

Appendix C

Biological Resources

FINAL AQUATICS RESOURCE DELINEATION REPORT

Cal Poly Humboldt Parking Lot Project



PREPARED FOR:

**Cal Poly
Humboldt.**

California Polytechnic State University, Humboldt

January 2026

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LIST OF ABBREVIATIONS

AgACIS	Agricultural Applied Climate Information System
Cal Poly	California Polytechnic State University
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
CWA	Clean Water Act
EPA	U.S. Environmental Protection Agency
FAC	facultative
FACU	facultative upland
FACW	facultative wetland
FGC	California Fish and Game Code
GIS	Geographic Information System
GPS	global positioning system
HUC	hydrologic unit code
LSAA	Lake or Streambed Alteration Agreement
NI	No indicator
NL	Not listed
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWPR	Navigable Waters Protection Rule
OBL	obligate
OHWM	ordinary high water mark
project	Cal Poly SLO Slack and Grand Faculty Staff Housing Project
RHA	River and Harbors Act
RPW	Relatively Permanent Water
RWQCB	regional water quality control board
TNW	Traditional Navigable Waters
UPL	Obligate upland
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey

EXECUTIVE SUMMARY

Under contract to Cal Poly Humboldt, Ascent Environmental conducted a delineation of aquatic resources within the 18.76-acre study area for the Cal Poly Humboldt Parking Lot Project (project) on June 13-14, 2023. The U.S. Army Corps of Engineers (USACE) 1987 *Wetlands Delineation Manual* (Environmental Laboratory 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Environmental Laboratory 2010) were used to delineate wetlands and other waters that are potentially subject to USACE jurisdiction under Section 404 of the Clean Water Act (CWA) as well as state of California regulations under the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (State Wetlands Procedures), and California Fish and Game Code (FGC) Section 1602. The delineation was conducted in accordance with *A Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States* (Mersel and Lichvar 2014). This report was prepared to support the request for a preliminary jurisdictional determination from the USACE San Francisco District (District) and conforms to the *San Francisco District Information Requested For Verification Of Corps Jurisdiction* (USACE 2016a) and *Updated Map and Drawing Standards for the Pacific Division Regulatory Program* (USACE 2016b). This report provides necessary background information to support the preparation of permit applications under federal and state regulations related to aquatic resources.

A total of approximately 0.65 acre of potentially jurisdictional waters of the United States and/or state, including wetlands, were documented within the 18.76-acre study area. These potentially jurisdictional waters consist of two freshwater emergent wetlands (palustrine emergent wetlands) encompassing 0.19 acre; three seasonal wetlands (palustrine emergent wetlands) that are also ditches encompassing 0.23 acre; and McDaniel Slough, which is a perennial slough (riverine tidal) encompassing 0.24 acre (946.45 linear feet). Additionally, there are 1.57 acres of riparian habitat along McDaniel Slough in the project area. Wetland determination data form RW-SP-01 (Appendix A) reflects the conditions observed in the riparian area during the field investigation which determined wetlands were not present in the riparian area.

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1 INTRODUCTION

This aquatic resources delineation report has been prepared to document the results and conclusions of an aquatic resources field delineation conducted in June 2023 for the proposed Cal Poly Humboldt Parking Lot Project (project). Ascent was retained and authorized by California Polytechnic State University, Humboldt (Cal Poly Humboldt) to conduct a delineation of aquatic resources within the project study area that may be subject to federal regulation under Section 404 of CWA as well as state of California regulations under the Porter-Cologne Act, the State Wetlands Procedures, and FGC Section 1602. The purpose of this report is to identify and describe aquatic resources in the study area that may be regulated under federal and/or state laws and regulations. This report facilitates efforts to:

1. Avoid or minimize impacts to aquatic resources during the design process.
2. Document aquatic resource boundary determinations for review by regulatory authorities.
3. Provide necessary background information to support required permit applications under said regulations.

Cal Poly Humboldt is the project proponent and property owner, and its primary project contact is Deirdre N. Clem, Project & Space Analyst for Facilities Management in Planning, Design, and Construction.

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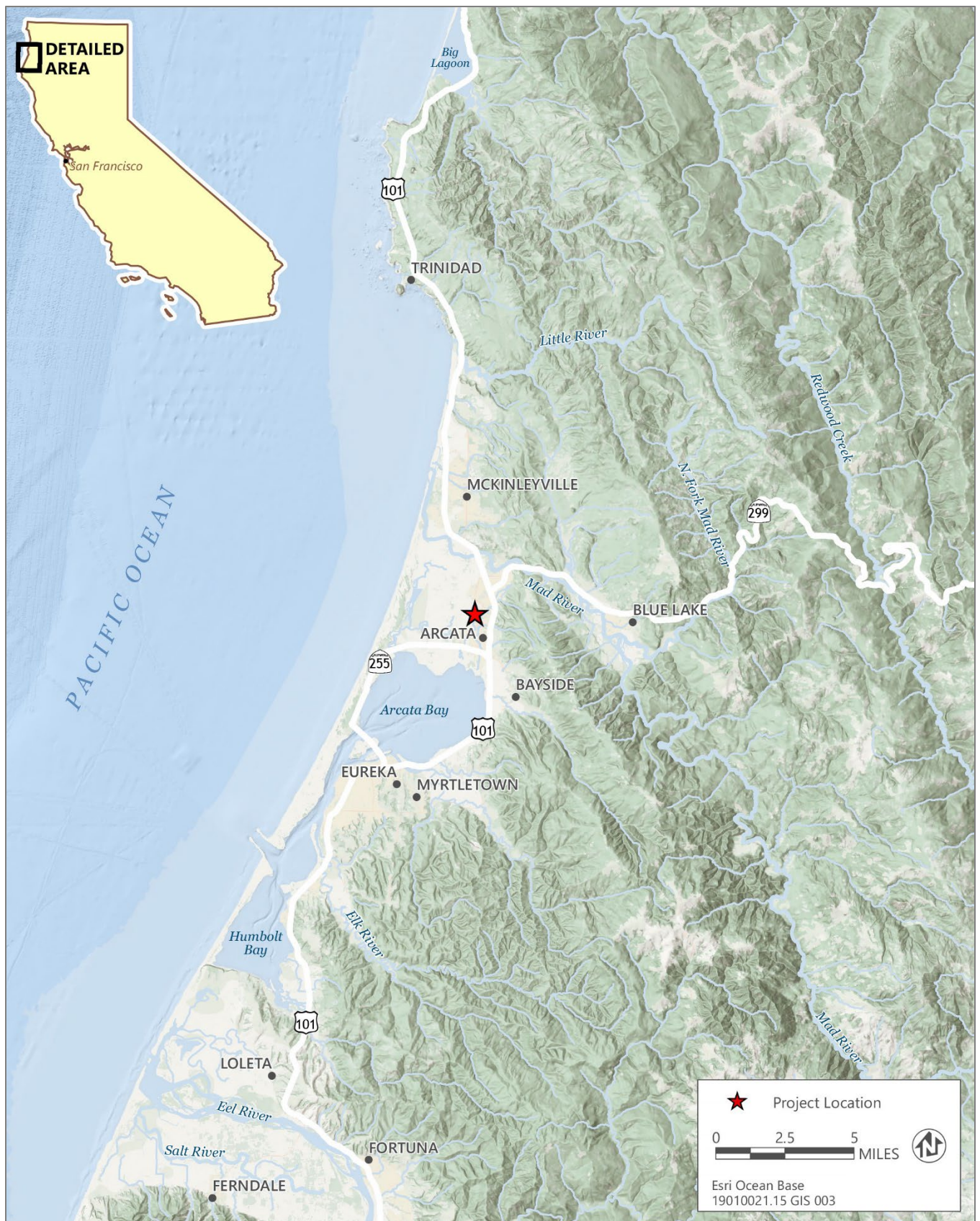
Email: Deirdre.Clem@humboldt.edu

When completed, the project would consist of a long-term parking lot at 2000 Foster Avenue in Arcata to support Cal Poly Humboldt resident students. The project site is currently vacant and approximately 0.75-mile northwest of the main campus.

An unverified aquatic resource delineation was conducted within portions of the current study area in 2016 and included the mapping of one-, two-, and three-parameter wetlands. The study area for this project is out of the coastal zone and therefore only three-parameter wetlands were mapped in 2023. Features delineated in 2016 were evaluated during field work conducted in 2023 to determine if site characteristics were consistent with what was recorded previously.

2 LOCATION

The project aquatic resources delineation study area consists of 18.76 acres of land located just inside the western boundary of the City of Arcata in Humboldt County, CA to the west (Figure 1). The study area is also west of Cal Poly Humboldt across US 101. The study area can be accessed via Foster Ave. From Eureka, take US-101 north to Arcata, then take Exit 713 for CA-255 towards Arcata/Samoa Blvd, keep left toward Arcata/Samoa Blvd, turn right on K St, which changes into Alliance Rd, bear left onto 17th St, keep straight onto Q St, follow the road left onto Foster Ave, and turn right at study area. The study area is located within the Arcata North, California U.S. Geological Survey (USGS) 7.5-minute quadrangle, within Sections 20 and 29 Township 6 North Range 1 East (Figures 2 and 3). The approximate centroid of the study area is 40°52'46.452" North, 124°5'38.3856" West.



Sources: Adapted by Ascent in 2023.

Figure 1 Regional Location

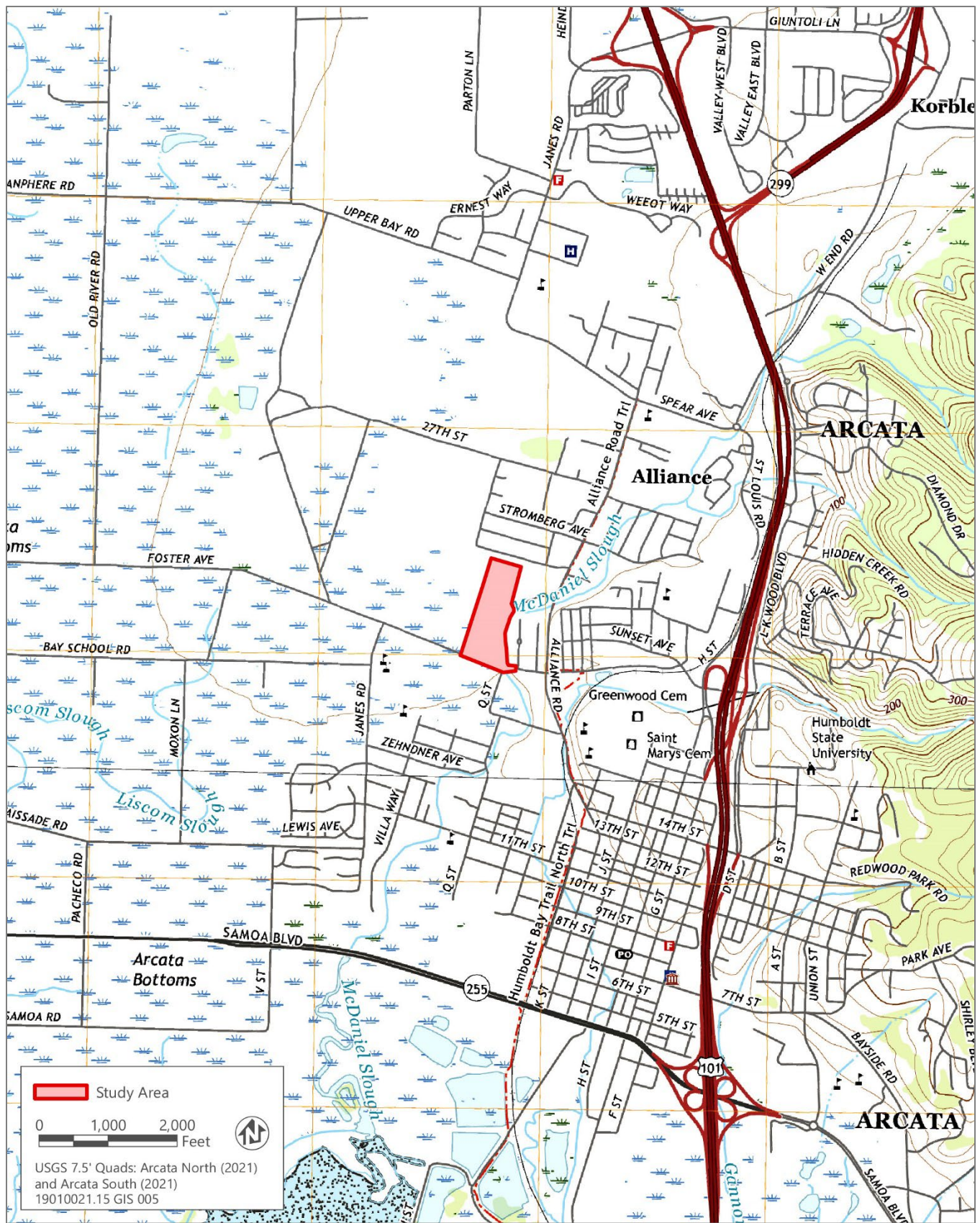


Figure 2 Topographic Map of Study Area and Surroundings



Sources: Adapted by Ascent in 2023

Figure 3 Aerial View of Study Area

3 REGULATORY SETTING

3.1 WATERS OF THE UNITED STATES

3.1.1 Definitions

Many of the terms used throughout this report have specific meanings with respect to the delineation of waters of the United States for the purpose of Section 404 of the CWA, and for navigable waters of the United States for the purpose of Section 10 of the River and Harbors Act (RHA). These terms are defined below:

Waters of the United States: The definition of waters of the United States subject to federal jurisdiction and concomitant CWA permitting requirements is currently in flux due to U.S. Environmental Protection Agency (EPA) and USACE (collectively “Agencies”) interpretations of that term over the last several years. In 2015, the Agencies adopted a revised waters of the United States definition (the 2015 Clean Water Rule); then on April 21, 2020, the Agencies published a new definition of waters of the U.S. in the Federal Register. This definition, called the 2020 Navigable Waters Protection Rule (NWPR), went into effect on June 22, 2020. An August 30, 2021 decision by the U.S. District Court for the District of Arizona vacated and remanded the 2020 NWPR. In light of this order, the Agencies halted implementation of the NWPR and were interpreting “waters of the United States” consistent with the pre-2015 regulatory regime until further notice. With the repeal of the 2020 NWPR, the 1986/1988 definition of waters of the United States and accompanying guidance became the operative definition. A new rule was put in place March 20, 2023, though the changes do not affect the definition of water of the United States. Accordingly, the potential jurisdictional status of aquatic features delineated within the study area during fieldwork conducted in 2023 are evaluated under the 1986/1988 definition and the Code of Federal Regulations (40 Code of Federal Regulations [CFR] Section 230.3[s]), which define waters of the United States as:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters:
 - a. which are or could be used by interstate or foreign travelers for recreational or other purposes;
 - b. or from which fish or shellfish are or could be taken and sold in interstate or foreign commerce;
 - c. or which are used or could be used for industrial purposes by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under this definition;
5. Tributaries of waters identified in paragraphs (1) through (4);
6. The territorial seas; and
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6).

