk-vetch (<i>Astragalus preussii</i> var. <i>laxiflorus</i>) ^{1,2}	Chenopod scrub; alkaline clay flats or gravelly or sandy washes and along draws in gullied badlands.	Federal: ND State: ND CNPS: 1B.2	Absent; record of observation is dated 1902 and no suitable habitat is present at the site.
Alkali mariposa-lily (<i>Calochortus striatus</i>) ^{1,2}	Chaparral, chenopod scrub, Mojavean desert scrub, meadows and seeps; alkaline meadows and ephemeral washes.	Federal: ND State: ND CNPS: 1B.2	Absent; no suitable habitat is present the site.
White pygmy-poppy (<i>Canbya candida</i>) ^{1,2}	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland; gravelly, sandy, granitic places.	Federal: ND State: ND CNPS: 4.2	Low; record of observation is dated 1922; while Little Rock Wash is highly disturbed, suitable sandy habitat is present.
Parry's spineflower (<i>Chorizanthe parryi</i> var. <i>parryi</i>) ^{1,2}	Coastal scrub, chaparral, cismontane woodland, valley and foothill grassland; dry slopes and flats.	Federal: ND State: ND CNPS: 1B.1	Absent; record of observation is dated 1896 and has been identified by a botanist as a possible miss-identification or bad locality.
Mohave spineflower (<i>Chorizanthe spinosa</i>) ^{1,2}	Chenopod scrub, Joshua tree woodland, Mojavean desert scrub, playas, alkaline soils	Federal: ND State: ND CNPS: 4.2	Absent; Little Rock Wash is highly disturbed; no suitable habitat is present.
Golden goodmania (<i>Goodmania luteola</i>) ^{1,2}	Mojavean desert scrub, meadows and seeps, playas, valley and foothill grassland.	Federal: ND State: ND CNPS: 4.2	Absent; Little Rock Wash is highly disturbed; no suitable habitat is present.
Sagebrush loeflingia (<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>) ^{1,2}	Great Basin scrub, Sonoran Desert scrub, desert dunes; sandy flats and dunes, sandy areas around clay slicks with <i>Sarcobatus</i> , <i>Atriplex</i> , <i>Tetradymia</i> .	Federal: ND State: ND CNPS: 2B.2	Low; While Little Rock Wash is highly disturbed; suitable sandy habitat is present.
Joshua tree (<i>Yucca brevifolia</i>) ^{1,2}	An endemic plant found associated with Sonoran and Mojavean Desert scrub, montane chaparral, pinyon and juniper woodlands.	Federal: ND State: C CNPS: CBR ³	Absent. No Joshua trees are present in the study area or in areas adjacent to the study area.
Birds			
Burrowing owl (<i>Athene cunicularia</i>) ¹	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation.	Federal: ND State: California Species of Special Concern	High ; suitable habitat is present within Little Rock Wash, and observations recorded within 2 to 5 miles of the site.

