Aquatic Resources Delineation for the 12.46-Acre the Residences at Alta Vista Development Project

San Bernardino County, California

Prepared For:

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February 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
APT	Antecedent Precipitation Tool
ARD	Aquatic Resources Delineation
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
CWA	Clean Water Act
ECORP	ECORP Consulting, Inc.
FAC	Facultative
FACU	Facultative Upland
FACW	Facultative Wetland
FR	Federal Register
HUC	Hydrologic Unit Code
msl	Mean sea level
N/A	Not Applicable
N/L	Not Listed
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service

Term	Definition
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 Diversified Pacific Communities, ECORP Consulting, Inc. (ECORP), conducted an Aquatic Resources Delineation (ARD) for the 12.46-Acre the Residences at Alta Vista Development Project in the City of Highland, San Bernardino County, California. The Study Area is located on Assessor's Parcel Numbers 1210-281-06, 1210-371-13, -14, -16, and -17 as well as portions of the public right-of-way along Santa Ana Canyon Road and Greenspot Road. The approximately 13.80-acre Study Area is located to the south of Santa Ana Canyon Road, west of Calle del Rio Street, north of Plunge Creek, and east of Weaver Street (Figure 1). This corresponds with portions of Sections 1 and 2 of Township 1 South, Range 3 West, U.S. Geological Survey 7.5-minute *Redlands, California* quadrangle (San Bernardino Base and Meridian). The approximate center of the Study Area is located at 34.11112 degrees latitude and -117.151381 degrees longitude. The Study Area is located within the Santa Ana subbasin (Hydrologic Unit Code [HUC] 8 #18070203) and within the Santa Ana Wash-Santa Ana River subwatershed (HUC 12 #180702030507). 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 or an Approved Jurisdictional Determination.

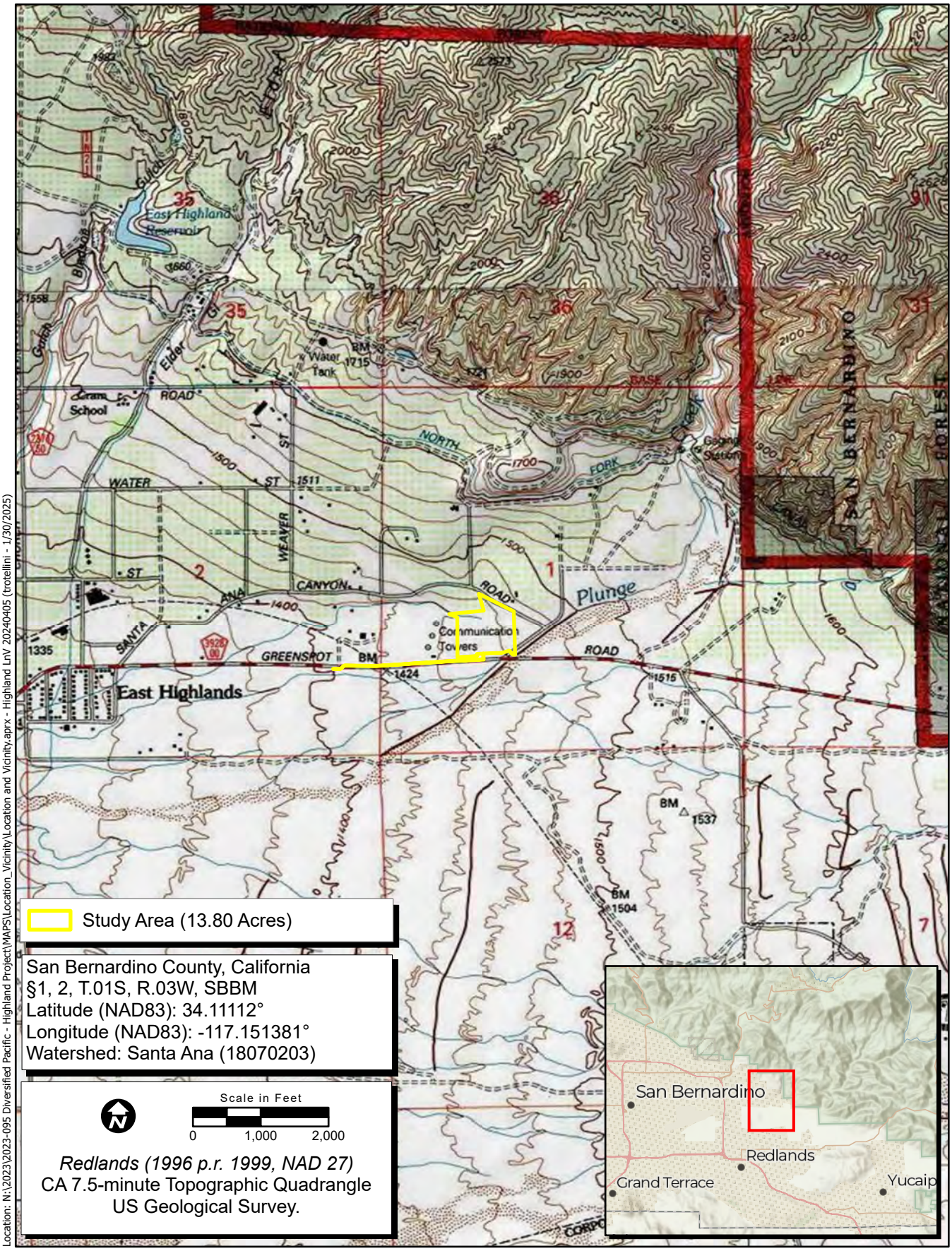
2.0 REGULATORY REQUIREMENTS

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.



Location: N:\2023\2023-095 Diversified Pacific - Highland Project\MAPS\Location_Vicinity\Location and Vicinity.aprx - Highland LnV 20240405 (trotellini - 1/30/2025)

Map Date: 1/30/2025
Sources: ESRI, USGS

Figure 1. Study Area Location and Vicinity

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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) 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] 2025). 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). ECORP recorded any sample point data collected 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] 2025). ECORP also used *Munsell Soil Color Charts* (Munsell Color 2009) and the Web Soil Survey (Natural Resources Conservation Service [NRCS] 2025a) to aid in identifying hydric soils in the field and used *Jepson eFlora* (Jepson Flora Project 2025) for plant nomenclature and identification.

ECORP biologists Chelsie Brown and Eliza McLean surveyed the Study Area on January 28, 2025. The biologists walked or visually inspected the entire approximately 13.80-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 2025). 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 2025).

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).

3.3 California Department of Fish and Wildlife

The limits of CDFW-regulated areas include the bank-to-bank width measures for each feature and the extent of associated riparian habitat based on the canopy of the riparian community or trees to the limits of the dripline within or directly adjacent to the streambed. *Riparian habitat* is defined as plant species that are likely dependent on the hydrology of the streambed.

4.0 RESULTS

4.1 Existing Site Conditions

The Study Area is located on flat terrain in the San Bernardino Mountains region of the California Floristic Province (Jepson Flora Project 2025) at elevations ranging from 1,403 to 1,468 feet above mean sea level (msl). The average winter temperature in the vicinity of the Study Area is 54.0°F (degrees Fahrenheit), and the average summer temperature is 77.0°F (National Oceanic and Atmospheric Administration [NOAA] 2025). Average annual precipitation is approximately 12.87 inches, which falls as rain (NOAA 2025).