In January 2001, the U.S. Supreme Court issued a decision in the case of the *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* that altered the USACE's regulatory authority over wetlands that are isolated from navigable waters¹. On June 5, 2007, the EPA and USACE released guidance on the definitions of jurisdictional waters of the United States in response to *Rapanos v. United States* and *Carabell v. United States*. On May 25, 2023, the U.S. Supreme Court decided in the case of *Sackett et ux. V. Environmental Protection Agency et al.* that CWA use of the term "waters" applies only to geographic 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. According to this decision, to take jurisdiction over a wetland, USACE must first establish that it is adjacent to a body of water that qualifies as waters of the United States, and second, that the wetland has a continuous surface connection with the adjacent waters of the United States, making it difficult to determine where the water ends and the wetland begins. Based on this recent ruling, CWA jurisdiction extends to the following waters:

1. Traditional navigable waters (TNW), which are defined as all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. Wetlands adjacent to and indistinguishable from traditional navigable waters;
3. Relatively Permanent Waters (RPWs) - Non-navigable tributaries of TNWs that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months);
4. Wetlands adjacent to non-navigable tributaries as defined above; that have a continuous surface connection to and are indistinguishable from such tributaries (e.g., they are not separated by uplands, a berm, dike, or similar feature).

The EPA and USACE generally do not assert jurisdiction over the following features:

1. Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow);
2. Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

Wetlands: The EPA and USACE define wetlands as "Those areas that are saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." USACE wetlands must typically exhibit three parameters: (1) wetland hydrology, (2) hydrophytic vegetation, and 3) hydric soils, to meet the federal definition.

Wetland Hydrology: This term encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season. These include both riverine and non-riverine hydrology indicators, such as observation of surface water or saturated soils; evidence of recent inundation; evidence of current or recent soil saturation; and evidence from other site conditions or data.

Hydrophytic Vegetation: Hydrophytic vegetation is defined as plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present. Emphasis is placed on the assemblage of plant species that exert a controlling influence on the character of the plant community, rather than on a single indicator species, i.e., there must be a prevalence of hydrophytic vegetation present to satisfy this wetland parameter.

¹ Since the SWANCC decision, waters covered solely by this definition by virtue of their use as habitat by migratory birds are no longer considered "waters of the United States." The Supreme Court's opinion did not specifically address what other connections with interstate commerce might support the assertion of CWA jurisdiction over "nonnavigable, isolated, intrastate waters" under this definition, and the USACE is recommending case by case consideration. A factor that may be relevant to this consideration includes, but is not limited to, the following: Jurisdiction of isolated, intrastate, and nonnavigable waters may be possible if their use, degradation, or destruction could affect other "waters of the United States," thus establishing a significant nexus between the water in question and other "waters of the United States" (USACE, undated memorandum).

Wetland Indicator Status: Hydrophytic species include those with an indicator status of obligate (OBL), facultative wetland (FACW), or facultative (FAC), which corresponds to the species' frequency of occurrence in wetlands. Indicator status categories are as follows:

- ▶ *Obligate (OBL)*: almost always occurs in wetlands;
- ▶ *Facultative wetland (FACW)*: usually occurs in wetlands, sometimes may occur in uplands;
- ▶ *Facultative (FAC)*: equally likely to occur in wetlands or uplands;
- ▶ *Facultative upland (FACU)*: usually occurs in uplands but may occasionally occur in wetlands;
- ▶ *Obligate upland (UPL)*: almost never occurs in wetlands;
- ▶ *No indicator (NI)*: no indicator assigned due to lack of information; and
- ▶ *Not listed (NL)*: species not listed in National Wetland Plant List (USACE 2020). Standard protocol states that a species with an NL designation should be considered UPL when the delineator completes the "Prevalence Index Worksheet" portion of the wetland delineation data form (Environmental Laboratory 2010).

Hydric Soil: A soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part. Hydric soils are often characterized by redoximorphic features (such as redox concentrations, formerly known as mottles), which form by the reduction, translocation, and/or oxidation of iron and manganese oxides. Hydric soils may lack hydric indicators for several reasons. In such cases the same standard used to determine wetland hydrology when indicators are lacking can be used.

Other Waters of the United States: In this document, "other waters of the United States" refers to those hydric features that are regulated by the CWA but are not wetlands (33 CFR Section 328.4). The term "other waters of the United States" includes water bodies, such as rivers and streams, that exhibit evidence of an OHWM (defined below) and are navigable or are hydrologically connected to a navigable water body (33 CFR Section 328.3[a]; 40 CFR Section 230.3[s]).

Navigable Waters of the United States: The Code of Federal Regulations (33 CFR Section 329.4) defines navigable waters of the United States as:

...those waters subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the waterbody, and is not extinguished by later actions or events which impede or destroy navigable capacity.

Traditional Navigable Waters: TNWs include all of the "navigable waters of the United States" as defined in 33 CFR Section 329.4 as well as by numerous decisions of the federal courts; those water bodies the USACE has determined are navigable waters of the United States pursuant to 33 CFR Section 329.14; plus all other waters that are navigable-in-fact. The definition of "navigable-in-fact" comes from a long line of court cases originating with *Daniel Ball*, 77 U.S. 557 (1870).

Ordinary High Water Mark: OHWM is defined in 33 CFR Section 328.3[e] as "...that 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 the soil, destruction of terrestrial vegetation, the presence of litter or debris, or other appropriate means that consider the characteristics of the surrounding area."

3.1.2 Rivers and Harbors Act of 1899

Section 10 of the RHA (33 U.S.C. Section 403) requires authorization from the USACE for work or structures in or affecting navigable waters of the United States. A determination of navigability, once made, applies laterally over the entire surface of the waterbody, and is not extinguished by later actions or events that impede or destroy navigable capacity (33 CFR Section 329.4).

3.1.3 Clean Water Act

The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was substantially reorganized and expanded in 1972. "Clean Water Act" became the Act's common name with amendments in 1972. The CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

SECTION 404

CWA Section 404 regulates the discharge of dredged and fill materials into waters of the United States. Applicants must obtain a permit from the USACE for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity. Waters of the United States are under the jurisdiction of USACE and EPA.

Compliance with CWA Section 404 requires compliance with several other environmental protection laws and regulations. USACE cannot issue an individual permit or verify the use of a general nationwide permit until the requirements of the federal Endangered Species Act and the National Historic Preservation Act, among other federal regulations, have been met. In addition, USACE cannot issue or verify any permit until a water quality certification, or a waiver of certification has been issued pursuant to CWA Section 401.

SECTION 401

Under CWA Section 401, applicants for a federal license or permit to conduct activities which may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate. Therefore, all projects that require a federal license or federal permit, such as a CWA Section 404 permit, must also comply with CWA Section 401.

Section 401 of the CWA gives the state authority to grant, deny, or waive certification of proposed federally licensed or permitted activities resulting in discharge to waters of the United States. The State Water Resources Control Board (State Water Board) directly regulates multi-regional projects and supports the Section 401 certification and wetlands program statewide. The regional water quality control board (RWQCB) regulates activities pursuant to Section 401(a)(1) of the federal CWA, which specifies that certification from the state is required for any applicant requesting a federal license or permit to conduct any activity including but not limited to the construction or operation of facilities that may result in any discharge into navigable waters.

3.2 WATERS OF THE STATE

Most projects involving wetlands, water bodies, or drainages are regulated by RWQCB, the principal state agency overseeing water quality of the state at the local/regional level. The survey area is located within the jurisdiction of the North Coast RWQCB. Where waters of the state overlap with waters of the United States, pending verification from the USACE, those waters would be regulated under Section 401 of the CWA, which is described in the Regulatory Framework in Section 3.1.

In the absence of waters of the United States, wetlands and waters may be regulated under the Porter-Cologne Act if project activities, discharges, or proposed activities or discharges could affect California's surface, coastal, or ground waters. The permit submitted by the applicant and issued by RWQCB is either a Water Quality Certification in the presence of waters of the United States or Waste Discharge Requirements in the absence of waters of the United States.

3.2.1 Porter-Cologne Water Quality Control Act

The State Water Board and the RWQCBs (together “Boards”) are the principal state agencies with primary responsibility for the coordination and control of water quality. In the Porter-Cologne Act, the Legislature declared that the “state must be prepared to exercise its full power and jurisdiction to protect the quality of the waters in the state from degradation...” (California Water Code section 13000).

The Porter-Cologne Act grants the Boards the authority to implement and enforce the water quality laws, regulations, policies and plans to protect the groundwater and surface waters of the state. Waters of the state determined to be jurisdictional would require, if impacted, waste discharge permitting and/or a CWA Section 401 certification (in the case of a required USACE permit under Section 404). The enforcement of the state's water quality requirements is not solely the purview of the Boards and their staff. For instance, per FGC Section 5650 California Department of Fish and Wildlife (CDFW) has the authority to enforce certain water quality provisions in state law.

3.2.2 State Wetland Dredge and Fill Policy

The State Wetland Procedures, as prepared by the State Water Board, were implemented on May 28, 2020. The procedures include a definition for wetland waters of the state that include (1) all wetland waters of the United States²; and (2) aquatic resources that meet both the soils and hydrology criteria for wetland waters of the United States but lack vegetation.³

The State Water Resources Control Board has adopted the following definition of wetlands:

An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater or shallow surface water or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes the area lacks vegetation.

3.3 RIVERS, STREAMS, AND LAKES

3.3.1 Fish and Game Code Section 1602

Pursuant to Division 2, Chapter 6, Section 1600 et seq. of the FGC, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream, or lake that supports fish or wildlife. Under Section 1602 of FGC, it is unlawful for any person to substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river lake or stream without first notifying CDFW. The removal or treatment of vegetation from the bed or banks of lake and stream features is considered a substantial change and is regulated under Section 1602. The CDFW reviews proposed project notifications, and if necessary, submits to the applicant a proposal that includes measures to protect affected fish and wildlife resources during project implementation. The final proposal that is mutually agreed upon by CDFW and the project proponent is called a Lake or Streambed Alteration Agreement (LSAA). Such an agreement is not a permit, but rather a mutual accord between CDFW and a project proponent. Because CDFW includes under its regulatory authority streamside habitats and activities within any watershed that may affect lake and stream habitat that supports fish and wildlife resources, CDFW regulatory authority may be broader than USACE or RWQCB jurisdiction.

² Therefore, wetlands that meet the current definition, or any historic definition, of waters of the United State are waters of the state. In 2000, the State Water Board determined that all waters of the United States are also waters of the state by regulation, prior to any regulatory or judicial limitations on the federal definition of waters of the United States (California Code of Regulations title 23, section 3831(w).) This regulation has remained in effect despite subsequent changes to the federal definition. Therefore, waters of the state includes features that have been determined by the USEPA or the USACE to be “waters of the United State” in an approved jurisdictional determination; “waters of the United States” identified in an aquatic resource report verified by the USACE upon which a permitting decision was based; and features that are consistent with any current or historic final judicial interpretation of “waters of the United State” or any current or historic federal regulation defining “waters of the United States” under the Clean Water Act.

³ Less than 5 percent areal coverage at the peak of the growing season.

4 METHODS

4.1 PRE-FIELD REVIEW

Prior to conducting the field investigation, Ascent wetland ecologists performed the following pre-field investigations:

- ▶ Review of the Arcata North and Arcata South, CA USGS 7.5-minute topographic quadrangle maps;
- ▶ Review of Google Earth aerial photographs of the study area for vegetative, topographic, and hydrographic signatures (Google Earth 2023) (historic aerial photographs from 1985–2022 were reviewed as well as current 2023 aerial photographs);
- ▶ Review of the *Custom Soil Resource Report for Humboldt County, Central Part, California*, for information about soils and geomorphology (NRCS 2023);
- ▶ Review of the National Wetlands Inventory (USFWS 2023); and
- ▶ Review of the Wetland Map from the aquatic resource delineation that Streamline Planning Consultants conducted for the *Foster Avenue Creekside Homes Annexation* (Streamline Planning Consultants 2016).

4.2 FIELD SURVEY METHODS

Before conducting the field delineation of the study area, an Ascent wetland ecologist reviewed the resources listed above to determine areas of potential federal and state jurisdiction. Areas showing evidence of wetland and/or drainage signatures were investigated within the delineation study area. The field delineation was conducted in the study area June 13-14, 2023, by Ascent wetland ecologists Shannon Hickey and Hannah Weinberger. Potentially jurisdictional features were mapped and jurisdictional determination and OHWM data forms were completed during the delineation field survey. All aquatic resources were investigated for indicators of wetland hydrology, dominance of hydrophytic vegetation, and hydric soil indicators or an OHWM.

