

BR-2 – DRAFT AQUATIC RESOURCES DELINEATION REPORT

Draft Aquatic Resources Delineation Report Country Acres Solar Project



Prepared for:
Sacramento Municipal Utility District
6201 S Street, Mail Stop B209
Sacramento, CA 95817

Contact:
Amy Spitzer

Prepared by:
AECOM
2020 L Street, Suite 300
Sacramento, CA 95811

Contact:
Jody Fessler

AECOM

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TABLE OF CONTENTS

Section	Page
INTRODUCTION	1
DELINEATION METHODS	1
REGULATORY SETTING	3
STUDY AREA SETTING	4
Climate and Topography	4
Hydrology.....	5
Soils	6
Vegetation Communities and Land Cover Types.....	7
DELINEATION RESULTS	13
Jurisdictional Features	13
Non-Jurisdictional Features.....	18
JURISDICTIONAL DETERMINATION	21
REFERENCES	22
 Appendices	
A Exhibits	
B Field Datasheets	
C Plant Species Observed	
D Representative Photographs	
 Tables	
Table 1. Soil Units Present within the Study Area	6
Table 2. Vegetation Communities and Land Cover Types Present within the Study Area.....	8
Table 3. Potentially Jurisdictional Features.....	13
Table 4. Tributary Drainages in the SMUD Country Acres Study Area.....	14
Table 5. Adjacent Wetlands in the SMUD Country Acres Study Area.....	17
Table 6. Potentially Non-Jurisdictional Features	18
Table 7. Isolated Wetlands and Other Waters in the SMUD Country Acres Study Area	19
 Exhibits	
Exhibit 1. Project Vicinity Map.....	1
Exhibit 2. Conceptual Project Area Map.....	2
Exhibit 3. Watershed and Hydrology Map.....	3
Exhibit 4. Soils Map	4
Exhibit 5a. Vegetation Communities and Land Cover Type Map 1 of 2	5
Exhibit 5b. Vegetation Communities and Land Cover Type Map 2 of 2.....	6
Exhibit 6. Wetland Delineation Overview Map	7
Exhibit 6a. Wetland Delineation Map 1 of 4.....	8
Exhibit 6b. Wetland Delineation Map 2 of 4.....	9
Exhibit 6c. Wetland Delineation Map 3 of 4.....	10
Exhibit 6d. Wetland Delineation Map 4 of 4.....	11

ACRONYMS AND ABBREVIATIONS

2020 Final Rule	Navigable Waters Protection Rule: Definition of “Waters of the United States”
AC	agricultural canal
AD	agricultural ditch
APNs	Assessor Parcel Numbers
CFR	Code of Federal Regulation
CNPS	California Native Plant Society
CWA	Clean Water Act
D	Ditch
EPA	U.S. Environmental Protection Agency
FAC	Facultative
FACU	Facultative upland
FACW	Facultative wetland
FR	Federal Register
GPS	Global Positioning System
ID	intermittent drainages
LRR-C	Land Resource Region Subregion C aka “Mediterranean California”
MW	megawatt
msl	mean sea level
MCV	Manual of California Vegetation
NL	Not listed
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OBL	Obligate
OHWL	Ordinary High Water Mark
PEM	perennial emergent marsh
PEM1A	palustrine emergent persistent temporarily flooded
PEMC1	palustrine, emergent, persistent, seasonally flooded
PEM1Cx	palustrine, emergent, persistent, seasonally flooded, excavated
PSSA	palustrine, scrub-shrub, temporary flooded
PSSC	palustrine, scrub-shrub, seasonally flooded
PV	photovoltaic
R4SBA	riverine, intermittent, streambed, temporarily flooded
R4SBC	riverine, intermittent, streambed, seasonally flooded
SM	seasonal marsh
SMUD	Sacramento Municipal Utility District
SW	seasonal wetland
SWANCC	Solid Waste Agency of Northern Cook County
SWS	seasonal wetland swale

TNW	Traditional Navigable Water
U.S.	United States
UPL	Obligate upland
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VP	vernal pool
W	wetland
WGS 84	World Geodetic System datum
WOTUS	waters of the U.S.
WRCC	Western Regional Climate Center

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INTRODUCTION

On behalf of the Sacramento Municipal Utility District (SMUD), AECOM has prepared this aquatic resource delineation report documenting potential wetlands and waters of the United States (U.S.) for the Country Acres Solar Project, located in Placer County, California (Exhibit 1, Appendix A). The purpose of this report is to provide an accurate quantification and delineation of potentially jurisdictional waters of the U.S., including wetlands, in accordance with 33 Code of Federal Regulations (CFR) §328 of the Clean Water Act (CWA) for the proposed project. The delineation of waters of the U.S. is considered draft until verified by the U.S. Army Corps of Engineers (USACE) Sacramento District Regulatory Division.

The project proposed by SMUD is to construct and operate a new photovoltaic (PV) facility located on leased lands in southwestern Placer County, CA. The conceptual project area (Source: Data compiled by AECOM in 2022

Exhibit 2, Appendix A) includes a PV solar power and battery storage facility and interconnection facilities, including a generation substation, switch station, and interconnection lines to the existing SMUD transmission system. The project design has not yet been finalized but will encompass up to 1,300 acres. The wetland delineation study area encompasses the entire conceptual project area plus additional survey buffer areas to the edge of parcel boundaries, where accessible, totaling approximately 1,170 acres of vacant grassland and agricultural (rice fields and almond orchards) parcels and channelized drainages, ditches, and seasonal wetlands. The site is expected to deliver up to 344 megawatt (MW) of solar energy at the point of interconnection. The facility size and design will be influenced by the findings of this report.

DELINEATION METHODS

To evaluate all areas of possible aquatic resources, including potentially jurisdictional wetlands and waters of the U.S., within the study area prior to the field delineation, an AECOM wetland ecologist used Google Earth to review aerial imagery at various times of the year from 1985 to 2020 (Google Earth 2021), the USFWS National Wetlands Inventory (NWI) Wetlands Mapper to review areas and types of wetlands (USFWS 2021), the U.S. Geological Survey (USGS) National Map (USGS 2021a) to review drainage patterns and hydrology, and the Natural Resources Conservation Service's (NRCS) Online Soil Survey (NRCS 2021a) to check for the presence of hydric soils in the study area. In addition, previous delineation reports from within and adjacent to the study area were reviewed and later ground-truthed in the field (ECORP 2017). Three AECOM wetland ecologists, William Splittstoesser, Charles Battaglia, and Jasmine Wurlitzer, and two Bargas wetland ecologists, Owen Routt and Bekah Christianson, conducted field surveys April 7th – April 9th, April 16th, April 22nd, April 23rd, April 26th, April 27th, April 30th, July 14th, August 16th, August 18th, and August 31st, 2021.

The delineation of the study area was based on information and guidance in the USACE 1987 *Wetlands Delineation Manual* (Environmental Laboratory 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Environmental Laboratory 2010), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States, A Field Manual* (Lichvar and McColley 2008) and the USACE Regulatory Guidance Letter No. 05-05, which provides further guidance on OHWM identification (USACE 2005). The Regional Supplement and USACE Regulatory Guidance Letter No. 05-05 provide technical guidelines and methods for identifying waters that may be subject to USACE jurisdiction under Section 404 of the CWA.

The 1987 manual and 2010 Arid West 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 supports positive indicators of hydrophytic vegetation, hydric soils, and wetland hydrology to be considered a jurisdictional wetland. Routine wetland determination data forms were completed for fifty-five (55) sample points and are provided in Appendix B.

Potentially jurisdictional areas (other waters) and the OHWM were identified and recorded digitally in the field using a Global Positioning System (GPS) data receiver (Trimble R1® and Arrow 100®) connected to an Apple® iPhone or iPad and imported onto an electronic version of an aerial photograph. GPS data were recorded using the World Geodetic System datum (WGS 84), which was established by the United States National Geospatial-Intelligence Agency in 1984 and last revised in 2004.

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, redoxymorphic color (when present), and moisture status at each sampling location. Other diagnostic features indicative of hydric soils, such as the presence of concretions and oxidized rhizospheres (a redoximorphic feature, according to Vepraskas [1992]), were also recorded on data forms. Hydric soil determinations were based on the indicators provided by the 1987 Wetlands Delineation Manual, 2008 Arid West Supplement, *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils* (NRCS 2018), and *Redoximorphic Features for Identifying Aquic Conditions* (Vepraskas 1992). Soil units mapped for the study area as part of the soil survey were cross-referenced with the National Hydric Soils List (NRCS 2021b) to determine whether the soils are listed as a hydric map unit.

Wetland hydrology was assessed by recording observations of drainage patterns, watermarks, flooded or saturated soil conditions, and other indicators. In addition, potentially jurisdictional areas were evaluated in terms of their status as navigable waterways or their adjacency or hydrologic connections to navigable waterways. Other waters were delineated based on the presence of an OHWM. A drainage feature's OHWM is typically defined by characteristics such as shelving, scour lines, and other natural linear features that define the bed-and-bank portion of the channel that floods under normal conditions (USACE 2005). The OHWM was recorded by walking along the slope break and shift in herbaceous cover, digitally recording lines.

Botanical nomenclature in this report follows *The Jepson eFlora: Vascular Plants of California* (Jepson Flora Project 2021). Plant community names follow *A Manual of California Vegetation: Second Edition* (CNPS 2021), where applicable. Plants observed in the study area during the field survey were identified to the species level whenever possible. To determine whether hydrophytic vegetation dominated an area, plant species at ditch cross-sections were listed on the OHWM data form, and the wetland indicator status was recorded for each dominant species using the National Wetland Plant List (USACE 2018). Hydrophytic species are those listed as obligate (OBL), facultative wetland (FACW), or facultative (FAC). A species' wetland indicator status designation corresponds to the probability that the species will occur in a wetland habitat. Observed plants are referenced in the text below along with their wetland indicator status (USACE 2018), which are defined using the following terms:

- ▶ Obligate wetland plant species (OBL) – Plants that almost always occur in wetlands under natural conditions (estimated probability >99 percent), but which rarely occur in non-wetlands.
- ▶ Facultative wetland plant species (FACW) – Plants that occur usually (estimated probability >67 percent to 99 percent) in wetlands, but also occur in non-wetlands.

- ▶ Facultative plant species (FAC) – Plants with a similar likelihood (estimated probability 33 percent to 67 percent) of occurring in both wetlands and non-wetlands.
- ▶ Facultative upland plant species (FACU) – Plants that occur sometimes (estimated probability 1 percent to <33 percent) in wetlands but occur more often in non-wetlands.
- ▶ Obligate upland plant species (UPL) – Plants that occur rarely (estimated probability <1 percent) in wetlands but occur almost always in non-wetlands.
- ▶ Not Listed (NL) – Plant species for which insufficient information was available to determine an indicator status and are treated as upland species because they do not occur on the wetland plant list. Plants not listed on the 2018 National Wetland Plant List are listed on the data forms as NL and assumed to be UPL consistent with standard protocol.

REGULATORY SETTING

The *Navigable Waters Protection Rule: Definition of “Waters of the United States”* (2020 Final Rule) (85 Federal Register [FR] 22250) was published under the previous administration on April 21, 2020. However, on June 9, 2021, the U.S. Environmental Protection Agency (EPA) and USACE (the agencies), under the Biden administration, announced their intent to revise the definition of waters of the U.S. (WOTUS) as described under the 2020 Final Rule (EPA 2021). The agencies reviewed the 2020 Final Rule and determined that the rule significantly reduces clean water protections. On September 3, 2021, the EPA and USACE received the U.S. District Court for the District of Arizona’s August 30, 2021 order vacating and remanding the 2020 Final Rule in the case of *Pascua Yaqui Tribe v. U.S. Environmental Protection Agency*. Considering this order, the EPA and USACE halted implementation of the Navigable Waters Protection Rule and are interpreting “waters of the United States” consistent with the pre-2015 regulatory regime until further notice. The agencies continue to review the order and consider next steps, including moving forward with the rulemakings announced on June 9, 2021 (EPA 2021). On November 18, 2021, the agencies announced the signing of a proposed rule to revise the definition of “waters of the United States” and put back into place the pre-2015 definition of “waters of the United States,” updated to reflect consideration of Supreme Court decisions in order to support a stable implementation of “waters of the United States” while the agencies continue to consult with states, Tribes, local governments, and stakeholders in both the implementation of WOTUS and future regulatory actions (EPA 2021).

Pre-2015 regulations defining WOTUS include the 2001 and 2003 guidance developed by EPA and the USACE following the *Solid Waste Agency of Northern Cook County (SWANCC) v. United States* Supreme Court Decision, and the 2007 and 2008 guidance defining WOTUS under the CWA following the *Rapanos v. United States* and *Carabell v. United States* Supreme Court decisions. Under this pre-2015 regulatory regime, waters considered “waters of the United States” are defined in accordance with 40 CFR 230.3(s), copied and listed below, and agencies are interpreting WOTUS consistent with the pre-2015 regime until further notice (EPA 2015, 2021):

40 CFR 230.3(s)

The term “waters of the United States” means:

- 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), mudflats, sandflats, 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; or*
 - b. *From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or*
 - c. *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 (s)(1) through (4) of this section;*
6. *The territorial sea;*
7. *Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (s)(1) through (6) of this section; waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States.*

Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA (EPA 2021).

The conclusions of this report are consistent with the pre-2015 court decisions and are considered preliminary until verified by the Sacramento District of the USACE.

STUDY AREA SETTING

The study area is located within the Pleasant Grove USGS 7.5-minute quadrangle (USGS 2018), and within Township 11N, Range 05E, Sections 16, 17, 20, 21, 22, 27, 28, 33, and 34. It consists of leased agricultural parcels used for rice and almond production in southwestern Placer County, California. The study area is generally bounded by Baseline Road to the South, S Brewer Street to the West, Phillip Road to the North, and the Westpark neighborhood of Roseville to the East (Exhibit 1, Appendix A). Surrounding land uses include additional rice fields and almond orchards, urban development, and open space areas with seasonal wetland, riparian, and annual grassland vegetation. The majority of the region is privately owned and developed for agricultural, industrial, residential, and transportation uses.

CLIMATE AND TOPOGRAPHY

The study area is located within the Mediterranean California (LRR-C) sub-region of the Arid West Region, which is characterized by relatively warm, wet winters and dry summers, with most of the precipitation falling between November and April (Environmental Laboratory 2008). During the field delineation, weather conditions ranged from cool and breezy to sunny and hot with temperatures ranging from 60° to 85° Fahrenheit and winds of 0 to 15 miles per hour.

The nearest National Weather Service station to the study area with a complete climate summary, as reported by the Western Regional Climate Center, is in Sacramento California (WRCC 2021). Based on records from the Sacramento Station, the study area receives an average of 18.15 inches of rainfall each year, with most rainfall occurring from December to March (WRCC 2021).

Topography in the study area is generally flat (0–5%). The elevation varies between approximately 58 and 100 feet above mean sea level (msl).

HYDROLOGY

The study area overlaps portions of the Curry Creek and Upper Steelhead Creek watersheds, and the Pleasant Grove Creek watershed is located immediately to the north (Exhibit 3, Appendix A). Each of the primary drainages within these watersheds flow east to west. Approximately 5 miles west of the study area, Curry Creek and Pleasant Grove Creek, which are both mapped as intermittent drainages at this point, enter the Pleasant Grove Creek Canal, which flows northwest and then abruptly turns southwest before draining into the Sacramento River (USGS 2021a). The Upper Steelhead Creek watershed contains several unnamed ephemeral and intermittent streams that flow west and drain into the Natomas East Main Drainage Canal (a.k.a. Steelhead Creek), which is a channelized waterway that flows south for approximately 11 miles before entering the Sacramento River upstream and almost immediately adjacent to the confluence of the American River (USGS 2021a).

Of the three primary drainages described above, Curry Creek and two of its tributaries are the only drainages that overlap with the study area. Due to rice and orchard agriculture development, the sections of Curry Creek and the two tributaries within the study area are primarily channelized and function like agricultural canals or ditches. Curry Creek originates approximately 3 miles southeast of the study area in grassland habitat and flows west towards the study area as a relatively natural ephemeral drainage. Where it meets the study area near the southeast corner, USGS (2021a) maps it as intermittent, and it follows the boundary north and then crosses west through the center of the lower half of the study area. On the west side of the study area, it then turns north again along the boundary for a short distance before exiting to the west (Exhibit 3, Appendix A; USGS 2021a; USFWS 2021). The two other unnamed drainages enter and cross through the study area to the north, and like Curry Creek, they both originate to the east as ephemeral drainages. One meets the study area approximately 1 mile north of where Curry Creek enters, and it also changes from ephemeral to intermittent at the entry point; the second is approximately 0.5 mile farther north and is mapped as ephemeral until it turns south before it drains into Curry Creek. The NWI maps Curry Creek as freshwater forested/shrub wetland for approximately two miles extending west from the study area, transitioning to a freshwater emergent wetland and then a riverine feature (USFWS 2021). Curry Creek is classified as both PEMC1 (palustrine, emergent, persistent, seasonally flooded) and R4SBC (riverine, intermittent, streambed, seasonally flooded) at different points of the channel, depending primarily on the dominance of emergent vegetation (USFWS 2021).

Hydrology in the study area is influenced by a combination of natural direct seasonal precipitation in the winter and early spring and agricultural irrigation practices during the late spring and summer, including deliberate flooding of fields for rice production and drip irrigation of almond orchards. Rice fields are also often flooded in late fall, after the harvest, to promote decomposition and provide habitat for migratory waterfowl and shorebirds that overwinter in the Central Valley. Water used to flood the rice fields and irrigate almond orchards within the study area is sourced from wells that utilize groundwater. A network of channelized drainages and interconnected

ditches traverse the study area and convey water through the site. Drainage gradients across the site flow from east to west.

The nearest weather station is a rain accumulation sensor at the Pleasant Grove Creek Pump Station just west of where Pleasant Grove Creek intersects the railroad (#1786), approximately 2.94 miles west of the study area (Sacramento County 2021). At the time of the field investigation, 4.92 inches of precipitation (below average) had been recorded for the 2021 water year, which began on October 1, 2020. The last precipitation recorded in 2021 prior to the field survey was 0.39 inches on March 18th (Sacramento County 2021).