The Study Area consists primarily of undeveloped land with a paved road, Alta Vista, running through the southeastern portion of the Study Area. General land uses surrounding the Study Area include roadways, residential development, and open undeveloped land. The Study Area is located within an alluvial valley area of the San Bernardino Mountains, upstream of the confluence of Plunge Creek and the Santa Ana River.

ECORP documented two vegetation communities within the Study Area: scale broom scrub (*Lepidospartum squamatum* Shrubland Alliance) and wild oats and annual brome grasslands (*Avena* spp. – *Bromus* spp. Herbaceous Semi-natural Alliance; Sawyer et al. 2009). In addition to the two vegetation communities, ECORP identified three land cover types within the Study Area: fallow agriculture, developed land, and disturbed land. Appendix B provides a complete list of plant species observed within the Study Area.

Scale broom scrub is characterized by scale broom (*Lepidospartum squamatum*) as a dominant or codominant with cheese bush (*Ambrosia salsola*), California sagebrush (*Artemisia californica*), California cholla (*Cylindropuntia californica*), brittlebush (*Encelia farinosa*), and/or California buckwheat (*Eriogonum fasciculatum*) in an open to continuous shrub layer and variable or grassy herbaceous layer. This community is found in intermittently or rarely flooded, low-gradient alluvial deposits along streams, washes, and fans, at elevations ranging from 164 to 4,921 feet above msl (Sawyer et al. 2009). Within the Study Area, scale broom scrub was dominated by scale broom and California buckwheat but was also degraded by heavy infestations of nonnative plants such as mustard species (*Brassica* spp.), foxtail chess

(*Bromus madritensis*), cheatgrass (*Bromus tectorum*), and redstem filaree (*Erodium cicutarium*). The biologists also documented scale broom scrub throughout most of the central portion of the Study Area.

Wild oats and annual brome grasslands are described as having wild oats (*Avena* spp.) and brome species (*Bromus* spp.) as the dominant or co-dominant species with other nonnatives in the herbaceous layer. This vegetation community is typically composed of annual grasses which originated in the Mediterranean region, which is climatically like Southern California, making it easy for them to thrive. Characteristic species include wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), and foxtail chess, cheatgrass. This vegetation community can occur in all topographic settings but is often associated with abandoned fields, eroded washes, overgrazed rangeland, road verges, foothills, waste places, and lower montane slopes. Associated plant species within this community in the Study Area included wild oat, foxtail chess, mustard, and cheatgrass in the north central portion of the Study Area.

Land cover designated as fallow agriculture have previously contained agriculture but are no longer actively being farmed and contain either escaped cultivars or nonnative species. Fallow agriculture is not a vegetation community classification, but rather a land use type that is not restricted to a known elevation. Within the Study Area, fallow agriculture usually consisted of recently disced areas that contained emergent nonnative grasses and forbs, such as ripgut brome, cheatgrass, and turkey mullein (*Croton setiger*). The biologists documented fallow agriculture along the western border of the Study Area.

Disturbed land cover includes areas where the native vegetation community has been heavily influenced by human actions, such as grading, trash dumping, and off-road use, but lacks development. Disturbed areas located throughout the Study Area included an area previously used for storing agricultural equipment along the northwest border of the Study Area and a recently graded area south and east of Alta Vista. In areas classified as disturbed, vegetation was absent or sparse and consisted primarily of nonnative species, such as red brome (*Bromus rubens*), redstem filaree, and Mediterranean grass (*Schismus barbatus*).

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 within the Study Area was associated with the roadway (Alta Vista).

ECORP conducted this ARD in the winter, outside the blooming season for most plant species known to occur in the Study Area. The survey was conducted at an acceptable time of the year to observe wetland hydrology, and although few wetland plant species were in bloom at the time of the survey, most plants were identifiable to species based upon vegetative or fruit morphology.

ECORP ran the APT for the Study Area for January 28, 2025, 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 wet season, that the general region and the site's drought conditions were of severe drought, and that site conditions were drier than normal in climatic conditions (Appendix C; USACE 2025).

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 2025). 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 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*. ECORP biologists assessed the location of this feature during the ARD and found that no OHWM indicators were present in the location of this NWI mapped riverine feature.

4.1.2 Soils

The Web Soil Survey mapped four soil units, or types, within the Study Area (Figure 3; Table 2; NRCS 2025a):

- HaC – Hanford coarse sandy loam, 2 to 9 percent slopes
- Ps – Psamments, Fluvents, and frequently flooded soils
- SoC – Soboba gravelly loamy sand, 0 to 9 percent slopes
- SpC – Soboba stony loamy sand, 2 to 9 percent slopes

The Hanford series consists of very deep, well-drained soils that formed in moderately coarse textured alluvium dominantly from granite. Hanford soils are on stream bottoms, floodplains and alluvial fans and have slopes of 0 to 15 percent. (NRCS 2025b).

Psamments are somewhat excessively drained soils that formed in sandy alluvium. Psamments are on drainageways and have a slope of 0 to 5 percent. Fluvents are frequently flooded soils that were formed in stratified alluvium. Fluvents are found in drainageways and have a slope of 0 to 5 percent.

The Soboba series consists of deep, excessively drained soils that formed in alluvium from predominantly granitic rock sources. Soboba soils are on alluvial fans and flood plains and have slopes of 0 to 30 percent.

Location: N:\2023\2023-095 Diversified Pacific - Highland Project\MAPS\Watershed_and_Hydro_Analysis\Highland Watershed and Hydro.aprx - Highland_NWI_20250130 (trotellini - 1/30/2025)

Map Date: 1/30/2025

Sources: ESRI, San Bernardino County (2024), National Wetlands Inventory (2024)

Figure 2. National Wetlands Inventory

Location: N:\2023\2023-095 Diversified Pacific - Highland Project\MAPS\Soils_and_Geology\Highland Soils.aprx - Highland_Soils_20250130 (trotellini - 1/30/2025)

Map Date: 1/30/2025

Sources: Sources: ESRI, San Bernardino County (2024) Natural Resources Conservation Service (NRCS) Soil Survey Geographic (gSSURGO) Database for San Bernardino County, CA

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Figure 3. Natural Resources Conservation Service Soil Types

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Table 2. Soil Units within the Study Area		
Soil Unit	**Hydric Components**	**Hydric Component Landform**
HaC – Hanford coarse sandy loam, 2 to 9 percent slopes	None	N/A
Ps – Psamments, Fluvents, and frequently flooded soils	Fluvents	Drainageways
SoC – Soboba gravelly loamy sand, 0 to 9 percent slopes	Unnamed	Drainageways
SpC – Soboba stony loamy sand, 2 to 9 percent slopes	None	N/A

Note: N/A = Not Applicable

Source: Natural Resources Conservation Service (NRCS) 2025a, 2025c

4.2 Aquatic Resources

ECORP mapped a total of approximately 0.001 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.