Appendix A
Sensitive Biological Resource Database Reviews
Lancaster Clean Energy Project
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Resource	Habitat and Distribution	Status Designation	Occurrence Probability
Birds (continued)			
Ferruginous hawk (<i>Buteo regalis</i>) ¹	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats.	Federal: ND State: ND	Low; the site has limited habitat available for roosting and nesting but can be used for foraging.
Swainson's hawk (<i>Buteo swainsoni</i>) ¹	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs and agricultural lands with groves or lines of trees.	Federal: ND State: ST	Low; the site has limited habitat available for roosting and nesting but can be used for foraging.
Mountain plover (<i>Charadrius montanus</i>) ¹	Short grasslands, freshly plowed fields, newly sprouted grain fields and sometimes sod farms.	Federal: ND State: California Species of Special Concern	Low; no suitable habitat is present within Little Rock Wash. Suitable habitat for this bird is found in adjacent agricultural fields.
Loggerhead shrike (<i>Lanius ludovicianus</i>) ¹	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub and woodland	Federal: ND State: California Species of Special Concern	Low; the site has limited habitat available for roosting and nesting but can be used for foraging
Le Conte's thrasher (<i>Toxostoma lecontei</i>) ¹	Desert resident; primarily of open desert wash, desert scrub, alkali desert scrub and desert succulent scrub habitats	Federal: ND State: California Species of Special Concern	Low; the site has limited habitat available for roosting and nesting but can be used for foraging
Mammals			
Mohave ground squirrel (<i>Xerospermophilus mohavensis</i>) ¹	Open desert scrub, alkali scrub and Joshua tree woodland. Also feeds in annual grasslands, sandy to gravelly soils.	Federal: ND State: ST	Absent; Little Rock Wash is highly disturbed; no suitable habitat is present.
Mollusks			
Soledad shoulderband (<i>Helminthoglypta fontiphila</i>) ¹	Air-breathing terrestrial snail known from type locality, Little Rock Creek Canyon on north side of San Gabriel Mountains; frequently found in riparian habitat, may be found in rockpiles, flood-borne debris or under dead yuccas where other cover is not available.	Federal: ND State: ND	Absent; Little Rock Wash is highly disturbed; no suitable habitat is present.

Appendix A
Sensitive Biological Resource Database Reviews
Lancaster Clean Energy Project
Lancaster, California

Resource	Habitat and Distribution	Status Designation	Occurrence Probability
Reptiles			
Northern California legless lizard (<i>Anniella pulchra</i>) ¹	Sandy or loose loamy soils under sparse vegetation; soil moisture is essential.	Federal: ND State: California Species of Special Concern	Low; Little Rock Wash is highly disturbed; no suitable habitat is present.
Desert tortoise (<i>Gopherus agassizii</i>) ¹	Most common in desert scrub, desert wash, and Joshua tree habitats. Require friable soil for burrow and nest construction. Creosote bush habitat with large annual wildflower blooms preferred.	Federal: T State: T	Absent; Little Rock Wash is highly disturbed; no suitable habitat is present.
Coast horned lizard (<i>Phrynosoma blainvillii</i>) ¹	Inhabits coastal sage scrub and chaparral in arid and semi-arid climates.	Federal: ND State: California Species of Special Concern	Low; Little Rock Wash is highly disturbed; suitable patches of habitat are present along the edges of the wash .

Notes:

ND No Designation

Federal Status:

FE Federally listed Endangered

FT Federally listed Threatened

BG EPA Bald and Golden Eagle Protection Act

State Status:

CE Candidate Endangered

SE State listed Endangered

ST State listed Threatened

SR State Rare

SSC California Department of Fish and Wildlife Species of Special Concern

FP California Department of Fish and Wildlife Protected Species (Fully)

California Rare Plant Ranking System:

1B.1 Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California

1B.2 Plants rare, threatened, or endangered in California and elsewhere; fairly threatened in California

1B.3 Plants rare, threatened, or endangered in California and elsewhere; not very threatened in California

2A: Plants Presumed extirpated in California but common elsewhere

2B.1 Plants rare, threatened, or endangered in California, but more common elsewhere; seriously threatened in California

2B.2 Plants rare, threatened, or endangered in California, but more common elsewhere; fairly threatened in California

2B.3 Plants rare, threatened, or endangered in California, but more common elsewhere; not very threatened in California

4.1 Plants with limited distribution or infrequent throughout a broader area in California; seriously threatened in California

4.2 Plants with limited distribution or infrequent throughout a broader area in California; moderately threatened in California

4.3 Plants with limited distribution or infrequent throughout a broader area in California; not very threatened in California

Sources: ¹California Department of Fish and Wildlife, Natural Diversity Data Base, Lancaster East and Alpine Butte USGS 7.5' Quadrangles, May 22, 2023

²California Native Plant Society, Rare Plant Program. 2023. Rare Plant Inventory (online edition v9.5). <https://www.rareplants.cnps.org>. Accessed May 23, 2023

³Considered but rejected (California Native Plant Society 2023)

Appendix A
Sensitive Biological Resource Database Reviews
Lancaster Clean Energy Project
Lancaster, California

Criteria:

Present: Species was observed in or immediately adjacent to the survey area within the past 5 years.