SOILS

According to NRCS Soil Survey of Sacramento County, California (NRCS 2021a), the soils within the study area belong to five soil series: Alamo-Fiddymment complex, 0 to 5 percent slopes; Cometa-Fiddymment complex, 1 to 5 percent slopes; Fiddymment loam, 1 to 8 percent slopes; Fiddymment-Kaseberg loams, 2 to 9 percent slopes; San Joaquin-Cometa sandy loams, 1 to 5 percent slopes; and Xerofluvents, hardpan substratum. The specific soil map units occurring within the study area and its hydric status, according to the National Hydric Soils List, (NRCS 2021b) are presented below in Table 1, and the location of each soil unit within the study area, as mapped by NRCS, is depicted on the soils map in Exhibit 4. in Appendix A.

Table 1. Soil Units Present within the Study Area

Soil Unit	Soil Unit Number	Hydric Soil
Alamo-Fiddymment complex, 0 to 5 percent slopes	104	Yes
Cometa-Fiddymment complex, 1 to 5 percent slopes	141	No
Fiddymment loam, 1 to 8 percent slopes	146	No
Fiddymment-Kaseberg loams, 2 to 9 percent slopes	147	No
San Joaquin-Cometa sandy loams, 1 to 5 percent slopes	182	No
Xerofluvents/Wunjey, hardpan substratum	195	No

ALAMO-FIDDYMENT COMPLEX, 0 TO 5 PERCENT SLOPES

The Alamo-Fiddymment complex, 0 to 5 percent slopes map unit is composed of Alamo (50 percent) and Fiddymment (30 percent) major soil types and the San Joaquin (10 percent), Kaseburg (5 percent), and Cometa (5 percent) inclusions or minor components. One major soil type, Alamo, is rated as hydric (NRCS 2021b). Alamo soils are poorly drained, have very slow runoff and ponding from December to April when the water table is near the surface. Strongly cemented duripan results in very slow permeability. Alamo soils are in nearly level basins and drainageways on fan remnants and floodplains. The Alamo soils are used for irrigated pasture crops such as rice.

COMETA-FIDDYMENT COMPLEX, 1 TO 5 PERCENT SLOPES

The Cometa-Fiddymment complex, 1 to 5 percent slopes map unit is composed of Cometa (40 percent) and Fiddymment (30 percent) major soil types and the San Joaquin (10 percent), Kaseberg (10 percent), Ramona (5 percent), and Alamo (5 percent) inclusions or minor components. One inclusion, Alamo, is rated as hydric (NRCS 2021b). Cometa soils are well to moderately well drained, have slow to medium runoff, and very slow permeability. Cometa soils are on gently sloping and undulating slightly dissected older stream terraces with

slopes of 0 to 15 percent. Cometa soils are used for cropland and grazing. Main crops include fruits, nuts, small grains, and irrigated pasture crops such as rice.

FIDDYMENT LOAM, 1 TO 8 PERCENT SLOPES

Fiddymment soils are well drained, have slow to medium runoff, and very slow permeability due the presence of a hardpan or claypan layer. Fiddymment soils are on low terraces and hills with slopes of 0 to 15 percent. Fiddymment soils are used for rangeland, non-irrigated crops, urban development, and occasionally irrigated pasture.

FIDDYMENT-KASEBERG COMPLEX, 2 TO 9 PERCENT SLOPES

The Fiddymment-Kaseberg loams, 2 to 9 percent slopes map unit is composed of Fiddymment (50 percent) and Kaseberg (30 percent) major soil types and the Alamo (10 percent) and unnamed (10 percent) inclusions or minor components. One inclusion, Alamo, is rated as hydric (NRCS 2021b). Fiddymment soils are described above. Kaseberg soils are well drained, have slow to medium runoff, and moderate permeability, and are found on low-lying terraces and hill slopes of dissected terraces with slopes of 0 to 30 percent. Kaseberg soils are used for dryland grain, dryland pasture, and dryland rangeland.

SAN JOAQUIN-COMETA SANDY LOAMS, 1 TO 5 PERCENT SLOPES

The San Joaquin-Cometa sandy loams, 1 to 5 percent slopes map unit is composed of San Joaquin (40 percent) and Cometa (30 percent) major soil types and the Ramona (10 percent), Fiddymment (10 percent), Alamo (5 percent), and Kasenberg (5 percent) inclusions or minor components. One inclusion, Alamo, is rated as hydric (NRCS 2021b). San Joaquin soils are well- to moderately-well drained, have medium to high runoff, and very slow permeability. San Joaquin soils are on low terraces and valleys and are occasionally susceptible to flooding. Slopes are 0 to 9 percent. These soils are used for cropland and grazing. Main crops include fruits, nuts, small grains, and irrigated pasture crops such as rice.

XEROFLUENTS HARDPAN SUBSTRATE

The Xerofluents, hardpan substratum map unit is composed of Xerofluents (85 percent) major soil types and the Alamo (10 percent), Unnamed A (3 percent), and Unnamed B (2 percent) inclusions or minor components. One minor inclusion, Alamo, is rated as hydric (NRCS 2021b). Xerofluent soils are moderately well to well drained, have slow runoff and moderate to rapid permeability. Xerofluent soils occur on nearly level to channeled floodplains and recent alluvial fans at elevations of 150 to 300 feet. Xerofluent soils are used mainly for dry pastures.

VEGETATION COMMUNITIES AND LAND COVER TYPES

Vegetation communities and other land cover types in the study area were documented during the field survey efforts in April, July, and August 2021, are described below, and their location and extent in the study area are shown on Exhibit 5a. and 5b in Appendix A. The Manual of California Vegetation was used to describe vegetation communities to the alliance level when possible (CNPS 2021); however, some communities, such as rice fields and pasture do not conform to Manual of California Vegetation (MCV) alliance types. All vascular plant species observed during the field surveys, along with their wetland indicator status, are listed in Appendix B, and representative photographs of land cover in the study area are provided in Appendix C. Table 2 lists the

vegetation communities as well as several non-vegetated land cover types (e.g., open water and developed areas) that were mapped in the study area, with acreages.

Table 2. Vegetation Communities and Land Cover Types Present within the Study Area

Vegetation Community/Land Cover Type	Acres
Almond Orchard	131.451
Annual Grassland	117.374
Cattail Marsh	4.186
Developed	31.624
Fremont Cottonwood Riparian	0.071
Himalayan Blackberry Thicket	0.232
Irrigated Pasture	0.035
Polygonum Wetland	0.303
Rice Field	872.755
Ruderal	4.406
Seasonal Wetland	5.310
Vernal Pool	1.478
Willow Riparian	0.632
Grand Total	1,169.587

ALMOND ORCHARD

After rice fields, almond orchard is the most prevalent land cover type in the study area. Portions of the northeastern and eastern boundaries and the entire southern extent of the study area consist entirely of and overlap with almond orchards, which are all newly planted. These orchards consist of rows of planted almond trees that are less than 10 feet in height and are highly disturbed by regular human disturbance, including pruning of trees, mowing of vegetation between rows, harvesting of fruit, application of drip irrigation throughout the summer growing season, and pesticide/herbicide application activities. Ruderal (i.e., weedy) vegetation is common throughout the almond orchards and is dominated by field bindweed (*Convolvulus arvensis*) (NL) intermixed with curly dock (*Rumex crispus*) (FAC).

ANNUAL GRASSLAND

The annual grassland vegetation community can be best described as an *Avena (barbata, fatua)* Herbaceous Semi-Natural Alliance, according to the Manual of California Vegetation (CNPS 2021). This vegetation alliance typically is dominated by nonnative wild oats (*Avena barbata* and/or *Avena fatua*). Grasslands in the study area have been disturbed by past and ongoing human activities including grazing, hay production, and disking and grading. Small patches of highly disturbed annual grassland are present in the central and southern extents of the study area, surrounded by rice fields and almond orchards, that are regularly disturbed by vehicle traffic and shallow disking.

In the study area, grassland vegetation cover is dominated by nonnative annual grasses consisting of wild oats, medusahead (*Elymus caput-medusae*) (NL), ripgut brome (*Bromus diandrus*) (NL), softchess brome (*Bromus hordeaceus*) (FACU), and brome fescue (*Festuca bromoides*) (FACU), as well as a mixture of native and nonnative herbs, including miniature lupine (*Lupinus bicolor*) (NL), wild radish (*Raphanus sativus*) (NL), filaree (*Erodium botrys*) (FACU), and narrow tarplant (*Holocarpha virgata*) (NL). Other common species observed in

the grasslands included Italian rye grass (*Festuca perennis*) (FAC), wild geranium (*Geranium dissectum*) (NL), hawkbit (*Leontodon saxatilis*) (FACU), white clover (*Trifolium repens*) (FACU), bull thistle (*Cirsium vulgare*) (FACU), suckling clover (*Trifolium dubium*) (UPL), and prickly lettuce (*Lactuca serriola*) (FACU). Less common species include silver-hair grass (*Aira caryophyllea*) (FACU), red maids (*Calandrinia menziesii*) (FACU), narrow leaved soaproot (*Chlorogalum angustifolium*) (NL), and doveweed (*Croton setiger*) (NL).

CATTAIL MARSH

Cattail marsh vegetation is present throughout the study area where shallow water is present for long periods of time, such as in the center of agricultural canals and channelized drainages that border rice fields, as well as in the floodplains of natural creek drainages. The cattail marsh vegetation community can be best described as a *Typha* (*angustifolia*, *domingensis*, *latifolia*) Herbaceous Alliance, according to the Manual of California Vegetation (CNPS 2021). This vegetation alliance is dominated by one or more species of cattails (i.e., narrow leaf cattail [*Typha angustifolia*], southern cattail [*Typha domingensis*], and/or broadleaf cattail [*Typha latifolia*]) in the herbaceous layer with common wetland plants, including sedges (*Cyperus* spp.) and rushes (*Juncus* spp.). Emergent trees may also be present at low cover, including willows (*Salix* spp.).

In the study area, the cattail marsh vegetation community is dominated by broadleaf cattail (OBL) with spikerush (*Eleocharis macrostachya*) (OBL), iris-leaved rush (*Juncus xiphioides*) (OBL), hyssop loosestrife (*Lythrum hyssopifolium*) (OBL), soft rush (*Juncus effusus*) (FACW), tall flatsedge (*Cyperus eragrostis*) (FACW), barnyard grass (*Echinochloa crus-galli*) (FACW), rabbitsfoot grass (*Polypogon monspeliensis*) (FACW), and smartweed (*Persicaria* sp.). A large break in an approximately 15-foot tall berm west of the rice fields connects an irrigation canal to a natural drainage/creek that is dominated by cattail marsh vegetation and flows westward outside of the study area to eventually connect with Curry Creek to the west and south. The floodplain of this creek appears to be inundated year-round and is densely vegetated by broadleaf cattail that is co-dominant with floating mosquito fern (*Azolla* sp.) (OBL) and tule (*Shoenoplectus* spp.) (OBL). Occasional sandbar (*Salix exigua*) (FACW) and black willow (*Salix gooddingii*) (FACW) trees are present along marsh edges, with Italian ryegrass, curly dock, jointed crown grass (*Paspalum distichum*) (FACW), yellow glandweed (*Parentucellia viscosa*) (FAC), willowherb (*Epilobium brachycarpum*) (FAC), spiny-leaf sow-thistle (*Sonchus asper*) (FAC), English plantain (*Plantago lanceolata*) (FAC), and bristly ox-tongue (*Helminthotheca echioides*) (FAC).

DEVELOPED

Developed areas include graveled and compacted dirt roadways that border rice fields and orchards, as well as apiaries (bee boxes) situated along the edges of almond orchards. These developed areas are highly disturbed and devoid of vegetation.

FREMONT COTTONWOOD RIPARIAN

Small, discontinuous patches of small- to medium-sized Fremont cottonwood (*Populus fremontii*) (NL) trees occur along the banks of agricultural canals and ditches in the study area, forming a patchy riparian tree canopy along canal and ditch banks with sandbar willow and an intermittent shrub layer of Himalayan blackberry and poison oak. This vegetation community best fits the Fremont Cottonwood Forest and Woodland Alliance in the Manual of California Vegetation, which is defined by Fremont cottonwood contributing 30 percent and greater relative cover in the tree layer where willows are co-dominant (CNPS 2021).

HIMALAYAN BLACKBERRY THICKET

Dense thickets of Himalayan blackberry (*Rubus armeniacus*) (FAC) are present throughout the study area, typically along the banks of ditches, canals, and channelized streams with some thickets also occurring as isolated patches along fence lines in grassland habitat. This vegetation community is most like the Himalayan blackberry-rattle box-edible fig riparian scrub vegetation alliance (CNPS 2021). For the most part, the Himalayan blackberry thickets in the study area form large monoculture stands. However, in some areas, Himalayan blackberry is co-dominant with poison oak (*Toxicodendron diversilobum*) (FACU) and sweet brier (*Rosa rubiginosa*) (UPL).

IRRIGATED PASTURE

Irrigated pastures border the north and west of the study area. These pastures are grazed by cattle herds year-round and, based on a review of aerial imagery, appear to receive supplemental irrigation during the dry season (typically May through September) to provide permanent green pasture forage for resident livestock. The pastures appear to be irrigated by overland surface flow, with water pumped from a network of surface canals and ditches and then allowed to sheet across the landscape from north to south toward annual grasslands in the study area, with excess field runoff captured in an agricultural ditch (AD-01) along the northwest side of the study area that connects to a perennial emergent marsh (26-PEM) that is adjacent to an intermittent drainage that flows off-site to the west and south. Vegetation in the irrigated pasture community is like that of the annual grassland, described above.

POLYGONUM WETLAND

Continuous patches of smartweed (*Polygonum lapathifolium* [= *Persicaria lapathifolia*]) (FACW) were common throughout the study area in the centers of ditches, canals, and channelized creeks in open areas with no tree or shrub canopy. This vegetation community can be best described as the *Polygonum lapathifolium*-*Xanthium strumarium* Herbaceous Alliance – Smartweed-cocklebur patches (CNPS 2021). According to the Manual of California Vegetation, this vegetation alliance typically is dominated by smartweed and/or cocklebur or other knotweed species that are dominant or co-dominant in the herbaceous layer and are often associated with disturbed stream terraces on clay-rich or silty soils. In the study area, the polygonum wetlands consisted of monoculture patches of smartweed growing below the ordinary high water mark in the centers and along the lower banks of channelized ditches and streams.

RICE FIELD

Most of the study area consists of active-production rice fields amidst a network of ditches and canals, all of which are surrounded by adjacent access roads. These rice fields have been certified as prior converted cropland (NRCS 2019).

California is the highest-yielding rice production area in the world, grown mostly on fine-textured (i.e., clay or silt), poorly drained soils that typically have an impervious hardpan or claypan (Shaffer 2001). Most of the irrigation water for California rice comes from reservoir (i.e., surface water) sources; water application rates average 4.3 acre-feet per acre, with about 3.0 to 3.5 acre-feet per acre consumed through crop evapotranspiration and the remainder percolating to groundwater or returned to surface waters (Shaffer 2001).

Fields in the eastern portions of the site are higher in elevation than those to the west, allowing gate-controlled passive flow of irrigation water from one field to the next from east to west. Several pumps are located across the site that are used by the farmers to convey water from several channelized drainages and associated network of connected canals that traverse the site to the fields. During the growing season, excess irrigation water flows through the site and into channelized drainages located in the west-central portion of the study area, which continue to flow to the west to return excess irrigation water to surface waters (i.e., Curry Creek) and out of the study area. Rice fields are drained at the end of the growing season and allowed to dry prior to fall harvest. Following the harvest, the fields are often deliberately flooded again in late fall to facilitate straw decomposition and provide habitat for migratory waterfowl and shorebirds that overwinter in the Central Valley (Shaffer 2001).

At the time of the wetland delineation surveys in early April 2021, the rice fields were being disked and leveled; by April 30, 2021, fields were being flooded in series from east to west. During field surveys conducted on July 14, 2021, all irrigation ditches and channelized drainages in the study area were full of water, which flowed from east to west through the study area through a series of culverts and eventually drained to natural drainages to the west of the site. Also at this time, delineators observed that these natural drainages and their associated floodplains outside of the study area were full of standing water resulting from agriculturally-influenced water inputs.

RUDERAL

Ruderal vegetation is present throughout the study area in locations that have been previously filled and graded, such as along roads, parking areas, fence lines, and in equipment staging and storage areas; and in between rows of planted almond trees in orchards. This vegetation community can be best described as a *Brassica nigra*–*Raphanus* (spp.) Herbaceous Semi-Natural Alliance, (CNPS 2021). According to the Manual of California Vegetation this vegetation alliance typically is dominated by mustards (*Brassica*, *Hirschfeldia*) or other ruderal forbs. In the study area, ruderal areas consist of sparse herbaceous cover, dominated by yellow star thistle (*Centaurea solstitialis*) (NL), field mustard (*Hirschfeldia incana*) (NL), and field bindweed.

SEASONAL WETLAND

Seasonal wetlands support annual and perennial native and nonnative wetland plant species. This habitat type typically resembles a wetland community during the wet season and for a few weeks following the end of the wet season, drying up rapidly with the onset of summer. Seasonal wetlands form in seasonally flooded or saturated soils in depressions in ruderal or grassland areas, and, in the western portion of the study area, at the edges of (i.e., adjacent to) ditches and drainages. The seasonal wetland vegetation community conforms to a combination of the *Eleocharis macrostachya* Herbaceous Alliance and the *Lolium perenne* [*Festuca perennis*] Herbaceous Semi-Natural Alliance, both of which are associated with areas that are flooded for part of the growing season with fresh water (CNPS 2021). In these vegetation communities, pale spikerush (*Eleocharis macrostachya*) and/or Italian rye grass (*Festuca perennis*) are dominant or co-dominant in the vegetative layer and contribute 30 percent or more relative cover.

Although the vegetation and hydrology of seasonal wetlands in the study area are primarily governed by seasonal precipitation, the hydrology of several seasonal wetlands in the western portion of the study area is influenced by neighboring irrigation practices. Based on site observations and a review of aerial imagery, rice field and irrigated pasture runoff is directed into a network of ditches and canals that coalesce along the western boundary of the rice fields; and although these ditches and canals are bermed for most of their length, several culverts as well as breaks

in berms were observed that allow for water to spill into adjacent seasonal wetlands. In addition, the natural creek drainage west and south of the study area intermittently floods its adjacent low-terrace floodplain to the north and south of its banks. In late April 2021, delineators observed that this drainage had swelled with inputs from rice irrigation runoff and had flooded adjacent marsh vegetation as well as the shallow grassland floodplain dotted with several seasonal wetlands in the study area that were mapped within 300 feet of its banks. Similarly, all ditches and canals in the study area were rapidly filling with water as the rice fields were flooded, with several spilling over to adjacent seasonal wetlands along the northwestern boundary of the rice fields. Based on a review of aerial imagery and site observations, this dry-season flooding does not persist long enough to alter the upland annual grassland or seasonal wetland vegetation mapped in the floodplain.