The biologists identified two upland constructed ditches in the northern portion of the Study Area. These upland ditches connect to culverts located immediately south of Santa Ana Canyon Road. Four sample points (Sample Points 1 through 4) were collected to assess whether either of the ditches contained hydrophytic vegetation, hydric soils and/or hydrology indicators (Appendix D). Hydrophytic vegetation and hydric soils were absent from all four sample point locations. Shallow pooling from recent rains was present at the terminal end of one of the constructed ditches. No hydrology indicators were found at any of the sample locations, and no field indicators of OHWM were observed in either of the ditches.

Table 3. Aquatic Resources within the Study Area	
Type	**Acreage**
Wetlands	–
Non-Wetland Waters – Intermittent Drainage	0.001
Total:	**0.001**

Notes: The acreage value for each feature type has been rounded to the nearest 1/1000 decimal place. 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

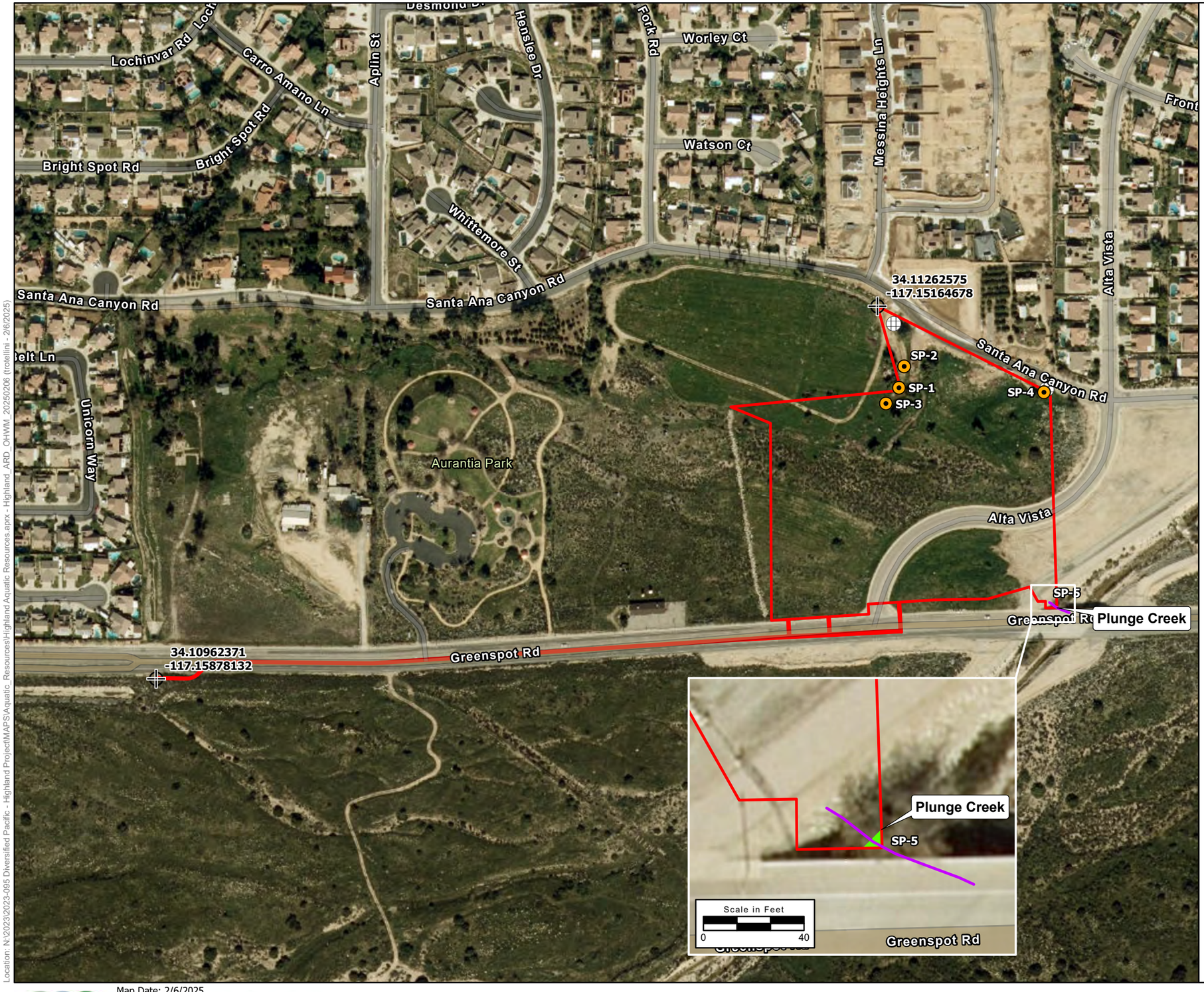
4.2.2.1 Intermittent Drainage

Intermittent drainages differ from ephemeral drainages in that they flow for longer duration, typically weeks or months following rainfall events, and are often influenced by groundwater. This usually results in greater quantities and duration of flow relative to ephemeral drainages. The biologists mapped one intermittent drainage, Plunge Creek, within the Study Area (Figure 4). A small portion of Plunge Creek flows across the southeastern portion of the Study Area. Plunge Creek consists of a San Bernardino County Flood Control District-managed graded trapezoidal earthen channel with a natural bottom and concrete and rock slope protection banks. Flows from Plunge Creek travel in a northeast-southwest fashion. Soils within the low-flow channel appeared to consist of medium silt, and soils within the active flood plain appeared to consist of coarse sand with cobbles. The channel is partially vegetated with plant species including mulefat (*Baccharis salicifolia*; FAC), willow (*Salix* sp; FACW), and Mexican fan palm (*Washingtonia robusta*; FACW). At the time of the field survey, Plunge Creek contained flowing water; however, no flowing water was present within the low-flow channel that falls within the Study Area.

ECORP delineated the OHWM in the field based on the presence of a change in average sediment texture between the active floodplain and the upland environment. Additional OHWM indicators observed within Plunge Creek include the presence of bed and bank, ripples, benches, soil development, sediment deposits, staining on bridge walls, a change in vegetation species between the active floodplain and the upland environment, cobble/boulder deposits, and litter/debris. ECORP documented a representative OHWM transect (Sample Point 5) to capture the representative characteristics of the portion of Plunge Creek that occurs within the Study Area (Appendix D).

4.3 CDFW Jurisdiction

ECORP mapped a total of 0.008 acre of potential CDFW jurisdiction within the Study Area across Plunge Creek, which consisted of a partially vegetated streambed. No riparian vegetation communities are 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.



Map Contents

- Study Area
- Reference Coordinates
- Culvert

Samle Points

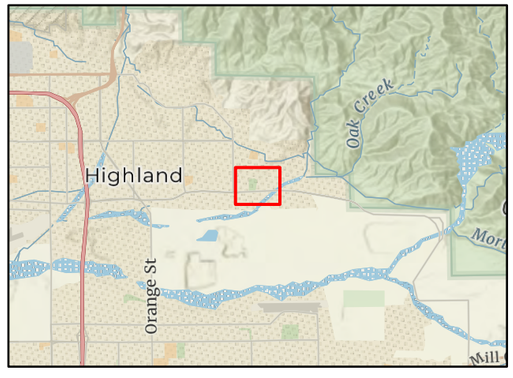
- Upland Sample Point
- OHWM Cross Section

Aquatic Resources [1]

- Intermittent Drainage (0.001 Acre)

Photo Source: San Bernardino County (2024)
Boundary Source: Kimley-Horn
Delineator(s): Chelsie Brown and Eliza McLean
USACE Los Angeles District
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 Sacramento 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.



