

APPENDIX 3

AQUATIC RESOURCES DELINEATION REPORT (ARDR)

Aquatic Resources Delineation for the Container Storage Project

San Bernardino County, California

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May 2025

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LIST OF ACRONYMS AND ABBREVIATIONS

Term	Definition
°F	Degrees Fahrenheit
Agencies	U.S. Environmental Protection Agency and the Department of the Army
Amsl	Above Mean Sea Level
APT	Antecedent Precipitation Tool
ARD	Aquatic Resources Delineation
BNSF	Burlington Northern Santa Fe Railway
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
CNPS	California Native Plant Society
CWA	Clean Water Act
ESRI	Environmental Systems Research Institute
FAC	Facultative
FACU	Facultative Upland
FACW	Facultative Wetland
FR	Federal Register
HUC	Hydrologic Unit Code
N/A	Not Applicable
N/L	Not Listed
NCDC	National Climatic Data Center
NOAA	National Oceanic and Atmospheric Administration

Term	Definition
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OBL	Obligate
OHWM	Ordinary High Water Mark
ORM	Operations and Maintenance Business Information Link Regulatory Module
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
UPL	Upland
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

1.0 INTRODUCTION

On behalf of Earl Graham, ECORP Consulting, Inc. (ECORP), conducted an Aquatic Resources Delineation (ARD) for the Container Storage Project located in the Town of Apple Valley, San Bernardino County, California. The Study Area is located on Assessor's Parcel Numbers 0438-163-24, -37, -43, and -44 as well as a portion of the public right-of-way along Deep Creek Road. The approximately 47.10-acre Study Area is located to the south of Ocotillo Way, west of Iroquois Avenue, north of Rock Springs Road, and east of Deep Creek Road (Figure 1). This corresponds with a portion of Section 20 of Township 4 North, Range 3 West, U.S. Geological Survey 7.5-minute *Apple Valley South, California* quadrangle (San Bernardino Base and Meridian). The approximate center of the Study Area is located at 34.418991 degrees latitude and -117.220585 degrees longitude. The Study Area is located within the Mojave subbasin (Hydrologic Unit Code [HUC] 8 #18090208) and within the Desert Knolls Wash-Mojave River subwatershed (HUC 12 #180902080703). Driving directions to the Study Area are provided in Appendix A.

This report describes aquatic resources identified within the Study Area that may be regulated pursuant to the Clean Water Act (CWA), the Porter-Cologne Water Quality Control Act, and/or Section 1600 et al. of the California Fish and Game Code. The information presented in this report provides data required by the U.S. Army Corps of Engineers (USACE) Los Angeles District's *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (USACE 2017). All aquatic resources shown in exhibits in this report represent a calculated estimation of the potentially jurisdictional area within the Study Area and are subject to modification following an agency review and/or verification process. The purpose of this report is to provide adequate information to USACE for the issuance of a Preliminary Jurisdictional Determination (PJD) or an Approved Jurisdictional Determination (AJD).

2.0 REGULATORY REQUIREMENTS

2.1 Waters of the United States

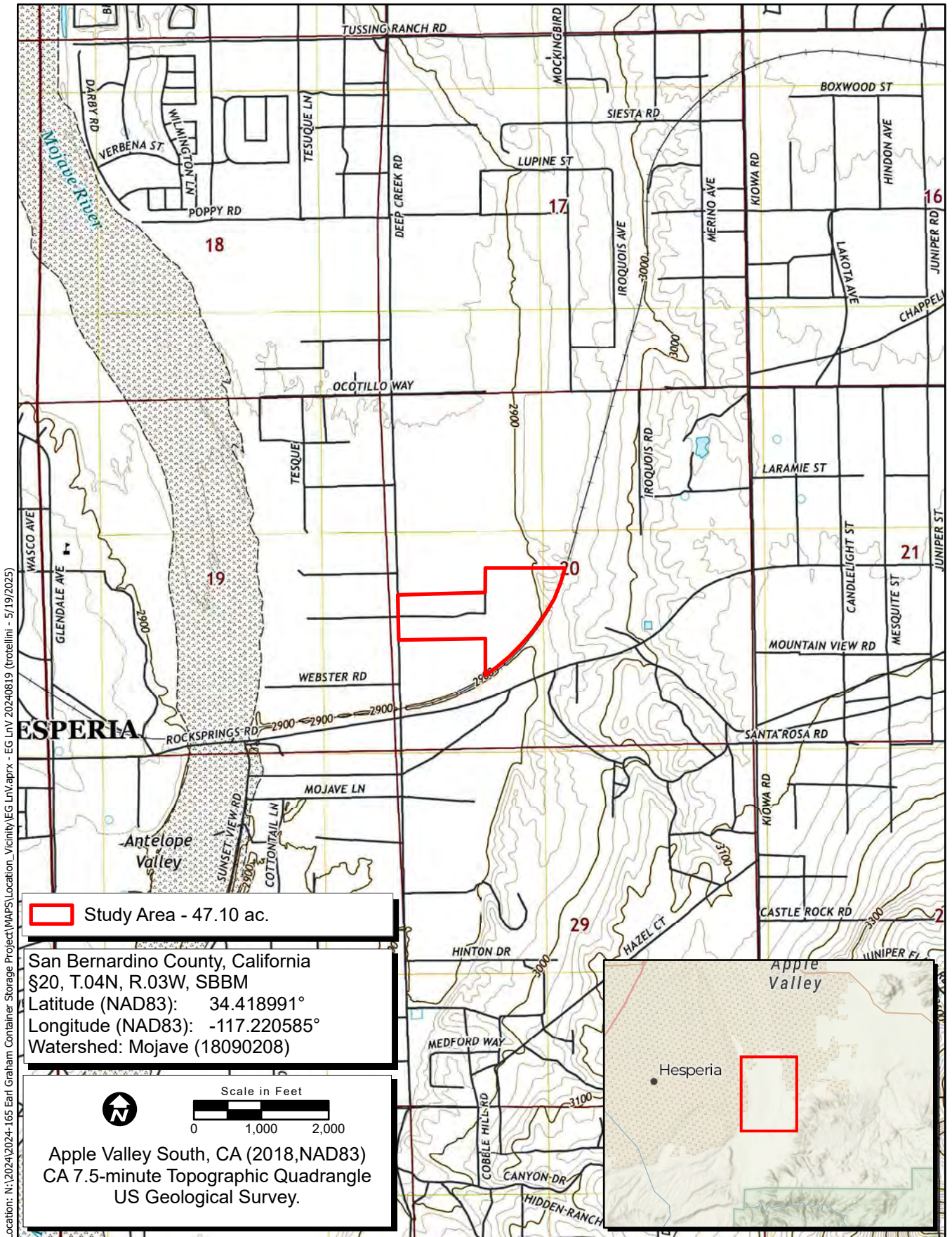
This report describes aquatic resources, including wetlands, that may be regulated by USACE under Section 404 and/or the Regional Water Quality Control Board (RWQCB) under Section 401 of the federal CWA. The following sections define these regulations.

2.1.1 Wetlands

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

2.1.2 Other Waters

Other waters are nontidal, perennial, and intermittent watercourses and tributaries to such watercourses [51 FR 41250, Nov. 13, 1986, as amended at 58 FR 45036, August 25, 1993]. The limit of USACE jurisdiction for nontidal watercourses (without adjacent wetlands) is defined in 33 Code of Federal Regulations (CFR)



Map Date: 12/2/2024
 Sources: ESRI, USGS

Figure 1. Project Location and Vicinity

328.4(c)(1) as the Ordinary High Water Mark (OHWM). The OHWM is defined as the:

“line on the shore established by the fluctuations of water and indicated by physical characteristics such as 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 areas”

as an approximation of the lateral limit of USACE jurisdiction. The upstream limits of other waters are defined as the point where the OHWM is no longer perceptible.

2.2 Clean Water Act

The USACE regulates discharge of dredged or fill material into Waters of the U.S. under Section 404 of the CWA. Waters of the U.S. include surface waters such as navigable waters and their tributaries, all interstate waters and their tributaries, natural lakes, all wetlands adjacent to other waters, and all impoundments of these waters; a full definition is provided later in this report. *Discharges of fill material* is defined as the addition of fill material into Waters of the U.S., including, but not limited to, the following: placement of fill necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes, and subaqueous utility lines [33 CFR Section 328.2(f)]. In addition, Section 401 of the CWA (33 U.S. Code 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into Waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water-quality standards.

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

2.3 Jurisdictional Assessment

On December 22, 2022, the U.S. Environmental Protection Agency and the Department of the Army (hereinafter, the *Agencies*) announced a final rule defining Waters of the United States. The definition was founded upon the pre-2015 “Rapanos” decision, updated to reflect consideration of Supreme Court decisions, the science, and the Agencies’ technical expertise. The final rule was published in the Federal Register on January 18, 2023 and effective as of March 20, 2023.

On May 25, 2023, the Supreme Court of the United States adopted a narrower definition of Waters of the United States in the case *Sackett v. Environmental Protection Agency*. Under the majority opinion, Waters of the United States refers to “geographical features that are described in ordinary parlance as ‘streams, oceans, rivers, and lakes’ and to adjacent wetlands that are ‘indistinguishable’ from those bodies of water due to a continuous surface connection.”

On August 29, 2023, the Agencies issued a final rule to amend the final “Revised Definition of ‘Waters of the United States’” rule, published in the FR on January 18, 2023. This final rule conforms the definition of

“waters of the United States” to the U.S. Supreme Court’s May 25, 2023, decision in the case of *Sackett v. Environmental Protection Agency*. Parts of the January 2023 Rule are invalid under the Supreme Court’s interpretation of the CWA in the Sackett decision. Therefore, the Agencies have amended key aspects of the regulatory text to conform to the Court’s decision.

The conforming rule became effective upon publication in the FR on September 9, 2023. Where the January 2023 Rule is not enjoined, the agencies will implement the January 2023 Rule, as amended by the conforming rule.