Dominant plant species in seasonal wetlands in the study area include Italian ryegrass, spikerush, tall flatsedge, willow herb, hyssop loosestrife, curly dock, prickly lettuce, hawkbit, seaside barley (*Hordeum marinum*) (FAC), Mediterranean beard grass (*Polypogon maritimus*) (OBL), and popcornflower (*Plagiobothrys stipitatus*) (FACW). Other common species observed in seasonal wetland habitats were Fremont cottonwood, black willow, wild geranium, spiny-leaf sow thistle, English plantain, soft rush, filaree, sixweeks rattail fescue (*Festuca myuros*) (FACU), gumweed (*Grindelia camporum*) (FACW), white hyacinth (*Triteleia hyacinthina*) (FAC), blow wives (*Achyraea mollis*) (FAC), California false semaphore grass (*Pleuropogon californicus*) (OBL), short-awn meadow foxtail (*Alopecurus aequilis*) (OBL), and harding grass (*Phalaris aquatica*) (FACU).

VERNAL POOL

Vernal pools are a type of seasonal wetland that support low-growing, herbaceous plant communities dominated by annual plants, and are typically characterized by a high percentage of native plant species, many of which may be endemic (restricted) to vernal pools. The vernal pool vegetation communities in the study area conform to the *Lasthenia glaberrima* Herbaceous Alliance and the *Lasthenia fremontii*-*Downingia (bicornuta)* Herbaceous Alliance (CNPS 2021). The smooth goldfields (*Lasthenia glaberrima*) alliance is associated with vernal pool bottoms where soils have long periods of inundation, while the Fremont's goldfields (*Lasthenia fremontii*) alliance is associated with shallow vernal pool bottoms or edges (CNPS 2021). Both communities are found on hardpan geomorphic surfaces or volcanic substrates, and the smooth goldfields alliance is also associated with claypan vernal pool habitat (CNPS 2021).

Vernal pools in the study area were either dominated by smooth goldfields (OBL) or Fremont's goldfields (OBL), with deeper pools tending to be dominated by smooth goldfields. Other species commonly associated with vernal pools and observed in association with goldfields in vernal pools in the study area include coyote thistle (*Eryngium vaseyi*) (FACW), vernal pool buttercup (*Ranunculus bonariensis* var. *trisepalus*) (OBL), vernal-pool Indian-paintbrush (*Castilleja campestris*) (FACW), annual hairgrass (*Deschampsia danthanioides*) (FACW), dwarf woolly marbles (*Psilocarphus brevissimus*) (FACW), Oregon woolly marbles (*Psilocarphus oregonus*) (OBL), white-flower pincushion-plant (*Navarretia leucocephala*) (OBL), double-horn calico-flower (*Downingia bicornuta*) (OBL), bractless hedge-hyssop (*Gratiola ebracteata*) (OBL), water-starwort (*Callitriche* sp.) (OBL), toad rush (*Juncus bufonius*) (FACW), and water pygmyweed (*Crassula aquatica*) (OBL).

Other species commonly observed in vernal pools include spikerush, popcornflower, Italian ryegrass, prickly lettuce, seaside barley, rabbitsfoot grass, hyssop loosestrife, small lupine, white hyacinth, tarweed, blow wives, Fitch's spikeweed (*Centromadia fitchii*), Greene's popcornflower (*Plagiobothrys greenii*) (FACW), neckweed (*Veronica peregrina*) (FAC), leafy-bracted dwarf rush (*Juncus capitatus*) (FACU), small rattlesnake grass (*Briza*

minor) (FAC), waxy manna grass (*Glyceria declinata*) (FACW), and sticky sand spurrey (*Spergularia macrotheca*) (FAC).

All the vernal pools in the study area are associated with annual grasslands that are currently unmanaged and not grazed by livestock, but based on a review of historical aerial imagery, they have been used in the past to grow hay and graze cattle. The topography of the grasslands in the study area is characterized by an unnatural (built) series of low (i.e., less than 1 foot tall) berms at approximately 100 to 150-foot intervals in swirling patterns that may have served to level the site or control surface flow in the past for agricultural purposes; many vernal pools were mapped in low spots along these historic berms.

WILLOW RIPARIAN

Small, discontinuous patches of willow riparian scrub are common throughout the study area along ditches, canals, and drainages. This vegetation community type is best described as the *Salix exigua* Shrubland Alliance, where sandbar willow is dominant or co-dominant in the shrub canopy with red willow (*Salix laevigata*) and Himalayan blackberry (CNPS 2021). Emergent trees, including black willow and Fremont cottonwood, are also present at low relative cover.

DELINEATION RESULTS

This section presents the results of the delineation of waters of the U.S., as defined by the USACE and pursuant to Section 404 of the CWA, for the study area. All delineated wetlands and other waters are depicted on the wetland delineation map in Appendix A (Source: Data compiled by AECOM in 2022

Exhibit 6a – 6d).

Areas qualifying as waters of the United States are depicted on the wetland delineation maps provided in Appendix A (Source: Data compiled by AECOM in 2022

Exhibit 6a – 6d), and sampling points are depicted on the wetland delineation maps and cross-referenced to the wetland determination data forms in Appendix B. Habitat descriptions for waters of the United States and non-jurisdictional habitats are included below, and a habitat map is provided in Appendix A (Exhibit 5a – 5b). A list of plant species observed during the field survey is provided in Appendix C, and representative photographs of habitat types described below are provided in Appendix D.

JURISDICTIONAL FEATURES

A total of 9.341 acres of potentially jurisdictional wetlands and waters of the United States occurs in the study area in the form of tributaries, seasonal wetlands, seasonal wetland swales, emergent wetlands, and vernal pools (Table 3).

Table 3. Potentially Jurisdictional Features

Wetlands and Other Waters of the United States	Acres
Tributaries (AC-01, AD-01, and ID-01 – ID-04)	0.739
Seasonal Wetlands (SW-1, SW-3, SW-4, SW-11 – SW-14, SW-24, SW-30 – SW-32, and SW-36)	3.641
Emergent Wetlands (W-20 and PEM-26)	4.123
Vernal Pool (VP-2)	0.838
Total Potential Section 404 Jurisdictional Features	9.341

Source: Data compiled by AECOM in 2022

Note: AC = agricultural canal, AD = agricultural ditch, ID = intermittent drainage, SW = seasonal wetland, W = wetland, PEM = perennial emergent marsh, VP = vernal pool

Four intermittent drainages (ID), one agricultural canal (AC), and one agricultural ditch (AD) delineated in the study area connect to downstream jurisdictional features that ultimately connect to the Sacramento River; of these six features, four (ID-01, ID-02, ID-03, and AC-01) were also delineated as part of a previous wetland delineation prepared for the site in March 2017 (ECORP 2017) and field verified by AECOM wetland specialists in April 2021. These six tributary drainages are presented in Table 4 and described in more detail below. Curry Creek (ID-01) flows east to west through the southern half of the study area, then drains into the Pleasant Grove Creek Canal, which in turn drains into the Sacramento River. The USACE Sacramento District identifies the Sacramento River as a traditional navigable waterway (TNW) of the United States. As such, the Sacramento River is subject to USACE jurisdiction pursuant to Section 404 of the CWA and Section 10 of the Rivers and Harbors Act, and all upstream intermittent and ephemeral drainages with a significant nexus have the potential to affect the chemical, physical, and biological integrity of the Sacramento River.

The tributary drainages and adjacent wetlands mapped in the study area are listed in Table 4 and Table 5, respectively, and are depicted in Appendix A (Source: Data compiled by AECOM in 2022

Exhibit 6a – 6d). Tributaries consist of channelized drainage feature types that have connectivity to the primary tributary (Curry Creek). Adjacent wetlands include thirteen seasonal wetlands (SW), two emergent wetlands (perennial emergent marsh [PEM] and wetland [W]), one vernal pool (VP), and two seasonal wetland swales (SWS), all of which share a direct hydrological surface connection with tributary drainages.

TRIBUTARIES

Table 4. Tributary Drainages in the SMUD Country Acres Study Area

Feature Name	Wetland Delineation Map No.	Acreage	Length (feet)
AC-01	6a	0.370	2,354.596
AD-01	6a	0.046	1,331.108
ID-01	6c	0.026	130.865
ID-02	6b	0.059	171.974
ID-03	6b	0.035	119.712
ID-04	6b	0.203	388.150
Total		0.739	4,496.405

Source: Data compiled by AECOM in 2022

All these features meet the definition of tributaries or adjacent waters, or connecting tributaries, and are connected by direct surface flow or adjacency to the primary tributary, which is connected by direct surface flow to the TNW Sacramento River; therefore, all tributaries and the adjacent waters delineated in the study area are considered potentially jurisdictional features pursuant to Section 404 of the CWA. These features are discussed in more detail in the sections below.

AC-01 (0.370 acre and 2,354.596 linear feet) is an excavated agricultural irrigation canal mapped along the northwestern boundaries of the study area that receives excess water from the rice fields to the east via a series of culverts. It then conveys water from north to south until it connects to the tributary unnamed natural drainage (ID-04), which flows to the west across and out of the study area. AC-01 consists of several segments with continuous connectivity via a series of culverts through the study area. AC-01 is not mapped in the NWI; it is limited to the confines of the study area and functions wholly to convey excess agricultural irrigation water from east to west along the northern boundary of the study area and then from north to south along the northwestern study area boundary (Source: Data compiled by AECOM in 2022

Exhibit 6a, Appendix A) to a wetland complex that joins with Curry Creek downstream along the southwestern boundary of Assessor Parcel Number (APN) 017-090-057 in the northwestern portion of the study area (Source: Data compiled by AECOM in 2022

Exhibit 6b, Appendix A). A review of the USGS historical topographic map collection (USGS 2021b) shows that prior to development of rice fields, the area that now contains this agricultural canal consisted of gently sloped grassland topography. The excavated canal feature has a defined bed and bank and an unconsolidated bottom, and ranges in width from 5 to 10 feet. Vegetation communities include cattail marsh and small discontinuous patches of Fremont cottonwood riparian vegetation and Himalayan blackberry thickets along canal banks. This agricultural irrigation canal is a tributary with direct surface connection to Curry Creek, which is a tributary to the Pleasant Grove Creek Canal and TNW Sacramento River.

AD-01 (0.046 acre and 1,331.108 linear feet) is an excavated ditch parallel to the northern boundary of APN 017-090-048, in the northwestern portion of the study area in an annual grassland immediately west of rice fields (Source: Data compiled by AECOM in 2022

Exhibit 6a, Appendix A), that flows from east to west from SW-13 (an adjacent wetland to AC-01) and connects to PEM-26. PEM-26 is a perennial emergent marsh that corresponds to an NWI mapped PEM1C feature that is part of a large wetland complex in the northern floodplain of the tributary ID-04, located in the northwestern portion of the study area (Source: Data compiled by AECOM in 2022

Exhibit 6a, Appendix A) AD-01 appears to convey surface water runoff from adjacent irrigated pasture and carry overflow from SW-13 directly to the natural drainage to the south via PEM-26 and is thus part of a wetland complex that is continuously connected between the tributary features AC-01 and ID-04. The excavated ditch feature has a defined bed and bank and an unconsolidated bottom and is 5 feet wide. It is vegetated by annual grassland species. This agricultural ditch contributes direct surface connection to Curry Creek, which is a tributary to the Pleasant Grove Creek Canal and TNW Sacramento River.

ID-01 (0.026 acre and 130.865 linear feet) is a channelized portion of Curry Creek that flows from southeast to northwest along the eastern edge and through the center of the study area, eventually draining into the natural section of Curry Creek along the western edge of APN 017-130-015 along the western boundary of the study area (Source: Data compiled by AECOM in 2022

Exhibit 6b-d, Appendix A). Outside of the study area, the upstream portion of the feature is mapped by USGS (2021a) as ephemeral, but the NWI shows it as a riverine, intermittent, streambed, temporarily flooded (R4SBA) channel where it originates approximately 3 miles to the southeast of the study area in the City of Roseville; and downstream, to the west of the study area, it is classified as a palustrine, scrub-shrub, temporary flooded (PSSA) channel (USFWS 2021). Based on field observations, the natural portion of Curry Creek downstream from the study area is densely vegetated with valley oak riparian vegetation, while the channelized portion through the study area (i.e., ID-01) is an altered canal with steep banks and little remaining natural vegetation. A review of the USGS historical topographic map collection (USGS 2021b) shows on the Pleasant Grove 1910 map that the channelized ID-01 feature generally follows the historic natural path of Curry Creek, and the entire extent of the channelized seasonal creek feature through the study area is labeled as Curry Creek in the Pleasant Grove 2018 map (USGS 2018). The feature is approximately 10 feet deep and has a defined bed and bank, a clear OHWM, and primarily unconsolidated bottom although portions are culverted. The channel bottom ranges from 20 to 30 feet in width, flanked by steep engineered earthen banks, and retains enough water in depressional stretches to support discontinuous patches of tule, cattails, and smartweed. Channel banks are primarily vegetated by willow riparian scrub and Himalayan blackberry thickets. This drainage is part of Curry Creek, which is a tributary to the Pleasant Grove Creek Canal and TNW Sacramento River.

ID-02 (0.059 acre and 171.974 linear feet) is an unnamed, channelized tributary to Curry Creek that flows from east to west through the study area to its confluence with ID-01 and the natural drainage of Curry Creek along the western edge of APN 017-130-015 and the study area (Source: Data compiled by AECOM in 2022

Exhibit 6b, Appendix A). Outside of the study area, the upstream portion of the feature is mapped by USGS (2021a) as ephemeral, but the NWI shows it as a palustrine emergent persistent temporarily flooded (PEM1A) channel where it originates approximately 1.2 miles to the east of the study area in gently sloping grassland on the

edge of the Westpark development (USFWS 2021). A review of the USGS historical topographic map collection (USGS 2021b) shows on the Pleasant Grove 1910 map that the channelized ID-02 feature generally follows the historic path of a seasonal tributary drainage of Curry Creek. The feature is approximately 6 feet deep and has a defined bed and bank, a clear OHWM, and primarily unconsolidated bottom although portions are culverted. The channel bottom ranges from 20 to 30 feet in width, flanked by very steep engineered earthen banks, and retains enough water in depressional stretches to support discontinuous patches of cattails and smartweed. Other vegetation communities mapped in this feature include intermittent annual grassland/ruderal herbaceous vegetation, willow riparian scrub, valley oak riparian, and Himalayan blackberry thickets along steep banks. This drainage flows directly to Curry Creek, which is a tributary to the Pleasant Grove Creek Canal and TNW Sacramento River.

ID-03 (0.035 acre and 119.712 linear feet) is an unnamed channelized tributary feature that originates approximately 1.5 miles to the east of the study area as a relatively small reach of natural drainage in grassland habitat that has been reduced in size by residential development. The natural channel quickly transitions to a channelized feature as it travels between rice fields towards and eventually through the study area. The USGS (2021a) maps this feature as ephemeral upstream and through the study area and then as intermittent downstream and outside the study area (Exhibit 3, Appendix A). The NWI maps it as a PEM1Cx (palustrine, emergent, persistent, seasonally flooded, excavated) freshwater emergent wetland (USFWS 2021), which matches the patches of vegetation observed during field investigations and that likely occur due to presence of regular surface water inputs to the rice fields. Within the study area, ID-03 passes through a large control gate and terminates at W-20, which then joins with a natural drainage (ID-04, discussed below) along the southwestern boundary of APN 017-090-057 in the northwestern portion of the study area (Source: Data compiled by AECOM in 2022).

Exhibit 6b, Appendix A). A review of the USGS historical topographic map collection (USGS 2021b) shows on the Pleasant Grove 1910 map that this drainage feature corresponds to the same small tributary drainage associated with ID-04 prior to conversion of the site to rice fields and channelization. In the study area, this feature has steep earthen banks, a defined bed and bank, and a primarily unconsolidated bottom, although some portions outside of the study area are culverted and appear to be concrete-lined. In the study area, it is 25 feet wide, unlined, and retains enough water to support dense patches of smartweed. In the west portion of the study area, this feature is connected to a floodplain wetland complex (W-20) that then drains passively through a break in a berm to ID-04 to the west. As discussed below, ID-04 flows west and south as a tributary with direct surface connection to the Curry Creek, which is a tributary to the Pleasant Grove Creek Canal and TNW Sacramento River.

ID-04 (0.203 acre and 388.150 linear feet) is an unnamed intermittent drainage feature that is fed by AC-01 and ID-03, which convey water coming off the rice fields (Source: Data compiled by AECOM in 2022).

Exhibit 6b, Appendix A). After exiting the study area, it meanders west through annual grassland that was previously cultivated for hay but is no longer farmed. Outside of the study area, it continues a meandering path flowing west and south for approximately 1.2 miles until it flows under Country Acres Lane, then is channelized from north to south along the western boundary of the roadside for approximately 0.25 mile until it reaches its confluence with Curry Creek. A review of the USGS historical topographic map collection (USGS 2021b) shows on the Pleasant Grove 1910 map that this drainage feature was historically one of many small tributary drainages to Curry Creek that originated in low rolling lands to the east of the study area. In the study area, much of this natural drainage is now channelized through the site (ID-03) (USGS 2021a), but the portion that flows through the annual grassland in the northwestern portion of the study area (Source: Data compiled by AECOM in 2022).

Exhibit 6b, Appendix A) generally follows its historic drainage path (USGS 2021a, USGS 2021b, USFWS 2021). In the study area, ID-04 has a defined bed and bank, a clear OHWM, and unconsolidated bottom. At the time of the wetland delineation, ID-04 consisted of open water and banks vegetated by small, narrow patches of cattail, tule and Himalayan blackberry thickets at or below the OHWM; vegetated banks represented less than 5% of total width of the feature. ID-04 has direct surface connection to Curry Creek, which is a tributary to the Pleasant Grove Creek Canal and TNW Sacramento River.