High: Habitat (including vegetation, soils and elevation factors) and known historical range for the species occurs in the survey area and a known occurrence has been recorded within 5 miles and within the past 30 years.

Moderate: Habitat for the species occurs in the survey area and a known occurrence has been recorded between 5 and 10 miles away within the past 30 years. Or historical range for the species occurs in the survey area and a known occurrence has been recorded within 5 miles and within the past 30 years with only two of three habitat parameters present (appropriate vegetation, soils and elevation)

Low: Limited habitat for the species occurs in the survey area and known occurrences are greater than 10 miles from the survey area or over 30 years old. Or habitat quality is poor with only one parameter present (appropriate vegetation, soils and elevation).

Absent: Beyond those factors listed for Low potential, the species is easily identifiable throughout the year and was not observed (i.e., most tree species).

Appendix B
Flora and Fauna Compendium
Lancaster Clean Energy Center
Lancaster, California

Flora	Flowering Plants
Angiospermae: Monocotyledonae	Monocot Flowering Plants
Poaceae	Grass Family
<i>Arundo donax</i>	Giant reed*
<i>Bromus madritensis</i>	Foxtail chess*
<i>Hordeum vulgare</i>	Barley*
<i>Schismus barbatus</i>	Common Mediterranean grass*
<i>Stipa hymenoides</i>	Indian rice grass
Angiospermae: Dicotyledonae	Dicot Flowering Plants
Asteraceae	Aster Family
<i>Ambrosia acanthicarpa</i>	Annual burweed
<i>Ambrosia dumosa</i>	Burro bush
<i>Ambrosia salsola</i>	Cheese brush
<i>Ericameria nauseosus</i>	Rabbit brush
Boraginaceae	Borage Family
<i>Amsinkia menziesii</i>	Fiddleneck
<i>Heliotropium curassavicum</i>	Salt heliotrope
<i>Tiquilia plicata</i>	Crinkle mat
Brassicaceae	Mustard Family
<i>Brassica tournefortii</i>	Sahara mustard*
Chenopodiaceae	Goosefoot Family
<i>Salsola tragus</i>	Russian thistle*
Euphorbiaceae	Legume Family
<i>Croton setiger</i>	Dove weed
Hydrophyllaceae	
<i>Phacelia tanacetifolia</i>	Lacy phacelia
Polygonaceae	Buckwheat Family
<i>Rumex crispus</i>	Curly leaved dock*
Salicaceae	Willow Family
<i>Populus fremontii</i>	Fremont cottonwood
Solanaceae	Nightshade Family
<i>Datura stramonium</i>	Jimsonweed*
<i>Physalis sp.</i>	Groundcherry*

Appendix B
Flora and Fauna Compendium
Lancaster Clean Energy Center
Lancaster, California

Fauna	Birds, Reptiles and Mammals
Aves	Birds
Columbidae	Pigeons and Doves
<i>Zenaida macroura</i>	Mourning dove
Corvidae	Crows and Ravens
<i>Corvus corax</i>	American raven
Fringillidae	Finch Family
<i>Haemorhous mexicanus</i>	House finch
Odontophoridae	New World Quails
<i>Gallipepia californica</i>	California quail
Mammalia	Mammals
Leporidae	Rabbits and Hares
<i>Sylvilagus audubonii</i>	Cottontail rabbit
Sciuridae	Squirrels
<i>Otospermophilus beecheyi</i>	California ground squirrel
Phrynosomatidae	Northern Spiny Lizards
<i>Uta stansburiana</i>	Side blotch
Teiidae	Whiptail Lizards
<i>Aspidoscelis tigris</i>	Western whiptail

* Denotes non-native plant

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APPENDIX C RAPID OHWM FIELD ID DATA SHEET AND PHOTO LOG

U.S. Army Corps of Engineers (USACE)
RAPID ORDINARY HIGH WATER MARK (OHWM) FIELD IDENTIFICATION DATA SHEET

*From Approved -
 OMB No. 0710-0025
 Expires: 01-31-2025*

The proponent agency is Headquarters USACE CECW-CO-R.