4.2.1 Waters of the United States

DATA COLLECTION

During the surveys, the wetland ecologists walked meandering transects through the study area, surveying for all aquatic resources that were potential waters of the United States and/or waters of the state. The USACE 1987 *Wetlands Delineation Manual* (Environmental Laboratory 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Environmental Laboratory 2010) were used to delineate wetlands that are potentially subject to USACE jurisdiction under Section 404 of the CWA. The 1987 Manual and 2010 Western Mountains, Valleys, and Coast Region Supplement provide technical guidelines and methods for the three-parameter approach to determining the location and boundaries of jurisdictional wetlands. This approach requires that an area support positive indicators of hydrophytic vegetation, hydric soils, and wetland hydrology to be considered a jurisdictional wetland. Routine jurisdictional determination data forms were completed for nineteen sample points during the survey and are provided in Appendix A.

DETERMINATION OF HYDROPHYTIC VEGETATION

To determine whether the area at a sample point was dominated by hydrophytic vegetation, plant species at each sample site were recorded and the wetland indicator status was recorded for the dominant species using USACE's *National Wetlands Plant List for the Western Mountains, Valleys, and Coast Region* (USACE 2020). A species is considered dominant when that species—individually or collectively—accounts for 50 percent of the total absolute

cover in a vegetation stratum. Additional codominant species are identified if those species account for at least 20 percent of the absolute cover in a designated vegetation stratum (Environmental Laboratory 2010).

Hydrophytic species include those listed as obligate (OBL), facultative wetland (FACW), or facultative (FAC) species, which correspond to a given species frequency of occurrence in wetlands. Per delineation protocol, a sample site was considered to have hydrophytic vegetation if greater than 50 percent of the dominant species had an indicator status of FAC or wetter. Plants were identified to species using *The Jepson Manual: Vascular Plants of California (Second Edition)* (Baldwin et al., 2012). The *National Wetland Plant List* (USACE 2020) was used to determine the wetland indicator status of all plants.

DETERMINATION OF HYDRIC SOILS

The *Custom Soil Resource Report for Humboldt County, Central Part, California* (NRCS 2023) was consulted to identify soil units mapped in the study area by NRCS and determine if any of the mapped soil units are listed as hydric. Soils were examined by digging soil test pits to determine whether hydric soils exist in a sampling location. Soils were described in terms of depth, matrix color, texture, and other diagnostic features indicative of hydric soils, such as the presence of concretions and oxidized rhizospheres (a redoximorphic feature, according to Vepraskas [2015]). Hydric soil indicators were based on those provided in the 1987 USACE manual, the 2010 regional supplement, *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils* (NRCS 2017), and Vepraskas (2015).

DETERMINATION OF WETLAND HYDROLOGY

Wetland hydrology was assessed by recording observations such as inundation, high water table, hydrogen sulfide odor, drift deposits, and water marks. In addition, the potentially jurisdictional areas were all evaluated in terms of their status as a navigable waterway or their adjacency or hydrological connection to a navigable waterway.

DETERMINATION OF ORDINARY HIGH WATER MARK

Waters of the United States were delineated based on the OHWM, using the USACE's guide to OHWM delineation in the Western Mountains, Valleys, and Coast region (Mersel and Lichvar 2014). A non-perennial stream feature's OHWM, in the Western Mountains, Valleys, and Coast region, is consistently associated with some combination of three primary indicators – a topographic break in slope, change in vegetation characteristics, and change in sediment characteristics – that express the signature of the active channel (Mersel and Lichvar 2014). An OHWM data form was completed and is provided in Appendix B.

JURISDICTIONAL DETERMINATION

1. The USACE *Jurisdictional Determination Form Instructional Guidebook* was consulted to aid the preliminary determination that an area would be subject to USACE jurisdiction under CWA Section 404 (USACE 2007). To facilitate jurisdictional determination consistent with the guidance, each water body delineated was evaluated as a TNW, RPW, or non-RPW.

4.2.2 Mapping and Acreage Calculations

All features, including wetland sample points, wetland boundaries, OHWM intervals, and stream channel courses were recorded in the field using a global positioning system (GPS) with an Eos Arrow 100 GPS unit capable of sub-meter accuracy. In the office, GPS data were downloaded, and aquatic features mapped using Geographic Information System (GIS) software (ArcGIS Pro) on an overlay of both topography and geo-referenced aerial photography. Acreages of aquatic resources polygons and the length of linear features were determined using ArcGIS.

5 EXISTING CONDITIONS

5.1 LANDSCAPE SETTING

The study area (Figure 2) is within the Arcata city limits in the Northern California Coast USDA Ecoregion. The majority of the study area is in the North Coast Floristic subregion (Baldwin et al. 2012). Vegetation communities surrounding the study area include pasture, cropland, annual grassland, and riparian woodland. Elevations range from a high of approximately 39 feet above mean sea level to a low of approximately 17 feet above mean sea level. The study area is characterized by flat or slightly inclined topography with McDaniel Slough flowing generally north to south along the eastern edge of the study area.

5.1.1 Habitats/Land Cover

Vegetation in the study area was mapped using land cover mapping from on the ground observations and mapping during the aquatic resource delineation and biological reconnaissance survey in 2023. Plant taxonomy follows *The Jepson Manual: Vascular Plants of California (Second Edition)* nomenclature (Baldwin et al. 2012) as revised by the Jepson eFlora (Jepson 2023). Common names of plant species are derived from Jepson eFlora (Jepson 2023). If a common name was not provided in Jepson eFlora for the species, common names were derived from the USDA Plants Database (2023). A complete list of plant species observed in the study area during the surveys and their wetland indicator status is provided in Appendix C. The study area supports the following general habitat types: nonnative/ornamental shrub, ruderal grassland, riparian woodland, and urban/barren, freshwater emergent wetland, seasonal wetland, and riverine. These are discussed in detail below. Upland habitats are discussed first (Figure 4); aquatic habitats are discussed second.

Upland Habitats

Nonnative/Ornamental Shrub

The nonnative/ornamental shrub community (9.28 acres) onsite is dominated by Himalayan blackberry (*Rubus armeniacus*) (FAC). Though the vegetation community is dominated by nonnative species, native species were sparsely present. This includes California rose (*Rosa californica*) (FAC) observed alongside the road and in one location in the northern section of the study area. Tree species observed include coastal willow (*Salix hookeriana*) (FACW), also native, which was sparsely interspersed throughout the site and alongside the road, and cultivated prune (*Prunus* sp.) (NI) along the road.

Ruderal Grassland

Ruderal grassland (5.61 acres) habitats are disturbed upland grasslands dominated by nonnative and generalist native species. Generally, these communities are in areas that have been extremely disturbed by heavy equipment, such as abandoned mill sites like the study area. Ruderal grassland in the study area is dominated by nonnative herbaceous species such as Mediterranean barley (*Hordeum marinum* Spp. *gussoneanum*) (FAC), oats (*Avena* sp.) (NL), soft chess (*Bromus hordeaceus*) (FACU), and sweet vernal grass (*Anthoxanthum odoratum*) (FACU). Common forbs include cutleaf geranium (*Geranium dissectum*) (NL), fennel (*Foeniculum vulgare*) (NI), and poison hemlock (*Conium maculatum*) (FAC). Large patches of wild teasel (*Dipsacus fullonum*) (FAC) border the shrub areas. Ruderal grassland is concentrated mostly in the middle and southern sections of the study area.



Sources: Adapted by Ascent in 2023.

Figure 4 Land Cover

Riparian Woodland

Riparian communities (1.57 acres) are characterized by hydrophilic plants that either tolerate or require moist conditions and periodic free flowing water and are present along river margins and banks. Riparian habitat is present along McDaniel Slough in the eastern section of the study area with plant species including big-leaf maple (*Acer macrophyllum*) (FACU), red alder (*Alnus rubra*) (FAC), black cottonwood (*Populus trichocarpa*) (NL), coastal willow (*Salix hookeriana*) (FACW), English ivy (*Hedera helix*) (FACU), and western sword fern (*Polystichum munitum*) (FACU). The riparian habitat within the study area is classified as riparian lotic using the Classification of Wetlands and Deepwater Habitats of the United States (FGDC 2013). Wetland determination data form RW-SP-01 (Appendix A) reflects the conditions observed in the riparian area during the field investigation which determined wetlands were not present in the riparian area.

Urban/Barren

Urban and barren areas (1.65 acres) are located throughout the study area but are concentrated at the southern end of the site. These areas are made up of gravel paths or remnant concrete from former mill structures.

Aquatic Habitats

Freshwater Emergent Wetland

Freshwater emergent wetlands (0.19 acre) are characterized by emergent herbaceous plants growing in areas with intermittently flooded or permanently saturated soils. In the study area, this community type is represented by two wetland features in the southern section of the study area north of the seasonal wetlands along the road. The freshwater emergent wetland sampled onsite was dominated almost completely by subarctic fern (*Athyrium filix-femina* var. *cyclosorum*) (FAC) with small sparse cover of giant horsetail (*Equisetum telmateia* Ssp. *braunii*), California sword fern (*Polystichum californicum*) (FACW), and Himalayan blackberry (*Rubus armeniacus*) (FAC).

Seasonal Wetland

Seasonal wetlands (0.23 acre) are freshwater wetlands that support ponded or saturated soil conditions during winter and spring and are mostly dry through the summer and fall. Within the study area, seasonal wetlands occur in the southern section of the study area along Foster Ave. The seasonal wetlands onsite are also classified as ditches. When the survey was conducted these areas had been recently mowed which made classifying plant species challenging. Associated wetland plant species that could be identified include Himalayan blackberry, common horsetail (*Equisetum arvense*) (FAC), and curly dock (*Rumex crispus*) (FAC).

Riverine

Riverine habitats (0.24 acre) are distinguished by flowing water and occur in association with a variety of terrestrial habitats. McDaniel Slough, which is classified as tidal riverine habitat, is found within the study area boundaries.

5.1.2 Soils

Table 1 provides a list of the soil map units in the study area, a brief description, and the hydric status of the soil map unit, according to the *Custom Soil Resource Report for Humboldt County, Central Part, California* (NRCS 2023; included as Appendix D). The locations of these soil units within the study area, as mapped by NRCS, are depicted on the soils map in Figure 5.

Table 1 Soil Map Units that Occur in the Study area According to the Custom Soil Resource Report for Humboldt County, Central Part, California

Map Unit Name	Map Unit	Map Unit Composition	Components Descriptions	Hydric?
Dungan, 0 to 2 percent slopes	210	Dungan and similar soils: 85%	Well drained soil occurring on backslopes. Soil formed in alluvium derived from mixed sources. Depth to water table is more than 80 inches. Flooding frequency is rare to none and ponding frequency is none. Available water supply is high (about 10.8 inches).	No
		Minor components: 15%	Minor components are Ferndale (7%), Arlynda (5%), and Russ (3%) soils.	No
Arlynda, 0 to 9 percent slopes	133	Arlynda and similar soils: 85%	Very poorly drained soil occurring on backslopes. Soil formed in alluvium derived from mixed sources. Depth to water table is more than 80 inches. Flooding frequency is occasional to none and ponding frequency is frequent. Available water supply is high (about 10.3 inches).	Yes
		Minor components: 15%	Minor components are Ferndale (4%), Weott (3%), Loleta (3%), Swainslough (3%), and Worswick (2%) soils.	Some ¹
Jollygiant, 0 to 2 percent slopes	127	Jollygiant and similar soils: 80%	Somewhat poorly drained soil occurring on backslopes. Soil formed in alluvium derived from mixed sources. Depth to water table is more than 80 inches. Flooding frequency is rare to none and ponding frequency is none. Available water supply is high (about 10.1 inches).	No
		Minor components: 20%	Minor components are Urban land, residential (8%), urban land, industrial (3%), Canalschool (3%), Fluvaquentic endoaquolls (3%), Weott (3%) soils.	Some ²

¹ Minor components Weott, Loleta, Swainslough, and Worswick are hydric soils whereas Ferndale is not a hydric soil.

² Minor components Fluvaquentic endoaquolls and Weott are both hydric whereas the urban land and Canalschool soils are not hydric.



Sources: Adapted by Ascent in 2023.

Figure 5 Soils

5.1.3 Hydrology

The study area is located within the Humboldt Bay-Frontal Pacific Ocean (HUC 180101020605) USGS hydrologic unit code (HUC)-12 watershed subbasin. McDaniel Slough is the primary surface water body in the study area. McDaniel Slough generally flow north to south at the southeastern border of the study area, eventually flowing southeast under 17th Street, southwest under Q Street, then under 11th Street, continuing south under Highway 255, meanders through the McDaniel Slough Wildlife Area and terminates into Arcata Bay, which flows out to the Pacific Ocean. Part of the McDaniel Slough system also borders Arcata Bay, west of where the main channel of McDaniel Slough terminates in the bay. Precipitation and groundwater are the main sources of water for McDaniel Slough.

5.1.4 Climate

The climate in the Arcata region is Mediterranean, and is characterized by cool, dry summers with fog and cool, wet winters, with the bulk of precipitation occurring as rain in the winter months. Data from the National Oceanic and Atmospheric Administration’s Agricultural Applied Climate Information System (AgACIS) for the ARCATA 0.9 WNW weather station indicates that average annual precipitation from 2018 to 2023 was 34.90 inches, with the majority of that falling between November and April. No temperature data is gathered at the ARCATA 0.9 WNW weather station. The next closest station that does collect temperature data is the Eureka WFO Woodley Island weather station, where the maximum annual temperature was 87.8 degrees Fahrenheit with an average maximum of 64.0 degrees Fahrenheit and minimum annual temperature was 20.1 degrees with an average minimum of 40.0 degrees Fahrenheit (NOAA 2023). The aquatic resources delineation was conducted within the study area June 13-14, 2023. A total of approximately 0.50 inch of rain had fallen in the Arcata area seven days prior to the survey date (NOAA 2023). Additionally, the month of May had a total of 1.29 inches of rain with most of it occurring at the beginning of the month (NOAA 2023). Table 2 summarizes monthly total precipitation at the ARCATA 0.9 WNW weather station for recent years.