ADJACENT WETLANDS

Table 5. Adjacent Wetlands in the SMUD Country Acres Study Area

Feature Name	Wetland Delineation Map No.	Acreage
SW-1	6a	0.063
SW-3	6a	0.093
SW-4	6b	0.014
SW-11	6a	0.056
SW-12	6a	0.046
SW-13	6a	1.093
SW-14	6a	1.513
SW-24	6a	0.174
SW-30	6a	0.021
SW-31	6a	0.029
SW-32	6a	0.520
SW-36	6a	0.019
W-20	6b	0.659
PEM-26	6a	3.464
VP-2	6a	0.838
Total		8.602

Source: Data compiled by AECOM in 2022

Note: Numbering of wetland features is based on the numbering of sample points as the features were mapped in the field. For example, the first set of sample points completed in the field correspond to SW-1 (referred to as Wetland #1 in the sample point datasheets), and the second set of wetland datasheets completed in the field correspond to VP-2 (referred to as Wetland #2 in the datasheets), and so on. Where wetland numbers are skipped in this table, they are either (1) associated with upland-only sample points and therefore do not correspond to a wetland feature, or (2) are associated with non-jurisdictional aquatic features listed in Table 7 of the next section (Non-Jurisdictional Features)

SEASONAL WETLANDS

Twelve seasonal wetlands (**SW-1, SW-3, SW-4, SW-11, SW-12, SW-13, SW-14, SW-24, SW-30, SW-31, SW-32, and SW-36**) totaling 3.641 acres were identified in the study area that are inundated by water from potentially jurisdictional tributaries and physically separated from those tributaries only by an artificial barrier (berm) that allows for a direct hydrological surface connection. SW-1, SW-3, SW-4, SW-30, SW-31, SW-32, and SW-36 are part of a large wetland complex near the northern floodplain of tributary ID-04; and SW-11, SW-12, SW-13, SW-14, and SW-24 are associated with openings or breaks in a berm along the western boundary of the tributary agricultural canal AC-01 (Source: Data compiled by AECOM in 2022

Exhibit 6a and 6b, Appendix A). Some of the deeper depressional areas of these seasonal wetlands supporting obligate species such as cattails and soft rush still held water during the field surveys conducted from April to August 2021. The hydrophytic vegetation in these wetlands is described in more detail in Section 4.2 (Vegetation Communities). Data forms 001-A, 003-A, 004-A, 007-A in Appendix B provide additional information about these adjacent seasonal wetland habitats present in the study area.

EMERGENT WETLANDS

Two emergent wetlands (**W-20 and PEM-26**) totaling 4.123 acres were identified in the study area adjacent to tributary drainages. The hydrophytic vegetation in these wetlands is described in more detail in Section 4.2 (Vegetation Communities) under the Cattail Marsh and Tule Marsh community descriptions. Data forms 020-A and 026-A in Appendix B provide additional information about these emergent wetland habitats present in the study area.

W-20 is 0.659 acre and corresponds to an NWI mapped feature classified as PSSC (palustrine, scrub-shrub, seasonally flooded) (USFWS 2021). Based on field observations, this feature appears to be flooded throughout most of the year, both seasonally during the winter and

throughout the spring and summer due to runoff from adjacent rice fields. W-20 represents the terminus floodplain of tributaries ID-03 and AC-01 and corresponds to a low-lying area between two large berms where hydrologic flows from ID-03 and AC-01 merge and backup before draining passively to the west through a small break in the western berm and into the floodplain of ID-04, located immediately west of rice fields in the northwestern portion of the study area (Source: Data compiled by AECOM in 2022

Exhibit 6b, Appendix A). The dominant vegetation community in this feature at the time of the survey was cattail marsh, surrounded by Himalayan blackberry thickets growing on berms.

PEM-26 is 3.464 acres and is a perennial emergent marsh that corresponds to an NWI mapped PEM1C (USFWS 2021) feature that is part of a large wetland complex in the northern floodplain of the tributary ID-04, located in the northwestern portion of the study area (Source: Data compiled by AECOM in 2022

Exhibit 6a, Appendix A). Like W-20, the PEM-26 feature appears to be flooded throughout most of the year, both seasonally during the winter and throughout the spring and summer due to runoff from adjacent irrigated pastures and excess rice field irrigation flows from the east. The dominant vegetation community in this feature at the time of the survey was cattail marsh.

These two emergent wetlands meet the three-parameter criteria of wetlands and abut tributary drainages that connect to Curry Creek, which is tributary to the Sacramento River, which is a TNW; therefore, W-20 and PEM-26 are considered adjacent waters.

VERNAL POOL

VP-2 is 0.838 acre and was identified in the study area adjacent to a tributary natural drainage (ID-04) (Source: Data compiled by AECOM in 2022

Exhibit 6b, Appendix A). The hydrophytic vegetation in this wetland is described in more detail in Section 4.2 (Vegetation Communities) under the Vernal Pool community, and on data form 003-A in Appendix B. This vernal pool is part a large wetland complex in the northern floodplain of the tributary ID-04, located in the western portion of the study area in parcel 017-090-048 (Source: Data compiled by AECOM in 2022

Exhibit 6a-6b, Appendix A). This vernal pool meets the three-parameter criteria of a wetland and abuts a tributary drainage that flows into Curry Creek, which is tributary to the Sacramento River, which is a TNW; therefore, VP-2 is considered adjacent waters.

NON-JURISDICTIONAL FEATURES

A total of 1,160.516 acres of potentially non-jurisdictional features occur in the study area and include 1.899 acres of isolated wetland swales, seasonal wetlands, vernal pools, and ditches; and 1,158.617 acres of uplands, which including orchard and rice field agriculture (Table 6).

Table 6. Potentially Non-Jurisdictional Features

Isolated Wetlands and Other Waters, and Uplands	Acres
Seasonal Wetlands Swale	0.053
Seasonal Wetlands	0.959
Vernal Pools	0.640
Ditches	0.247
Uplands	1,158.617
Total Non-jurisdictional Features	1,160.516

Source: Data compiled by AECOM in 2022

ISOLATED WETLANDS AND OTHER WATERS

A total of 25 isolated ephemeral wetlands and other waters were mapped in the study area. These include one seasonal wetland swale (SWS), six seasonal wetlands (SW), 15 vernal pools (VP), and four ditches (D), all listed

below in Table 7. These features fill seasonally from direct precipitation and normally dry by late spring and remain dry through the summer and early fall dry season, filling again after the arrival of fall/winter rains. Based on field observations and an analysis of online USGS current and historical maps, these features are isolated and rarely overflow, and thus do not flow, connect, or contribute to jurisdictional waters.

Table 7. Isolated Wetlands and Other Waters in the SMUD Country Acres Study Area

Feature Name	Wetland Delineation Map No.	Acres	Linear Feet
SWS-49	6d	0.053	n/a
SW-21	6a	0.020	n/a
SW-22	6a	0.003	n/a
SW-29	6a	0.492	n/a
SW-38	6a	0.234	n/a
SW-47	6d	0.199	n/a
SW-48	6d	0.011	n/a
VP-5	6a	0.528	n/a
VP-6	6a	0.002	n/a
VP-7	6a	0.062	n/a
VP-8	6a	0.002	n/a
VP-9	6a	0.002	n/a
VP-10	6a	0.010	n/a
VP-28	6a	0.010	n/a
VP-33	6a	0.004	n/a
VP-34	6a	0.003	n/a
VP-35	6a	0.004	n/a
VP-52	6d	0.164	n/a
VP-55	6d	0.016	n/a
VP-56	6d	0.005	n/a
VP-58	6d	0.012	n/a
VP-60	6d	0.002	n/a
VP-63	6d	0.005	n/a
D-40	6d	0.083	587.353
D-41	6d	0.007	220.328
D-42	6d	0.067	379.976
D-43	6d	0.090	689.079
Total		1.899	1,876.737

Source: Data compiled by AECOM in 2021

Note: Numbering of wetland features is based on the sample points as features were mapped in the field. (See Table 5 footnote above)

SEASONAL WETLAND SWALE

SWS-49 is a 0.053 acre isolated seasonal wetland swale in the southern part of the study area (Source: Data compiled by AECOM in 2022 Exhibit 6d, Appendix A). The hydrophytic vegetation in these wetlands is like that described for Seasonal Wetlands in Section 4.2 (Vegetation Communities). Data form 049-A in Appendix B provides additional information about the habitat in this wetland swale. This swale is not connected to any other aquatic features because it is located within a topographical micro-depression and is surrounded by uplands. During the wet season, it collects seasonal precipitation and runoff and then dries out by late spring and remains dry through the summer and early fall.

SEASONAL WETLANDS

Six isolated seasonal wetlands (**SW-21, SW-22, SW-29, SW-38, SW-47, SW-48**) totaling 0.959 acre were identified in the northwest and southern parts of the study area (Source: Data compiled by AECOM in 2022)

Exhibit 6a and 6d, Appendix A). The hydrophytic vegetation in the seasonal wetlands is described in Section 4.2 (Vegetation Communities) Seasonal Wetland. Data forms 021-A, 029-A, and 047-A in Appendix B provide additional information about several of these isolated seasonal wetland habitats. These six seasonal wetlands are not connected to any other aquatic features. They are in topographical depressions, surrounded by uplands, that collect seasonal precipitation and runoff, and then dry out by late spring and remain dry through the summer and early fall.

VERNAL POOLS

There are 15 isolated vernal pools (**VP-5 – VP-10, VP-28, VP-33 – VP-35, VP-52, VP-55, VP-56, VP-58, VP-60, and VP-63**) mapped in the study area totaling 0.640 acre. These features occur in the northwest and southern portions of the study area (Source: Data compiled by AECOM in 2022)

Exhibit 6a and 6d, Appendix A). The hydrophytic vegetation in these wetlands is described in more detail in Section 4.2 (Vegetation Communities) under Vernal Pools. Data sheets 005-A, 006-A, and 035-A in Appendix B provide additional information about the vernal pools in northwestern portion of the study area. All 15 of these vernal pools are not connected to any other aquatic features and are located in topographical depressions that collect seasonal precipitation and runoff, and then dry out by late spring and remain dry through the summer and early fall.

DITCHES

There are four isolated ditches (**D-40, D-41, D-42, and D-43**) totaling 0.247 acre and 1,876.737 linear feet. These ditches are excavated and mapped along the edges of almond orchards in the southern portion of the study area (APNs 017-130-061 and 017-130-058) (Source: Data compiled by AECOM in 2022)

Exhibit 6d, Appendix A) and appear to receive occasional ephemeral water from surface runoff associated with irrigation and/or precipitation. All four ditches are not connected to any other features and are not culverted. The ditches have a defined bed and bank, an unconsolidated bottom, range in width from 1 to 5 feet, and are vegetated by upland and facultative herbaceous grassland species.

UPLAND FEATURES

A total of 1,158.617 acres of upland and agricultural land make up the remainder of the study area. The majority (73%) of the study area consists of rice fields (872.755 acres) that have been certified as prior converted cropland (NRCS 2019). According to the EPA and USACE, prior converted cropland and artificially irrigated areas, including fields flooded for agricultural production, that would revert back to upland should the application of irrigation water to that area cease (such is the case of the rice fields in the study area), are not identified as jurisdictional and are not a jurisdictional feature under the CWA (EPA 2021).

The remainder of the study area delineated as non-jurisdictional uplands consists of almond orchards, irrigated pasture for livestock grazing, annual grassland, developed, and ruderal vegetation. These areas are highly disturbed by regular human disturbance, including mowing of vegetation, disking, grading, agricultural activities, pesticide/herbicide application, equipment staging and storage, and vehicle access and parking. Vegetation in these areas is either absent or dominated by upland species, typically consisting of nonnative annual grasses and forbs that are tolerant of regular disturbance. There are no hydric soils or hydrology indicators in these areas.

JURISDICTIONAL DETERMINATION

The approximately 1,170-acre study area contains 9.341 acres of potentially jurisdictional waters of the U.S. (wetlands [8.602 acres] and other waters [0.739 acre]). The remainder of the study area contains 1,160.516 acres of potentially non-jurisdictional features that consists of 1.899 acres of isolated wetlands and other waters and 1,158.617 acres of uplands, including agricultural land, that is highly disturbed from rice and orchard operations. This jurisdictional determination is draft and contingent on verification by USACE.

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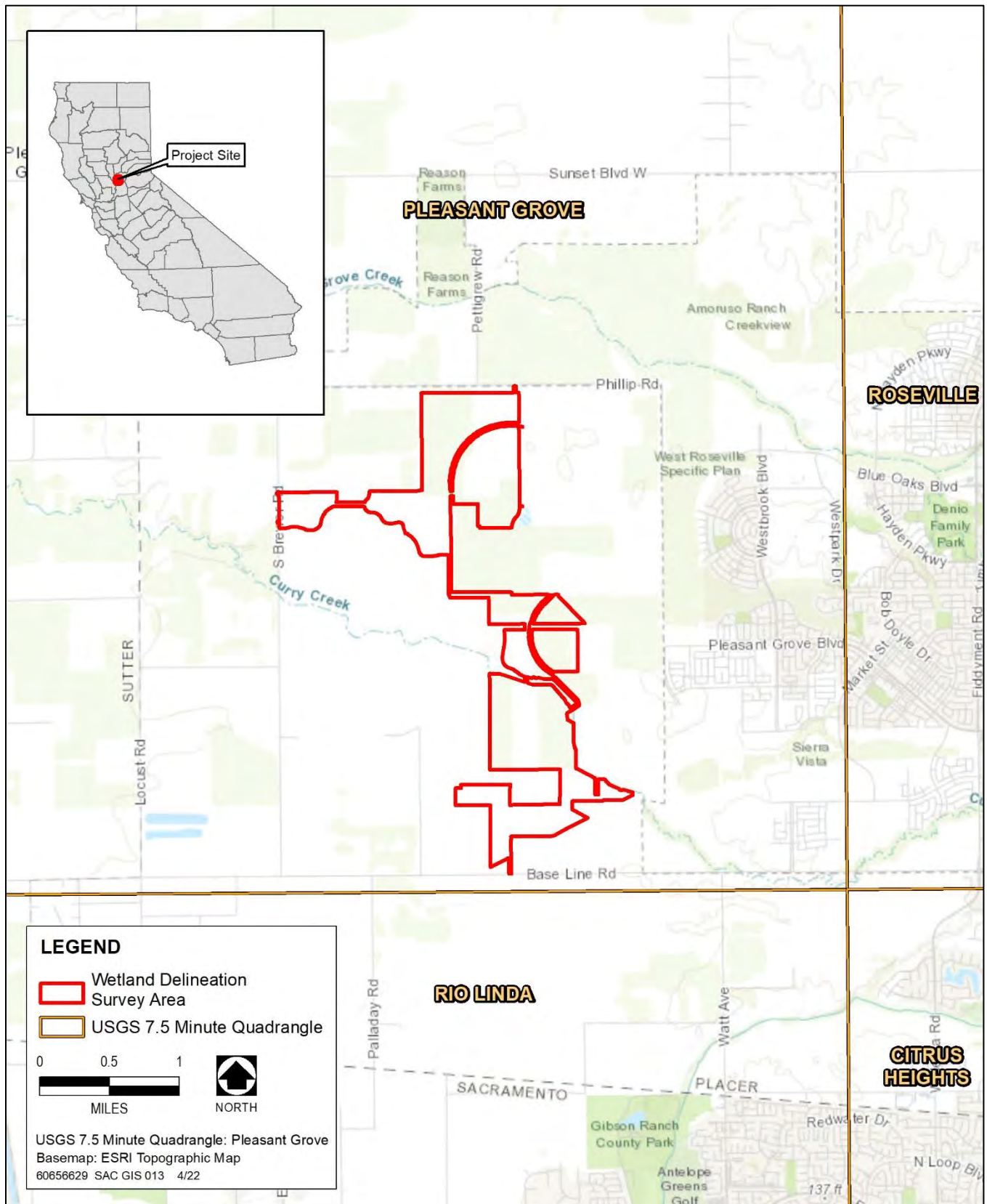
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APPENDIX A