AGENCY DISCLOSURE NOTICE

The public reporting burden for this collection of information, 0710-OHWM, is estimated to average 30 **minutes** per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

Project ID #: 102-ENV-T43101 Site Name: Little Rock Wash/Lancaster Clean Energy Date and Time: 5/23/23, 0730-0930

Location (lat/long): 34.686248, -118.020913 Investigator(s): S. Pacheco/K. Simon

Step 1 Site overview from remote and online resources

Check boxes for online resources used to evaluate site:

- | | | |
|--|---|---|
| <input type="checkbox"/> gage data | <input type="checkbox"/> LiDAR | <input checked="" type="checkbox"/> geologic maps |
| <input type="checkbox"/> climatic data | <input checked="" type="checkbox"/> satellite imagery | <input type="checkbox"/> land use maps |
| <input type="checkbox"/> aerial photos | <input checked="" type="checkbox"/> topographic maps | <input checked="" type="checkbox"/> Other: <u>NWI, NRCS</u> |

Describe land use and flow conditions from online resources.

Were there any recent extreme events (floods or drought)?
 Google Earth images 1985, -92, 2003, -04, -08, -09, -11, -12, -15, -16, -18, -20, -22, -23 reviewed.
 No evidence of extreme flooding observed.

Step 2 Site conditions during field assessment. First look for changes in channel shape, depositional and erosional features, and changes in vegetation and sediment type, size, density, and distribution. Make note of natural or man-made disturbances that would affect flow and channel form, such as bridges, riprap, landslides, rockfalls etc.

Clear sign of past water flow evidenced by presence of OHWM shelving and sign of fine sand deposition within the bed of the channel. Vegetation above OHWM dominated by non-native ruderal weeds.

Step 3 Check the boxes next to the indicators used to identify the location of the OHWM.

OHWM is at a transition point, therefore some indicators that are used to determine location may be just below and above the OHWM. From the drop-down menu next to each indicator, select the appropriate location of the indicator by selecting either just below 'b', at 'x', or just above 'a' the OHWM.

Go to page 2 to describe overall rationale for location of OHWM, write any additional observations, and to attach a photo log.

Geomorphic indicators

- | | | |
|---|---|---|
| <input type="checkbox"/> Break in slope: | <input type="checkbox"/> Channel bar: | <input type="checkbox"/> <i>erosional bedload indicators (e.g., obstacle marks, scour, smoothing, etc.)</i> |
| <input type="checkbox"/> on the bank: | <input type="checkbox"/> shelving (berms) on bar: | <input checked="" type="checkbox"/> Secondary channels: b |
| <input type="checkbox"/> undercut bank: | <input type="checkbox"/> unvegetated: | Sediment indicators |
| <input type="checkbox"/> valley bottom: | <input type="checkbox"/> vegetation transition (go to veg. indicators) | <input type="checkbox"/> Soil development: |
| <input type="checkbox"/> Other: _____ | <input type="checkbox"/> sediment transition (go to sed. indicators) | <input type="checkbox"/> Changes in character of soil: |
| <input checked="" type="checkbox"/> Shelving: x | <input type="checkbox"/> upper limit of deposition on bar: | <input checked="" type="checkbox"/> Mudcracks: b |
| <input checked="" type="checkbox"/> shelf at top of bank: x | <input type="checkbox"/> Instream bedforms and other bedload transport evidence: | <input checked="" type="checkbox"/> Changes in particle-sized distribution: b |
| <input type="checkbox"/> natural levee: | <input type="checkbox"/> deposition bedload indicators (e.g., imbricated clasts, gravel sheets, etc.) | <input checked="" type="checkbox"/> transition from <u>sand</u> to fine sand |
| <input type="checkbox"/> man-made berms or levees: | <input type="checkbox"/> bedforms (e.g., pools, riffles, steps, etc.): | <input type="checkbox"/> upper limit of sand-sized particles |
| <input type="checkbox"/> other berms: _____ | | <input type="checkbox"/> silt deposits: |