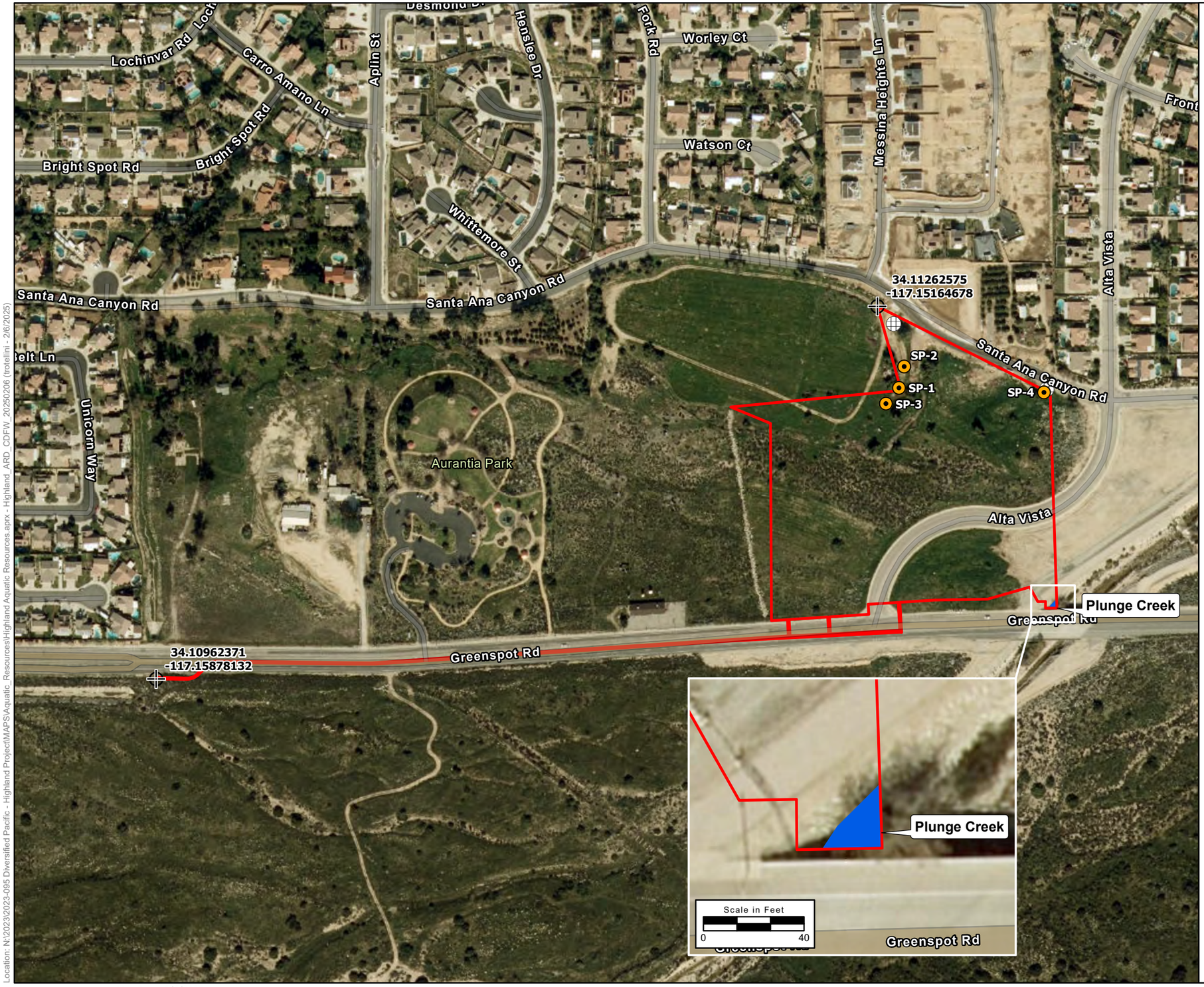
Location: N:\2023\2023-095 Diversified Pacific - Highland Project\MAPS\Aquatic_Resources\Highland Aquatic Resources.aprx - Highland_ARD_OHWM_20250206 (trotellini - 2/6/2025)

Map Date: 2/6/2025

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 300
1 inch = 300 ft.

Figure 4. Aquatic Resources Delineation
OHWM
2023-095.02 12.46-Acre the Residences at Alta Vista Development Project



Map Contents

- Study Area
- Reference Coordinates
- Culvert

Samle Points

- Upland Sample Point

Aquatic Resources

- Streambed (0.008 Acres)

Location: N:\2023\2023-095 Diversified Pacific - Highland Project\MAPS\Aquatic_Resources\Highland Aquatic Resources.aprx - Highland_ARD_CDFW_20250206 (trotellini - 2/6/2025)

Map Date: 2/6/2025

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 300
1 inch = 300 ft.

Figure 5. Aquatic Resources Delineation
CDFW
2025.095.02 12.46-Acre the Residences at Alta Vista Development Project

5.0 JURISDICTIONAL ASSESSMENT

Plunge Creek is an intermittent tributary to the Santa Ana River. In general, flows from Plunge Creek appear to originate from upstream tributaries in the San Bernardino Mountains to the northeast including Oak Creek, Little Mill Creek, and Fredalba Creek. The flows travel southwest through the southeastern corner of the Study Area and join the Santa Ana River approximately 4.6 miles downstream. The downstream portion of the Santa Ana River is a jurisdictional Waters of the U.S. and is listed as a Traditional Navigable Water (TNW) on the Los Angeles District's USACE website. Given that Plunge Creek could be considered a relatively permanent tributary to a TNW, it may be considered a Waters of the U.S.

Regardless of CWA Section 404 jurisdictional status, Plunge Creek would likely be considered Waters of the State. In addition, the area mapped as *streambed* at Plunge Creek would also likely be regulated under Section 1600 of the California Fish and Game Code.

6.0 CONCLUSION

ECORP mapped a total of 0.001 acre of intermittent drainage (Plunge Creek) within the Study Area. In addition, approximately 0.008 acre of *streambed* (Plunge Creek) 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.

As currently designed, Plunge Creek will be completely avoided and development of the Project will not impact Waters of the U.S, Waters of the State, or *steambeds* regulated under Section 1600 of the California Fish and Game Code. Therefore, regulatory agency permits for impacts to aquatic resources will not be necessary.

The placement of dredged or fill material into Waters of the U.S. would require a permit pursuant to Section 404 of the CWA and certification or waiver in compliance with Section 401 of the CWA. The placement of dredge or fill material into Waters of the State that are not Waters of the U.S. would require issuance of a Waste Discharge Requirement by the State or Regional Water Quality Control Board. Impacts to CDFW-regulated resources would require a Section 1600 Lake and Streambed Alteration Agreement by the CDFW.