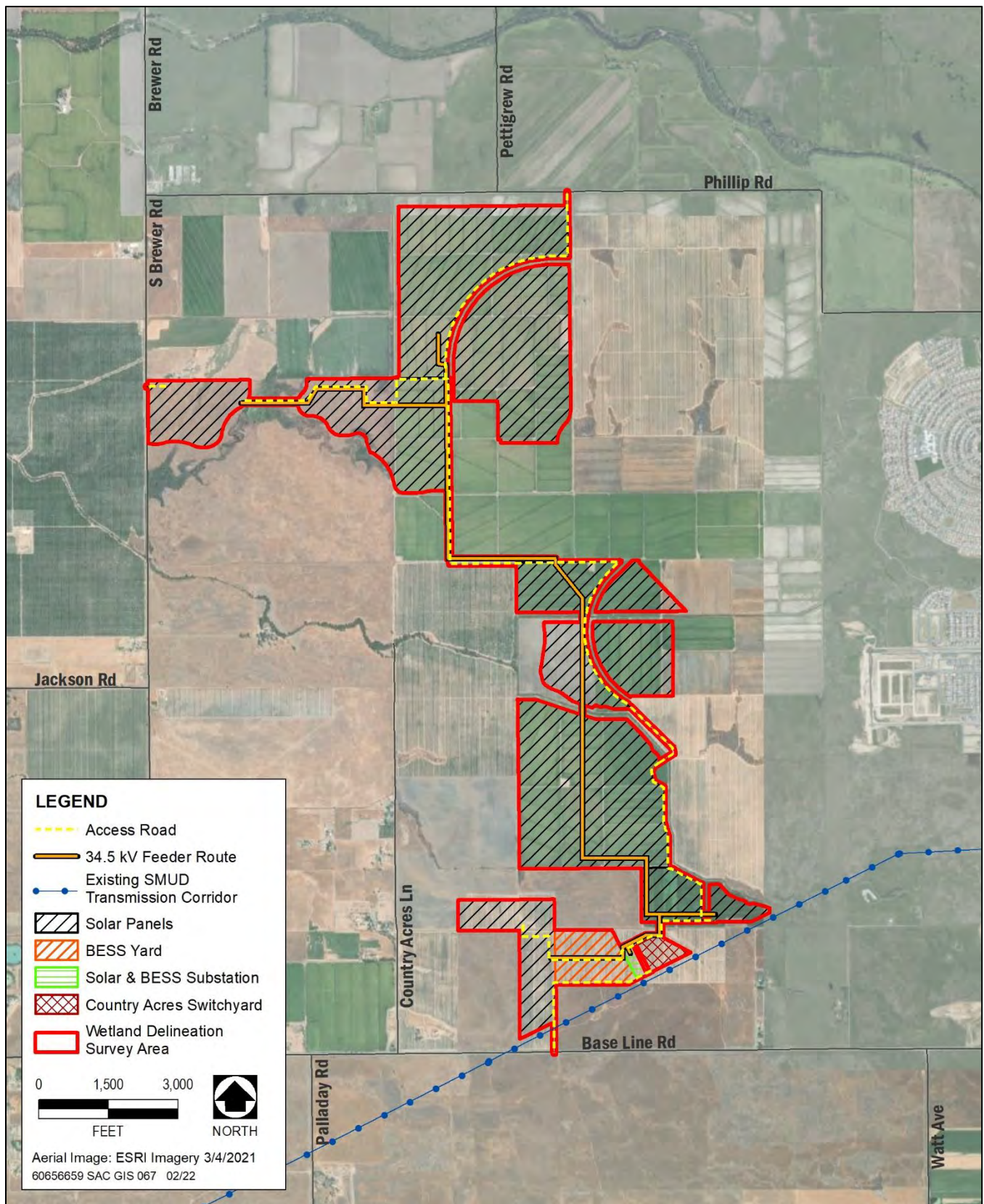
Exhibits

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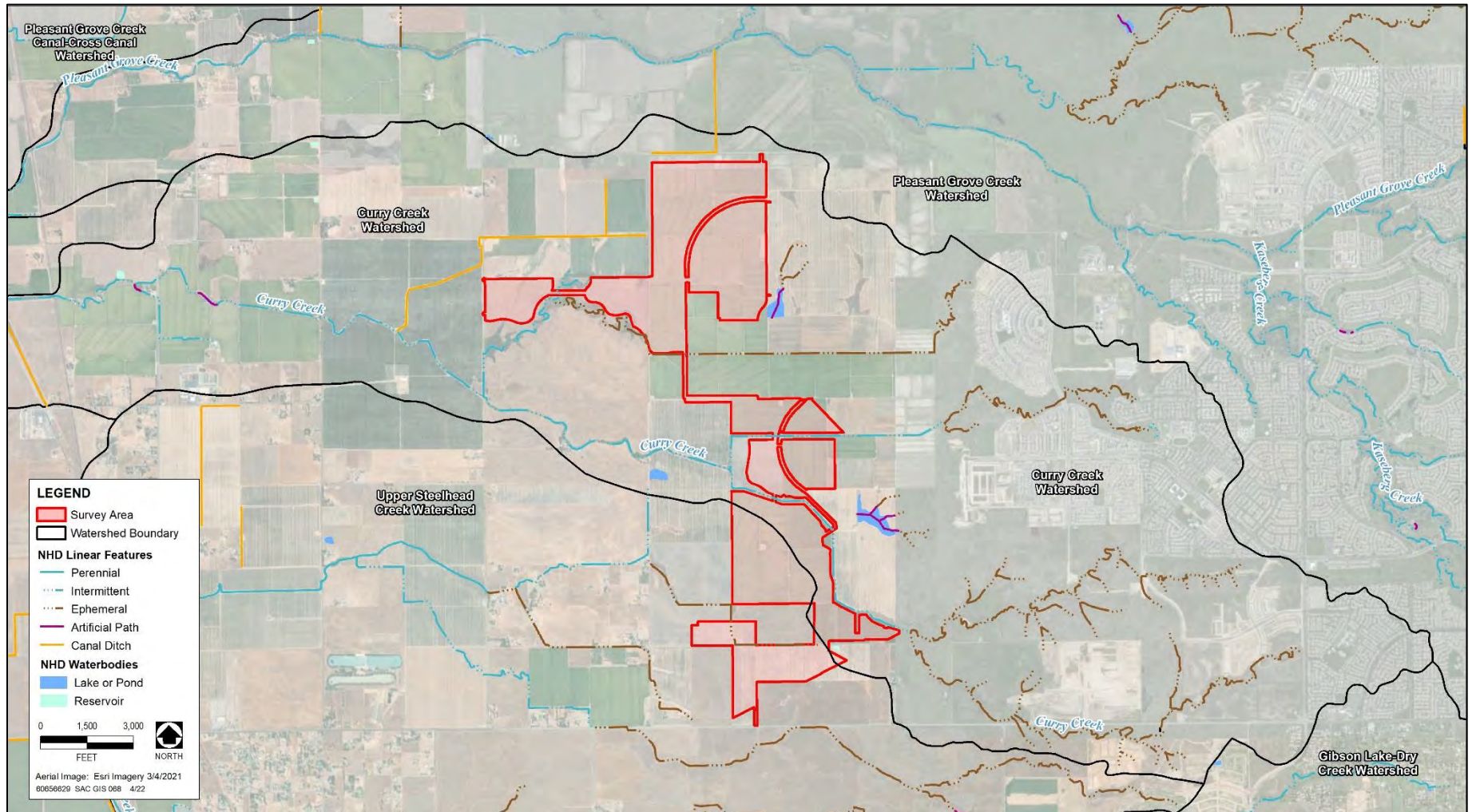
Source: Data compiled by AECOM in 2022