Vegetation Indicators

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Change in vegetation type and/or density: b | <input type="checkbox"/> forbs to: | <input type="checkbox"/> Exposed roots below intact soil layer: |
| Check the appropriate boxes and select the general vegetation change (e.g., <i>graminoids to woody shrubs</i>). Describe the vegetation transition looking from the middle of the channel, up the banks, and into the floodplain. | <input type="checkbox"/> graminoids to: | Ancillary indicators |
| <input checked="" type="checkbox"/> vegetation absent to: | <input type="checkbox"/> woody shrubs to: | <input type="checkbox"/> Wracking/presence of organic litter: |
| <input type="checkbox"/> moss to: | <input type="checkbox"/> deciduous trees to: | <input type="checkbox"/> Presence of large wood: |
| | <input type="checkbox"/> coniferous trees to: | <input type="checkbox"/> Leaf litter disturbed or washed away: |
| | <input type="checkbox"/> Vegetation matted down and/or bent: | <input type="checkbox"/> Water staining: |
| | | <input type="checkbox"/> Weathered clasts or bedrock: |

Other observed indicators? Describe:

Project ID #: 102-ENV-T43101

Step 4 Is additional information needed to support this determination? Yes No If yes, describe and attach information to datasheet:

Step 5 Describe rationale for location of OHWM

Within the survey area of Little Rock Wash, past water flow has resulted in shelving within the banks to show the physical limits of OHWM. While minor amounts of weeds are present within OHWM at the northern end of the survey area, no plants are present. Evidence of water transported fine sands observed within OHWM.

Additional observations or notes

Attach a photo log of the site. Use the table below, or attach separately.

Photo log attached? Yes No If no, explain why not: _____

List photographs and include descriptions in the table below.

Number photographs in the order that they are taken. Attach photographs and include annotations of features.

Photo Number	Photograph description
1	Stop 1, Little Rock Wash. View upstream to the southeast.
2	Stop 2, Little Rock Wash. View upstream to the south.
3	Stop 3, Little Rock Wash. View upstream to the south.
4	Stop 4, Little Rock Wash. View downstream to the west.
5	Stop 5, Little Rock Wash. View downstream to the north.
6	Stop 6, Little Rock Wash. View upstream to the southwest.

OHWM Field Identification Datasheet Instructions and Field Procedure

Step 1 Site overview from remote and online resources

Complete Step 1 prior to site visit.

Online Resources: Identify what information is available for the site. Check boxes on datasheet next to the resources used to assess this site.

- a. gage data
- b. aerial photos
- c. satellite imagery
- d. LiDAR
- e. topographic maps
- f. geologic maps
- g. land use maps
- h. climatic data (precipitation and temperature)

Landscape context: Use the online resources to put the site in the context of the surrounding landscape.

a. Note on the datasheet under Step 1:

- i. Overall land use and change if known
- ii. Recent extreme events if known (e.g., flood, drought, landslides, debris flows, wildfires)
- b. Consider the following to inform weighting of evidence observed during field visit.
 - i. What physical characteristics are likely to be observed in specific environments?
 - ii. Was there a recent flood or drought? Are you expecting to see recently formed or obscured indicators?
 - iii. How will land use affect specific stream characteristics? How natural is the hydrologic regime? How stable has the landscape been over the last year, decade, century?