Table 2 Monthly Total Precipitation for ARCATA 0.9 WNW, CA Weather Station

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
2018	7.01	2.50	7.25	5.16	0.83	0.62	0.02	0.08	0.30	0.92	4.59	5.58	34.86
2019	5.93	12.88	4.42	2.44	2.25	0.05	0.02	0.27	4.07	1.81	1.85	7.20	43.19
2020	8.99	0.91	3.04	2.28	4.94	0.68	0.02	0.08	0.66	0.68	2.45	4.47	29.20
2021	6.60	5.83	4.14	0.86	0.47	1.51	0.21	0.08	1.64	4.34	3.20	7.13	36.01
2022	2.55	0.57	2.05	4.99	2.18	1.78	0.70	0.05	0.55	0.25	4.47	11.08	31.22
2023	7.23	5.40	9.38	3.10	1.29	0.12	-	-	-	-	-	-	-

Source: NOAA 2023.

5.2 AQUATIC RESOURCES

Sites potentially qualifying as waters of the United States according to Section 404 of the CWA are depicted on the aquatic resources delineation maps in Figure 6. These aquatic resources are also regulated by the state of California under the Porter-Cologne Water Quality Control Act, the State Wetlands Procedures, and FGC Section 1602. Delineation sample points and OHWM sample points are also depicted on the aquatic resources delineation map and are cross-referenced to the wetland determination data forms provided in Appendix A and OHWM data forms provided in Appendix B. Descriptions of these aquatic resources are included below and representative photographs of each aquatic resource type are provided in Appendix E. An aquatic resource Excel file listing all potentially jurisdictional features, their Cowardin classification code, HGM code, linear feet within the study area, water type, and latitude and longitude is provided in Appendix F.

A total of approximately 0.65 acre of potentially jurisdictional waters of the United States and state, including wetlands, are present within the 18.76-acre study area (Table 3). The study area contains approximately 0.24-acre of RPW in the form of McDaniel Slough. Approximately 0.42 acre of wetland habitat in the form of five freshwater emergent wetlands is present in the study area. Three of these wetlands encompassing 0.23 acre are within ditches. All waters of the United States are also waters of the state; however, waters disclaimed by USACE may still qualify as waters of the state.

Table 3 Aquatic Resources in the Study area

Aquatic Resource Name	Aquatic Resources Classification		Aquatic Resource Size (acre) Required for All Resources	Aquatic Resource Size (linear feet) Required only for Stream Channels
	FGDC (Cowardin) Code ¹	Location (lat/long)		
Other Waters of the United States				
Riverine Tidal (McDaniel Slough)			0.24	946.45
McDaniel Slough	R1	40.880244/-124.093590	0.24	946.45
Total Other Waters			0.24	946.45
Wetlands				
Palustrine Emergent Persistent – Freshwater Emergent Wetland (FEW)			0.19	—
FEW-1	PEM1	40.880045/-124.096150	0.02	—
FEW-2	PEM1	40.879823/-124.095352	0.16	—
Palustrine Emergent Non-Persistent – Seasonal Wetland (SW)			0.23	
SW-1	PEM2	40.879437/-124.094318	0.05	—
SW-2	PEM2	40.879740/-124.095403	0.17	—
SW-3	PEM2	40.879972/-124.096218	0.01	
Total Wetlands			0.42	—
Total Wetlands and Other Waters			0.65	—

Notes: The codes identify the types of wetlands and are explained in Appendix F. Totals may not sum exactly due to independent rounding.

¹ FGDC 2013.



Sources: Data collected by Ascent in 2023; adapted in 2026.

Figure 6 Aquatic Resources Delineations

5.2.1 Other Waters of the United States

Other waters are non-wetland aquatic resources with an OHWM, including lakes, rivers, and perennial or intermittent streams. Other waters in the study area consist of McDaniel Slough (riverine tidal) which connects to Arcata Bay to the south. This feature was delineated based on the OHWM.

RIVERINE TIDAL

One riverine feature, McDaniel Slough, encompassing approximately 0.24 acre (946.45 linear feet) is present within the eastern section of the study area. This riverine feature is classified under the *Federal Geographic Data Committee classification system* as riverine tidal (FGDC 2013). McDaniel Slough drains from the northeastern section of the study area along the eastern border and flows to the south-southeast until it exits the study area and flows under Foster Ave. The seasonal wetland SW-1 abuts McDaniel Slough in the southeastern corner of the study area. Additionally, seasonal wetlands SW-1, SW-2, and SW-3 are connected by culverts and flow into McDaniel Slough in the southeastern corner of the study area. McDaniel Slough eventually terminates in Arcata Bay, which then flows into the Pacific Ocean. The average width of the OHWM of McDaniel Slough within the study area is approximately 9.5 feet. McDaniel Slough flows through riparian woodland. The bed substrate for McDaniel Slough is composed primarily of silt. The OHWM of the slough was identified by changes in sediment texture, breaks in slope, and changes in vegetation.

The riverine tidal feature in the study area was delineated as a RPW subject to USACE jurisdiction under Section 404 of the CWA because it has an OHWM and is hydrologically connected to Arcata Bay, which is a TNW. McDaniel Slough has riparian vegetation on its banks indicating that the water table is within 12 inches of the surface throughout the growing season. OHWM data form 1 in Appendix B provides information about the reach of McDaniel Slough that is within the study area. Photos of this feature are provided in photos 6 and 7 of Appendix E.

5.2.2 Wetlands

FRESHWATER EMERGENT WETLANDS

Two freshwater emergent wetlands (FEW-1, FEW-2), totaling approximately 0.19 acre, were identified in the study area. The freshwater emergent wetlands within the study area are classified as palustrine emergent persistent wetlands using the *Classification of Wetlands and Deepwater Habitats of the United States* (FGDC 2013). The wetland community FEW-2 was dominated by subarctic lady fern (*Athyrium filix-femina* var. *cyclosorum*) (FAC⁴) with small amounts of giant horsetail (*Equisetum telmateia* ssp. *braunii*) (FACW), California sword fern (*Polystichum californicum*) (NI), and Himalayan blackberry (FAC). Water was assumed to be present as it was not possible to safely access the bottom of the ditch containing the wetland, which was over four feet deep. Wetland feature FEW-2 is located at the southern end of the site north of Foster Ave within a roadside ditch. Hydric soils for FEW-2 were indicated by the presence of a depleted dark surface (Indicator F7⁵ from the Western Mountains, Valleys, and Coast Supplement). FEW-2 does not appear to be directly connected with the seasonal wetlands to the south and therefore is not directly connected with the RPW McDaniel Slough. The wetland feature FEW-1 is also located at the southern end of the study area north of Foster Ave and the seasonal wetland/ditches present along the road. FEW-1 was assumed to be a wetland based off its similar topography and position in study area to FEW-2 as well as consistent conditions. The hydrophytic plant community, hydric soil, and wetland hydrology were presumed for FEW-1 because they were

⁴ OBL = obligate wetland (almost always occurs in wetlands under natural conditions); FACW = facultative wetland (usually occurs in wetlands, but may occur in non-wetlands); FAC = facultative (occurs in wetlands and non-wetlands); FACU = Facultative Upland (usually occurs in non-wetlands, but may occur in wetlands); UPL = Upland (almost never occurs in wetlands); NL = not listed.

⁵ Hydric soil indicators are presented in three groups in the Western Mountains, Valleys, and Coast Supplement. Group A: Indicators for All Soils. Group F: Indicators for Loamy and Clayey Soils. Group S: Indicators for Sandy Soils.

consistent with those observed in FEW-2. These wetland features were delineated as three-parameter wetlands in the delineation conducted in 2016 on the site (Streamline Planning Consultants 2016).

The freshwater emergent wetlands FEW-1 and FEW-2 are adjacent to seasonal wetlands that are directly connected to McDaniel Slough, both have a predominance of hydrophytic plant species, the presence of wetland hydrology, and the presence of hydric soils. Therefore, these freshwater emergent wetlands were delineated as wetland waters of the state. Wetland determination data form W-SP-10 reflect the conditions observed in the freshwater emergent wetlands FEW-2, during the field investigation and the surrounding upland areas are represented by sample points W-SP-11 and U-SP-11 (Appendix A). Photos of FEW-2 are provided in photo 4 of Appendix E.

SEASONAL WETLANDS

The study area contains three seasonal wetlands (SW-1, SW-2, SW-3) comprising a total of approximately 0.23 acre located at the southern end of the study area bordering Foster Ave. The seasonal wetlands within the study area are classified as palustrine emergent nonpersistent wetlands using the *Classification of Wetlands and Deepwater Habitats of the United States* classification system (FGDC 2013). Additionally, all three seasonal wetlands are within ditches and hydrologically connected by culverts. The seasonal wetland (SW-1) in the southeastern corner of the site directly abuts and flows into McDaniel Slough. The hydrophytic plant community, hydric soil, and wetland hydrology were presumed for SW-1. Wetland feature SW-2 is directly northwest of SW-1. The hydrologic indicator oxidized rhizospheres along living roots was observed in SW-2 (Indicator C3). The vegetation within SW-2 was recently mowed at the time of the delineation, so it was hard to get a precise description of plant species. Himalayan blackberry (FAC), common horsetail (FAC), and common velvet grass (FAC) were observed, and cover passed the Dominance Test. Hydric soils were indicated in this feature by the presence of a depleted dark surface (Indicator F7). Wetland feature SW-3 is directly northwest of SW-2. The hydrophytic plant community, hydric soil, and wetland hydrology were presumed for SW-3 because they were consistent with those observed in SW-2.

The seasonal wetlands SW-1, SW-2, and SW-3 are directly connected to McDaniel Slough, all have a predominance of hydrophytic plant species, the presence of wetland hydrology, and the presence of hydric soils. Therefore, these freshwater emergent wetlands were delineated as wetland waters of the United States and state. Wetland determination data form W-SP-07 reflects the conditions observed in the seasonal wetland SW-2 during the field investigation and the surrounding upland areas are represented by sample point U-SP-07 (Appendix A). Photos SW-1 and SW-2 are provided in photos 1, 2, and 3 of Appendix E.

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Appendix A

Wetland Delineation Data Sheets

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Parking Lot City/County: Humboldt Sampling Date: 06/13/2023
 Applicant/Owner: Cal Poly Humboldt State: CA Sampling Point: W-SP-01
 Investigator(s): Shannon and Hannah Section, Township, Range: S29 T6N R1E
 Landform (hillslope, terrace, etc.): Terrace/road Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR): A Lat: 40.88076125 Long: -124.09578747 Datum: WGS84
 Soil Map Unit Name: Jollygiant, 0 to 2 percent slopes NWI classification: FEW PEM1B

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: Historic aeriels show this area once supported building structures. The soil is likely fill material and there is a rocky restrictive layer.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>45</u></td> <td>x 2 = <u>90</u></td> </tr> <tr> <td>FAC species <u>32</u></td> <td>x 3 = <u>96</u></td> </tr> <tr> <td>FACU species <u>22</u></td> <td>x 4 = <u>88</u></td> </tr> <tr> <td>UPL species <u>2</u></td> <td>x 5 = <u>10</u></td> </tr> <tr> <td>Column Totals: <u>101</u> (A)</td> <td><u>284</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.81</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>45</u>	x 2 = <u>90</u>	FAC species <u>32</u>	x 3 = <u>96</u>	FACU species <u>22</u>	x 4 = <u>88</u>	UPL species <u>2</u>	x 5 = <u>10</u>	Column Totals: <u>101</u> (A)	<u>284</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>45</u>	x 2 = <u>90</u>																	
FAC species <u>32</u>	x 3 = <u>96</u>																	
FACU species <u>22</u>	x 4 = <u>88</u>																	
UPL species <u>2</u>	x 5 = <u>10</u>																	
Column Totals: <u>101</u> (A)	<u>284</u> (B)																	
_____ = Total Cover																		
Sapling/Shrub Stratum (Plot size: _____)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
Herb Stratum (Plot size: 10-ft _____)																		
1. <u>Juncus patens / Spreading rush</u>	<u>45</u>	<u>Yes</u>	<u>FACW</u>															
2. <u>Anthoxanthum odoratum / Sweet vernal grass</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>															
3. <u>Poa pratensis spp. pratensis / Kentucky blue grass</u>	<u>10</u>	<u>No</u>	<u>FAC</u>															
4. <u>Holcus lanatus / Common velvet grass</u>	<u>10</u>	<u>No</u>	<u>FAC</u>															
5. <u>Dipsacus fullonum / Wild teasel</u>	<u>10</u>	<u>No</u>	<u>FAC</u>															
6. <u>Briza minor / Annual quaking grass</u>	<u>2</u>	<u>No</u>	<u>FAC</u>															
7. <u>Cynosurus echinatus / Bristly dogtail grass</u>	<u>2</u>	<u>No</u>	<u>NL</u>															
8. <u>Bromus hordeaceus / Soft chess</u>	<u>2</u>	<u>No</u>	<u>FACU</u>															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
Woody Vine Stratum (Plot size: _____)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
_____ = Total Cover																		
% Bare Ground in Herb Stratum _____																		
Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ 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: W-SP-01

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

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
6	5YR 2.5/2	98	5YR 4/6	1	C	PL	Loam

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

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

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

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

Restrictive Layer (if present):

Type: Gravel
Depth (inches): 6

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Soil is likely fill material and there is a rocky restrictive layer. Very difficult to dig. Was able to get down 6 inches and then hit gravel surface. No obvious hydrophytic soil indicators. Soil does not stick together so if there is redox present, it is not visible except occasionally in rhizospheres.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☒ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

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

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Parking Lot City/County: Humboldt Sampling Date: 06-14-2023
 Applicant/Owner: Cal Poly Humboldt State: CA Sampling Point: W-SP-08
 Investigator(s): Shannon and Hannah Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR): A Lat: 40.88305165 Long: -124.09419851 Datum: WGS84
 Soil Map Unit Name: Dungan, 0 to 2 percent slopes NWI classification: None