Exhibit 1. Project Vicinity Map



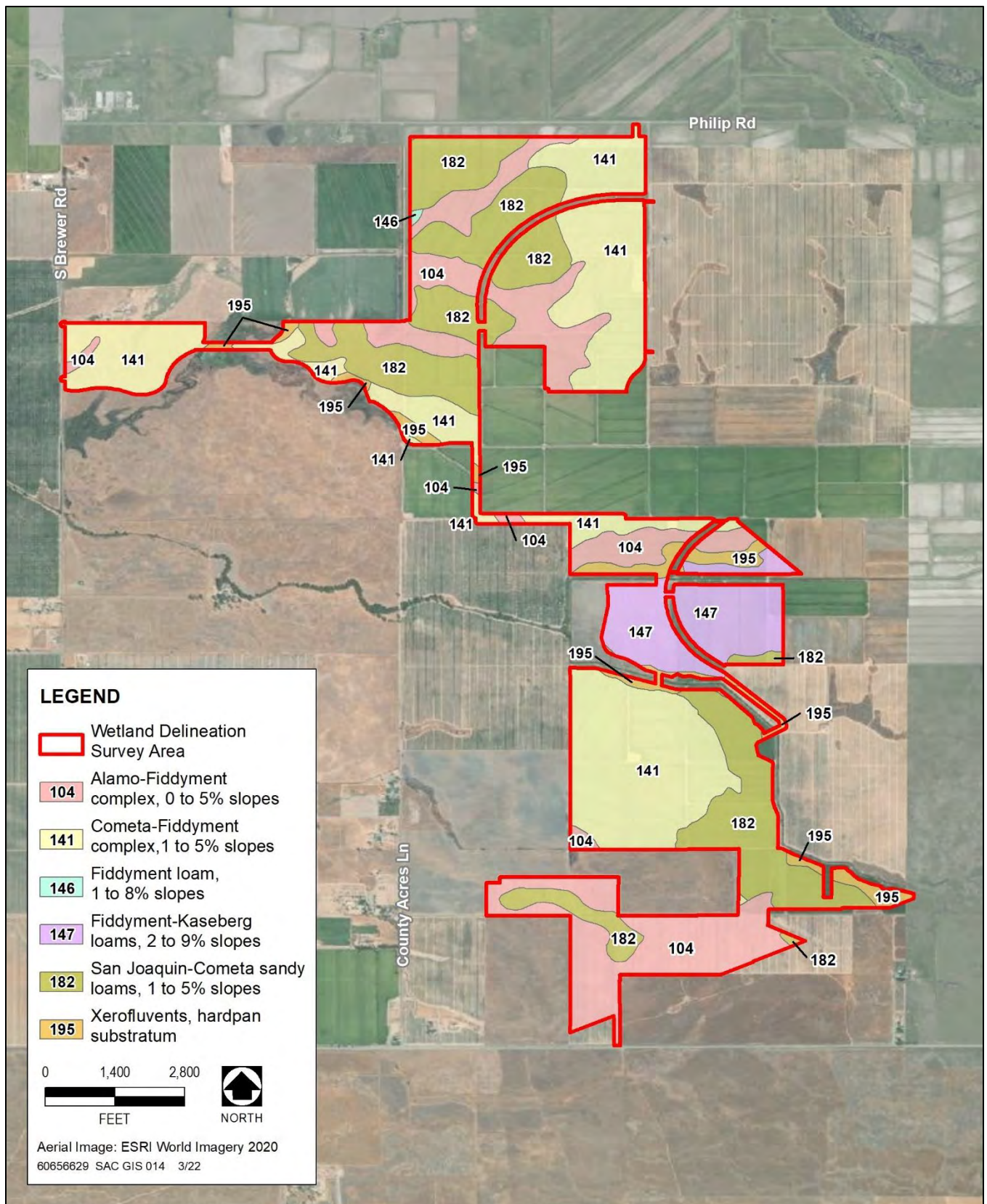
Source: Data compiled by AECOM in 2022

Exhibit 2. Conceptual Project Area Map



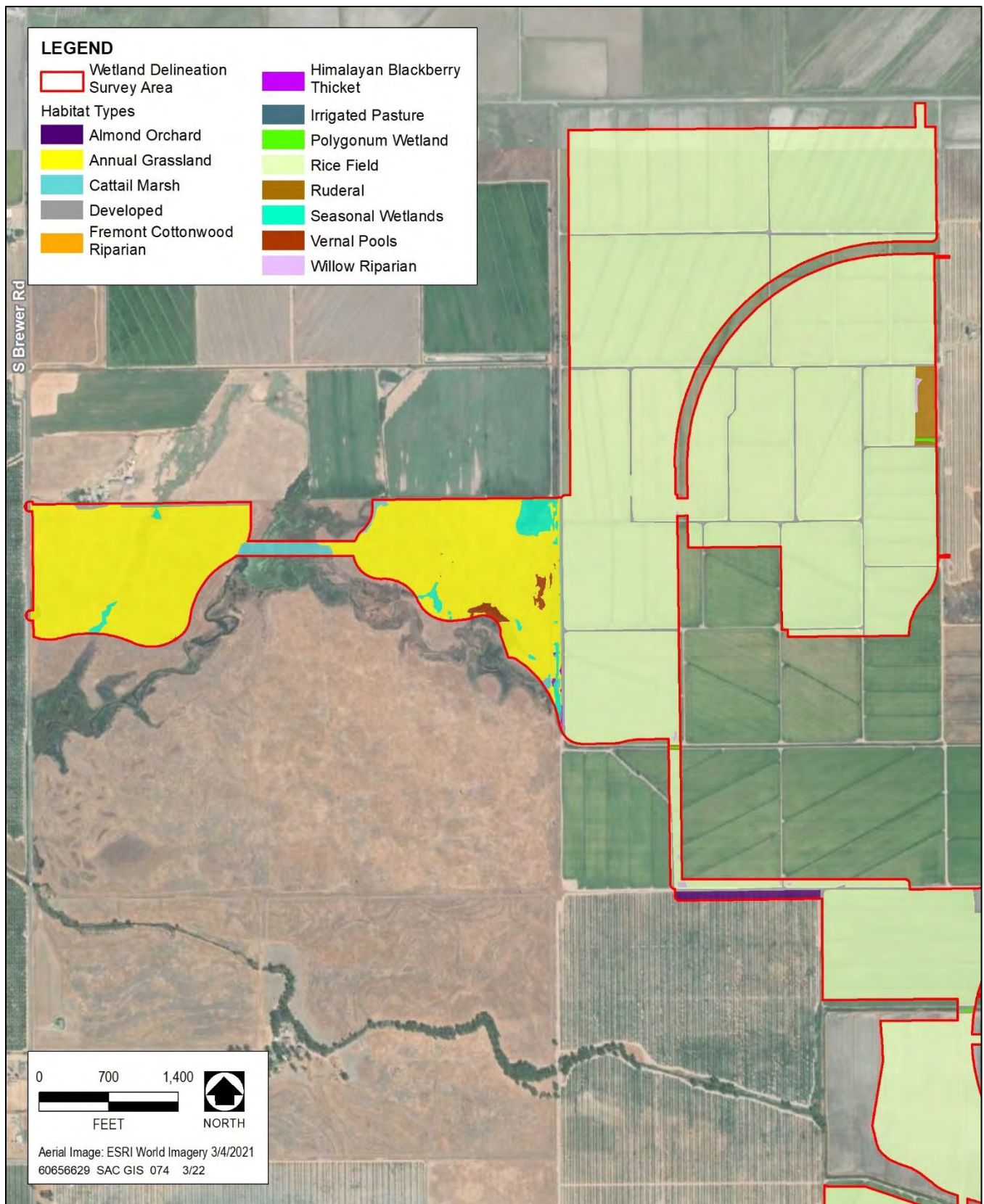
Source: USGS 2021a

Exhibit 3. Watershed and Hydrology Map



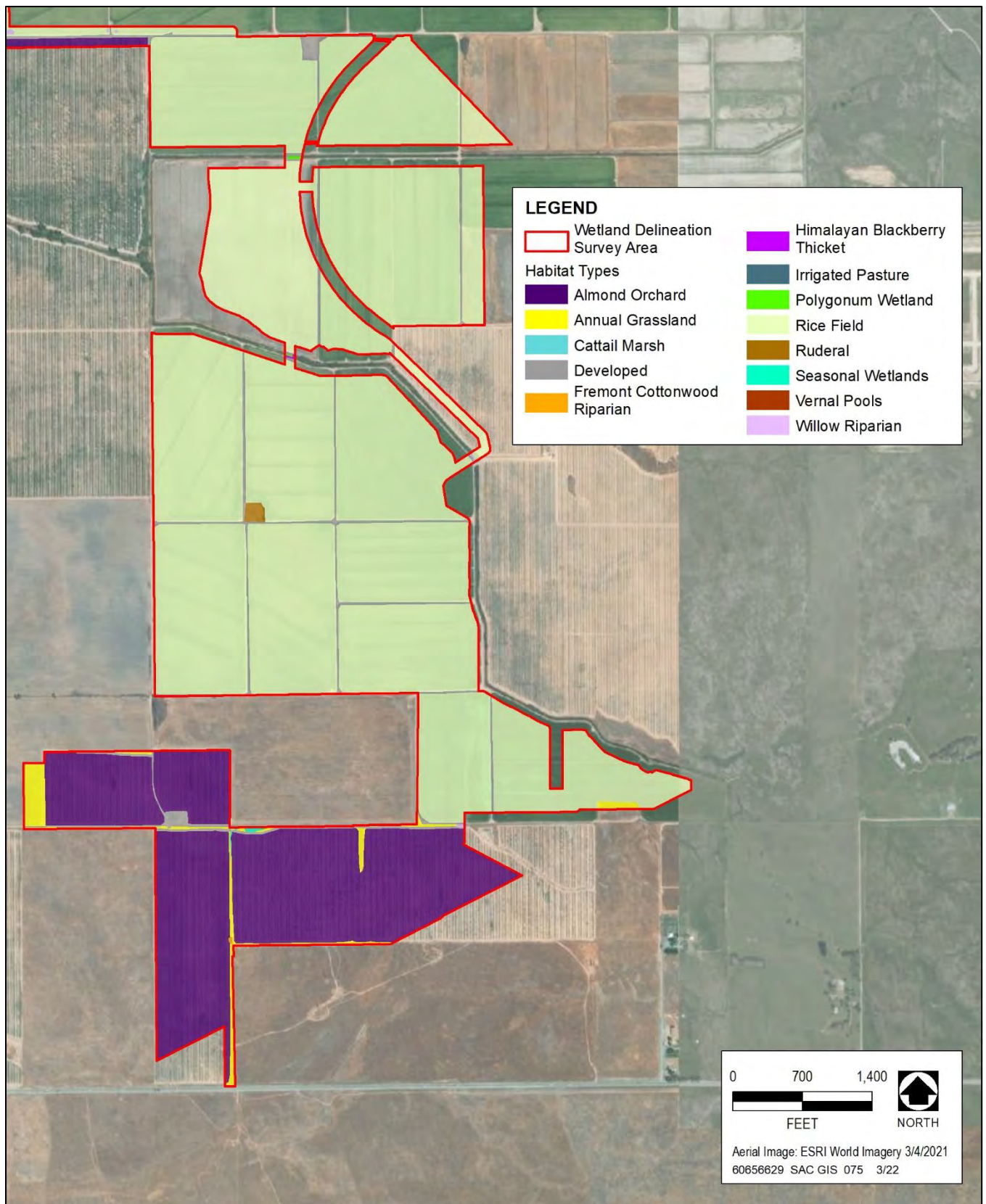
Source: NRCS 2021

Exhibit 4. Soils Map



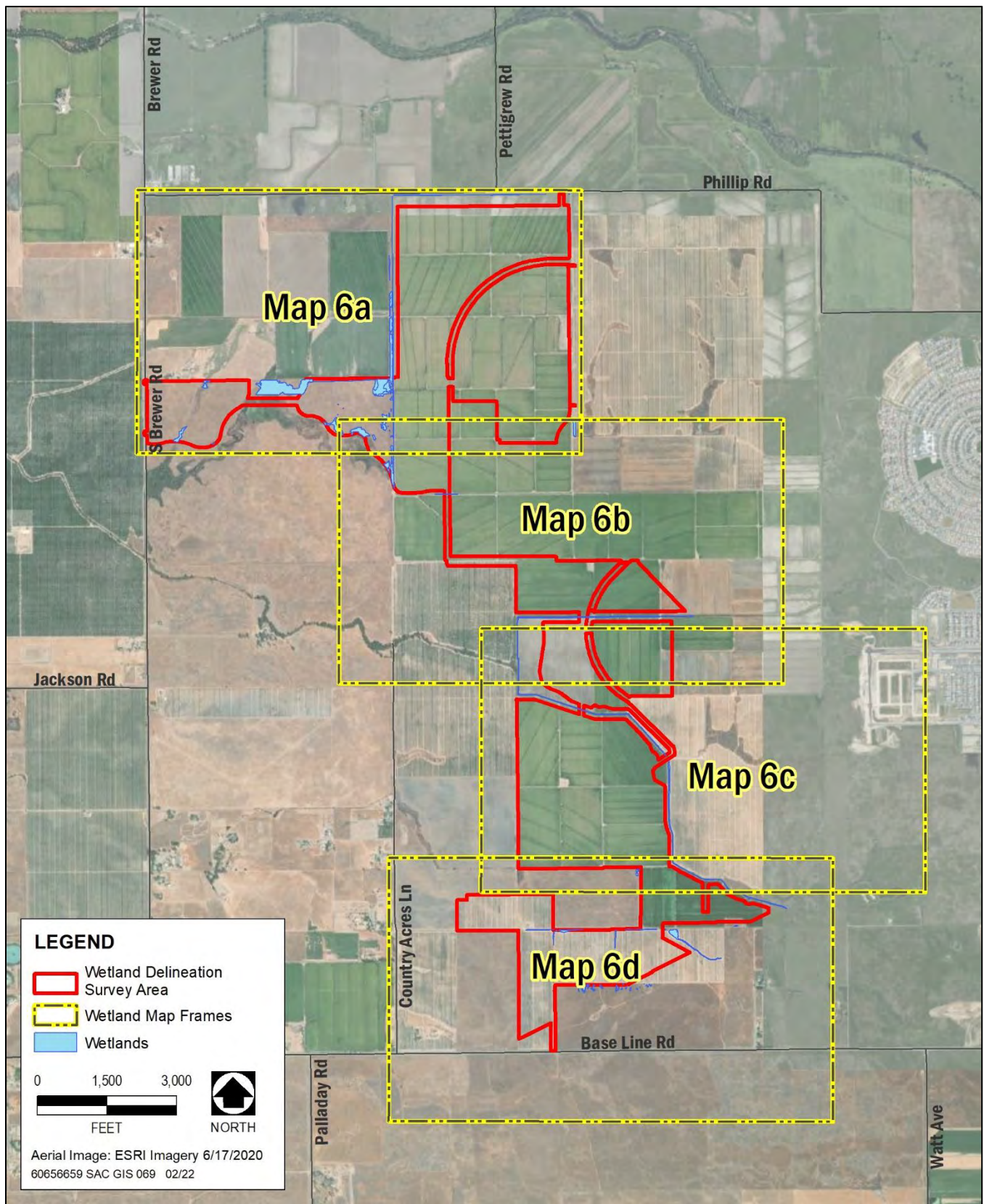
Source: Data compiled by AECOM in 2022

Exhibit 5a. Vegetation Communities and Land Cover Type Map 1 of 2



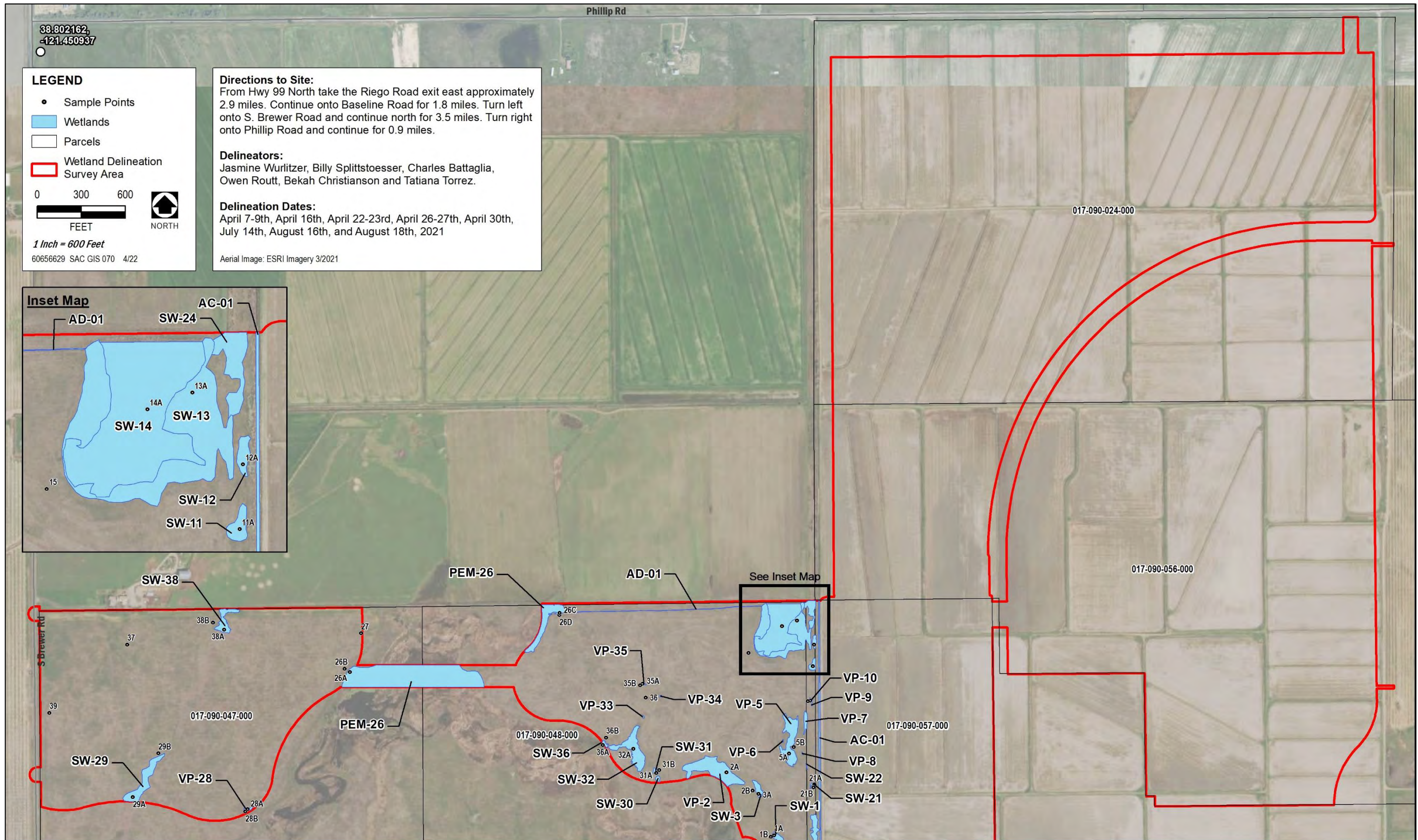
Source: Data compiled by AECOM in 2022

Exhibit 5b. Vegetation Communities and Land Cover Type Map 2 of 2



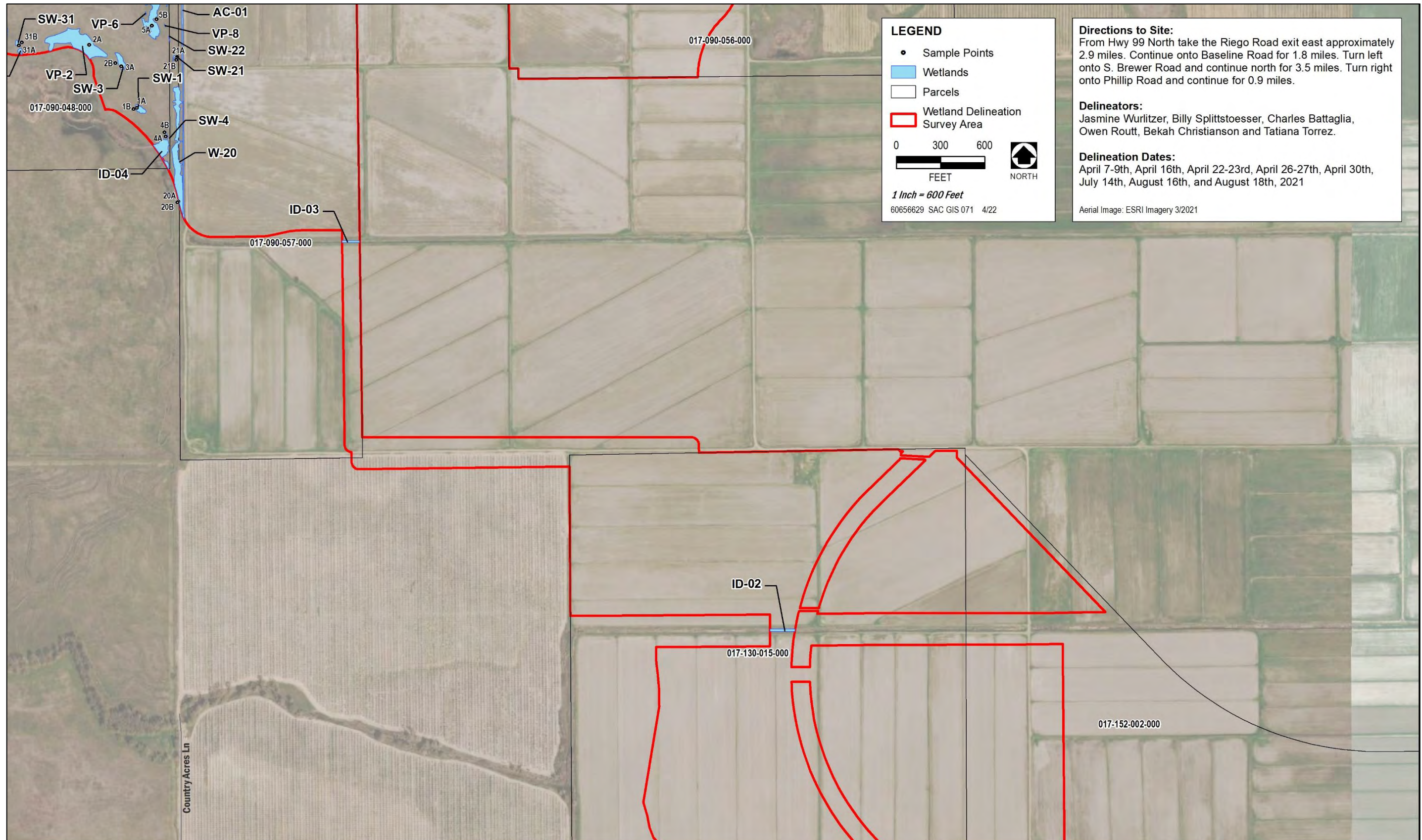
Source: Data compiled by AECOM in 2022

Exhibit 6. Wetland Delineation Overview Map



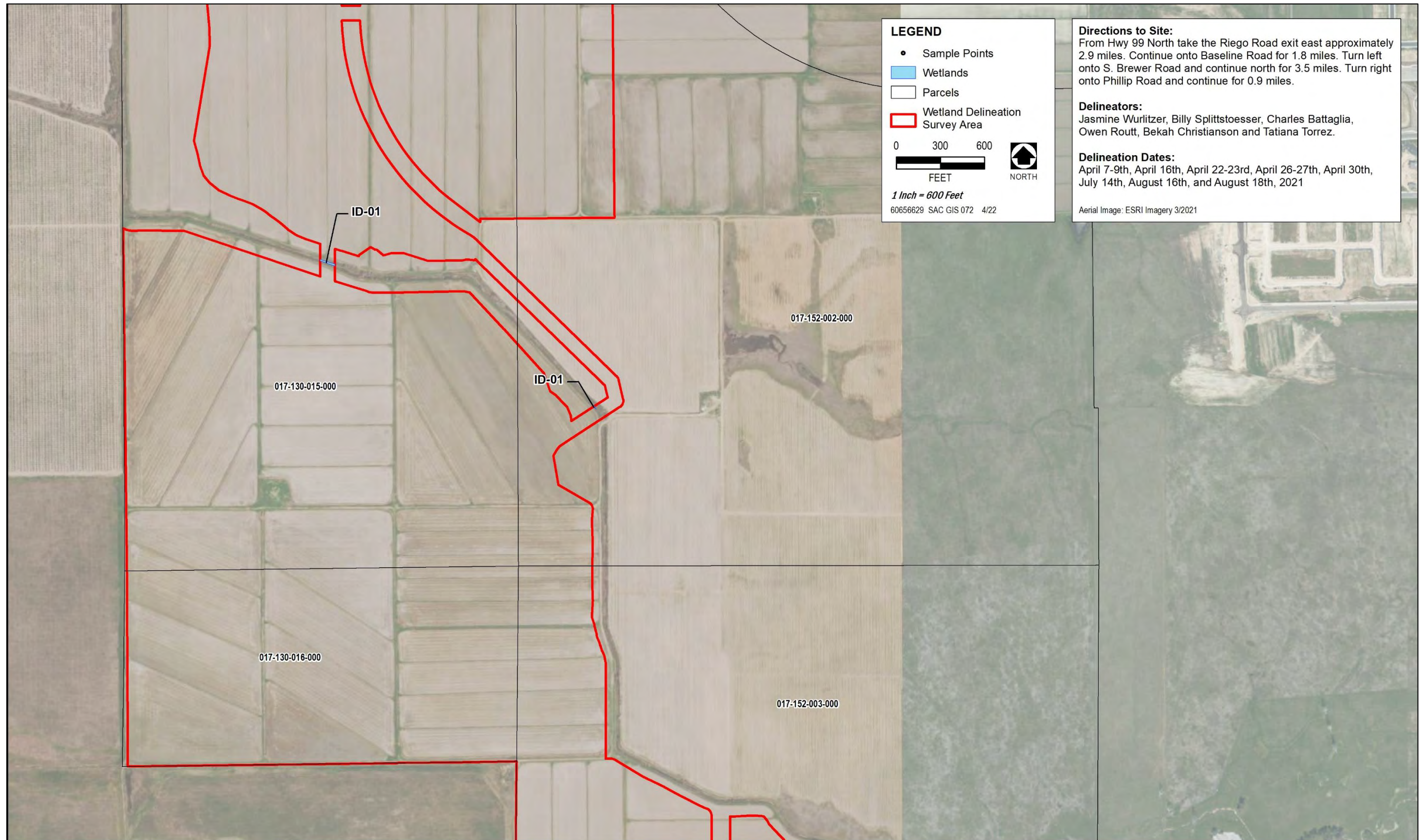
Source: ECORP 2017; Data Compiled by AECOM in 2022

Exhibit 6a. Wetland Delineation Map 1 of 4



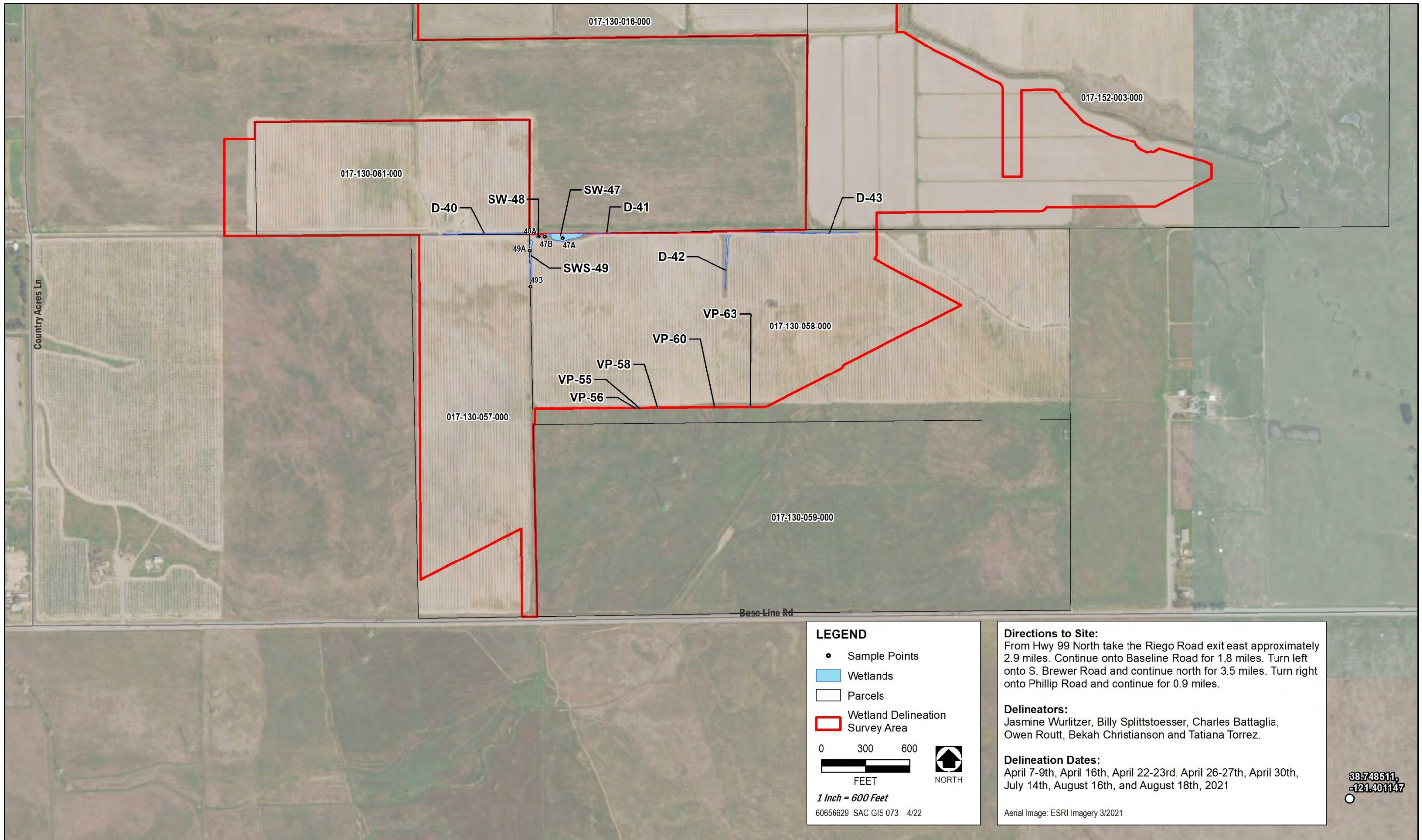
Source: ECORP 2017; Data Compiled by AECOM in 2022