7.0 REFERENCES

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LIST OF APPENDICES

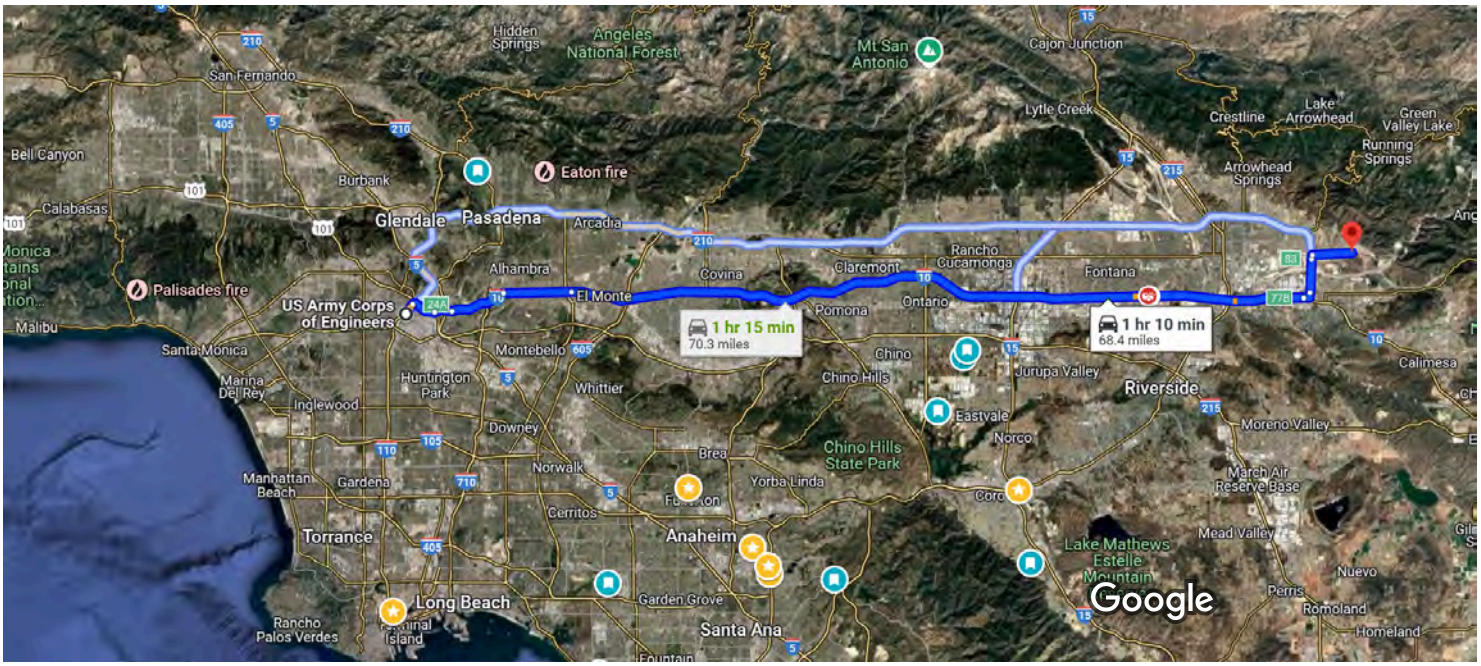
APPENDIX A

Driving Directions to Study Area

Google Maps

US Army Corps of Engineers, 915 Wilshire Blvd, Los Angeles, CA 90017 to Alta Vista & Greenspot Rd, Highland, CA 92346

Drive 68.4 miles, 1 hr 10 min



Imagery ©2025 TerraMetrics, Map data ©2025 Google 5 mi

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

Get on CA-110 N from S Figueroa St

3 min (0.4 mi)

1. Head southwest toward Wilshire Blvd

66 ft

2. Turn left onto Wilshire Blvd

243 ft

3. Use the left 2 lanes to turn left at the 1st cross street onto S Figueroa St

0.2 mi

4. 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

Take I-10 E to Greenspot Rd in Highland. Take exit 83 from CA-210 W

1 hr 3 min (65.3 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

⚠ **Parts of this road may be closed at certain times or days**

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

3.8 mi

10. Keep right to stay on I-10 E

4.6 mi

11. Keep right to stay on I-10 E

50.2 mi

12. Use the right 2 lanes to take exit 77B for CA-210 W toward CA-330 N/Highland/Big Bear

0.7 mi

13. Continue onto CA-210 W

2.3 mi

14. Take exit 83 for 5th St

0.2 mi

15. Use the right 2 lanes to turn right onto Greenspot Rd

5 min (2.7 mi)

Alta Vista & Greenspot Rd
Highland, CA 92346

APPENDIX B

Plant Species Observed

SCIENTIFIC NAME	COMMON NAME	WETLAND INDICATOR STATUS
GYMNOSPERMS		
CUPRESSACEACE	CYPRESS FAMILY	–
Juniperus californica	California juniper	N/L
ANGIOSPERMS (DICOTYLEDONS)		
ADOXACEAE	ELDERBERRY FAMILY	–
Sambucus mexicana	blue elderberry	FACU
AMARANTHACEAE	PIGWEED FAMILY	–
*Salsola tragus**	Russian thistle	FACU
ANACARDIACEAE	SUMAC FAMILY	–
Malosma laurina	laurel sumac	N/L
*Schinus molle**	Peruvian pepper tree	FACU
ASTERACEAE	SUNFLOWER FAMILY	–
Artemisia californica	California sagebrush	N/L
Baccharis salicifolia	mulefat	FAC
*Centaurea melitensis**	tocalote	N/L
Helianthus annuus	common sunflower	FACU
Heterotheca grandiflora	telegraph weed	N/L
Lepidospartum squamatum	scale broom	FACU
BORAGINACEAE	BORAGE FAMILY	–
Amsinckia intermedia	common fiddleneck	N/L
Eriodictyon trichocalyx	hairy yerba santa	N/L
BRASSICACEAE	MUSTARD FAMILY	–
*Brassica nigra**	black mustard	N/L
*Hirschfeldia incana**	shortpod mustard	N/L
CACTACEAE	CACTUS FAMILY	–
Cylindropuntia californica	California cholla	N/L
Opuntia littoralis	coast prickly pear	N/L
EUPHORBIACEAE	SPURGE FAMILY	–
Croton californicus	California croton	N/L
Croton setiger	turkey mullein	N/L

SCIENTIFIC NAME	COMMON NAME	WETLAND INDICATOR STATUS
FABACEAE	PEA AND LEGUME FAMILY	–
Acmispon glaber	deerweed	N/L
GERANIACEAE	GERANIUM FAMILY	–
*Erodium cicutarium**	red stemmed filaree	N/L
PLATANACEAE	SYCAMORE FAMILY	–
Platanus racemosa	California sycamore	FAC
POLYGONACEAE	BUCKWHEAT FAMILY	–
Eriogonum fasciculatum	California buckwheat	N/L
ROSACEAE	ROSE FAMILY	–
Adenostoma fasciculatum	chamise	N/L
SALICACEAE	WILLOW FAMILY	–
Salix sp.	willow	FACW
SOLANACEAE	ROSE FAMILY	–
Datura wrightii	jimsonweed	UPL
*Nicotiana glauca**	tree tobacco	FAC
XYGOPHYLLACEACE	CALTROP FAMILY	–
Tribulus terrestris	puncture vine	N/L
ANGIOSPERMS (MONOCOTYLEDONS)		
ARECACEAE	PALM FAMILY	–
*Washingtonia robusta**	Mexican fan palm	FACW
POACEAE	GRASS FAMILY	–
*Avena barbata**	slender oat	N/L
*Avena fatua**	wild oat	UPL
*Bromus diandrus**	bromegrass	N/L
*Bromus madritensis**	foxtail chess	UPL
*Bromus rubens**	red brome	UPL
*Bromus tectorum**	cheatgrass	N/L
Cynodon dactylon	Bermuda grass	FACU
*Hordeum murinum**	foxtail barley	FACU
*Schismus barbatus**	Mediterranean grass	N/L