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 _____	Hydic Soil Present? Yes _____ No ☒	Is the Sampled Area within a Wetland? Yes _____ No ☒
Wetland Hydrology Present? Yes _____ No ☒		
Remarks: No space to take a paired upland point		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.67</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>96</u> x 3 = <u>288</u> FACU species <u>7</u> x 4 = <u>28</u> UPL species <u>1</u> x 5 = <u>5</u> Column Totals: <u>104</u> (A) <u>321</u> (B) Prevalence Index = B/A = <u>3.08</u>
Sapling/Shrub Stratum (Plot size: <u>10-ft</u>)				
1. <u>Rubus armeniacus / Himalayan blackberry</u>	<u>85</u>	<u>Yes</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>10-ft</u>)				
1. <u>Conium maculatum / Poison hemlock</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Foeniculum vulgare / Fennel</u>	<u>1</u>	<u>No</u>	<u>NL</u>	Hydrophytic Vegetation Present? Yes ☒ No _____
3. <u>Rumex crispus / Curly dock</u>	<u>2</u>	<u>No</u>	<u>FAC</u>	
4. <u>Ranunculus repens / Creeping buttercup</u>	<u>1</u>	<u>No</u>	<u>FAC</u>	
5. <u>Anthoxanthum odoratum / Sweet vernal grass</u>	<u>7</u>	<u>Yes</u>	<u>FACU</u>	
6. <u>Dipsacus fullonum / Wild teasel</u>	<u>3</u>	<u>No</u>	<u>FAC</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

SOIL

Sampling Point: W-SP-08

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
5	5YR 2.5/2	100					Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

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

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

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

Restrictive Layer (if present):

Type: Gravel/cobbles
Depth (inches): 5

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
Water Table Present? Yes ☐ No ☒ Depth (inches): _____
Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Parking Lot City/County: Humboldt Sampling Date: 06/13/2023
 Applicant/Owner: Cal Poly Humboldt State: CA Sampling Point: U-SP-01
 Investigator(s): Shannon and Hannah Section, Township, Range: S29 T6N R1E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR): A Lat: 40.88075955 Long: -124.09573646 Datum: WGS84
 Soil Map Unit Name: Jollygiant, 0 to 2 percent slopes NWI classification: FEW PEM1B

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: Point located in gravel road. Impossible to dig beyond an inch or two. Soil presumed non hydric. Vegetation is mowed.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>55</u></td> <td>x 3 = <u>165</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>80</u> (A)</td> <td><u>270</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.38</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>55</u>	x 3 = <u>165</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>80</u> (A)	<u>270</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>55</u>	x 3 = <u>165</u>																	
FACU species <u>20</u>	x 4 = <u>80</u>																	
UPL species <u>5</u>	x 5 = <u>25</u>																	
Column Totals: <u>80</u> (A)	<u>270</u> (B)																	
_____ = Total Cover																		
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover																		
Herb Stratum (Plot size: 5-ft _____) 1. <u>Poa pratensis</u> spp. <u>pratensis</u> / <u>Kentucky blue grass</u> <u>35</u> Yes <u>FAC</u> 2. <u>Hordeum marinum</u> spp. <u>gussoneanum</u> / <u>Mediterranean barley</u> <u>20</u> Yes <u>FAC</u> 3. <u>Festuca myuros</u> / <u>Rattail sixweeks grass</u> <u>15</u> No <u>FACU</u> 4. <u>Unknown</u> <u>5</u> No <u>NL</u> 5. <u>Plantago lanceolata</u> / <u>English plantain</u> <u>5</u> No <u>FACU</u> 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ _____ = Total Cover																		
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover % Bare Ground in Herb Stratum <u>20</u>																		
Remarks:																		

SOIL

Sampling Point: U-SP-01

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
☐ Surface Water (A1) ☐ High Water Table (A2) ☐ Saturation (A3) ☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soil Cracks (B6) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Sparsely Vegetated Concave Surface (B8)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) ☐ Salt Crust (B11) ☐ 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) ☐ Stunted or Stressed Plants (D1) (LRR A) ☐ Other (Explain in Remarks)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ☐ Drainage Patterns (B10) ☐ Dry-Season Water Table (C2) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Frost-Heave Hummocks (D7)
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes ☐ No ☒
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Parking Lot City/County: Humboldt Sampling Date: 06/13/2023
 Applicant/Owner: Cal Poly Humboldt State: CA Sampling Point: W-SP-02
 Investigator(s): Shannon and Hannah Section, Township, Range: S29 T6N R1E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%):
 Subregion (LRR): A Lat: Long: Datum: WGS84
 Soil Map Unit Name: Jollygiant, 0 to 2 percent slopes NWI classification: FEW PEM1B

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 <u> </u> No ☒	Is the Sampled Area within a Wetland?	Yes <u> </u> No ☒
Hydric Soil Present?	Yes <u> </u> No ☒		
Wetland Hydrology Present?	Yes ☒ No <u> </u>		
Remarks: The soil is problematic because this area from aerial imagery looks like it was developed at one time and possibly filled in.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: <u> </u> OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species <u>40</u> x 3 = <u>120</u> FACU species <u>60</u> x 4 = <u>240</u> UPL species <u>8</u> x 5 = <u>40</u> Column Totals: <u>158</u> (A) <u>500</u> (B) Prevalence Index = B/A = <u>3.16</u>
Sapling/Shrub Stratum (Plot size: <u> </u>)				
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Herb Stratum (Plot size: <u> </u>)				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> 5 - Wetland Non-Vascular Plants ¹ <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Anthoxanthum odoratum / Sweet vernal grass</u>	<u>60</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Juncus patens / Spreading rush</u>	<u>50</u>	<u>Yes</u>	<u>FACW</u>	
3. <u>Rubus armeniacus / Himalayan blackberry</u>	<u>15</u>	<u>No</u>	<u>FAC</u>	
4. <u>Dipsacus fullonum / Wild teasel</u>	<u>15</u>	<u>No</u>	<u>FAC</u>	
5. <u>Holcus lanatus / Common velvet grass</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	
6. <u>Unknown Apiaceae</u>	<u>8</u>	<u>No</u>	<u>NL</u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
11. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>158</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)				Hydrophytic Vegetation Present? Yes <u> </u> No ☒
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u> </u>				
Remarks:				

SOIL

Sampling Point: W-SP-02

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
☐ High Water Table (A2)	☐ Salt Crust (B11)	☐ Drainage Patterns (B10)
☐ Saturation (A3)	☐ Aquatic Invertebrates (B13)	☐ Dry-Season Water Table (C2)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Sediment Deposits (B2)	☒ Oxidized Rhizospheres along Living Roots (C3)	☐ Geomorphic Position (D2)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Shallow Aquitard (D3)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☒ FAC-Neutral Test (D5)
☐ Iron Deposits (B5)	☐ Stunted or Stressed Plants (D1) (LRR A)	☐ Raised Ant Mounds (D6) (LRR A)
☐ Surface Soil Cracks (B6)	☐ Other (Explain in Remarks)	☐ Frost-Heave Hummocks (D7)
☐ Inundation Visible on Aerial Imagery (B7)		
☐ Sparsely Vegetated Concave Surface (B8)		
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes ☒ No ☐
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Very difficult to determine what percentage of soil has oxidized rhizosphere's. They are not obvious. Did find a trace amount.		

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Parking Lot City/County: Humboldt Sampling Date: 06/13/2023
 Applicant/Owner: Cal Poly Humboldt State: CA Sampling Point: U-SP-02
 Investigator(s): Shannon and Hannah Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR): A Lat: 40.881594 Long: -124.095303 Datum: WGS84
 Soil Map Unit Name: Jollygiant, 0 to 2 percent slopes NWI classification: FEW PEM1B

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: Sample point located in dirt/gravel road			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>10</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15</u></td> </tr> <tr> <td>FACU species <u>2</u></td> <td>x 4 = <u>8</u></td> </tr> <tr> <td>UPL species <u>60</u></td> <td>x 5 = <u>300</u></td> </tr> <tr> <td>Column Totals: <u>82</u> (A)</td> <td><u>343</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.18</u>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>5</u>	x 3 = <u>15</u>	FACU species <u>2</u>	x 4 = <u>8</u>	UPL species <u>60</u>	x 5 = <u>300</u>	Column Totals: <u>82</u> (A)	<u>343</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>10</u>	x 1 = <u>10</u>																	
FACW species <u>5</u>	x 2 = <u>10</u>																	
FAC species <u>5</u>	x 3 = <u>15</u>																	
FACU species <u>2</u>	x 4 = <u>8</u>																	
UPL species <u>60</u>	x 5 = <u>300</u>																	
Column Totals: <u>82</u> (A)	<u>343</u> (B)																	
_____ = Total Cover																		
Sapling/Shrub Stratum (Plot size: _____)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
Herb Stratum (Plot size: _____)																		
1. <u>Deschampsia spp. / Hairgrass</u>	<u>60</u>	<u>Yes</u>	<u>NL</u>															
2. <u>Mentha pulegium / Pennyroyal</u>	<u>10</u>	<u>No</u>	<u>OBL</u>															
3. <u>Hordeum marinum ssp. gussoneanum / Mediterranean barley</u>	<u>5</u>	<u>No</u>	<u>FAC</u>															
4. <u>Hordeum brachyantherum / Meadow barley</u>	<u>5</u>	<u>No</u>	<u>FACW</u>															
5. <u>Plantago lanceolata / English plantain</u>	<u>2</u>	<u>No</u>	<u>FACU</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>82</u> = Total Cover																		
Woody Vine Stratum (Plot size: _____)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
_____ = Total Cover																		
% Bare Ground in Herb Stratum <u>8</u>																		
Remarks:																		

Hydrophytic Vegetation Present? Yes _____ No ☒

SOIL

Sampling Point: U-SP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
								Assuming non-hydric soils - see remarks below
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.)							Indicators for Problematic Hydric Soils³:	
☐ Histosol (A1)		☐ Sandy Redox (S5)				☐ 2 cm Muck (A10)		
☐ Histic Epipedon (A2)		☐ Stripped Matrix (S6)				☐ Red Parent Material (TF2)		
☐ Black Histic (A3)		☐ Loamy Mucky Mineral (F1) (except MLRA 1)				☐ Very Shallow Dark Surface (TF12)		
☐ Hydrogen Sulfide (A4)		☐ Loamy Gleyed Matrix (F2)				☐ Other (Explain in Remarks)		
☐ Depleted Below Dark Surface (A11)		☐ Depleted Matrix (F3)				³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
☐ Thick Dark Surface (A12)		☐ Redox Dark Surface (F6)						
☐ Sandy Mucky Mineral (S1)		☐ Depleted Dark Surface (F7)						
☐ Sandy Gleyed Matrix (S4)		☐ Redox Depressions (F8)						
Restrictive Layer (if present): Type: _____ Depth (inches): <u> 0 </u>							Hydric Soil Present? Yes _____ No ☒	
Remarks: Sample point in road, no way to dig hole. Assuming non-hydric soils.								

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
☐ High Water Table (A2)	☐ Salt Crust (B11)	☐ Drainage Patterns (B10)
☐ Saturation (A3)	☐ Aquatic Invertebrates (B13)	☐ Dry-Season Water Table (C2)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3)	☐ Geomorphic Position (D2)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Shallow Aquitard (D3)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ FAC-Neutral Test (D5)
☐ Iron Deposits (B5)	☐ Stunted or Stressed Plants (D1) (LRR A)	☐ Raised Ant Mounds (D6) (LRR A)
☐ Surface Soil Cracks (B6)	☐ Other (Explain in Remarks)	☐ Frost-Heave Hummocks (D7)
☐ Inundation Visible on Aerial Imagery (B7)		
☐ Sparsely Vegetated Concave Surface (B8)		
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes ☐ No ☒
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Parking Lot City/County: Humboldt Sampling Date: 06/13/2023
 Applicant/Owner: Cal Poly Humboldt State: CA Sampling Point: W-SP-03
 Investigator(s): Shannon and Hannah Section, Township, Range: S20 T6N R1E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex Slope (%): 2
 Subregion (LRR): A Lat: 40.88315978 Long: -124.094722 Datum: WGS84
 Soil Map Unit Name: Dungan, 0 to 2 percent slopes NWI classification: _____

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:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>65</u> x 3 = <u>195</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>145</u> (A) <u>515</u> (B) Prevalence Index = B/A = <u>3.55</u>
Sapling/Shrub Stratum (Plot size: <u>10-ft</u>)				
1. <u>Rubus armeniacus / Himalayan blackberry</u>	<u>50</u>	<u>Yes</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>10-ft</u>)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Anthoxanthum odoratum / Sweet vernal grass</u>	<u>75</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Rumex crispus / Curly dock</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	
3. <u>Holcus lanatus / Common velvet grass</u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
4. <u>Plantago lanceolata / English plantain</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No ☒
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>3</u>				
Remarks:				

SOIL

Sampling Point: W-SP-03

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
4	7.5YR 2.5/1	100						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

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

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

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

Restrictive Layer (if present):

Type: Gravel
Depth (inches): 4

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Was able to get down 4 inches and then hit gravel surface. The soil is problematic because this area from aerial imagery looks like it was developed at one time or possibly filled in. No obvious hydrophytic soil indicators. But soil does not stick together so if there is redox present, it is not visible except occasionally in rhizospheres.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present?	Yes ☐ No ☒	Depth (inches): <u> </u>
Water Table Present?	Yes ☐ No ☒	Depth (inches): <u> </u>
Saturation Present? (includes capillary fringe)	Yes ☐ No ☒	Depth (inches): <u> </u>

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Parking Lot City/County: Humboldt Sampling Date: 06/13/2023
 Applicant/Owner: Cal Poly Humboldt State: CA Sampling Point: U-SP-03
 Investigator(s): Shannon and Hannah Section, Township, Range: S20 T6N R1E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-2
 Subregion (LRR): A Lat: 40.883135 Long: -124.094775 Datum: WGS84
 Soil Map Unit Name: Dungan, 0 to 2 percent slopes NWI classification: None