Exhibit 6b. Wetland Delineation Map 2 of 4



Source: ECORP 2017; Data Compiled by AECOM in 2022

Exhibit 6c. Wetland Delineation Map 3 of 4



Source: ECORP 2017; Data Compiled by AECOM in 2022

Exhibit 6d. Wetland Delineation Map 4 of 4

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APPENDIX B

Field Datasheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/08/21
 Applicant/Owner: SMUD State: CA Sampling Point: 001-A
 Investigator(s): W. Spillstoesser, J. Wanzler, B. Christianson, & O. Rount Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Low terrace Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.78720219 Long: -121.4336574 Datum: NAD 83
 Soil Map Unit Name: Cometa-Fiddymet complex, 1 to 5 percent slopes (460305) NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation X, Soil _____, or Hydrology X 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 <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		
Remarks: Wetland #1. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek). The site is north of a drainage that may flood periodically and not every year. The project site is in an annual grassland with irrigated pastures to the north and rice fields to the east and may receive overland or subsurface flow from these adjacent uses during the summer, or what would normally be the dry season. Area may be grazed occasionally, cows are present on field to the west.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
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>33%</u> (A/B)
4. _____	_____	_____	_____	
	_____	_____	=Total Cover	
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species <u>1</u> x1 = <u>1</u>
3. _____	_____	_____	_____	FACW species <u>3</u> x2 = <u>6</u>
4. _____	_____	_____	_____	FAC species <u>33</u> x3 = <u>99</u>
5. _____	_____	_____	_____	FACU species <u>44</u> x4 = <u>176</u>
	_____	_____	=Total Cover	UPL species <u>0</u> x5 = <u>0</u>
	_____	_____		Column Totals: <u>81</u> (A) <u>282</u> (B)
	_____	_____		Prevalence Index = B/A = <u>3.5</u>
Herb Stratum (Plot size: r = 6 ft.)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <i>Festuca perennis</i>	33%	Yes	FAC	Dominance Test is >50% _____
2. <i>Festuca myuros</i>	33%	Yes	FACU	Prevalence Index is ≤3.0 _____
3. <i>Lactuca serriola</i>	10%	Yes	FACU	Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____
4. <i>Juncus patens</i>	3%		FACW	<u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) _____
5. <i>Erodium botrys</i>	1%		FACU	
6. <i>Typha ssp.</i>	1%		OBL	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
	_____	_____	=Total Cover	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. _____
	_____	_____		
	_____	_____	=Total Cover	
% Bare Ground in Herb Stratum <u>19%</u>	% Cover of Biotic Crust <u>0</u>			Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
Remarks: The plant community at the time of sampling does not exhibit hydrophytic vegetation indicators, but indicators of hydric soil and wetland hydrology are present. Even though the site was sampled during the normal wet period (i.e., near the end of the rainy season), it is possible that the site receives irrigation runoff from adjacent properties during the dry season and that may be the primary driver of the soil and hydrology indicators. Standing dead <i>Typha</i> indicate that the area has been inundated in the past.				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/08/21
 Applicant/Owner: SMUD State: CA Sampling Point: 001 B
 Investigator(s): W. Spillstoesser, J. Wurlitzer, B. Christianson, & O. Routh Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Low terrace Local relief (concave, convex, none): none Slope (%): 1%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.78717656 Long: -121.4337327 Datum: NAD 83
 Soil Map Unit Name: Cometa-Fiddymnt complex, 1 to 5 percent slopes (460305) NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology X 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 <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>		
Wetland Hydrology Present?	Yes _____ No <u>X</u>		

Remarks: Paired upland point for wetland #1. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek). The site is north of a drainage that may flood periodically and not every year. The project site is in an annual grassland with irrigated pastures to the north and rice fields to the east and may receive overland or subsurface flow from these adjacent uses during the summer, or what would normally be the dry season. Area may be grazed occasionally, cows are present on field to the west.

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>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
			=Total Cover	
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x1 = <u>0</u> FACW species <u>0</u> x2 = <u>0</u> FAC species <u>8</u> x3 = <u>24</u> FACU species <u>3</u> x4 = <u>12</u> UPL species <u>30</u> x5 = <u>150</u> Column Totals: <u>41</u> (A) <u>186</u> (B) Prevalence Index = B/A = <u>4.5</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
			=Total Cover	
Herb Stratum (Plot size: <u>1</u> = 6 ft <u>1</u>)				Hydrophytic Vegetation Indicators: 33% Dominance Test is >50% 4.5 Prevalence Index is $\leq 3.0^1$ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain)
1. <i>Erodium botrys</i>	5%	Yes	FACU	
2. <i>Elymus caput-medusae</i>	30%	Yes	NL	
3. <i>Cirsium vulgare</i>	1%		FACU	
4. <i>Rumex crispus</i>	3%		FAC	
5. <i>Vicia sativa</i>	2%		FACU	
6. <i>Festuca perennis</i>	5%	Yes	FAC	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
			46% =Total Cover	
Woody Vine Stratum (Plot size: _____)				1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
			=Total Cover	
% Bare Ground in Herb Stratum	54%	% Cover of Biotic Crust	0%	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/08/21
 Applicant/Owner: SMUD State: CA Sampling Point: 002 A
 Investigator(s): W. Spittstoesser, J. Wurlitzer, B. Christianson, & O. Routh Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Low terrace Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.78838202 Long: -121.4347823 Datum: NAD 83
 Soil Map Unit Name: Xerollics, hardpan substratum (460359) NWI Classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation X, Soil _____, or Hydrology X 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>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	

Remarks: Wetland #3. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek). The site is north of a drainage that may flood periodically and not every year. The project site is in an annual grassland with irrigated pastures to the north and rice fields to the east and may receive overland or subsurface flow from these adjacent uses during the summer, or what would normally be the dry season. Area may be grazed occasionally, cows are present on field to the west.

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</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				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL species: <u>48%</u> x1 = <u>48</u> FACW species: <u>30%</u> x2 = <u>60</u> FAC species: <u>2%</u> x3 = <u>6</u> FACU species: <u>0</u> x4 = <u>0</u> UPL species: <u>2</u> x5 = <u>10</u> Column Totals: <u>82%</u> (A) <u>124</u> (B) Prevalence Index = B/A = <u>1.5</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				
<u>Herb Stratum</u> (Plot size: r = 6 ft.)				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u>X</u> Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ² (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ³ (Explain)
1. <u>Lasthenia glaberrima</u>	<u>40%</u>	<u>Yes</u>	<u>OBL</u>	
2. <u>Plagiobothrys stipitatus</u>	<u>30%</u>	<u>Yes</u>	<u>FACW</u>	
3. <u>Hypochaeris glabra</u>	<u>2%</u>		<u>NL</u>	
4. <u>Eleocharis palustris (macrostachya)</u>	<u>3%</u>		<u>OBL</u>	
5. <u>Achyrachaena mollis</u>	<u>1%</u>		<u>FAC</u>	
6. <u>Rumex crispus</u>	<u>1%</u>		<u>FAC</u>	
7. <u>Ranunculus bonariensis</u>	<u>5%</u>		<u>OBL</u>	
8. _____	_____	_____	_____	
= Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>16%</u> % Cover of Biotic Crust <u>0%</u>				

Remarks: This wetland also had dead standing *Typha* scattered along its southern and western edge. Dominant species indicative of vernal pool; however, there is no restrictive layer (see hydric soils investigation on next page). Standing dead *Typha* indicate wetland may be inundated for very long periods in some years.

SOIL

Sampling Point: _____ 002-A

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		
0-6	10YR 5/1	72	7.5 YR 4/6	10	C	M	Sandy loam
-	-	-	7.5YR 5/8	15	C	M	-
-	-	-	7.5YR 5/8	3	PL	M	-
6-12	10YR 5/1	48	5Y 2.5/1	15	C	M	Sandy loam
-	-	-	7.5YR 3/4	25	C	M	-
-	-	-	5YR 3/6	7	C	M	-
-	-	-	5YR 3/6	5	PL	M	-
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:			
<input type="checkbox"/> Histosol (A1)				<input type="checkbox"/> Sandy Redox (S5)			
<input type="checkbox"/> Histic Epipedon (A2)				<input type="checkbox"/> Stripped Matrix (S6)			
<input type="checkbox"/> Black Histic (A3)				<input type="checkbox"/> Loamy Mucky Mineral (F1)			
<input type="checkbox"/> Hydrogen Sulfide (A4)				<input type="checkbox"/> Loamy Gleyed Matrix (F2)			
<input type="checkbox"/> Stratified Layers (A5) (LRR C)				<input type="checkbox"/> Depleted Matrix (F3)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)				<input type="checkbox"/> Redox Dark Surface (F6)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)				<input type="checkbox"/> Depleted Dark Surface (F7)			
<input type="checkbox"/> Thick Dark Surface (A12)				<input checked="" type="checkbox"/> Redox Depressions (F8)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)				<input type="checkbox"/> Vernal Pools (F9)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)				<input type="checkbox"/> 1 cm Muck (A9) (LRR C)			
				<input type="checkbox"/> 2 cm Muck (A10) (LRR B)			
				<input type="checkbox"/> Reduced Vertic (F18)			
				<input type="checkbox"/> Red Parent Material (TF2)			
				<input type="checkbox"/> Other (Explain in Remarks)			
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.							
Restrictive Layer (if present):							
Type: <u>none</u>							
Depth (inches): <u>12"</u>						Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: Organic layer 0.25" in depth. In closed depressions subject to ponding, 5 percent or more distinct or prominent redox concentrations occurring as soft masses or pore linings in a layer that is 5 cm (2 inches) or more thick and starts at a depth ≤10 cm (4 inches) from the soil surface; in the sample, redox concentrations are at 25% masses in a layer that is 6 inches thick and starts at a depth less than 4 inches from the surface.							

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)	
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County State: CA Sampling Date: 04/08/21
 Applicant/Owner: SMUD Investigator(s): W. Spillshoefer, J. Wullizer, B. Christianov, A. O. Fout Section, Township, Range: 20 11N 5E Sampling Point: 002 B
 Landform (hillslope, terrace, etc.): Low terrace Local relief (concave, convex, none): none Slope (%): 0.1%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.78904013 Long: -121.4341621 Datum: NAD 83
 Soil Map Unit Name: Cometa-Fiddymint complex, 1 to 5 percent slopes (460305) NWI Classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are 'Normal Circumstances' present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology X 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 <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		

Remarks: Upland point for wetland #2 and wetland #3. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1796, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek). The site is north of a drainage that may flood periodically and not every year. The project site is in an annual grassland with irrigated pastures to the north and rice fields to the east and may receive overland or subsurface flow from these adjacent uses during the summer, or what would normally be the dry season. Area may be grazed occasionally, cows are present on field to the west.

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	
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: OBL species: <u>0</u> x1 = <u>0</u> FACW species: <u>0</u> x2 = <u>0</u> FAC species: <u>42</u> x3 = <u>126</u> FACU species: <u>2</u> x4 = <u>8</u> UPL species: <u>14</u> x5 = <u>70</u> Column Totals: <u>58%</u> (A) <u>204</u> (B) Prevalence Index = B/A = <u>3.5</u>
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
			= Total Cover	
Herb Stratum (Plot size: 1 = 5 ft. _____)				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is >3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Vicia villosa</u>	10%	Yes	UPL	
2. <u>Lupinus bicolor</u>	2%		UPL	
3. <u>Rumex crispus</u>	1%		FAC	
4. <u>Erodium botrys</u>	2%		FACU	
5. <u>Triteleia hyacinthina</u>	1%		FAC	
6. <u>Geranium dissectum</u>	2%		UPL	
7. <u>Festuca perennis (Lolium perenne)</u>	40%	Yes	FAC	
8. _____				
	58%		= Total Cover	
Woody/Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____				
2. _____				
			= Total Cover	
% Bare Ground in Herb Stratum <u>42%</u>		% Cover of Biotic Crust <u>0%</u>		

Remarks: To meet dominance test requirement for hydrophytic vegetation, percent of dominant species that are OBL, FACW or FAC must be greater than 50%. There is exactly 50% FAC vegetation in the sampled area, and not greater than 50%, so the sampled area does not meet the dominance test. Furthermore, the prevalence index is greater than 3.0 at 3.5.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/08/21
 Applicant/Owner: SMUD State: CA Sampling Point: 003.A
 Investigator(s): J. Wurlitzer & W. Spittstoesser Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Low terrace Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.78797761 Long: -121.4340229 Datum: NAD 83
 Soil Map Unit Name: San Joaquin/Cometa sandy loams, 1-5% slopes; and Cometa/Fiddymt complex, 1-5% slopes NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: <u>Wetland (vernal pool) #2. Abnormally low rainfall for the water year.</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____ r = 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
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. _____	_____	_____	_____	
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index Worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species: <u>35</u> x1 = <u>35</u>
3. _____	_____	_____	_____	FACW species: <u>2</u> x2 = <u>4</u>
4. _____	_____	_____	_____	FAC species: <u>23</u> x3 = <u>69</u>
5. _____	_____	_____	_____	FACU species: <u>5</u> x4 = <u>20</u>
	_____	_____	_____	UPL species: <u>0</u> x5 = <u>0</u>
= Total Cover				Column Totals: <u>65</u> (A) <u>128</u> (B)
Herb Stratum (Plot size: _____ r = 5 ft)				Prevalence Index = B/A = <u>2.0</u>
1. <u>Lasiohena glaberrima</u>	<u>15%</u>	<u>Yes</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Festuca perennis (Lolium perenne)</u>	<u>20%</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Hordium marinum</u>	<u>3%</u>	_____	<u>FAC</u>	
4. <u>Plagiobothrys stipitatus</u>	<u>1%</u>	_____	<u>FACW</u>	
5. <u>Lactuca serriola</u>	<u>1%</u>	_____	<u>FACU</u>	
6. <u>Ranunculus bonariensis</u>	<u>5%</u>	_____	<u>OBL</u>	
7. <u>Eryngium vaseyi</u>	<u>1%</u>	_____	<u>FACW</u>	
8. <u>Festuca myuros</u>	<u>4%</u>	_____	<u>FACU</u>	
9. <u>Eleocharis macrostachya (Eleocharis palustris)</u>	<u>15%</u>	<u>Yes</u>	<u>OBL</u>	
= Total Cover <u>65%</u>				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes _____ No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover _____				
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____		
Remarks: <u>feature is in an annual grassland matrix along the northern edge of a low terrace that parallels a perennial drainage.</u>				

SOIL

Sampling Point: 003-A

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		
1-4	10YR 6/4	92	10YR 5/8	8	C	M	Silty clay loam	oxidized rhizosphere
4-10	10YR 6/4	65	10YR 5/8	28	C	M	Sandy clay	
-	-	-	7.5YR 2.5/2	7	C	M	-	clearly stripped matrix

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.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
--	--

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

Restrictive Layer (if present): Type: <u>Claypan</u> Depth (inches): <u>4 - 10 inches</u>	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

Dark redox throughout combined with manganese. Restrictive layer as shallow as 4 inches bgs. In closed depressions subject to ponding, 5 percent or more distinct or prominent redox concentrations occurring as soft masses in a layer that is 2 inches or more thick and starts at a depth \leq 4 inches from the soil surface. This indicator occurs on depressional landforms, such as vernal pools. In the sample point, redox concentrations are 8% in a layer that is 4 inches thick and starts a 1 inch from the soil surface.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input checked="" type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input checked="" type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: vernal pool topography and soil type

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/08/21
 Applicant/Owner: SMUD State: CA Sampling Point: 004-A
 Investigator(s): [W. Spillshooper, J. Wullizer, B. Christianson, & C. Fout] Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Low terrace Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.7866748 Long: -121.4329743 Datum: NAD 83
 Soil Map Unit Name: Cometa-Fiddymert complex, 1 to 5 percent slopes (460305) NWI Classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology X 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>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	

Remarks: Wetland #4. Adjacent wetland to the north of drainage channel. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek). The site is north of a drainage that may flood periodically and not every year. The project site is in an annual grassland with irrigated pastures to the north and rice fields to the east and may receive overland or subsurface flow from these adjacent uses during the summer, or what would normally be the dry season. Area may be grazed occasionally, cows are present on field to the west.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
<u>Free Stratum</u> (Plot size: r = 6 ft.)				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
1. <u>Salix gooddingii</u>	<u>5</u>		<u>FACW</u>	Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
2. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66%</u> (A/B)	
3. _____					
4. _____					
	<u>5</u>	<u>= Total Cover</u>			
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				Prevalence Index Worksheet:	
1. _____				Total % Cover of: _____ Multiply by: _____	
2. _____				OBL species: <u>20</u> x1 = <u>20</u>	
3. _____				FACW species: <u>9</u> x2 = <u>18</u>	
4. _____				FAC species: <u>10</u> x3 = <u>30</u>	
5. _____				FACU species: <u>20</u> x4 = <u>80</u>	
				UPI species: _____ x5 = _____	
				Column Totals: <u>59</u> (A) <u>148</u> (B)	
				Prevalence Index = B/A = <u>2.5</u>	
<u>Herb Stratum</u> (Plot size: r = 6 ft.)				Hydrophytic Vegetation Indicators:	
1. <u>Eleocharis macrostachya (E. palustris)</u>	<u>20%</u>	<u>Yes</u>	<u>OBL</u>	<u>66%</u> Dominance Test is >50%	
2. <u>Festuca myuros (Vulpia myuros)</u>	<u>20%</u>	<u>Yes</u>	<u>FACU</u>	<u>2.5</u> Prevalence Index is $\geq 3.0^1$	
3. <u>Rumex crispus</u>	<u>10%</u>	<u>Yes</u>	<u>FAC</u>	Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. <u>Cyperus eragrostis</u>	<u>3%</u>		<u>FACW</u>	Problematic Hydrophytic Vegetation ¹ (Explain)	
5. <u>Ronippa curvipes</u>	<u>1%</u>		<u>FACW</u>		
6. _____					
7. _____					
8. _____					
	<u>54</u>	<u>= Total Cover</u>		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<u>Woody Vine Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
1. _____					
2. _____					
% Bare Ground in Herb Stratum	<u>41</u>	% Cover of Biotic Crust	<u>0</u>		

Remarks:

SOIL

Sampling Point: 004-A

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		
0-16	10YR 4/3	88	10YR 4/6	12	C	M	sandy 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.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: <u>none</u> Depth (inches): <u>16"</u>	Hydric Soil Present? Yes <u>X</u> No <u> </u>
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Remarks: 5 percent or more distinct or prominent redox concentrations occurring as soft masses in a layer that is 5 cm (2 inches) or more thick and starts at a depth ≤10 cm (4 inches) from the soil surface.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Almost saturated

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/08/21
 Applicant/Owner: SMUD State: CA Sampling Point: 004-B
 Investigator(s): [W. Spillshoener, J. Wulizer, B. Christian, & C. Fiall] Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Low terrace Local relief (concave, convex, none): none Slope (%): 2%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.78674299 Long: 121.4329991 Datum: NAD 83
 Soil Map Unit Name: Cometa-Fiddymnt complex, 1 to 5 percent slopes (460305) NWI Classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology X 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 <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes _____ No <u>X</u>		

Remarks: Upland point for wetland #4. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek). The site is north of a drainage that may flood periodically and not every year. The project site is in an annual grassland with irrigated pastures to the north and rice fields to the east and may receive overland or subsurface flow from these adjacent uses during the summer, or what would normally be the dry season. Area may be grazed occasionally, cows are present on field to the west.