In summary, under the conforming rule, the term Waters of the United States will mean:

- waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;
- the territorial seas;
- interstate waters;
- impoundments of waters otherwise defined as Waters of the United States under this definition;
- tributaries that are relatively permanent, standing or continuously flowing bodies of water of a) waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide, b) the territorial seas, and c) interstate waters;
- wetlands adjacent to a) waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide, b) the territorial seas, and c) interstate waters;
- wetlands adjacent (defined as having a continuous surface connection) to relatively permanent, standing, or continuously flowing bodies of water identified as impoundments of waters and with a continuous surface connection to those waters; or
- intrastate lakes and ponds that are relatively permanent, standing, or continuously flowing bodies of water with a continuous surface connection to the water previously identified.

Waters excluded from this definition include prior converted cropland (defined by the U.S. Department of the Agriculture), waste treatment systems, ditches (including roadside ditches) excavated wholly in and draining only dry land, artificially irrigated areas that would revert to dry land if the irrigation ceased, artificial lakes or ponds, artificial reflecting pools or swimming pools, waterfilled depressions (e.g., created in dry land incidental to construction activity, pits excavated in dry land for purposes of obtaining fill, sand, or gravel), swales and erosional features (e.g., gullies, small washes) that are characterized by low volume, infrequent, or short duration flow.

2.4 Porter-Cologne Water Quality Control Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination

System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of storm water runoff associated with construction activities. General Construction Permits for projects that disturb 1.0 or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, within any region that could affect the water of the state” (Water Code 13260(a)). Waters of the State are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code 13050 (e)). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State that are not regulated by the USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of a Waste Discharge Requirements for these activities.

2.5 California Fish and Game Code Section 1602

Pursuant to Section 1602 of the California Fish and Game Code, a Notification of Lake or Streambed Alteration form must be submitted for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake” (California Department of Fish and Wildlife [CDFW] 2024). In Title 14 of the California Code of Regulations, Section 1.72, 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 a surface or subsurface flow that supports or has supported riparian vegetation.

The CDFW publishes no formal methodology for determination of the extent of their jurisdiction. The CDFW defines a streambed as:

...a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses having a “surface or subsurface flow that supports riparian vegetation (Title 14, Section 1.72).

For the purposes of this report, based on experience with CDFW, the CDFW’s jurisdiction includes drainages with a definable bed, bank, or channel with the jurisdictional limit being the Top of Bank. It also includes areas that support intermittent, perennial, or subsurface flows; support fish or other aquatic life; or support riparian or hydrophytic vegetation. It also includes areas that have a hydrologic source. Riparian vegetation associated with lakes or streambeds is also considered to be subject to CDFW’s jurisdiction.

The CDFW will determine if the proposed actions will result in diversion, obstruction, or change of the natural flow, bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. The CDFW will submit a draft Streambed Alteration Agreement (SAA) that includes measures to protect affected fish and wildlife resources. Through a process of review, comment, and modification between the CDFW and the applicant, the SAA becomes final when signed by both parties.

3.0 METHODS

ECORP conducted this ARD in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid West Region Supplement; USACE 2008a). ECORP identified non-wetland waters in the field according to *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b), where applicable. ECORP delineated the boundaries of aquatic resources using standard field methods and recorded field data on *Arid West Ephemeral and Intermittent Streams OHWM Datasheets* (USACE 2010). If sample points were collected, ECORP also recorded data on *Wetland Determination Data Forms – Arid West Region* (USACE 2008a). The biologists used a color aerial photograph that was available on ArcGIS to assist with mapping and ground-truthing (Environmental Systems Research Institute [ESRI] 2024). ECORP also used *Munsell Soil Color Charts* (Munsell Color 2009) and the Web Soil Survey (Natural Resources Conservation Service [NRCS] 2024a) to aid in identifying hydric soils in the field and used *Jepson eFlora* (Jepson Flora Project 2024) for plant nomenclature and identification.

ECORP biologists Chelsie Brown and Eliza McLean surveyed the Study Area on September 10, 2024. The biologists walked or visually inspected the entire approximately 47.10-acre Study Area to determine the location and extent of aquatic resources within the Study Area. The biologists recorded aquatic resources within the Study Area in the field using a post-processing-capable Global Positioning System unit with sub-meter accuracy (e.g., tablet or phone with ArcGIS Field Maps using Juniper Geode submeter).

ECORP conducted a typical-year analysis of the Study Area via a single-point method using the USACE Antecedent Precipitation Tool (APT; USACE 2024). The APT is an automation tool that utilizes standardized methodology to calculate precipitation normalcy at a given location using publicly available data sources. The APT analysis determines whether precipitation, drought, and other climatic conditions from the previous 3 months are *wet*, *normal*, or *dry* for the geographic area based on a rolling 30-year period (USACE 2024).

3.1 Routine Determinations for Wetlands

For an area to be determined a wetland, all three of the following criteria must be met:

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

3.1.1 Vegetation

Hydrophytic vegetation is defined as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanent or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present (Environmental Laboratory 1987). The definition of wetlands includes the phrase *a prevalence of vegetation typically*

adapted for life in saturated soil conditions. Prevalent vegetation is characterized by the dominant plant species that composes the plant community (Environmental Laboratory 1987). The dominance test is the basic hydrophytic vegetation indicator, and ECORP applied it at each sampling point location. ECORP used the *50/20 rule* to select the dominant plant species from each stratum of the community. The rule states that for each stratum in the plant community, dominant species are the most abundant plant species (when ranked in descending order of coverage and cumulatively totaled) that immediately exceed 50 percent of the total coverage for the stratum, plus any additional species that individually compose 20 percent or more of the total cover in the stratum (USACE 1992, 2008a).

ECORP then classified the dominant plant species observed at each sampling point according to the indicator status (probability of occurrence in wetlands; Table 1) in the National Wetland Plant List (USACE 2022). If the majority (greater than 50 percent) of the dominant vegetation on a site are classified as obligate (OBL), facultative wetland (FACW), or facultative (FAC), the site was considered to be dominated by hydrophytic vegetation.

Table 1. Classification of Wetland-Associated Plant Species		
Plant Species Classification	Abbreviation	Probability of Occurring in Wetland
Obligate	OBL	Almost always occur in wetlands
Facultative Wetland	FACW	Usually occur in wetlands, but may occur in non-wetlands
Facultative	FAC	Occur in wetlands and non-wetlands
Facultative Upland	FACU	Usually occur in non-wetlands, but may occur in wetlands
Upland	UPL	Almost never occur in wetlands
Plants that are not listed (assumed upland species)	N/L	Does not occur in wetlands in any region

Source: U.S. Army Corps of Engineers 2012

Note: N/L = Not Listed

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

3.1.2 Soils

A *hydric soil* is defined as a soil that has been exposed to conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper portion (NRCS 2003). Indicators that a hydric soil is present include, but are not limited to, histosols, histic epipedon,

hydrogen sulfide, depleted below dark surface, sandy redox, loamy gleyed matrix, depleted matrix, redox dark surface, redox depressions, and vernal pools.

ECORP excavated a soil pit at each sampling point to the depth needed to document an indicator, to confirm the absence of indicators, or until refusal at each sampling point. The biologists then examined the soil for hydric soil indicators and determined the soil colors while the soil was moist using the *Munsell Soil Color Charts* (Munsell Color 2009). Hydric soils are formed predominantly by the accumulation or loss of iron, manganese, sulfur, or carbon compounds in a saturated and anaerobic environment. These processes and the features in the soil that develop can be identified by looking at the color and texture of the soils.

3.1.3 Hydrology

Wetlands, by definition, are seasonally or perennially inundated or saturated at or near (within 12 inches of) the soil surface. Primary indicators of wetland hydrology include, but are not limited to, visual observation of saturated soils, visual observation of inundation, surface soil cracks, inundation visible on aerial imagery, water-stained leaves, oxidized rhizospheres along living roots, aquatic invertebrates, water marks (secondary indicator in riverine environments), drift lines (secondary indicator in riverine environments), and sediment deposits (secondary indicator in riverine environments). The occurrence of one primary indicator is sufficient to conclude that wetland hydrology is present. If no primary indicators are observed, two or more secondary indicators are required to conclude that wetland hydrology is present. Secondary indicators include, but are not limited to, drainage patterns, crayfish burrows, FAC-neutral test, and shallow aquitard.

3.2 Ordinary High-Water Mark/Non-Wetland Waters

The discussion in this section briefly summarizes *A Field Guide to the Identification of the Ordinary High-Water Mark (OHWM) in the Arid West Region of the Western United States*, which is intended for delineating ephemeral/intermittent channels (USACE 2008b). The OHWM indicators commonly found in the Arid West include a clear natural scour line impressed on the bank, recent bank erosion, destruction of native terrestrial vegetation, and the presence of litter and debris. Resources needed to delineate OHWM include aerial photography and other imagery, topographic maps, and other maps (e.g., geological, soil, vegetation), rainfall data, stream gage data, and existing delineations (if present). Field identification of the OHWM includes noting general impression of the vegetation species and distribution, geomorphic features present, surrounding upland land use, and hydrologic alterations and instream and floodplain structures. In the field, the process of delineating the OHWM includes the identification of a low-flow channel (if present); a transition to an active floodplain; and an active floodplain through the presence of geomorphic features (e.g., presence of an active floodplain, benches, break in bank slope, staining of rocks, litter, or drift) and vegetation indicators (e.g., presence of sparse/low vegetation, annual herbs, hydromesic ruderals, pioneer tree seedlings and saplings, xeroriparian species).

4.0 RESULTS

4.1 Existing Site Conditions

The Study Area is primarily located on flat terrain, but there is a hillside in the Study Area's northeastern corner. The Study Area is located in the Mojave Desert region of the California Floristic Province (Jepson Flora Project 2024) at elevations ranging from 2,890 to 2,950 feet above mean sea level (amsl). The average winter temperature in the vicinity of the Study Area is 46.3°F (degrees Fahrenheit), and the average summer temperature is 78.6°F (National Oceanic and Atmospheric Administration [NOAA] 2024a). Average annual precipitation is approximately 7.43 inches, which falls as rain (NOAA 2024b).