SCIENTIFIC NAME	COMMON NAME	WETLAND INDICATOR STATUS

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

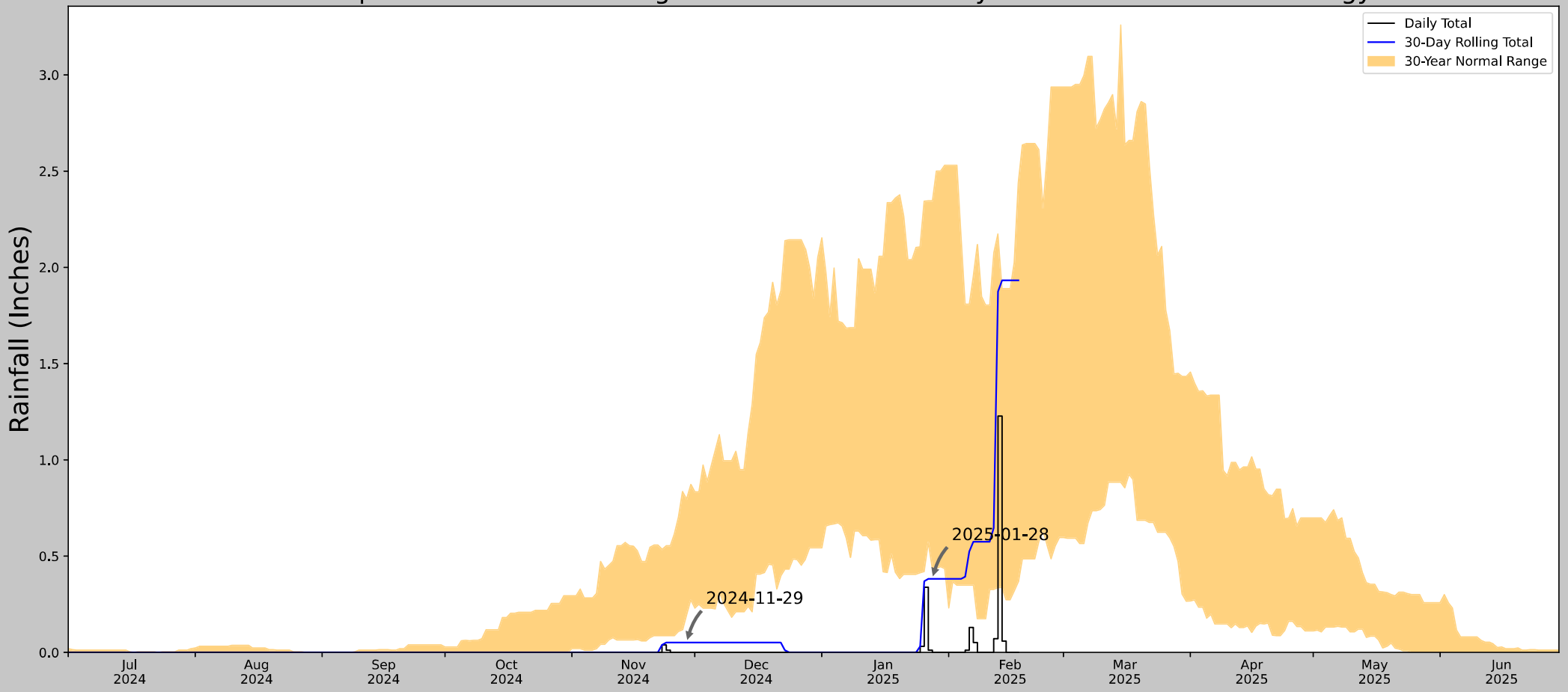
Notes:

* Not native to California.

APPENDIX C

Antecedent Precipitation Tool

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



Coordinates	34.11112, -117.151381
Observation Date	2025-01-28
Elevation (ft)	1457.474
Drought Index (PDSI)	Severe drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2025-01-28	0.437795	2.345669	0.38189	Dry	1	3	3
2024-12-29	0.543307	1.999606	0.0	Dry	1	2	2
2024-11-29	0.197244	0.796063	0.051181	Dry	1	1	1
Result							Drier than Normal - 6

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
RIVERSIDE MUNI AP	33.9528, -117.4353	845.144	19.595	612.33	20.816	9209	90
RIVERSIDE 3.8 NW	33.9793, -117.4541	840.879	2.124	4.265	0.965	8	0
RIVERSIDE FIRE STN 3	33.9511, -117.3881	839.895	2.708	5.249	1.233	2116	0
RIVERSIDE CITRUS EXP	33.9669, -117.3614	985.892	4.346	140.748	2.567	20	0

APPENDIX D

Field Datasheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 12.46-Ac the Residences at Alta Vista Developm | City/County: Highland/San Bernardino | Sampling Date: 1/28/25

Applicant/Owner: Diversified Pacific Communities | State: CA | Sampling Point: 1

Investigator(s): C.Brown, E. McLean | Section, Township, Range: S.1 T.01S R.03W

Landform (hillslope, terrace, etc.): depression | Local relief (concave, convex, none): concave | Slope (%): <1

Subregion (LRR): C | Lat: 34.11195664 | Long: -117.1514415 | Datum: NAD 83

Soil Map Unit Name: HaC - Hanford coarse sandy loam, 2 to 9 percent slopes | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Sampling point was collected in a manmade depression downhill from a newly constructed culvert. Recent rain (approximately 0.39") in the few days leading up to survey.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Schinus molle	25	Y	FACU
2.			
3.			
4.			
	25	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10' radius)			
1. N/A			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Hirschfeldia incana	3	Y	N/L
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	3	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 97 | % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Wood fencing was piled in the depression on the ground within the herb stratum and covered approximately 40% of the % listed for bare ground in the herb stratum.