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:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>110</u></td> <td>x 4 = <u>440</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>115</u> (A)</td> <td><u>465</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.04</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>110</u>	x 4 = <u>440</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>115</u> (A)	<u>465</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>110</u>	x 4 = <u>440</u>																	
UPL species <u>5</u>	x 5 = <u>25</u>																	
Column Totals: <u>115</u> (A)	<u>465</u> (B)																	
Sapling/Shrub Stratum (Plot size: _____)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
Herb Stratum (Plot size: _____)																		
1. <u>Aira caryophylla</u> / Silver hair grass	<u>85</u>	<u>Yes</u>	<u>FACU</u>															
2. <u>Festuca myuros</u> / Rattail sixweeks grass	<u>20</u>	<u>No</u>	<u>FACU</u>															
3. <u>Plantago lanceolata</u> / English plantain	<u>5</u>	<u>No</u>	<u>FACU</u>															
4. <u>Avena spp./ Oat</u>	<u>5</u>	<u>No</u>	<u>NL</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>115</u> = Total Cover				Hydrophytic Vegetation Present? Yes ☐ No ☒														
Woody Vine Stratum (Plot size: _____)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
_____	_____	_____	_____															
_____ = Total Cover																		
% Bare Ground in Herb Stratum _____																		
Remarks:																		

SOIL

Sampling Point: U-SP-03

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:			Wetland Hydrology Indicators	
Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (2 or more required)	
☐ Surface Water (A1) ☐ High Water Table (A2) ☐ Saturation (A3) ☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soil Cracks (B6) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Sparsely Vegetated Concave Surface (B8)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) ☐ Salt Crust (B11) ☐ 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) ☐ Stunted or Stressed Plants (D1) (LRR A) ☐ Other (Explain in Remarks)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ☐ Drainage Patterns (B10) ☐ Dry-Season Water Table (C2) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Frost-Heave Hummocks (D7)		
Field Observations:				
Surface Water Present? Yes ☐ No ☒	Depth (inches): _____	Wetland Hydrology Present? Yes ☐ No ☒		
Water Table Present? Yes ☐ No ☒	Depth (inches): _____			
Saturation Present? Yes ☐ No ☒	Depth (inches): _____			
(includes capillary fringe)				
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks:				

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Parking Lot City/County: Humboldt Sampling Date: 06/13/2023
 Applicant/Owner: Cal Poly Humboldt State: CA Sampling Point: W-SP-04
 Investigator(s): Shannon and Hannah Section, Township, Range: S29 T6N R1E
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR): A Lat: 40.88221272 Long: -124.09489261 Datum: WGS84
 Soil Map Unit Name: Dungan, 0 to 2 percent slopes NWI classification: _____

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: This area used to be an old lumber mill and was potentially filled in.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>100</u></td> <td>x 3 = <u>300</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>300</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.0</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>100</u>	x 3 = <u>300</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>300</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>100</u>	x 3 = <u>300</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>300</u> (B)																	
Sapling/Shrub Stratum (Plot size: _____)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
Herb Stratum (Plot size: _____)																		
1. <u>Dipsacus fullonum / Wild teasel</u>	<u>75</u>	<u>Yes</u>	<u>FAC</u>															
2. <u>Rumex crispus / Curly dock</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
Woody Vine Stratum (Plot size: _____)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
_____ = Total Cover																		
% Bare Ground in Herb Stratum _____																		
Remarks:																		

SOIL

Sampling Point: W-SP-04

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
10	10YR 2/2	100					Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

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

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

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

Restrictive Layer (if present):

Type: Gravel
Depth (inches): 10

Hydric Soil Present? Yes ☐ No ☒

Remarks:

The soil is problematic. No obvious hydrophytic soil indicators. Soil does not stick together so if there is redox present, it is not visible except occasionally in rhizospheres.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present?	Yes ☐ No ☒	Depth (inches): <u> </u>
Water Table Present?	Yes ☐ No ☒	Depth (inches): <u> </u>
Saturation Present? (includes capillary fringe)	Yes ☐ No ☒	Depth (inches): <u> </u>

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Parking Lot City/County: Humboldt Sampling Date: 06/13/2023
 Applicant/Owner: Cal Poly Humboldt State: CA Sampling Point: U-SP-04
 Investigator(s): Shannon and Hannah Section, Township, Range: S29 T6N R1E
 Landform (hillslope, terrace, etc.): Terrace/Road berm Local relief (concave, convex, none): Convex Slope (%): 0
 Subregion (LRR): A Lat: 40.882184 Long: -124.094964 Datum: WGS84
 Soil Map Unit Name: Dungan, 0 to 2 percent slopes NWI classification: None

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:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>12</u></td> <td>x 4 = <u>48</u></td> </tr> <tr> <td>UPL species <u>95</u></td> <td>x 5 = <u>475</u></td> </tr> <tr> <td>Column Totals: <u>107</u> (A)</td> <td><u>523</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.89</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>12</u>	x 4 = <u>48</u>	UPL species <u>95</u>	x 5 = <u>475</u>	Column Totals: <u>107</u> (A)	<u>523</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>12</u>	x 4 = <u>48</u>																	
UPL species <u>95</u>	x 5 = <u>475</u>																	
Column Totals: <u>107</u> (A)	<u>523</u> (B)																	
Sapling/Shrub Stratum (Plot size: _____)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
Herb Stratum (Plot size: _____)																		
1. <u>Avena spp. / Oat</u>	<u>85</u>	<u>Yes</u>	<u>NL</u>															
2. <u>Bromus hordeaceus / Soft chess</u>	<u>10</u>	<u>No</u>	<u>FACU</u>															
3. <u>Unkown Apiaceae</u>	<u>5</u>	<u>No</u>	<u>NL</u>															
4. <u>Bromus diandrus / Ripgut grass</u>	<u>5</u>	<u>No</u>	<u>NL</u>															
5. <u>Aira caryophyllea / Silver hair grass</u>	<u>2</u>	<u>No</u>	<u>FACU</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
Woody Vine Stratum (Plot size: _____)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
_____ = Total Cover																		
% Bare Ground in Herb Stratum _____																		
Remarks:																		

SOIL

Sampling Point: U-SP-04

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
☐ Surface Water (A1) ☐ High Water Table (A2) ☐ Saturation (A3) ☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soil Cracks (B6) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Sparsely Vegetated Concave Surface (B8)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) ☐ Salt Crust (B11) ☐ 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) ☐ Stunted or Stressed Plants (D1) (LRR A) ☐ Other (Explain in Remarks)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ☐ Drainage Patterns (B10) ☐ Dry-Season Water Table (C2) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Frost-Heave Hummocks (D7)
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes ☐ No ☒
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Parking Lot City/County: Humboldt Sampling Date: 06/13/2023
 Applicant/Owner: Cal Poly Humboldt State: CA Sampling Point: W-SP- 05
 Investigator(s): Shannon and Hannah Section, Township, Range: S29 T6N R1E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR): A Lat: 40.881918 Long: -124.094777 Datum: WGS84
 Soil Map Unit Name: Dungan, 0 to 2 percent slopes NWI classification: None

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:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>1</u></td> <td>x 1 = <u>1</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>100</u></td> <td>x 3 = <u>300</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>3</u></td> <td>x 5 = <u>15</u></td> </tr> <tr> <td>Column Totals: <u>104</u> (A)</td> <td><u>216</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.04</u>	Total % Cover of:	Multiply by:	OBL species <u>1</u>	x 1 = <u>1</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>100</u>	x 3 = <u>300</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>3</u>	x 5 = <u>15</u>	Column Totals: <u>104</u> (A)	<u>216</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>1</u>	x 1 = <u>1</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>100</u>	x 3 = <u>300</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>3</u>	x 5 = <u>15</u>																	
Column Totals: <u>104</u> (A)	<u>216</u> (B)																	
_____ = Total Cover																		
Sapling/Shrub Stratum (Plot size: _____)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
Herb Stratum (Plot size: 10-ft _____)																		
1. <u>Dipsacus fullonum / Wild teasel</u>	<u>95</u>	<u>Yes</u>	<u>FAC</u>															
2. <u>Poa pratensis spp. pratensis / Kentucky blue grass</u>	<u>5</u>	<u>No</u>	<u>FAC</u>															
3. <u>Unknown</u>	<u>3</u>	<u>No</u>	<u>NL</u>															
4. <u>Lythrum hyssopifolia / Hyssop loosestrife</u>	<u>1</u>	<u>No</u>	<u>OBL</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
Woody Vine Stratum (Plot size: _____)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
_____ = Total Cover																		
% Bare Ground in Herb Stratum _____																		
Remarks:																		

SOIL

Sampling Point: W-SP- 05

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
10	10YR 2/2	100					Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

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

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

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

Restrictive Layer (if present):

Type: Gravel
Depth (inches): 10

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
Water Table Present? Yes ☐ No ☒ Depth (inches): _____
Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Parking Lot City/County: Humboldt Sampling Date: 06/13/2023
Applicant/Owner: Cal Poly Humboldt State: CA Sampling Point: U-SP-05
Investigator(s): Shannon and Hannah Section, Township, Range: S29 T6N R1E
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0
Subregion (LRR): A Lat: 40.881832 Long: -124.094809 Datum: WGS84
Soil Map Unit Name: Dungan, 0 to 2 percent slopes NWI classification: None

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 ☐	Hydric Soil Present? Yes ☐ No ☒	Wetland Hydrology Present? Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
_____ = Total Cover			
Sapling/Shrub Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
_____ = Total Cover			
Herb Stratum (Plot size: <u>5-ft</u>)			
1. <u>Hordeum marinum ssp. gussoneanum / Mediterranean barley</u>	<u>100</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Festuca perennis / Rye grass</u>	<u>10</u>	<u>No</u>	<u>FAC</u>
3. <u>Unknown</u>	<u>8</u>	<u>No</u>	<u>NL</u>
4. <u>Cynosurus echinatus / Bristly dogtail grass</u>	<u>1</u>	<u>No</u>	<u>NL</u>
5. <u>Briza minor / Annual quaking grass</u>	<u>1</u>	<u>No</u>	<u>FAC</u>
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
_____ = Total Cover			
Woody Vine Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
_____ = Total Cover			
% Bare Ground in Herb Stratum _____			
Remarks:			

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>111</u>	x 3 = <u>333</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>9</u>	x 5 = <u>45</u>
Column Totals: <u>120</u> (A)	<u>378</u> (B)

Prevalence Index = B/A = 3.15

Hydrophytic Vegetation Indicators:
☐ 1 - Rapid Test for Hydrophytic Vegetation
☒ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0¹
☐ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
☐ 5 - Wetland Non-Vascular Plants¹
☐ Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☒

SOIL

Sampling Point: U-SP-05

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
								Assuming non-hydric soils - see remarks below

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

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

- ☐ Histosol (A1) ☐ Sandy Redox (S5)
- ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6)
- ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3)
- ☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6)
- ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7)
- ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present): Type: _____ Depth (inches): ¹ _____	Hydric Soil Present? Yes _____ No ☒
---	--

Remarks:
 No way to dig a hole - assuming non-hydric soils

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
☐ High Water Table (A2)	☐ Salt Crust (B11)	☐ Drainage Patterns (B10)
☐ Saturation (A3)	☐ Aquatic Invertebrates (B13)	☐ Dry-Season Water Table (C2)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3)	☐ Geomorphic Position (D2)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Shallow Aquitard (D3)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ FAC-Neutral Test (D5)
☐ Iron Deposits (B5)	☐ Stunted or Stressed Plants (D1) (LRR A)	☐ Raised Ant Mounds (D6) (LRR A)
☐ Surface Soil Cracks (B6)	☐ Other (Explain in Remarks)	☐ Frost-Heave Hummocks (D7)
☐ Inundation Visible on Aerial Imagery (B7)		
☐ Sparsely Vegetated Concave Surface (B8)		
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes ☐ No ☒
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Parking Lot City/County: Humboldt Sampling Date: 06/13/2023
 Applicant/Owner: Cal Poly Humboldt State: CA Sampling Point: W-SP-06
 Investigator(s): Shannon and Hannah Section, Township, Range: S29 T6N R1E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 1
 Subregion (LRR): A Lat: 40.881433 Long: -124.093619 Datum: WGS84
 Soil Map Unit Name: Arlynda, 0 to 9 percent slopes NWI classification: None

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: Area very overgrown; no where to take paired upland point			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30-ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Salix lasiolepis / Arroyo willow</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
<u>5</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>5-ft</u>)				Total % Cover of: _____ Multiply by: _____
1. <u>Rubus armeniacus / Himalayan blackberry</u>	<u>60</u>	<u>Yes</u>	<u>FAC</u>	OBL species <u>0</u> x 1 = <u>0</u>
2. _____	_____	_____	_____	FACW species <u>10</u> x 2 = <u>20</u>
3. _____	_____	_____	_____	FAC species <u>113</u> x 3 = <u>339</u>
4. _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
5. _____	_____	_____	_____	UPL species <u>3</u> x 5 = <u>15</u>
<u>60</u> = Total Cover				Column Totals: <u>126</u> (A) <u>374</u> (B)
Herb Stratum (Plot size: <u>5-ft</u>)				Prevalence Index = B/A = <u>2.97</u>
1. <u>Poa pratensis spp. pratensis / Kentucky blue grass</u>	<u>50</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Equisetum telmateia ssp. braunii / Giant horsetail</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
3. <u>Geranium dissectum / Cutleaf geranium</u>	<u>3</u>	<u>No</u>	<u>NL</u>	
4. <u>Rumex crispus / Curly dock</u>	<u>3</u>	<u>No</u>	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>61</u> = Total Cover				Hydrophytic Vegetation Present? Yes ☒ No ☐
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

SOIL

Sampling Point: W-SP-06

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
8	10YR 2/2	100					Loam	

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

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

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

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

Restrictive Layer (if present):

Type: Rock/gravel
Depth (inches): 8

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

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

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Parking Lot City/County: Humboldt Sampling Date: 06/13/2023
 Applicant/Owner: Cal Poly Humboldt State: CA Sampling Point: W-SP-07
 Investigator(s): Shannon and Hannah Section, Township, Range: S29 T6N R1E
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR): A Lat: 40.87959445 Long: -124.09475634 Datum: WGS84
 Soil Map Unit Name: Jollygiant, 0 to 2 percent slopes NWI classification: FEW PEM1B

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: The ditch was recently mowed, so it was hard to get a precise description of plant species.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>50</u> x 3 = <u>150</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>5</u> x 5 = <u>25</u> Column Totals: <u>55</u> (A) <u>175</u> (B) Prevalence Index = B/A = <u>3.18</u>
Sapling/Shrub Stratum (Plot size: 10x5ft) 1. <u>Rubus armeniacus / Himalayan blackberry</u> 35 Yes FAC 2. _____ 3. _____ 4. _____ 5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: 10x5ft) 1. <u>Equisetum arvense / Common horsetail</u> 5 No FAC 2. <u>Pteridium spp. / Bracken</u> 5 No NL 3. <u>Holcus lanatus / Common velvet grass</u> 5 No FAC 4. <u>Rumex crispus / Curly dock</u> 5 No FAC 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover % Bare Ground in Herb Stratum _____				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ☒ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks: The ditch was recently mowed, so it was hard to get a precise description of plant species.				