The Study Area consists of developed land with residential properties, structures to support livestock, and heavily disturbed areas that were historically used as agricultural fields. Outpost Road, a dirt road, bisects the western half of the Study Area. There is native Joshua tree woodland habitat present in the northeast corner of the Study Area, as well as in a small sliver in the Study Area's southwest corner. Disturbances observed within the Study Area include vehicle tracks, storage of shipping containers and debris piles, dilapidated structures, and nonnative plant species. In addition, ECORP biologists observed evidence of feral burros (*Equus asinus*) grazing including tracks and scat present within the Study Area and several individuals adjacent to the Study Area. General surrounding land uses consist of rural residential development, undeveloped land, and roads.

ECORP documented two native vegetation communities within the Study Area: creosote bush scrub (*Larrea tridentata* Shrubland Alliance) and Joshua tree woodland (*Yucca brevifolia* Woodland Alliance; (California Native Plant Society [CNPS] 2024). In addition to the two vegetation communities, ECORP identified two land cover types within the Study Area: developed and disturbed. Appendix B provides a complete list of plant species observed within the Study Area.

Creosote bush scrub (*Larrea tridentata* Shrubland Alliance) is dominated by creosote bush (*Larrea tridentata*) in the shrub canopy or creosote bush is co-dominant with other native species such as rayless goldenhead (*Acamptopappus sphaerocephalus*), white bursage (*Ambrosia dumosa*), cheesebush (*Ambrosia salsola*), allscale (*Atriplex polycarpa*), and Nevada ephedra (*Ephedra nevadensis*). This vegetation community typically occurs in well-drained soils with an intermittent to open shrub canopy and a variable herbaceous layer of seasonal annuals or perennial grasses, in elevations ranging from -246 to 4,265 feet amsl (CNPS 2024). This vegetation community was observed in the northeast portion of the Study Area. Plant species identified in this community included creosote bush, hole-in-the-sand plant (*Nicolletia occidentalis*), chia sage (*Salvia columbariae*), and Mediterranean grass (*Schismus* sp.).

Joshua tree woodland (*Yucca brevifolia* Woodland Alliance) is characterized by an even distribution of western Joshua tree (*Yucca brevifolia*) comprising at least one percent of the total tree/tall shrub cover with other native species mixed in including white bursage, big sagebrush (*Artemisia tridentata*), blackbrush (*Coleogyne ramosissima*), matchweed (*Gutierrezia* spp.), creosote bush, and Anderson's boxthorn (*Lycium andersonii*). Other trees such as California juniper (*Juniperus californicus*) and singleleaf pinyon pine (*Pinus monophylla*) may be present at low cover but may not meet or exceed one percent of the absolute cover in the tree canopy (CNPS 2024). This community typically occurs at elevations between

2,460 to 5,905 feet amsl in soils that are often bimodal, with coarse sands and fine silts (CNPS 2024). This vegetation community was observed in the northeast corner of the Study Area and as a small sliver present in the southwest portion of the Study Area. Plant species identified in this community included western Joshua tree, creosote bush, silver cholla (*Cylindropuntia echinocarpa*), rubber rabbitbrush (*Ericameria nauseosa*), and Mediterranean grass.

The developed land cover includes areas that are heavily affected by human use, including landscaping, residential homes, commercial or industrial buildings and associated infrastructure, and transportation corridors. Naturalized vegetation is often relatively sparse within developed areas and largely consists of ornamental nonnative species. This land cover type was observed primarily in the western portion of the Study Area with a small sliver occurring along the northeastern boundary of the Study Area. Areas mapped as developed included residential buildings, infrastructure to support livestock, and the Burlington Northern and Santa Fe (BNSF) railroad. Plant species identified in this land cover type included Bermuda grass (*Cynodon dactylon*), Aleppo pine (*Pinus halepensis*), Fremont cottonwood (*Populus fremontii*), and Russian thistle (*Salsola tragus*).

Disturbed land includes areas where the vegetation community has been heavily impacted by human actions, such as grading, trash dumping, equipment staging, and off-highway vehicle use, but lack development. Disturbed land is not a vegetation classification, but rather a land cover type and is not restricted by elevation. Disturbed areas may be actively maintained to be free of vegetation or have been compacted or disked to such a degree that native and nonnative vegetation is very sparse. Biologists observed disturbed land in a large, central portion of the Study Area. Areas mapped as disturbed were largely devoid of vegetation but contained sparse nonnative ruderal species. Within the Study Area, disturbances in this land cover type included compacted soils, vehicle tracks, nonnative plant species, storage of shipping containers and debris piles, trash, and dilapidated structures. A small portion of the southwest corner of the Study Area where disturbed land cover type was mapped has sandy soils that support a variety of native species. Plant species observed in this land cover type included annual bursage (*Ambrosia acanthicarpa*), jimsonweed (*Datura wrightii*), western tansy mustard (*Descurainia pinnata*), flix weed (*Descurainia sophia*), western Mojave buckwheat (*Eriogonum mohavense*), red stemmed filaree (*Erodium cicutarium*), and Russian thistle. One special-status plant species, Mojave monardella (*Monardella cf. exilis*, CNPS Rare Plant Rank 4.2), was incidentally observed in this land cover type during the field survey.

ECORP conducted this ARD in the fall, outside the blooming season for most plant species known to occur in the Study Area. However, dominant plant species present within the Study Area were readily identified in their vegetative state without flowering parts. The timing of the fall survey was not optimal to observe wetland hydrology.

ECORP ran the APT for the Study Area for September 10, 2024, the date the field delineation data was collected. The APT demonstrated that site conditions on this date represents a time of year referenced as the dry season, that the general region and site's drought conditions were of mild drought, and that site conditions were drier than normal in climatic conditions (Appendix C; USACE 2024).

4.1.1 National Wetlands Inventory

The U.S. Fish and Wildlife Service (USFWS) has established the National Wetlands Inventory (NWI) to conduct a nationwide inventory of U.S. wetlands to provide biologists and others with information on the distribution and type of wetlands to aid in conservation efforts (USFWS 2024). The USFWS’s objective of mapping wetlands and deep-water 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 NWI program was neither designed nor intended to produce legal or regulatory products; therefore, wetlands identified by the NWI program are not the same as wetlands defined by the USACE.

The NWI dataset mapped one aquatic feature within the Study Area (Figure 2). This feature is mapped as a riverine, classified as R4SBC, or *Riverine, Intermittent, Streambed, Seasonally Flooded*. The NWI mapped this riverine feature based on reconnaissance level data that is used to inform field survey efforts. ECORP biologists further assessed and refined the location of this feature during the ARD survey based on field conditions present onsite. The biologists observed no indicators of wetlands or other waters in the location of the NWI mapped riverine feature. From a regional and broad-scale mapping perspective, this feature likely corresponds to Feature 1 delineated onsite as shown in Figure 4.

4.1.2 Soils

The Web Soil Survey mapped two soil units, or types, within the Study Area (Figure 3; Table 2; NRCS 2024a):

- 114 – Cajon sand, 9 to 15 percent slopes
- 119 – Cajon-Wasco, cool complex, 2 to 9 percent slopes

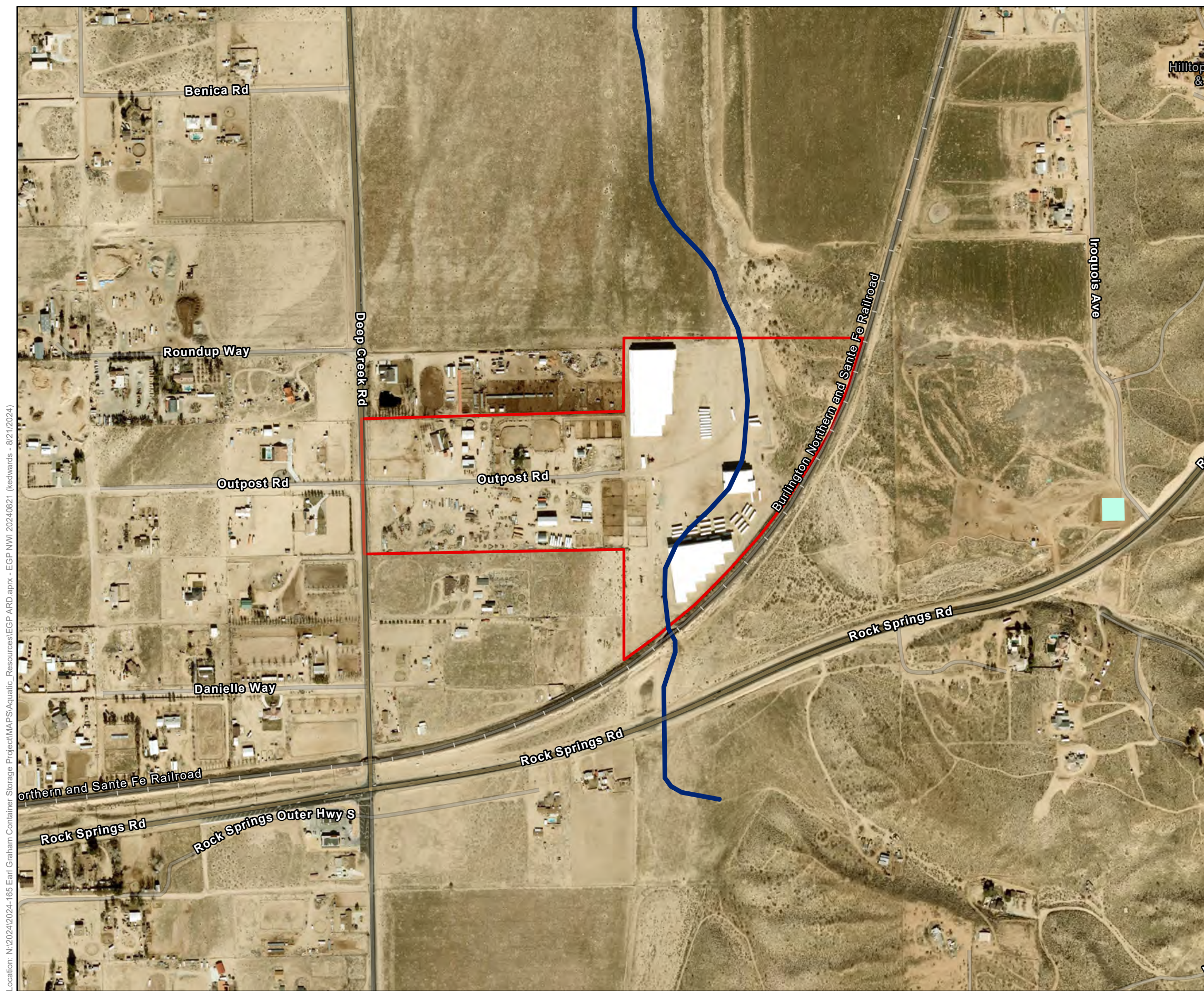
The Cajon series consists of very deep, somewhat excessively drained soils that formed in sandy alluvium from dominantly granitic rock sources. Cajon soils are found on alluvial fans, fan aprons, fan skirts, inset fans, and river terraces on slopes of 0 to 15 percent (NRCS 2024b).