Step 2 Site conditions during the field assessment (assemble evidence)

- a. Identify the assessment area.
- b. Walk up and down the assessment area noting all the potential OHWM indicators.
- c. Note broad trends in channel shape, vegetation, and sediment characteristics.
 - i. Is this a single thread or multi-thread system? Is this a stream-wetland complex?
 - ii. Are there any secondary and/or floodplain channels?
 - iii. Are there obvious man-made alterations to the system?
 - iv. Are there man-made (e.g., bridges, dams, culverts) or natural structures (e.g., bedrock outcrops, Large Wood jams) that will influence or control flow?
- d. Look for signs of recurring fluvial action.
 - i. Where does the flow converge on the landscape?
 - ii. Are there signs of fluvial action (sediment sorting, bedforms, etc.) at the convergence zone?
- e. Look for indicators on both banks. If the opposite bank is not accessible, then look across the channel at the bank.
- f. **In Step 2 of the datasheet** describe any adjacent land use or flow conditions that may influence interpretation of each line of evidence.
 - i. What land use and flow conditions may be affecting your ability to observe indicators at the site?
 - ii. What recent extreme events may have caused changes to the site and affected your ability to observe indicators?

Step 3a List evidence

Assemble evidence by checking the boxes next to each line of evidence:

- a. If needed, use a separate scratch datasheet to check boxes next to possible indicators, or check boxes of possible indicators in pencil and use pen for final decision.
- b. If using fillable form, then follow the instructions for filling in the fillable form.

Context is important when assembling evidence. For instance, pool development may be an indicator of interest on the bed of a dry stream, but may not be a useful indicator to take note of in a flowing stream. On the other hand, if the pool is found in a secondary channel adjacent to the main channel, it could provide a line of evidence for a minimum elevation of high flows. Therefore, consider the site context when deciding which indicators provide evidence for identifying the OHWM. Explain reasoning in Step 5.

Questions to consider while making observations and listing evidence at a site:

Geomorphic indicators	Sediment and soil indicators	Vegetation Indicators	Ancillary indicators
Where are the breaks in slope? Are there identifiable banks? Is there an easily identifiable top of bank? Are the banks actively eroding? Are the banks undercut? Are the banks armored? Is the channel confined by the surrounding hillslopes? Are there natural or man-made berms and levees? Are there fluvial terraces? Are there channel bars?	Where does evidence of soil formation appear? Are there mudcracks present? Is there evidence of sediment sorting by grain size?	Where are the significant transitions in vegetation species, density, and age? Is there vegetation growing on the channel bed? If no, how long does it take for the non-tolerant vegetation to establish relative to how often flows occur in the channel? Where are the significant transitions in vegetation? Is the vegetation tolerant of flowing water? Has any vegetation been flattened by flowing water?	Is there organic litter present? Is there any leaf litter disturbed or washed away? Is there large wood deposition? Is there evidence of water staining?

Are the following features of fluvial transport present?
*Evidence of erosion: obstacle marks, scour, armoring
 Bedforms; riffles, pools, steps, knickpoints/headcuts
 Evidence of deposition: imbricated clasts, gravel sheets, etc.*

In some cases, it may be helpful to explain why an indicator was NOT at the OHWM elevation, but found above or below. It can also be useful to note if specific indicators (e.g., vegetation) are NOT present. For instance, note if the site has no clear vegetation zonation.

OHWM Field Identification Datasheet Instructions and Field Procedure

Step 3b Weight each line of evidence and weigh body of evidence

Weight each indicator by considering its importance based upon:

a. Relevance:

- i. Is this indicator left by low, high, or extreme flows?

Tips on how to assess the indicator relative to type of flow:

Consider the elevation of the indicator relative to the channel bed.

What is the current flow level based on season or nearby gages?

Consider the elevation of the indicator relative to the current flow.

If the stream is currently at baseflow and indicator is adjacent to that,

then it is likely a low flow indicator. The difference between high and

extreme flow indicators can sometimes be difficult to determine.