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
16	2.5Y 3/1	60	2.5YR 5/8	1	C	M	Clay Loam	
			5YR 6/8	1	C	M		
			GLE Y1 4/N	38	D	M		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

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

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☒ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators 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) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☒ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☒ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

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 – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Parking Lot City/County: Humboldt Sampling Date: 06-13-2023
 Applicant/Owner: Cal Poly Humboldt State: CA Sampling Point: U-SP-07
 Investigator(s): Shannon and Hannah Section, Township, Range: S29 T6N R1E
 Landform (hillslope, terrace, etc.): Bank of ditch Local relief (concave, convex, none): Convex Slope (%):
 Subregion (LRR): A Lat: 40.87957238 Long: -124.09477203 Datum: WGS84
 Soil Map Unit Name: Jollygiant, 0 to 2 percent slopes NWI classification: FEW PEM1B

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: Sample point located on bank next to road (Foster Ave). The bank was mowed, so it was hard to characterize plant species precisely.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>5-ft</u>)				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: <u> </u> OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>60</u> x 4 = <u>240</u> UPL species <u>10</u> x 5 = <u>50</u> Column Totals: <u>100</u> (A) <u>380</u> (B) Prevalence Index = B/A = <u>3.8</u>
1. <u>Rubus armeniacus / Himalayan blackberry</u>	<u>3</u>	<u>Yes</u>	<u>FAC</u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>3</u> = Total Cover				
Herb Stratum (Plot size: <u>5-ft</u>)				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> 5 - Wetland Non-Vascular Plants ¹ <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Anthoxanthum odoratum / Sweet vernal grass</u>	<u>60</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Holcus lanatus / Common velvet grass</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Unknown forb</u>	<u>10</u>	<u>No</u>	<u>NL</u>	
4. <u>Equisetum arvense / Common horsetail</u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
5. <u>Rumex crispus / Curly dock</u>	<u>2</u>	<u>No</u>	<u>FAC</u>	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
11. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>97</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)				Hydrophytic Vegetation Present? Yes ☒ No ☐
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u> </u>				
Remarks:				

SOIL

Sampling Point: U-SP-07

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

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
14	10YR 3/2	99	2.5Y 7/8	1	C	M	Loam

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

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

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators 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) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ☒

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

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Parking Lot City/County: Humboldt Sampling Date: 06/14/2023
 Applicant/Owner: Cal Poly Humboldt State: CA Sampling Point: W-SP-09
 Investigator(s): Shannon and Hannah Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR): A Lat: 40.88179987 Long: -124.09459241 Datum: WGS84
 Soil Map Unit Name: Dungan, 0 to 2 percent slopes NWI classification: None

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 _____	Hydric Soil Present? Yes _____ No ☒	Is the Sampled Area within a Wetland? Yes _____ No ☒
Wetland Hydrology Present? Yes ☒ No _____		
Remarks: The surface is 90% rocks and cobble in a slight depression. Lacking hydric soils.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>26</u></td> <td>x 1 = <u>26</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>18</u></td> <td>x 3 = <u>54</u></td> </tr> <tr> <td>FACU species <u>6</u></td> <td>x 4 = <u>24</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>50</u> (A)</td> <td><u>104</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.08</u>	Total % Cover of:	Multiply by:	OBL species <u>26</u>	x 1 = <u>26</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>18</u>	x 3 = <u>54</u>	FACU species <u>6</u>	x 4 = <u>24</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>50</u> (A)	<u>104</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>26</u>	x 1 = <u>26</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>18</u>	x 3 = <u>54</u>																	
FACU species <u>6</u>	x 4 = <u>24</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>50</u> (A)	<u>104</u> (B)																	
_____ = Total Cover																		
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover																		
Herb Stratum (Plot size: _____) 1. <u>Mentha pulegium / Pennyroyal</u> 25 Yes OBL 2. <u>Lythrum hyssopifolia / Hyssop loosestrife</u> 1 No OBL 3. <u>Hordeum marinum spp. gussoneanum / Mediterranean barley</u> 10 Yes FAC 4. <u>Festuca perennis / Rye grass</u> 8 No FAC 5. <u>Bromus hordeaceus / Soft chess</u> 6 No FACU 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ _____ = Total Cover																		
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover																		
% Bare Ground in Herb Stratum <u>50</u>																		
Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ 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: W-SP-09

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1	5YR 2.5/2	100					Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

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

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

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

Restrictive Layer (if present):

Type: Gravel/cobble
Depth (inches): 1

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Not able to dig past 1 inch; soils closely resembled other sample points on site

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☒ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☒ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present?	Yes ☐ No ☒	Depth (inches): <u> </u>
Water Table Present?	Yes ☐ No ☒	Depth (inches): <u> </u>
Saturation Present? (includes capillary fringe)	Yes ☐ No ☒	Depth (inches): <u> </u>

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Parking Lot City/County: Humboldt Sampling Date: 06/14/2023
 Applicant/Owner: Cal Poly Humboldt State: CA Sampling Point: W-SP-10
 Investigator(s): Shannon and Hannah Section, Township, Range: S29 T6N R1E
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave Slope (%): 0-5
 Subregion (LRR): A Lat: 40.879608 Long: -124.094915 Datum: WGS84
 Soil Map Unit Name: Jollygiant, 0 to 2 percent slopes NWI classification: FEW PEM1B

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: Vegetation is very dense. Appears to be a ditch approximately 4+ feet deep.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>110</u></td> <td>x 3 = <u>330</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>130</u> (A)</td> <td><u>385</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.96</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>15</u>	x 2 = <u>30</u>	FAC species <u>110</u>	x 3 = <u>330</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>130</u> (A)	<u>385</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>15</u>	x 2 = <u>30</u>																	
FAC species <u>110</u>	x 3 = <u>330</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>5</u>	x 5 = <u>25</u>																	
Column Totals: <u>130</u> (A)	<u>385</u> (B)																	
Sapling/Shrub Stratum (Plot size: _____)																		
1. <u>Rubus armeniacus / Himalayan blackberry</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
Herb Stratum (Plot size: <u>10-ft</u>)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1. <u>Athyrium filix-femina var. cyclosorum / Subarctic lady fern</u>	<u>100</u>	<u>Yes</u>	<u>FAC</u>															
2. <u>Equisetum telmateia ssp. braunii / Giant horsetail</u>	<u>15</u>	<u>No</u>	<u>FACW</u>															
3. <u>Polystichum californicum / California sword fern</u>	<u>5</u>	<u>No</u>	<u>NL</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes ☒ No ☐														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
_____ = Total Cover																		
% Bare Ground in Herb Stratum _____																		
Remarks:																		

SOIL

Sampling Point: W-SP-10

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
16	2.5Y 3/1	60	2.5YR 5/8	1	C	M	Clay Loam	
			5YR 6/8	1	C	M		
			Gley1 4/N	38	D	M		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

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

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☒ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators 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) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

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:

Presume hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Parking Lot City/County: Humboldt Sampling Date: 06/14/2023
 Applicant/Owner: Cal Poly Humboldt State: CA Sampling Point: W-SP-11
 Investigator(s): Shannon and Hannah Section, Township, Range: S29 T6N R1E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR): A Lat: 40.879618 Long: -124.094952 Datum: WGS84
 Soil Map Unit Name: Jollygiant, 0 to 2 percent slopes NWI classification: FEW PEM1B

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 ☐	Hydric Soil Present? Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Wetland Hydrology Present? Yes ☐ No ☒		
Remarks: Gravel, underlays entire study area, except along the road (Foster Ave).		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>76</u> x 3 = <u>228</u> FACU species <u>50</u> x 4 = <u>200</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>146</u> (A) <u>468</u> (B) Prevalence Index = B/A = <u>3.21</u>
Sapling/Shrub Stratum (Plot size: 15-ft _____) 1. <u>Rubus armeniacus / Himalayan blackberry</u> <u>75</u> Yes FAC 2. _____ 3. _____ 4. _____ 5. _____				
= Total Cover				
Herb Stratum (Plot size: 10-ft _____) 1. <u>Equisetum telmateia / Giant horsetail</u> <u>20</u> Yes FACW 2. <u>Dipsacus fullonum / Wild teasel</u> <u>1</u> No FAC 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____				
= Total Cover				
Woody Vine Stratum (Plot size: 30-ft _____) 1. <u>Hedera helix / English ivy</u> <u>50</u> Yes FACU 2. _____ _____ = Total Cover				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ 5 - Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum _____ _____ = Total Cover				
Hydrophytic Vegetation Present? Yes ☒ No ☐				
Remarks:				

SOIL

Sampling Point: W-SP-11

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
4	2.5Y 3/2	100					Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

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

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

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

Restrictive Layer (if present):

Type: Rock/gravel
Depth (inches): 4

Hydric Soil Present? Yes ☐ No ☒

Remarks:

The shovel hit solid gravel at 4 inches.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
Water Table Present? Yes ☐ No ☒ Depth (inches): _____
Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

No oxidized rhizospheres observed.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Parking Lot City/County: Humboldt Sampling Date: 06/14/2023
 Applicant/Owner: Cal Poly Humboldt State: CA Sampling Point: U-SP-11
 Investigator(s): Shannon and Hannah Section, Township, Range: S29 T6N R1E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR): A Lat: 40.879619 Long: -124.094958 Datum: WGS84
 Soil Map Unit Name: Jollygiant, 0 to 2 percent slopes NWI classification: FEW PEM1B

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: Sample point is located in the gravel road/trail			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Present? Yes ☐ No ☒
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>100</u>				
Remarks: No vegetation present; in road/trail				

SOIL

Sampling Point: U-SP-11

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
☐ Surface Water (A1) ☐ High Water Table (A2) ☐ Saturation (A3) ☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soil Cracks (B6) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Sparsely Vegetated Concave Surface (B8)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) ☐ Salt Crust (B11) ☐ 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) ☐ Stunted or Stressed Plants (D1) (LRR A) ☐ Other (Explain in Remarks)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ☐ Drainage Patterns (B10) ☐ Dry-Season Water Table (C2) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Frost-Heave Hummocks (D7)
Field Observations:		
Surface Water Present? Yes ☐ No ☒	Depth (inches): _____	Wetland Hydrology Present? Yes ☐ No ☒
Water Table Present? Yes ☐ No ☒	Depth (inches): _____	
Saturation Present? Yes ☐ No ☒	Depth (inches): _____	
(includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Parking Lot City/County: Humboldt Sampling Date: 06/14/2023
 Applicant/Owner: Cal Poly Humboldt State: CA Sampling Point: RW-SP-01
 Investigator(s): Shannon and Hannah Section, Township, Range: S29 T6N R1E
 Landform (hillslope, terrace, etc.): Bankslope Local relief (concave, convex, none): Convex Slope (%):
 Subregion (LRR): A Lat: 40.88097686 Long: -124.09414366 Datum: WGS84
 Soil Map Unit Name: Arlynda, 0 to 9 percent slopes NWI classification: None

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: Sample point along McDaniel Slough; does not seem like this part was filled in with soil.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20</u> (A/B)														
1. <u>Acer macrophyllum / Big-leaf maple</u>	<u>70</u>	<u>Yes</u>	<u>FACU</u>															
2. <u>Alnus rubra / Red alder</u>	<u>70</u>	<u>Yes</u>	<u>FAC</u>															
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
<u>140</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u> </u>)				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>70</u></td> <td>x 2 = <u>140</u></td> </tr> <tr> <td>FAC species <u>70</u></td> <td>x 3 = <u>210</u></td> </tr> <tr> <td>FACU species <u>90</u></td> <td>x 4 = <u>360</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>235</u> (A)</td> <td><u>735</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.13</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>70</u>	x 2 = <u>140</u>	FAC species <u>70</u>	x 3 = <u>210</u>	FACU species <u>90</u>	x 4 = <u>360</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>235</u> (A)	<u>735</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>70</u>	x 2 = <u>140</u>																	
FAC species <u>70</u>	x 3 = <u>210</u>																	
FACU species <u>90</u>	x 4 = <u>360</u>																	
UPL species <u>5</u>	x 5 = <u>25</u>																	
Column Totals: <u>235</u> (A)	<u>735</u> (B)																	
1. <u>Unknown</u>	<u>5</u>	<u>Yes</u>	<u>NL</u>															
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
<u>5</u> = Total Cover																		
Herb Stratum (Plot size: <u> </u>)				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ 5 - Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1. <u>Polystichum munitum / Western sword fern</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>															
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
11. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
<u>5</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u> </u>)				Hydrophytic Vegetation Present? Yes ☐ No ☒														
1. <u>Hedera helix / English ivy</u>	<u>85</u>	<u>Yes</u>	<u>FACU</u>															
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
<u>85</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>15</u>																		
Remarks:																		

SOIL

Sampling Point: RW-SP-01

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
☐ High Water Table (A2)	☐ Salt Crust (B11)	☐ Drainage Patterns (B10)
☐ Saturation (A3)	☐ Aquatic Invertebrates (B13)	☐ Dry-Season Water Table (C2)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3)	☐ Geomorphic Position (D2)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Shallow Aquitard (D3)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ FAC-Neutral Test (D5)
☐ Iron Deposits (B5)	☐ Stunted or Stressed Plants (D1) (LRR A)	☐ Raised Ant Mounds (D6) (LRR A)
☐ Surface Soil Cracks (B6)	☐ Other (Explain in Remarks)	☐ Frost-Heave Hummocks (D7)
☐ Inundation Visible on Aerial Imagery (B7)		
☐ Sparsely Vegetated Concave Surface (B8)		
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes ☐ No ☒
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

Appendix B

OHWM Data Sheets

Project: Humboldt Parking Lot **Date:** 06/14/2023
Location: Arcata, CA **Investigator(s):** Shannon H. and Hannah W.