The Wasco series consists of very deep, well drained soils on recent alluvial fans and flood plains. Wasco soils formed in mixed alluvium derived mainly from igneous and/or sedimentary rock sources and occur on slopes of 0 to 5 percent.

Soil Unit	Hydric Components	Hydric Component Landform
114 – Cajon sand, 9 to 15 percent slopes	None	N/A
119 – Cajon-Wasco cool complex, 2 to 9 percent slopes	Riverwash	Channels

Source: Natural Resources Conservation Service (NRCS) 2024a, 2024c

Note: N/A = Not Applicable



Map Contents

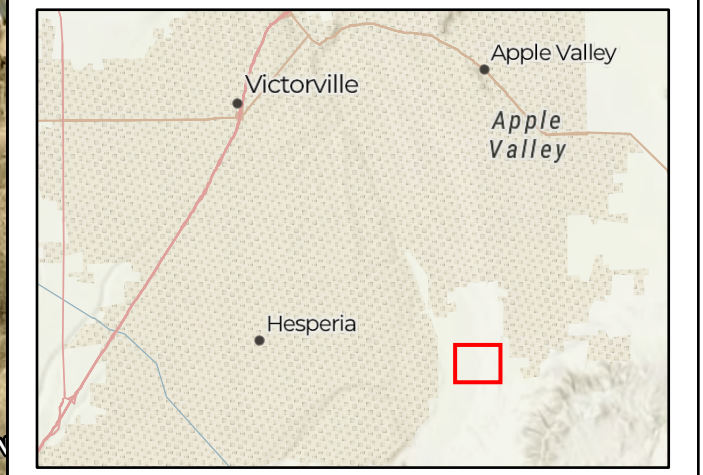
- Study Area - 47.10 ac.

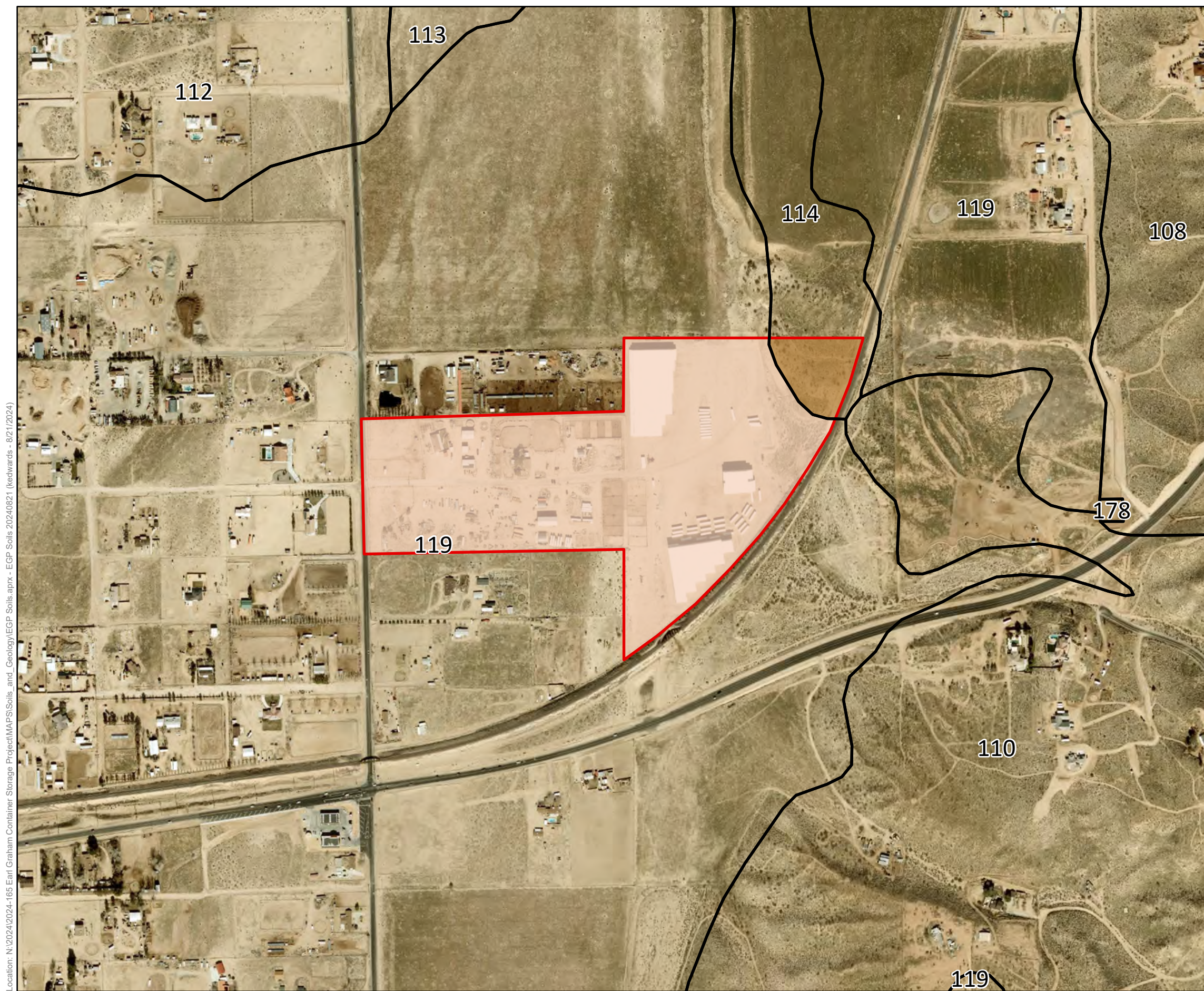
NWI Type

- Freshwater Pond
- Riverine

Location: N:\2024\2024-165 Earl Graham Container Storage Project\WAPS\Aquatic_Resources\EGP ARD.aprx - EGP NWI 20240821 (kedwards - 8/21/2024)

Sources: Esri Imagery, SB County Orthos (2023)





Map Features

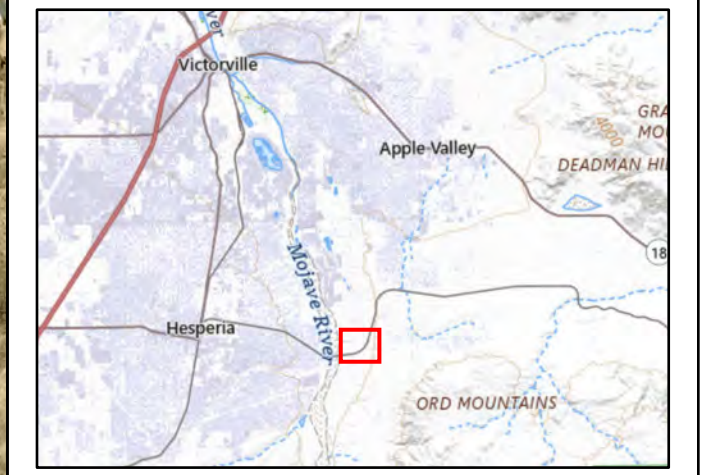
- Study Area - 47.10 ac.

NRCS Soil Types

Series Number - Series Name

- 114 - CAJON SAND, 9 TO 15 PERCENT SLOPES
- 119 - CAJON-WASCO, COOL COMPLEX, 2 TO 9 PERCENT SLOPES*

Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) Database for San Bernardino County, CA
 Sources: Esri Imagery, SB County Orthos (2023)



Location: N:\2024\2024-165 Earl Graham Container Storage Project\WPS\Soils_and_Geology\EGP Soils.aprx - EGP Soils 20240821 (redwards - 8/21/2024)

Figure 3. Natural Resources Conservation Service Soil Types
 2024-165 Container Storage Project

4.2 AQUATIC RESOURCES

ECORP mapped a total of approximately 0.050 acre of aquatic resources within the Study Area (Table 3). Appendix D provides the field datasheet, and Appendix E provides photo-documentation of representative aquatic resources observed within the Study Area. The following sections provide a discussion of the aquatic resources. Each aquatic resource is depicted on Figures 4 and 5. The USACE Operations and Maintenance Business Information Link Regulatory Module (commonly referred to as the *USACE ORM*) aquatic resources table of potential Waters of the U.S. is included in Appendix F. Digital data for the survey is provided as Appendix G.

Table 3. Aquatic Resources within the Study Area	
Type	Acreage
Wetlands	–
Non-Wetland Waters – Ephemeral Drainage	0.050
Total:	0.050

Notes: Acreages represent a calculated estimation and are subject to modification following the U.S. Army Corps of Engineers verification process.

4.2.1 Wetlands

No wetlands are located within the Study Area. None of the aquatic features present within the Study Area supported wetland characteristics.