- ii. Did recent extreme events and/or land use affect this indicator?

1. Recent floods may have left many extreme flow indicators, or temporarily altered channel form.

Other resources will likely be needed to support any OHWM identification at this site. Field evidence of the OHWM may have to wait for the site to recover from the recent flood.

2. Droughts may cause field evidence of OHWM to be obscured, because there has been an extended time since the last high flow event. There can be overgrowth of vegetation or deposition of material from surrounding landscape that can obscure indicators.

3. Both man-made (e.g., dams, construction, mining activities, urbanization, agriculture, grazing) and natural (e.g., fires, floods, debris flows, beaver dams) disturbances can all alter how indicators are expected to appear at a site. Chapter 6 and Chapter 7 of the OHWM field manual provides specific case-studies that can help in interpreting evidence at these sites.

b. Strength:

- i. Is this indicator persistent across the landscape?

1. Look up and downstream and across the channel to see if you see the same indicator at multiple locations.

2. Does the indicator occur at the same elevation as other indicators?

c. Reliability:

- i. Is this indicator persistent on the landscape over time? Will this indicator still persist across seasons?

1. This can be difficult to determine for some indicators and may be specific to climatic region (in terms of persistence of vegetation) and history of land use or other natural disturbances.

2. Chapter 2, Chapter 6, and Chapter 7 of the OHWM field manual describes each indicator in detail and provides examples of areas where indicators are difficult to interpret.

d. Weigh body of evidence:

- i. Combine weights: integrate the weighted line of evidence (relevance, strength, reliability) of each indicator.

- ii. For each of the observed indicators, which are more heavily weighted? Where do high value indicators co-occur along the stream reach? Do they co-occur at a similar elevation along the banks relative to water surface (or channel bed if there is no water).

- iii. On datasheet, select the indicators used to identify the OHWM. Information in Chapter 2 of the OHWM field manual provides descriptions of specific indicators which can assist in putting these in context and determining relevance, strength, and reliability.

e. Take photographs of indicators and attach a log using either page 2 of datasheet or another method of logging photos.

- i. Annotate photos with descriptions of indicators.

***Landscape context from Step 1 can help determine the relevance, strength, and reliability of the indicators observed in the field.**

***Information in Chapter 2 of the OHWM field manual provides information on specific indicators which can assist in putting these in context and determining relevance, strength, and reliability.**

Step 4 Is additional information needed? Are other resources needed to support the lines of evidence observed in the field?

- a. If additional resources are needed, then repeat steps 3a and 3b for the resources selected in Step 1 of assembling, weighting, and weighing evidence collected from online resources. Chapter 5 of the OHWM field manual provides information on using online resources.
- b. Any data collected from online tools have strengths and weaknesses. Make sure these are clear when determining relevance, strength, and reliability of the remotely collected data. Clearly describe why other resources were needed to support the lines of evidence observed in the field, as well as the relevance, strength, and reliability of the supporting data and/or resources.
- c. Attach any remote data and data analysis to the datasheet.

Step 5 Describe rationale for location of OHWM:

- a. Why do the combination of indicators represent the OHWM?
- b. If there are multiple possibilities for the OHWM, explain why there are two (or more) possibilities. Include any relevant discussion on why specific indicators were not included in the final decision.
- c. If needed, add additional site notes on page 2 of the datasheet under Step 5.

**Photograph Log ENG Form 6250
Lancaster Clean Energy Center
Lancaster, California**



<p>Photograph 1:</p> <p>Stop 1, Little Rock Wash. View upstream to the southeast.</p>	
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<p>Photograph 2:</p> <p>Stop 2, Little Rock Wash. View upstream to the south.</p>	
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**Photograph Log ENG Form 6250
Lancaster Clean Energy Center
Lancaster, California**



**Photograph Log ENG Form 6250
Lancaster Clean Energy Center
Lancaster, California**