Project Description:

Cal Poly Humboldt is proposing to construct a long-term parking lot at 2000 Foster Avenue in Arcata to support Cal Poly Humboldt resident students. The project site is currently vacant and approximately 0.75 mile northwest of the main campus

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

Insized on part of the bank, housing development on the eastern side of the riparian area.

Off-site Information

Remotely sensed image(s) acquired? ☒ **Yes** ☐ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

This is McDaniel slough that borders and flows through the project area on the eastern side. It is located in the town of Arcata, CA with developed farmland on the western side.

Hydrologic/hydraulic information acquired? ☐ **Yes** ☐ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

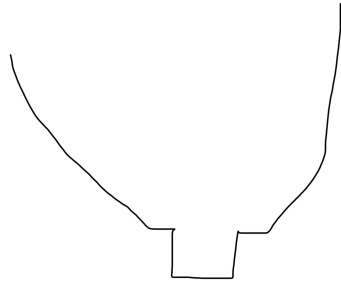
The McDaniel Slough flows through the eastern side of the study area, where it then flows south and eventually terminates in Arcata Bay, which flows into the Pacific Ocean. Part of the McDaniel Slough system also borders Arcata Bay west of where the main channel of McDaniel Slough terminates in the bay.

List and describe any other supporting information received/acquired:

Resources were soils, aerial photography, topographic, existing delineation for site, Global positioning system (GPS)

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☐ Sharp (> 60°) | ☐ Moderate (30–60°) | ☒ Gentle (< 30°) | ☐ None

Notes/Description:

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	0	0	0	10	90	
Below OHWM	100	0	0	0	0	

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	90	0	10	0
Below OHWM	0	0	0	0

Notes/Description:

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

Indicators of an Ordinary High Water Mark include change in average sediment texture, change in vegetation cover, and break in bank and slope

Appendix C

Plant List

Plant Species Observed within the Study Area for the Humboldt Parking Lot Project

Family	Common Name	Scientific Name	Wetland Indicator Status
HERBS			
Poaceae	Silver hair grass	<i>Aira caryophyllea</i>	FACU
Poaceae	Sweet vernal grass	<i>Anthoxanthum odoratum</i>	FACU
Poaceae	Oats	<i>Avena</i> sp.	NL
Athyriaceae	Subarctic ladyfern	<i>Athyrium filix-femina</i> var. <i>cyclosorum</i>	FAC
Poaceae	Annual quaking grass	<i>Briza minor</i>	FAC
Poaceae	Ripgut grass	<i>Bromus diandrus</i>	NL
Poaceae	Soft chess	<i>Bromus hordeaceus</i>	FACU
Apiaceae	Poison hemlock	<i>Conium maculatum</i>	FAC
Poaceae	Bristly dogtail grass	<i>Cynosurus echinatus</i>	NL
Poaceae	Hair grass	<i>Deschampsia</i> spp.	NL
Dipsacaceae	Wild teasel	<i>Dipsacus fullonum</i>	FAC
Equisetaceae	Common horsetail	<i>Equisetum arvense</i>	FAC
Equisetaceae	Giant horsetail	<i>Equisetum telmateia</i> ssp. <i>braunii</i>	FACW
Poaceae	Rattail sixweeks grass	<i>Festuca myuros</i>	FACU
Poaceae	Rye grass	<i>Festuca perennis</i>	FAC
Apiaceae	Fennel	<i>Foeniculum vulgare</i>	NL
Geraniaceae	Cutleaf geranium	<i>Geranium dissectum</i>	NL
Poaceae	Common velvet grass	<i>Holcus lanatus</i>	FAC
Poaceae	Meadow barley	<i>Hordeum brachyantherum</i>	FACW
Poaceae	Mediterranean barley	<i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	FAC
Juncaceae	Spreading rush	<i>Juncus patens</i>	FACW
Lythraceae	Hyssop loosestrife	<i>Lythrum hyssopifolia</i>	OBL
Lamiaceae	Pennyroyal	<i>Mentha pulegium</i>	OBL
Plantaginaceae	English plantain	<i>Plantago lanceolata</i>	FACU
Poaceae	Kentucky blue grass	<i>Poa pratensis</i> ssp. <i>pratensis</i>	FAC
Dryopteridaceae	California swordfern	<i>Polystichum californicum</i>	NL
Dryopteridaceae	Western sword fern	<i>Polystichum munitum</i>	FACU
Dennstaedtiaceae	Bracken	<i>Pteridium</i> sp.	NL
Ranunculaceae	Creeping buttercup	<i>Ranunculus repens</i>	FAC
Polygonaceae	Curly dock	<i>Rumex crispus</i>	FAC
VINES			
Araliaceae	English ivy	<i>Hedera helix</i>	FACU
SHRUBS			
Rosaceae	California rose	<i>Rosa californica</i>	FAC
Rosaceae	Himalayan blackberry	<i>Rubus armeniacus</i>	FAC

Family	Common Name	Scientific Name	Wetland Indicator Status
TREES			
Sapindaceae	Big-leaf maple	<i>Acer macrophyllum</i>	FACU
Betulaceae	Red alder	<i>Alnus rubra</i>	FAC
Salicaceae	Black cottonwood	<i>Populus trichocarpa</i>	NL
Rosaceae	Prunus	<i>Prunus</i> spp.	NL
Salicaceae	Willow	<i>Salix</i> spp.	NL
Salicaceae	Coastal willow	<i>Salix hookeriana</i>	FACW
Salicaceae	Arroyo willow	<i>Salix lasiolepis</i>	FACW

Sources: Jepson 2023; USACE 2023; USDA 2023

Appendix D

Soils Report



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

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

Custom Soil Resource Report for **Humboldt County, Central Part, California**



June 21, 2023

Preface

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

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

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

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

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

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

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How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

Custom Soil Resource Report

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

Soil Map

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

Custom Soil Resource Report Soil Map



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

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

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

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

Soil Survey Area: Humboldt County, Central Part, California
Survey Area Data: Version 9, Sep 1, 2022

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

Date(s) aerial images were photographed: Jun 1, 2022—Jun 19, 2022

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
127	Jollygiant, 0 to 2 percent slopes	11.2	51.0%
133	Arlynda, 0 to 9 percent slopes	2.4	10.9%
210	Dungan, 0 to 2 percent slopes	8.4	38.1%
Totals for Area of Interest		21.9	100.0%

Map Unit Descriptions

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

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

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

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

onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Humboldt County, Central Part, California

127—Jollygiant, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: n7ln

Elevation: 0 to 160 feet

Mean annual precipitation: 35 to 80 inches

Mean annual air temperature: 50 to 55 degrees F

Frost-free period: 275 to 330 days

Farmland classification: Prime farmland if irrigated and drained

Map Unit Composition

Jollygiant and similar soils: 80 percent

Minor components: 20 percent

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

Description of Jollygiant

Setting

Landform: Alluvial fans, stream terraces

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium derived from mixed sources

Typical profile

Ap - 0 to 16 inches: silty clay loam

Bg1 - 16 to 33 inches: silty clay loam

Bg2 - 33 to 47 inches: loam

Bg3 - 47 to 63 inches: very fine sandy loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)

Depth to water table: About 10 to 20 inches

Frequency of flooding: RareNone

Frequency of ponding: None

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

Available water supply, 0 to 60 inches: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): 2w

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C/D

Ecological site: R004BA203CA - Riparian

Hydric soil rating: No

Minor Components

Urban land, residential

Percent of map unit: 8 percent

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Landform: Marine terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Urban land, industrial

Percent of map unit: 3 percent
Landform: Flood-plain steps
Hydric soil rating: No

Canalschool

Percent of map unit: 3 percent
Landform: Flood-plain steps
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Fluvaquentic endoaquolls

Percent of map unit: 3 percent
Landform: Backswamps, flood-plain steps, depressions
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Weott

Percent of map unit: 3 percent
Landform: Flood-plain steps, depressions, backswamps
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: Yes

133—Arlynda, 0 to 9 percent slopes

Map Unit Setting

National map unit symbol: hs5q
Elevation: 0 to 230 feet
Mean annual precipitation: 35 to 80 inches
Mean annual air temperature: 50 to 56 degrees F
Frost-free period: 275 to 330 days
Farmland classification: Not prime farmland

Map Unit Composition

Arlynda and similar soils: 85 percent

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Minor components: 15 percent

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

Description of Arlynda

Setting

Landform: Depressions, backswamps, meander scars

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Tread

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Alluvium derived from mixed sources

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

Ap - 1 to 9 inches: silty clay loam

Bg1 - 9 to 22 inches: silty clay loam

Ab - 22 to 27 inches: clay loam

2Bg1 - 27 to 34 inches: silty clay loam

2Bg2 - 34 to 52 inches: silt loam

Properties and qualities

Slope: 0 to 9 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)

Depth to water table: About 0 to 4 inches

Frequency of flooding: OccasionalNone

Frequency of ponding: Frequent

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

Available water supply, 0 to 60 inches: High (about 10.3 inches)

Interpretive groups

Land capability classification (irrigated): 6w

Land capability classification (nonirrigated): 6w

Hydrologic Soil Group: C/D

Ecological site: R004BA205CA - Marshlands

Hydric soil rating: Yes

Minor Components

Ferndale

Percent of map unit: 4 percent

Landform: Flood-plain steps

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Weott

Percent of map unit: 3 percent

Landform: Flood-plain steps, depressions, backswamps

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Tread

Down-slope shape: Convex

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Across-slope shape: Convex

Hydric soil rating: Yes

Loleta

Percent of map unit: 3 percent

Landform: Fan remnants, alluvial fans

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Tread

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: Yes

Swainslough

Percent of map unit: 3 percent

Landform: Salt marshes, flood-plain steps, depressions, backswamps

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Tread, talf

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: Yes

Worswick

Percent of map unit: 2 percent

Landform: Flood-plain steps, natural levees

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: Yes

210—Dungan, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hs2j

Elevation: 10 to 160 feet

Mean annual precipitation: 35 to 80 inches

Mean annual air temperature: 50 to 55 degrees F

Frost-free period: 275 to 330 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Dungan and similar soils: 85 percent

Minor components: 15 percent

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

Description of Dungan

Setting

Landform: Flood-plain steps, alluvial fans, fan remnants

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Tread

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Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Alluvium derived from mixed sources

Typical profile

Ap1 - 0 to 3 inches: silt loam
Ap2 - 3 to 13 inches: silt loam
Bw - 13 to 29 inches: silt loam
C1 - 29 to 37 inches: fine sandy loam
C2 - 37 to 61 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 2.00 in/hr)
Depth to water table: About 39 to 61 inches
Frequency of flooding: RareNone
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.8 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: B
Ecological site: F004B1100CA - Fluventic, salt-affected, rarely flooded, alluvial floodplains
Hydric soil rating: No

Minor Components

Ferndale

Percent of map unit: 7 percent
Landform: Flood-plain steps
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Arlynda

Percent of map unit: 5 percent
Landform: Flood-plain steps, depressions, backswamps, meander scars
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: Yes

Russ

Percent of map unit: 3 percent
Landform: Natural levees
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex

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Across-slope shape: Linear
Hydric soil rating: No

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Appendix E

Study Area Photographs



Source: Ascent Environmental in 2023.

Seasonal wetland ditch (SW-1) with vegetation recently mowed. Connected by a culvert to SW-2 and SW-3 to the northwest. Photograph taken facing southeast. Photo Point #1.



Source: Ascent Environmental in 2023.

Culvert on the southeast end of seasonal wetland and ditch SW-2.
Photograph taken facing southeast. Photo Point #2.



Source: Ascent Environmental in 2023.

Seasonal wetland and ditch SW-2 with vegetation recently mowed.
Photograph taken facing southeast. Photo Point #3.



Source: Ascent Environmental in 2023.

Freshwater emergent wetland FEW-2 with western lady fern, giant horsetail, and Himalayan blackberry. Photograph taken facing north-northeast. Photo Point #4.



Source: Ascent Environmental in 2023.

Sample point W-SP-02. Mapped as a three-parameter wetland in 2016 but in June 2023 vegetation and soils were determined not to be hydric. Photograph taken facing northeast. Photo Point #5.



Source: Ascent Environmental in 2023.

McDaniel Slough (tidal riverine feature) flowing into the study area.
Photograph taken facing north-northeast. Photo Point #6.



Source: Ascent Environmental in 2023.

McDaniel Slough (tidal riverine feature) flowing through the study area.
Photograph taken facing south. Photo Point #7.



Source: Ascent Environmental in 2023.

Sample point U-SP-02 in gravel road. Photograph taken facing north. Photo Point #8.



Source: Ascent Environmental in 2023.

Sample point W-SP-04. Mapped as a wetland in 2016 but could not be verified as a three-parameter wetland during June 2023 survey. Photograph taken facing east. Photo Point #9.



Source: Ascent Environmental in 2023.

Sample point W-SP-06. Mapped as a two-parameter wetland in 2016 but could not be verified as a wetland during June 2023 survey. Photograph taken facing north. Photo Point #10.

Appendix F

Aquatic Resource Excel Sheet

State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway
CALIFORNIA	PEM1	DEPRESS	Area	0.021	ACRE	RPWWN	40.880045	-124.09615	McDaniel Slough
CALIFORNIA	PEM1	DEPRESS	Area	0.164	ACRE	RPWWN	40.879823	-124.095352	McDaniel Slough
CALIFORNIA	PEM2	RIVERINE	Area	0.054	ACRE	RPWWD	40.879437	-124.094318	McDaniel Slough
CALIFORNIA	PEM2	RIVERINE	Area	0.172	ACRE	RPWWD	40.87974	-124.095403	McDaniel Slough
CALIFORNIA	PEM2	RIVERINE	Area	0.007	ACRE	RPWWD	40.879972	-124.096218	McDaniel Slough
CALIFORNIA	R1	RIVERINE	Area	0.236	ACRE	RPW	40.880244	-124.09359	McDaniel Slough