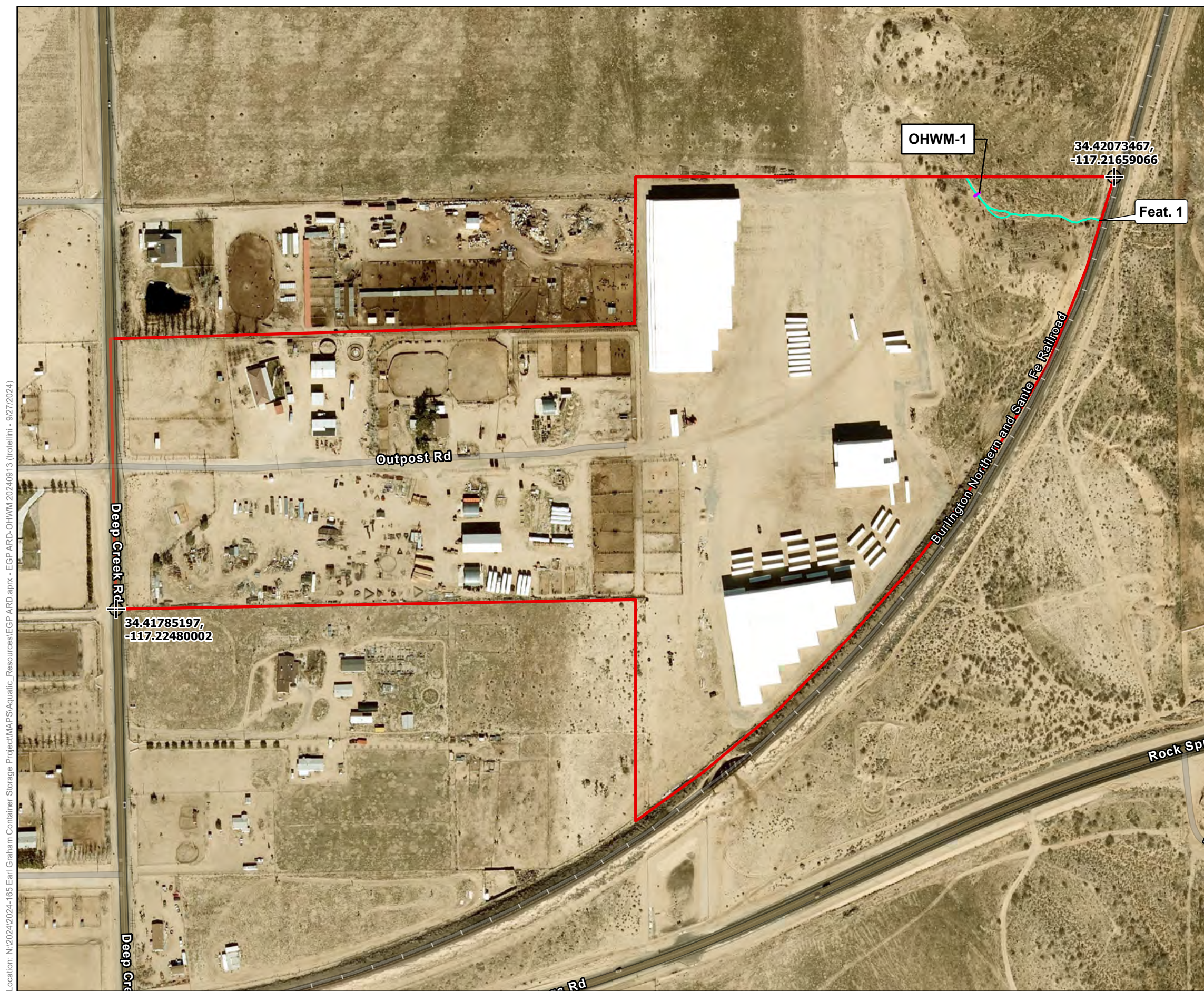
4.2.2 Non-Wetland Waters

4.2.2.1 Ephemeral Drainage

Ephemeral drainages are linear features that exhibit a bed and bank and an OHWM. These features typically convey runoff for short periods of time (during and immediately following rain events) and are not influenced by groundwater sources at any time during the year.

One mapped feature (Feature 1), considered to be an ephemeral drainage, is located within the northeastern portion of the Study Area. Generally, the feature conveys flows in a southeast-to-northwest direction. Feature 1 enters the Study Area via two side-by-side 3-foot diameter metal culverts that are underneath the BNSF railroad track.

Feature 1 consists of an unvegetated natural bottom drainage with sediment textures that range from coarse sand to granule. A representative OHWM transect (1) was documented to capture the representative characteristics of Feature 1. The ephemeral drainage does not support hydric soils or hydrophytic vegetation, so it was not delineated as a wetland. OHWM indicators observed within Feature 1 include presence of surface relief, change in vegetative cover between the active floodplain and

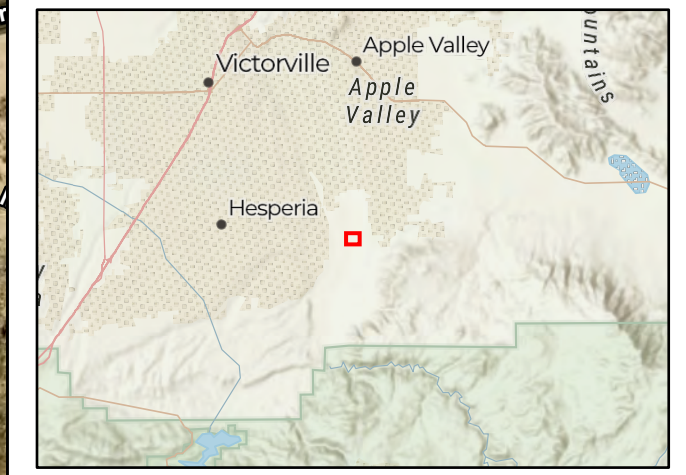


- Map Contents**
- Study Area - 47.10 ac.
 - OHWM Cross-section
 - Reference Coordinates

- Aquatic resources**
- Ephemeral Drainage - 0.050 ac.

Photo Source: County of San Bernardino (2023)
 Boundary Source: Red Brick Consulting
 Delineator(s): Chelsie Brown and Eliza McLean
 Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
¹ Subject to U.S. Army Corps of Engineers verification. This exhibit depicts information and data produced in accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Version 2.0 as well as the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program as amended on February 10, 2016, and conforms to Los Angeles District specifications. However, feature boundaries have not been legally surveyed and may be subject to minor adjustments if more accurate locations are required.
 * The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.

Sources: ESRI
 Other Related Info if Needed



Location: N:\2024\2024-165 Earl Graham Container Storage Project\WAPS\Aquatic_Resources\EGP ARD.aprx - EGP ARD-OHWM 20240913 (trtelimi - 9/27/2024)

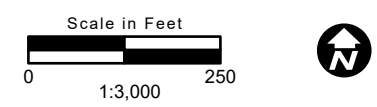


Figure 4. Aquatic Resources Delineation - OHWM



Map Contents

- Study Area - 47.10 ac.
- Reference Coordinates
- Aquatic Resources
- Streambed - 0.097 ac.

Location: N:\2024\2024-165 Earl Graham Container Storage Project\WAPS\Aquatic_Resources\EGP ARD.aprx - EGP ARD-CDFW 20240913 (trotellini - 9/27/2024)

Sources: ESRI, County of San Bernardino (2023)
Other Related Info if Needed

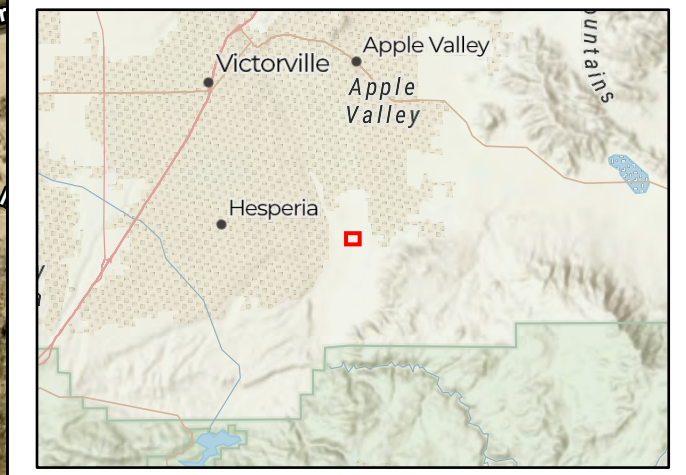


Figure 5. Aquatic Resources Delineation - CDFW

the upland environment, and change in average sediment texture between the active floodplain and the upland environment. ECORP did not observe wetland hydrology indicators in the upland areas adjacent to Feature 1. The biologists mapped the boundaries of Feature 1 at the OHWM (as defined by the above-mentioned indicators).

The biologists determined that the riverine feature mapped by NWI (Figure 2), while not exact, roughly approximates Feature 1 on a regional scale as depicted on Figure 4.

4.3 CDFW Jurisdiction

ECORP mapped a total of 0.097 acre of potential CDFW jurisdiction within the Study Area across Feature 1, which consisted of an unvegetated streambed. No riparian vegetation is present within the Study Area. Vegetation in the upland habitats within the Study Area is dominated by upland vegetation communities, as described in Section 4.1.

5.0 JURISDICTIONAL ASSESSMENT

The onsite ephemeral drainage is a non-navigable and non-relatively permanent tributary. In general, flows from this drainage appears to flow from vacant land east of the Study Area. Once the flows leave the Study Area, surface water then appears to sheet flow and infiltrate or evaporate north of the Study Area, as there does not appear to be any distinct drainage channels on Google Earth[®] aerial photographs. The drainage onsite does not appear to possess a surface hydrologic connection to any downstream Waters of the U.S. In addition, the onsite ephemeral drainage does not appear to support any surface-water-related interstate commerce. Therefore, the onsite ephemeral drainage does not appear to meet the current definition of Waters of the U.S. and is not likely to be considered jurisdictional under Section 404 of the CWA.