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/2	100	N/A	N/A	N/A	N/A	loam	
5-16+	10YR 3/3	100	N/A	N/A	N/A	N/A	sndy lm	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** ✓

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

Remarks:

Soil is moist from rainfall that occurred within the few days prior to the field survey. Approximately 0.39" of rain fell in the few days prior to the survey. There was 3-4" of surface water present in the depression at the time of the field survey due to recent rains. However, no hydric soils or hydrophytic vegetation development were present. Pooling was likely only incidental in relation to storm events.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 12.46-Ac the Residences at Alta Vista Developme City/County: Highland/San Bernardino Sampling Date: 1/28/25

Applicant/Owner: Diversified Pacific Communities State: CA Sampling Point: 2

Investigator(s): C.Brown, E. McLean Section, Township, Range: S.1 T.01S R.03W

Landform (hillslope, terrace, etc.): constructed ditch Local relief (concave, convex, none): none Slope (%): <1

Subregion (LRR): C Lat: 34.1121313 Long: -117.15138863 Datum: NAD83

Soil Map Unit Name: HaC - Hanford coarse sandy loam, 2 to 9 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____ No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____ No ✔	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

Sampling point was collected in a constructed ditch downhill from a newly constructed culvert.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Schinus molle	15	Y	FACU
2.			
3.			
4.			
	25 = Total Cover		
Sapling/Shrub Stratum (Plot size: 10' radius)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Hirschfeldia incana	<1	Y	N/L
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	<1 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 99 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/4	100	N/A	N/A	N/A	N/A	lmy snd	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

Evidence of stormwater flows from recent rains. Approximately 0.39" of rain fell in the few days prior to the survey. No evidence of OHWM was observed.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 12.46-Ac the Residences at Alta Vista Developme City/County: Highland/San Bernardino Sampling Date: 1/28/25

Applicant/Owner: Diversified Pacific Communities State: CA Sampling Point: 3

Investigator(s): C.Brown, E. McLean Section, Township, Range: S.1 T.01S R.03W

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): none Slope (%): <1

Subregion (LRR): C Lat: 34.11182877 Long: -117.1515714 Datum: NAD 83

Soil Map Unit Name: HaC - Hanford coarse sandy loam, 2 to 9 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Sampling point was collected downstream of the outlet to a constructed depression.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 10' radius)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Hirschfeldia incana	15	Y	N/L
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	15 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 85 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: 3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/4	100	N/A	N/A	N/A	N/A	snd cly lm	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 12.46-Ac the Residences at Alta Vista Developme City/County: Highland/San Bernardino Sampling Date: 1/28/25

Applicant/Owner: Diversified Pacific Communities State: CA Sampling Point: 4

Investigator(s): C.Brown, E. McLean Section, Township, Range: S.1 T.01S R.03W

Landform (hillslope, terrace, etc.): constructed ditch Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 34.11190962 Long: -117.15001415 Datum: NAD 83

Soil Map Unit Name: SoC - Soboba gravelly loamy sand, 0 to 9 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Sampling point was collected downstream of a culvert that comes out from under Santa Ana Canyon Road

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Schinus molle	15	Y	FACU
2.			
3.			
4.			
	25	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10' radius)			
1. N/A			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	0	= Total Cover	

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100	N/A	N/A	N/A	N/A	sndy lm	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

No OHWM indicators observed.

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: 12.46-Ac the Residences at Alta Vista Developme
Project Number: 2023-095.02
Stream: Plunge Creek; SP-5
Investigator(s): C.Brown, E. McLean
Date: 1/28/25
Town: Highland
Photo begin file#:
Time: 1130
State: CA
Photo end file#:

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☑ Is the site significantly disturbed?

Location Details:
North of Greenspot Rd & south of Santa Ana Canyon Rd in the City of Highland

Projection: Lambert Conformal Conic **Datum:** NAD 83
Coordinates: 34.11015168, -117.14991872

Potential anthropogenic influences on the channel system:

Channel maintenance, runoff from adjacent roads, bridge, nonnative plant species, trash,

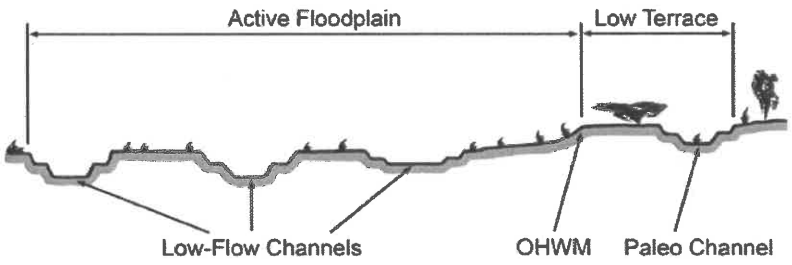
Brief site description:

San Bernardino County Flood Control District managed trapezoidal channel (Plunge Creek) located south of the San Bernardino Mountains and east of I-215 in the City of Highland. A small portion of one of the low-flow channels of Plunge Creek falls within the southeastern corner of the Study Area. The remainder of Plunge Creek occurs outside of the Study Area.

Checklist of resources (if available):

- ☑ Aerial photography
  Dates: 2/2024, 3/2023, 8/2021,8/2019
- ☐ Topographic maps
- ☐ Geologic maps
- ☑ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

Project ID: 2023-095.0 **Cross section ID:** SP-5 **Date:** 1/28/25 **Time:** 1130

Cross section drawing:

OHWM

GPS point: 34.11015168, -117.14991872

Indicators:

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [ ] Change in vegetation cover
- [ ] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Floodplain unit:

- [x] Low-Flow Channel
- [ ] Active Floodplain
- [ ] Low Terrace

GPS point: 34.11015168, -117.14991872

Characteristics of the floodplain unit:

Average sediment texture: medium silt

Total veg cover: 10 % Tree: 0 % Shrub: 0 % Herb: 10 %

Community successional stage:

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

Indicators:

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

Comments:

Water was flowing through the active channel at the time of the field survey, but not through the low-flow channel that falls within the Study Area.

Project ID: 2023-095.0 **Cross section ID:** SP-5 **Date:** 1/28/25 **Time:** 1130

Floodplain unit: ☐ Low-Flow Channel ☑ Active Floodplain ☐ Low Terrace

GPS point: 34.11015168, -117.14991872

Characteristics of the floodplain unit:

Average sediment texture: coarse sand w/ cobble

Total veg cover: 15 % Tree: 0 % Shrub: 10 % Herb: 5 %

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: cobble/boulder/sand deposits
- ☑ Other: staining on bridge walls
- ☑ Other: change in vegetation species

Comments:

In addition to the indicators marked above for the active floodplain, channel bars were also present. Water was flowing through the active channel at the time of the field survey, but not through the low-flow channel that falls within the Study Area.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☑ Low Terrace

GPS point: NA

Characteristics of the floodplain unit:

Average sediment texture: NA

Total veg cover: NA % 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:

Low terrace is not present due to the walls of the trapezoidal channel consisting of cemented rock slope protection.