Regardless of CWA Section 404 jurisdictional status, the aquatic feature mapped onsite would likely be considered Waters of the State. In addition, the aquatic resource mapped as *streambed* would also likely be regulated under Section 1600 of the California Fish and Game Code.

6.0 CONCLUSION

ECORP mapped a total of 0.050 acre of ephemeral drainage within the Study Area. The ephemeral drainage mapped onsite likely does not meet the current definition of Waters of the U.S. but is subject to USACE verification. The ephemeral drainage would likely be jurisdictional under the Porter-Cologne Water Quality Control Act. In addition, approximately 0.097 acre of streambed occurs within the Study Area that would likely be regulated under California Fish and Game Code Section 1600. These acreages represent a calculated estimation of the extent of aquatic resources within the Study Area and are subject to modification following an agency review and/or verification process. The ephemeral drainage falls outside of the proposed Project Area, and as such, temporary and permanent impacts to jurisdictional areas are not anticipated as part of this Project.

7.0 REFERENCES

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LIST OF APPENDICES

Appendix A – Driving Directions to Study Area

Appendix B – Plant Species Observed

Appendix C – Antecedent Precipitation Tool

Appendix D – Field Datasheet

Appendix E – Representative Site Photographs

Appendix F – USACE ORM Aquatic Resources Table

Appendix G – Digital Data (Provided Electronically upon Request)

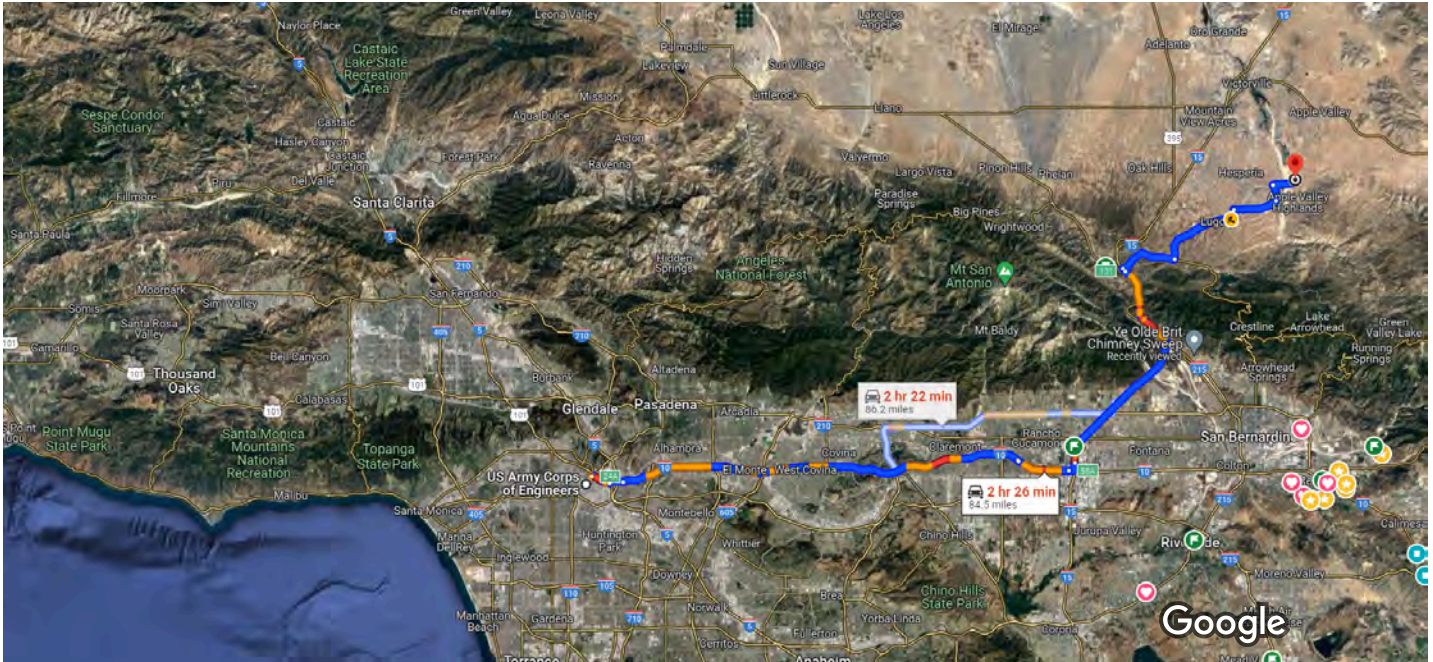
APPENDIX A

Driving Directions to Study Area



US Army Corps of Engineers, 915 Wilshire Blvd, Drive 84.5 miles, 2 hr 26 min
Los Angeles, CA 90017 to 34.4189628, -117.2209433

USACE Los Angeles District Office to Container Storage Project



Imagery ©2024 TerraMetrics, Map data ©2024 Google 5 mi

US Army  This route has restricted usage or private roads.

Corps of
Engineers
915
Wilshire
Blvd, Los
Angeles,
CA
90017

Get on CA-110 N from S Figueroa St

- 2 min (0.4 mi)
- ↑ 1. Head southwest toward Wilshire Blvd
- 66 ft
- ↶ 2. Turn left onto Wilshire Blvd
- 246 ft
- ↶ 3. Use the left lane to turn left at the 1st cross street onto S Figueroa St
- 0.2 mi
- ↶ 4. Use the 3rd from the left lane to turn left at the 3rd cross street onto W 5th St
- 180 ft

- ↑ 5. Use the right 2 lanes to turn slightly right onto the ramp to Harbour Fwy/I-110 N
-
- 0.2 mi

Follow I-10 E and I-15 N to CA-138 E in San Bernardino County. Take exit 131 from I-15 N

-
- 1 hr 3 min (64.2 mi)
- ↑ 6. Merge onto CA-110 N
-
- 0.5 mi
- ↘ 7. Use the right 3 lanes to take exit 24A to merge onto US-101 S toward I-5 S
-
- 1.7 mi
- ↶ 8. Keep left to continue on San Bernardino Fwy, follow signs for I-10 E/San Bernardino
-
- 1.2 mi
- ↑ 9. Continue onto I-10 E/San Bernardino Fwy
-
- 34.2 mi
- ↶ 10. Keep left to stay on I-10 E
-
- 0.1 mi
- ↘ 11. Keep right to stay on I-10 E
-
- 4.4 mi
- ↘ 12. Use the 2nd from the right lane to take exit 58A to merge onto I-15 N/Ontario Fwy toward Barstow/Las Vegas
-
- 1.1 mi
- ↑ 13. Continue straight onto I-15 N
-
- 20.6 mi
- ↘ 14. Take exit 131 for CA-138 toward Palmdale/Silverwood Lk
-
- 0.3 mi

Continue on CA-138 E. Take Summit Valley Rd and Rancho Rd to Outpost Rd

-
- 28 min (19.9 mi)
- ↘ 15. Turn right onto CA-138 E
-
- 5.0 mi
- ↶ 16. Turn left onto Summit Valley Rd
-
- 7.5 mi
- ↑ 17. Continue onto Santa Fe Ave E
-
- 410 ft
- ↘ 18. Turn right onto Rancho Rd
-
- 3.7 mi
- ↶ 19. Turn left onto Arrowhead Lake Rd
-
- 1.4 mi

- 20. Turn right onto Rock Springs Rd
_____ 1.7 mi
- ↶ 21. Turn left onto Deep Creek Rd
_____ 0.3 mi
- 22. Turn right onto Outpost Rd
⚠ Restricted usage road
_____ 0.2 mi

34.4189628 -117.2209433

APPENDIX B

Plant Species Observed

Appendix B – Plant Species Observed

SCIENTIFIC NAME	COMMON NAME	WETLAND INDICATOR STATUS
ANGIOSPERMS (DICOTYLEDONS)		
AMARANTHACEAE		
PIGWEED FAMILY		
<i>Atriplex canescens</i>	Fourwing saltbush	N/L
ASTERACEAE		
SUNFLOWER FAMILY		
<i>Acamptopappus sphaerocephalus</i> var. <i>sphaerocephalus</i>	Rayless goldenhead	N/L
<i>Ambrosia acanthicarpa</i>	Annual bursage	N/L
<i>Ambrosia salsola</i>	Cheesebush	N/L
<i>Encelia actoni</i>	Acton's brittlebush	N/L
<i>Ericameria linearifolia</i>	Interior goldenbush	N/L
<i>Ericameria nauseosa</i>	Rubber rabbitbrush	N/L
<i>Gutierrezia</i> sp.	Matchweed	N/L
<i>Lessingia glandulifera</i> var. <i>glandulifera</i>	Sticky lessingia	N/L
<i>Nicolletia occidentalis</i>	Hole in the sand plant	N/L
BRASSICACEAE		
MUSTARD FAMILY		
<i>Brassica nigra</i> *	Black mustard	N/L
<i>Descurainia pinnata</i>	Western tansy mustard	N/L
<i>Descurainia sophia</i> *	Flix weed	N/L
CACTACEAE		
CACTUS FAMILY		
<i>Cylindropuntia echinocarpa</i>	Silver cholla	N/L
CHENOPODIACEAE		
CHENOPOD FAMILY		
<i>Salsola tragus</i> *	Russian thistle	FACU
EUPHORBIACEAE		
SPURGE FAMILY		
<i>Euphorbia albomarginata</i>	Rattlesnake sandmat	N/L
GERANIACEAE		
GERANIUM FAMILY		
<i>Erodium cicutarium</i> *	Redstem filaree	N/L
LAMIACEAE		
MINT FAMILY		
<i>Monardella</i> cf. <i>exilis</i>	Mojave monardella	N/L
<i>Salvia columbariae</i>	Chia sage	N/L
<i>Scutellaria mexicana</i>	Mexican bladdersage	N/L
LOASACEAE		
LOASA FAMILY		
<i>Petalonyx thurberi</i> ssp. <i>thurberi</i>	Thurber's sandpaper plant	N/L
POLEMONIACEAE		
PHLOX FAMILY		
<i>Eriastrum densifolium</i> ssp. <i>elongatum</i>	Giant eriastrum	N/L
POLYGONACEAE		
BUCKWHEAT FAMILY		
<i>Eriogonum baileyi</i> var. <i>baileyi</i>	Bailey's buckwheat	N/L
<i>Eriogonum fasciculatum</i>	California buckwheat	N/L
<i>Eriogonum inflatum</i>	Desert trumpet	N/L
<i>Eriogonum mohavense</i>	Western Mojave buckwheat	FACU
<i>Eriogonum plumatella</i>	Yucca buckwheat	N/L

Appendix B – Plant Species Observed

SCIENTIFIC NAME	COMMON NAME	WETLAND INDICATOR STATUS
SALICACEAE		
WILLOW FAMILY		
<i>Populus fremontii</i> ssp. <i>fremontii</i>	Fremont cottonwood	FACW
SOLANACEAE		
NIGHTSHADE FAMILY		
<i>Datura wrightii</i>	Jimsonweed	UPL
<i>Lycium cooperi</i>	Peach thorn	N/L
<i>Solanum elaeagnifolium</i> *	Horse nettle	N/L
ZYGOPHYLLACEAE		
CALTROP FAMILY		
<i>Larrea tridentata</i>	Creosote bush	N/L
ANGIOSPERMS (MONOCOTYLEDONS)		
AGAVACEAE		
AGAVE FAMILY		
<i>Yucca brevifolia</i> ^{CC}	Joshua tree	N/L
<i>Yucca schidigera</i>	Mojave yucca	N/L
POACEAE		
GRASS FAMILY		
<i>Bromus tectorum</i> *	Cheatgrass	N/L
<i>Cynodon dactylon</i> *	Bermuda grass	FACU
<i>Schismus</i> sp.*	Schismus	N/L
<i>Stipa hymenoides</i>	Indian rice grass	UPL
<i>Stipa speciosa</i>	Desert needle grass	N/L
GYMNOSPERMS		
EPHEDRACEAE		
EPHEDRA FAMILY		
<i>Ephedra nevadensis</i>	Nevada Mormon tea	N/L
PINACEAE		
PINE FAMILY		
<i>Pinus halepensis</i> *	Aleppo pine	N/L

Wetland Indicator Statuses:

- OBL Obligate Wetland; Almost always occur in wetlands
- FACW Facultative Wetland; Usually occur in wetlands, but may occur in non-wetlands
- FAC Facultative; Occur in wetlands and non-wetlands
- FACU Facultative Upland; Usually occur in non-wetlands, but may occur in wetlands
- UPL Obligate Upland; Almost never occur in wetlands
- N/L Plants that are Not Listed; Does not occur in wetlands in any region

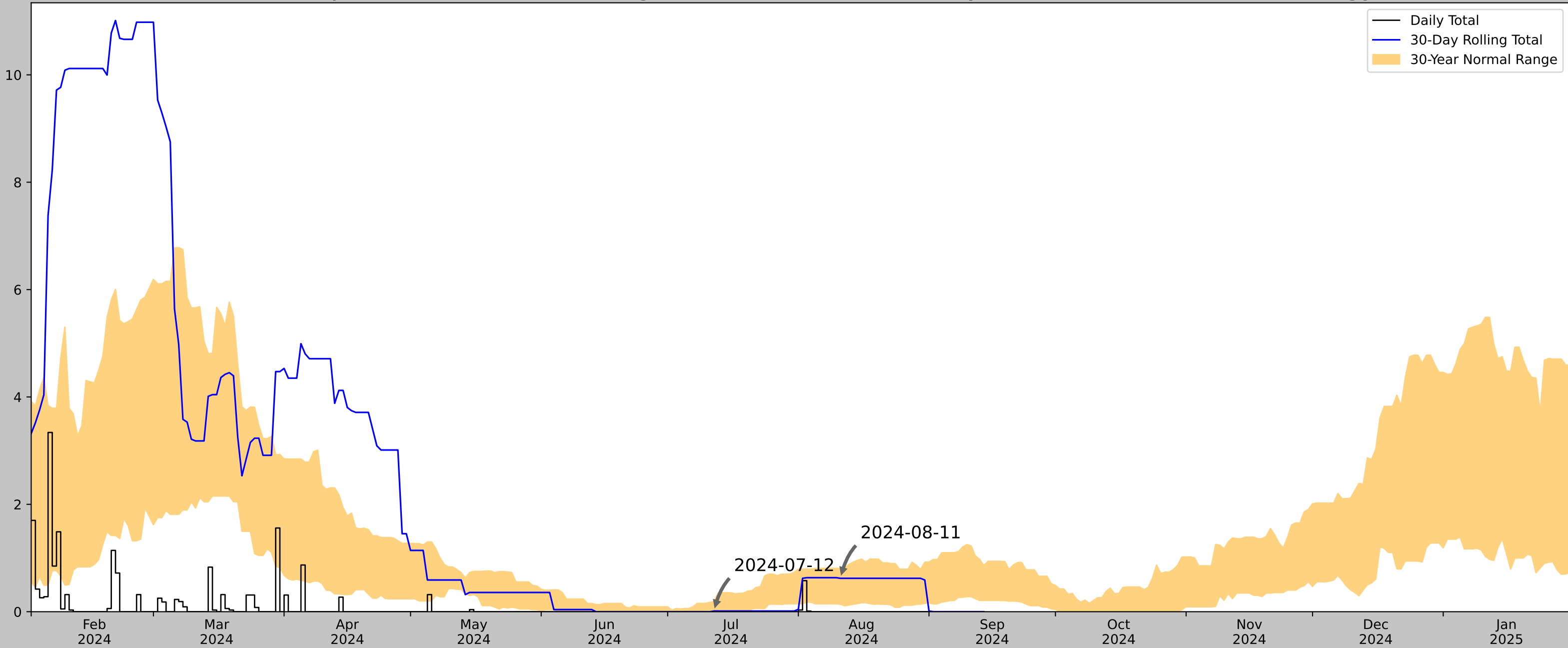
Notes:

- CC: Candidate for State Listing
- * Not native to California.

Antecedent Precipitation Tool

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network


Rainfall (Inches)



Coordinates	34.418991, -117.220585
Observation Date	2024-09-10
Elevation (ft)	2887.084
Drought Index (PDSI)	Mild drought (2024-08)
WebWIMP H ₂ O Balance	Dry Season


30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-09-10	0.280709	1.251575	0.0	Dry	1	3	3
2024-08-11	0.138189	0.80748	0.622047	Normal	2	2	4
2024-07-12	0.0	0.19252	0.011811	Normal	2	1	2
Result							Drier than Normal - 9

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
BIG BEAR LAKE	34.2431, -116.9169	6752.953	21.164	3865.869	91.342	11136	81
FAWSKIN 0.3 NE	34.2712, -116.9383	7029.856	2.294	276.903	1.668	10	0
BIG BEAR CITY 0.4 W	34.2654, -116.8524	6776.903	3.993	23.95	1.892	6	8
BIG PINES PARK FC83B	34.3833, -117.6833	6845.145	44.797	92.192	24.289	28	0
LAKE ARROWHEAD 1.5 SE	34.2468, -117.1713	5519.029	14.532	1233.924	24.471	5	0
LAKE ARROWHEAD	34.2467, -117.1883	5205.053	15.503	1547.9	30.973	116	0
WRIGHTWOOD 1.1 W	34.3618, -117.6501	6266.076	42.644	486.877	39.952	0	1
LUCERNE VALLEY 2.7 SSE	34.4067, -116.9486	3387.139	11.447	3365.814	43.68	6	0
WRIGHTWOOD 1.2 WNW	34.3651, -117.6511	6147.966	42.744	604.987	45.094	8	0
WRIGHTWOOD	34.3617, -117.6386	6000.0	41.999	752.953	50.523	31	0
CRESTLINE 1.4 ESE	34.2403, -117.2722	4577.1	20.295	2175.853	53.292	3	0
HESPERIA 3.9 SW	34.3725, -117.3404	3578.084	25.771	3174.869	93.416	1	0
REDLANDS	34.0369, -117.1947	1410.105	21.339	5342.848	123.614	2	0



Figures and tables made by the
Antecedent Precipitation Tool
Version 2.0

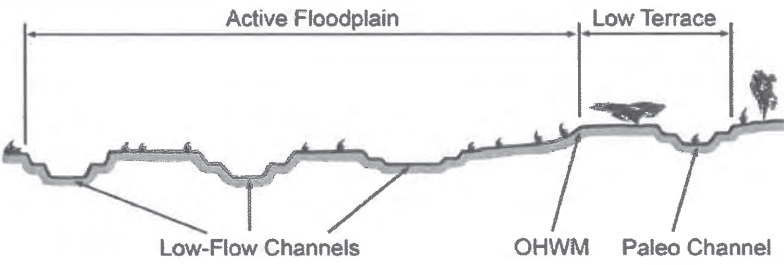
Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and
Development Center