APPENDIX E

Representative Site Photographs

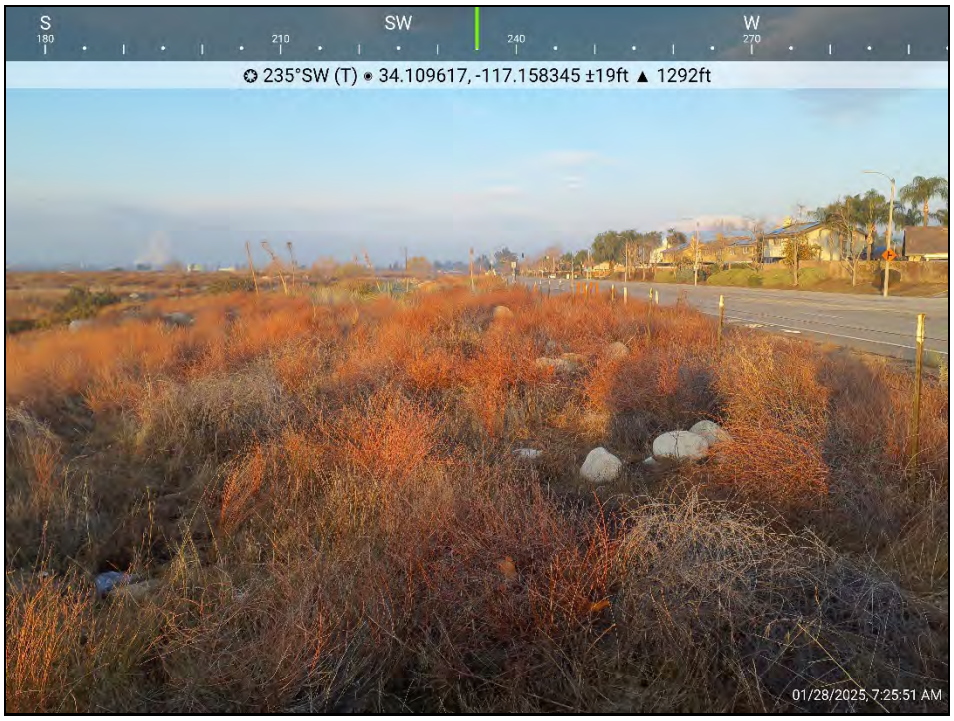


Photo 1. Westernmost Portion of the Study Area Containing Upland Vegetation, Located South of Greenspot Road.

Photo 2. Representative Site Photo Taken from the Southwestern Corner of the Study Area, facing northeast.

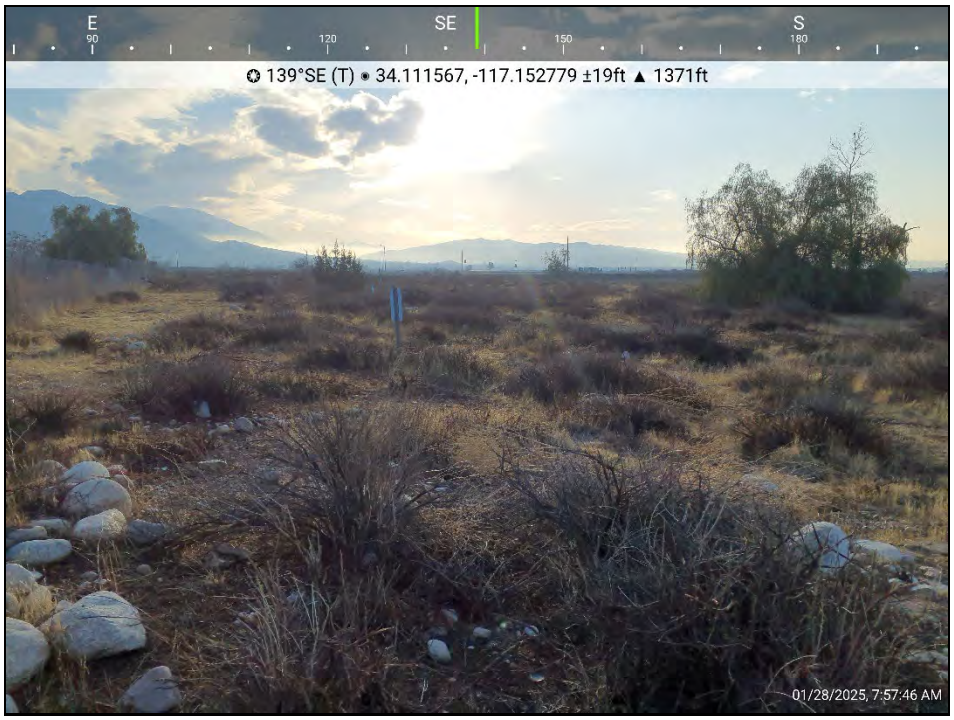


Photo 3. Representative Site Photo Taken Along the Western Boundary of the Study Area, facing southeast.

Photo 4. Location of Sample Point 1 Collected in a Constructed Depression Located Downstream of One of the Upland Constructed Ditches.

Photo 5. Location of Sample Point 2 Collected in an Upland Constructed Ditch.

Photo 6. Location of Sample Point 3 Collected Downstream to the Outlet of the Depression.

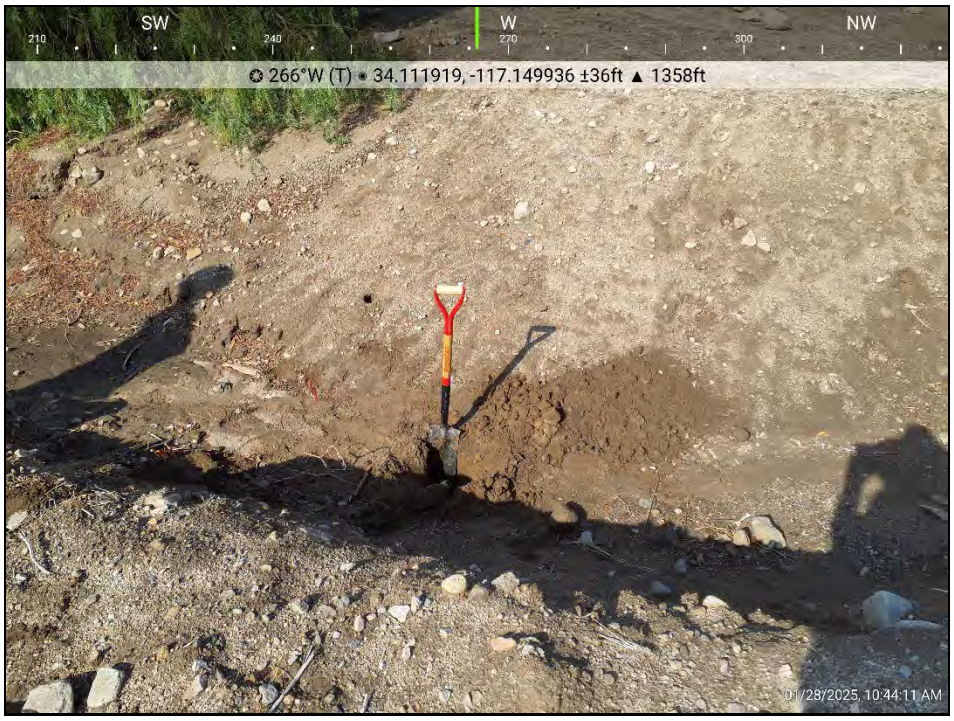


Photo 7. Location of Sample Point 4 Collected in the Second Upland Constructed Ditch within the Study Area.

Photo 10. Plunge Creek Which Crosses the Southeastern Corner of the Study Area.

APPENDIX F

USACE ORM Aquatic Resources Table

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway
Plunge Creek	CALIFORNIA	R4SB		Linear	10.48	FOOT	DELIN.CONC	34.11014963	-117.14991285	

APPENDIX G

Digital Data (Provided Electronically upon Request)