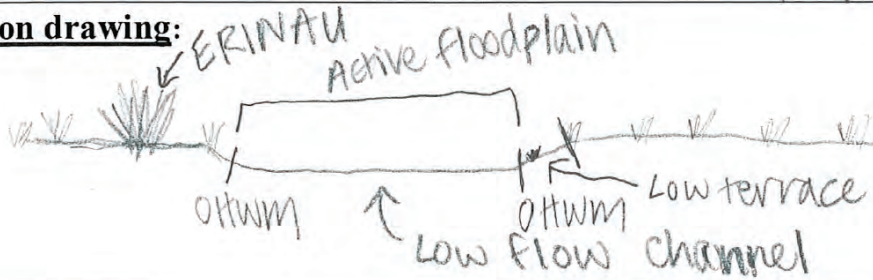
APPENDIX D

Field Datasheet

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Container Storage Project Number: 2024-165 Stream: 1 Investigator(s): C. Brown, E. McLean	Date: 9/10/2024 Town: Apple Valley Photo begin file#:	Time: 0848 State: CA Photo end file#:				
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site? Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed?	Location Details: Drainage east of I-15 and north of the San Bernardino Mountains in Apple Valley Projection: Lambert Conformal Conic Datum: NAD 83 Coordinates: 34.420623, -117.217715					
Potential anthropogenic influences on the channel system: Two metal culverts at the upstream end of drainage channel at northeastern end of Study Area; potential roadside runoff from roads located east of Study Area; and high feral burro activity (tracks and scat) in drainage channel and nearby in Study Area.						
Brief site description: Unnamed ephemeral drainage channel located in Joshua tree woodland, adjacent to a BNSF railroad.						
Checklist of resources (if available): <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Aerial photography Dates: 5/23, 8/22, 5/22, 10/20, 8/18, 9/16, 3/13 <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input checked="" type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event </td> </tr> </table>			<input checked="" type="checkbox"/> Aerial photography Dates: 5/23, 8/22, 5/22, 10/20, 8/18, 9/16, 3/13 <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input checked="" type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies	<input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event		
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Hydrogeomorphic Floodplain Units 						
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM: <ol style="list-style-type: none"> 1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. 2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. 3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. <ol style="list-style-type: none"> a) Record the floodplain unit and GPS position. b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location. 4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section. 5. Identify the OHWM and record the indicators. Record the OHWM position via: <table style="width: 100%; border: none; margin-top: 5px;"> <tr> <td style="width: 50%;"><input type="checkbox"/> Mapping on aerial photograph</td> <td style="width: 50%;"><input checked="" type="checkbox"/> GPS</td> </tr> <tr> <td><input type="checkbox"/> Digitized on computer</td> <td><input type="checkbox"/> Other:</td> </tr> </table> 			<input type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS	<input type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:
<input type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS					
<input type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:					

Cross section drawing:



OHWM

GPS point: 34.420623, -117.217715

Indicators:

- Change in average sediment texture
- Change in vegetation species
- Change in vegetation cover
- Break in bank slope
- Other: Edge of surface relief
- Other: _____

Comments:

Feral burro tracks and scat are present throughout the channel. Channel is mostly absent of vegetation.

Floodplain unit: Low-Flow Channel Active Floodplain Low Terrace

GPS point: 34.420623, -117.217715

Characteristics of the floodplain unit:

Average sediment texture: coarse sand to granule

Total veg cover: 1 % Tree: 0 % Shrub: 0 % Herb: 1 %

Community successional stage:

- NA
- Early (herbaceous & seedlings)
- Mid (herbaceous, shrubs, saplings)
- Late (herbaceous, shrubs, mature trees)

Indicators:

- Mudcracks
- Ripples
- Drift and/or debris
- Presence of bed and bank
- Benches
- Soil development
- Surface relief
- Other: _____
- Other: _____
- Other: _____

Comments:

Project ID: 2024-165 Cross section ID: 1

Date: 9/10/2024 Time: 0848

Floodplain unit: Low-Flow Channel Active Floodplain Low Terrace

GPS point: 34.420623, -117.217715

Characteristics of the floodplain unit:

Average sediment texture: Fine to medium sand

Total veg cover: 20 % Tree: 0 % Shrub: 0 % Herb: 20 %

Community successional stage:

- NA
- Early (herbaceous & seedlings)
- Mid (herbaceous, shrubs, saplings)
- Late (herbaceous, shrubs, mature trees)

Indicators:

- Mudcracks
- Ripples
- Drift and/or debris
- Presence of bed and bank
- Benches
- Soil development
- Surface relief
- Other: _____
- Other: _____
- Other: _____

Comments:

Vegetation in the low terrace consisted of Schismus sp.

Floodplain unit: Low-Flow Channel Active Floodplain Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- NA
- Early (herbaceous & seedlings)
- Mid (herbaceous, shrubs, saplings)
- Late (herbaceous, shrubs, mature trees)

Indicators:

- Mudcracks
- Ripples
- Drift and/or debris
- Presence of bed and bank
- Benches
- Soil development
- Surface relief
- Other: _____
- Other: _____
- Other: _____

Comments:

APPENDIX E

Representative Site Photographs

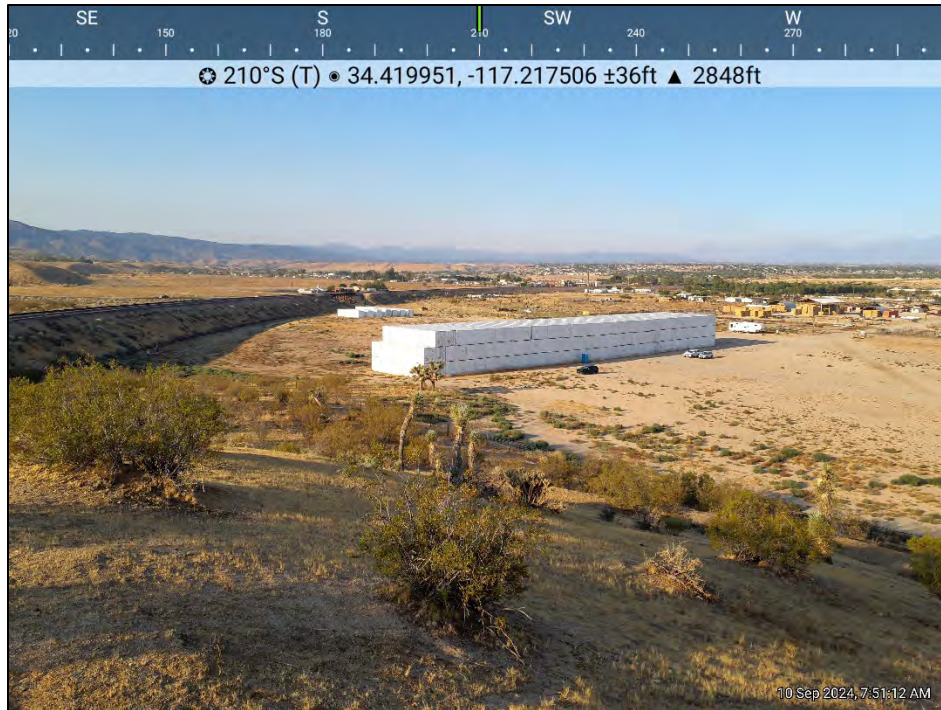


Photo 1. Creosote Bush Scrub and Disturbed Land Cover Present within the Eastern Half of the Study Area.

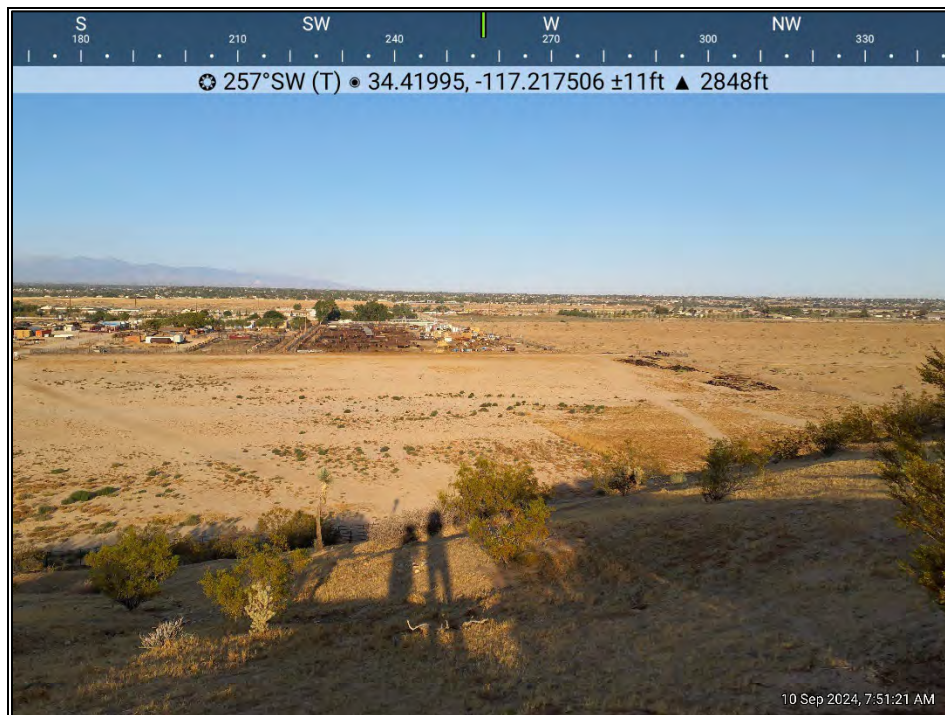


Photo 2. View of the Northern Portion of Study Area with Creosote Bush Scrub on the Hillside in the Foreground as well as Disturbed and Developed Lands in the Background.



Photo 3. Joshua Tree Woodland Located in the Northeast Corner of the Study Area with Feature 1 Traveling Down the Middle of the Photograph.



Photo 4. Overview of Feature 1 Traveling through Joshua Tree Woodland in the Northeastern Portion of the Study Area.



Photo 5. Feature 1 Enters the Northeast Portion of the Study Area Through Two Side-by-Side Culverts Located Underneath a BNSF Railroad Track.



Photo 6. Feature 1, Which Consists of an Unvegetated Ephemeral Drainage, Facing Downstream. Feral Burro Tracks and Scat are Present in the Channel and Throughout the Area.



Photo 7. Feature 1 Downstream of Where it Splits into Two Low Flow Channels, Facing Upstream.



Photo 10. Existing Development Located in the Study Area South of Outpost Road.

APPENDIX F

USACE ORM Aquatic Resources Table

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway
Feature 1	CALIFORNIA	R6		Linear	456.48895	FOOT	NON-WOTUS-TRIB.NEGATIVE.A3	34.42050902	-117.21732826	

Digital Data (Provided Electronically upon Request)