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>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain)
1. _____				
2. _____				
3. _____				
4. _____				
Herb Stratum (Plot size: r = 6 ft)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. <i>Vicia villosa</i>	2%		UPL	
2. <i>Bromus hordeaceus</i>	30%	Yes	FACU	
3. <i>Bromus diandrus</i>	20%	Yes	UPL	
4. <i>Raphanus sp.</i>	1%		UPL	
5. <i>Brassica nigra</i>	1%		UPL	
6. <i>Lactuca serriola</i>	1%		FACU	
7. _____				
8. _____				
= Total Cover	56			
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
% Bare Ground in Herb Stratum <u>44</u> % Cover of Biotic Crust <u>0</u>				

Remarks:

SOIL

Sampling Point: 004-B

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		
0-5	10YR 4/3	88	10YR 4/6	6	C	M	sandy 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.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input checked="" type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: none
 Depth (inches): 5"

Hydric Soil Present? Yes X No

Remarks: 5 percent or more distinct or prominent redox concentrations occurring as soft masses in a layer that is 5 cm (2 inches) or more thick and starts at a depth ≤10 cm (4 inches) from the soil surface

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60669629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/09/21
 Applicant/Owner: Applicant is Sacramento Municipal Utility District (SMUD) State: CA Sampling Point: 005-A
 Investigator(s): W. Spiltschesser, J. Wurtzer, B. Christianson, S-G. Rout Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.78872889 Long: -121.433283 Datum: NAD 83
 Soil Map Unit Name: San Joaquin-Cometa sandy loams, 1 to 5 percent slopes NWI Classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: This sample point, taken in Wetland #5, is also representative of wetlands #6, #7, #8, and #22. Wetland #8 had two additional plant species, <i>Juncus balfourii</i> and <i>Crassula argentea</i> that were identified in the vegetation under story at low cover, and it is assumed these were present in the other features as well. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek). Area may be grazed occasionally, cows are present on field to the west.		

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>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACI species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
= Total Cover				

Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >60% Prevalence Index is ≤3.0 ¹ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
= Total Cover				

Herb Stratum (Plot size: r = 6 ft)				
1. <i>Ranunculus honariensis</i>	10%	Yes	OBL	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. <i>Deschampsia caespitosa</i>	3%		FACW	
3. <i>Lasthenia fremontii</i>	20%	Yes	OBL	
4. <i>Psilocarphus brevissimus</i>	22%	Yes	FACW	
5. <i>Hordeum maritimum</i>	2.50%		FAC	
6. <i>Plagiobothrys stipitatus</i>	12%	Yes	FACW	
7. <i>Triphysaria eriantha</i>	1%		NL	
8. <i>Leontodon saxatilis</i>	1%		FACU	
= Total Cover				
71.5				

Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				

% Bare Ground in Herb Stratum <u>28.5</u> % Cover of Biotic Crust <u>0</u>				
Remarks: <u>Vernal pool vegetation</u>				

SOIL

Sampling Point: 005-A

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		
0-7	10YR 5/3	25	10YR 3/6	50	C	M	Clay	
			10YR 2/2	25	C	M		manganese masses

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.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: hardpan
 Depth (inches): 7"

Hydric Soil Present? Yes No

Remarks: In closed depressions subject to ponding, 5 percent or more distinct or prominent redox concentrations occurring as soft masses or pore linings in a layer that is 5 cm (2 inches) or more thick and starts at a depth ≤ 10 cm (4 inches) from the soil surface. This indicator occurs on depressional landforms, such as vernal pools. In the sample point, redox concentrations are 75% in a layer that is 7 inches thick starting just below the soil surface.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input checked="" type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <u> </u>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <u> </u>
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	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 – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/09/21
 Applicant/Owner: SMUD State: CA Sampling Point: 005-B
 Investigator(s): W. Spittkoesser, J. Wurlitzer, B. Christianson, & O. Rout Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): convex Slope (%): 2%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.78884947 Long: -121.4331716 Datum: NAD 83
 Soil Map Unit Name: San Joaquin Cometa sandy loams, 1 to 5 percent slopes (460346) NWI Classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>		
Wetland Hydrology Present?	Yes _____ No <u>X</u>		
Remarks: Upland point for wetlands #5, #6, #7, #8, and #22. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek). Area may be grazed occasionally, cows are present on field to the west.			

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (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>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ =Total Cover	_____	_____	_____	
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ² (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ³ (Explain)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ =Total Cover	_____	_____	_____	_____ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>Herb Stratum</u> (Plot size: r = 6 ft)				
1. <i>Vicia villosa</i>	15%	Yes	UPL	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
2. <i>Hordeum murinum</i>	20%	Yes	FACU	
3. <i>Bromus hordeaceus</i>	15%	Yes	FACU	
4. <i>Trifolium dubium</i>	5%		UPL	
5. <i>Triteleia hyacinthina</i>	3%		FAC	
6. <i>Erodium botrys</i>	1%		FACU	
_____ =Total Cover	59%	_____	_____	
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ =Total Cover	_____	_____	_____	
% Bare Ground in Herb Stratum	41	% Cover of Biotic Crust	0	
Remarks:				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 01/09/21
 Applicant/Owner: SMUD State: CA Sampling Point: 006-A
 Investigator(s): W. Splittstoesser, J. Wuritzer, B. Christianson, & O. Rout Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.78971672 Long: -121.4327726 Datum: NAD 83
 Soil Map Unit Name: San Joaquin-Corneta sandy loams, 1 to 5 percent slopes (460346) NWI Classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are 'Normal Circumstances' present? Yes X 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>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Sample point corresponds to mapped Wetland #10 and is also representative of wetland #9. Wetland#10 had three plant species <i>Lasthenia fremontii</i> , <i>Psilocarphus brevissimus</i> , and <i>Navarretia leucocephala</i> that were not found in Wetland #9. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek). Area may be grazed occasionally, cows are present on field to the west.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</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>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: r = 6 ft) 1. <i>Eryngium vaseyi</i> 8% _____ FACW 2. <i>Plagiobothrys stipitatus</i> 15% Yes FACW 3. <i>Leontodon saxatilis</i> 10% _____ FACU 4. <i>Lasthenia fremontii</i> 25% Yes OBL 5. <i>Navarretia leucocephala</i> 2.50% _____ OBL 6. <i>Psilocarphus brevissimus</i> 2.50% _____ FACW 7. <i>Hordeum marinum</i> 22% Yes FAC 8. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>15</u> % Cover of Biotic Crust <u>0</u>				
Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>				
Remarks:				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/09/21
 Applicant/Owner: SMUD State: CA Sampling Point: 006-B
 Investigator(s): W. Spillshoetter, J. Wurflizer, B. Christianson, & C. Riatt Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 1%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 39.7897037 Long: -121.4328327 Datum: NAD 83
 Soil Map Unit Name: San Joaquin Cometa sandy loams, 1 to 5 percent slopes (460346) NWI Classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are 'Normal Circumstances' present? Yes X 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 <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks: Upland point for Wetlands #9, #10, #11, #12, #13, and #14. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek). Area may be grazed occasionally, cows are present on field to the west.					

VEGETATION – Use scientific names of plants.

Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
Tree Stratum				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
1. _____				Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
2. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0%</u> (A/B)
3. _____					
4. _____					
			= Total Cover		
Sapling/Shrub Stratum				Prevalence Index Worksheet:	
1. _____				Total % Cover of:	Multiply by:
2. _____				OBL species <u>0</u> x1 = <u>0</u>	
3. _____				FACW species <u>0</u> x2 = <u>0</u>	
4. _____				FAC species <u>0</u> x3 = <u>0</u>	
5. _____				FACU species <u>15</u> x4 = <u>60</u>	
			= Total Cover	UPL species <u>80</u> x5 = <u>400</u>	
				Column Totals: <u>95</u> (A) <u>460</u> (B)	
				Prevalence Index = B/A = <u>4.8</u>	
Herb Stratum (Plot size: r = 6 ft)				Hydrophytic Vegetation Indicators:	
1. <i>Vicia villosa</i>	50%	Yes	UPL	Dominance Test is >50%	
2. <i>Avena sp.</i>	15%	Yes	UPL	Prevalence Index is $\leq 3.0^1$	
3. <i>Erodium botrys</i>	5%		FACU	Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. <i>Trifolium dubium</i>	10%		UPL	Problematic Hydrophytic Vegetation ¹ (Explain)	
5. <i>Hordeum murinum</i>	10%		FACU		
6. <i>Bromus diandrus</i>	5%		UPL		
7. _____					
8. _____					
			= Total Cover		
Woody/Vine Stratum (Plot size: _____)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1. _____					
2. _____					
			= Total Cover		
% Bare Ground in Herb Stratum <u>5%</u>		% Cover of Biotic Crust <u>0%</u>		Hydrophytic Vegetation Present?	
				Yes _____	No <u>X</u>
Remarks:					

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/09/21
 Applicant/Owner: SMUD State: CA Sampling Point: 007 A
 Investigator(s): W. Spitzhoefer, J. Wurflizer, B. Christianson, & C. Frait Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 39.7903567 Long: -121.4327071 Datum: NAD 83
 Soil Map Unit Name: Silt, loess, and sandy loams, 1 to 5 percent slopes (460346) Alamo-Fiddymead complex, 0 to 5 percent slopes (460268) NWI Classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology X 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>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>		

Remarks: Wetland #11. Abnormally low rainfall totals for the season: only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek). The site is north of a drainage that may flood periodically and not every year. The project site is in an annual grassland with irrigated pastures to the north and rice fields to the east and may receive overland or subsurface flow from these adjacent uses during the summer, or what would normally be the dry season. Area may be grazed occasionally, cows are present on field to the west.

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>5</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>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	_____ = Total Cover
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: OBL species <u>12</u> x1 = <u>12</u> FACW species <u>10</u> x2 = <u>20</u> FAC species <u>30</u> x3 = <u>90</u> FACU species <u>3</u> x4 = <u>12</u> UPL species <u>0</u> x5 = <u>0</u> Column Totals: <u>58</u> (A) <u>134</u> (B) Prevalence Index = B/A = <u>2.3</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover	_____	_____	_____	
Herb Stratum (Plot size: _____)				
1. <i>Hordeum maritimum</i>	15%	Yes	FAC	
2. <i>Eleocharis macrostachya (E. palustris)</i>	10%	Yes	OBL	
3. <i>Plagiobothrys stipitalis</i>	5%	Yes	FACW	
4. <i>Cyperus eragrostis</i>	3%	_____	FACW	
5. <i>Lytium hyssopifolium</i>	2%	_____	OBL	
6. <i>Leontodon saxatilis</i>	3%	_____	FACU	
7. <i>Juncus effusus</i>	5%	Yes	FACW	
8. <i>Festuca perennis</i>	15%	Yes	FAC	
_____ = Total Cover	58%	_____	_____	
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u>X</u> Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain)
2. _____	_____	_____	_____	
_____ = Total Cover	_____	_____	_____	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>40%</u>	% Cover of Biotic Crust: <u>0</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>		

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/09/21
 Applicant/Owner: SMUD State: CA Sampling Point: 008-A
 Investigator(s): W. Spillhoefer, J. Wurflzer, B. Christianson, & C. Riadt Section, Township, Range: 20 11N SE
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 4%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.79075893 Long: -121.4326767 Datum: NAD 83
 Soil Map Unit Name: Alamo-Fiddymont complex, 0-5% slopes NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (if no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes X 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>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Wetland #12. <i>Juncus xiphioides</i> dominant. Abnormally low rainfall totals for the season: only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 09, 2021, located about 3 miles west of project site along Pleasant Grove Creek). The project site is in an annual grassland with irrigated pastures to the north and rice fields to the east and may receive overland or subsurface flow from these adjacent uses during the summer, or what would normally be the dry season. Area may be grazed occasionally, cows are present on field to the west.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>r = 30 ft</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>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____				
2. _____				
3. _____				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u>X</u> Prevalence Index is ≤ 3.0 ¹ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain)
4. _____				
-Total Cover				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ -Total Cover				
Herb Stratum (Plot size: <u>r = 6 ft</u>) 1. <u>Juncus xiphioides</u> 75% Yes OBL 2. <u>Geranium dissectum</u> 10% NL 3. <u>Juncus effusus</u> 5% FACW 4. <u>Rumex crispus</u> 1% FAC 5. _____ 6. _____ 7. _____ 8. _____ -Total Cover <u>91%</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ -Total Cover				
% Bare Ground in Herb Stratum <u>9%</u>		% Cover of Biotic Crust _____		
Remarks:				

SOIL

Sampling Point: _____ 008-A

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		
0-10	10YR 4/2	72	10YR 4/6	12	C	M	sandy clay	
	-	-	10YR 2/1	2	C	M	-	manganese masses

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.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
--	--

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

Restrictive Layer (if present):
 Type: none
 Depth (inches): 10"

Hydric Soil Present? Yes No

Remarks: layer that has a depleted matrix with 60 percent or more chroma of 2 or less and that has a minimum thickness of 6 inches starting at a depth \leq 10 inches from the soil surface. A depleted matrix requires a value of 4 or more and chroma of 2 or less. Redox concentrations, including soft iron-manganese masses are required in soils with matrix colors of 4/2.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): 10

Wetland Hydrology Present? Yes No

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

Remarks: Evidence of earthworm activity in the soils.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/09/21
 Applicant/Owner: SMUD State: CA Sampling Point: 009 A
 Investigator(s): W. Spillshieser, J. Wullizer, B. Christianson, & C. Riadt Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.79120727 Long: -121.4330761 Datum: NAD 83
 Soil Map Unit Name: Alamo-Fiddymont complex, 0-5% slopes NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 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>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Wetland #13. Cyperus and Geranium dominated wetland. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek). The project site is in an annual grassland with irrigated pastures to the north and rice fields to the east and may receive overland or subsurface flow from these adjacent uses during the summer, or what would normally be the dry season. Area may be grazed occasionally, cows are present on field to the west.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>r = 30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</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>100%</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
=Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u>X</u> Prevalence Index is ≥3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
=Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Herb Stratum (Plot size: <u>r = 6 ft</u>)				
1. <u>Cyperus eragrostis</u>	30%	Yes	FACW	Remarks:
2. <u>Juncus effusus</u>	8%	Yes	FACW	
3. <u>Geranium dissectum</u>	5%		NI	
4. <u>Festuca perennis</u>	13%	Yes	FAC	
5. <u>Rumex crispus</u>	2%		FAC	
6. _____				
7. _____				
8. _____				
=Total Cover	58%			
Woody/Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
=Total Cover				
% Bare Ground in Herb Stratum <u>42%</u>		% Cover of Biotic Crust _____		

SOIL

Sampling Point: _____ 009-A

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		
0-4	10YR 4/2	88	10YR 4/6	8	C	M	sandy clay loar	
-	-	-	10YR 2/1	4	C	M	-	manganese masses
4-10	10YR 4/3	79	10YR 4/6	18	C	M	sandy clay loar	
-	-	-	10YR 2/1	3	C	M	-	manganese masses

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.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
--	--

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

Restrictive Layer (if present): Type: none Depth (inches): 10"	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks: layer that has a depleted matrix with 60 percent or more chroma of 2 or less and that has a minimum thickness of 2 inches starting at a depth ≤4 inches from the soil surface. A depleted matrix requires a value of 4 or more and chroma of 2 or less. Redox concentrations, including soft iron-manganese masses are required in soils with matrix colors of 4/2.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 6065629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/09/21
 Applicant/Owner: SMUD State: CA Sampling Point: 010 A
 Investigator(s): W. Spillshieser, J. Wurllzer, B. Christianson, & C. Riadt Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.79110496 Long: -121.4334354 Datum: NAD 83
 Soil Map Unit Name: Alamo-Fiddymont complex, 0-5% slopes NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes X 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>X</u> No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		
Remarks: Wetland #14 – interior to Wetland #13, deeper, and dominated by Eleocharis. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek). The project site is in an annual grassland with irrigated pastures to the north and rice fields to the east and may receive overland or subsurface flow from these adjacent uses during the summer, or what would normally be the dry season. Area may be grazed occasionally, cows are present on field to the west.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>r = 30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</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>100%</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
=Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% Prevalence Index is $\leq 3.0^1$ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____				
3. _____				
4. _____				
5. _____				
=Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Herb Stratum (Plot size: <u>r = 6 ft</u>)				
1. <u>Eleocharis macrostachya</u>	<u>35%</u>	<u>Yes</u>	<u>OBL</u>	
2. <u>Ranunculus bonariensis</u>	<u>7%</u>		<u>OBL</u>	
3. <u>Alopecurus aequalis</u>	<u>13%</u>	<u>Yes</u>	<u>OBL</u>	
4. <u>Rorippa curvipes</u>	<u>15%</u>	<u>Yes</u>	<u>FACW</u>	
5. _____				
6. _____				
7. _____				
8. _____				
=Total Cover	<u>70%</u>			
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
=Total Cover				
% Bare Ground in Herb Stratum <u>30</u>		% Cover of Biotic Crust _____		
Remarks:				

SOIL

Sampling Point: 010-A

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		
0-2	10YR 3/2	99	10YR 4/6	1	C	M	silty clay	
2-10	10YR 4/1	80	10YR 3/6	20	C	M	silty clay	
10-14	10YR 4/1	95	10YR 3/6	5	C	M	silty clay	

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.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: none
 Depth (inches): 14"

Hydric Soil Present? Yes No

Remarks: Root masses stop growing at about 10". 2nd horizon almost saturated. Fully saturated soils occur at 3rd horizon. F3 - Depleted Matrix: A layer that has a depleted matrix with 60 percent or more chroma of 2 or less and that has a minimum thickness of 2 inches if the 2 inches starts at a depth \leq 4 inches from the soil surface. A depleted matrix requires a value of 4 or more and chroma of 2 or less. Redox concentrations, including soft iron-manganese masses and/or pore linings, are required in soils with matrix colors of 4/1. In sample point, starting at 2 inches below soil surface, matrix layer colors are 4/1, 80%, and is 8 inches deep; redox concentrations are 20% in this layer.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:
 Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): 18"
 Saturation Present? Yes No Depth (inches): 10"
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

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

Remarks: Crayfish burrows present

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/09/21
 Applicant/Owner: SMUD State: CA Sampling Point: 011-A
 Investigator(s): W. Spillhoefer, J. Wurlizer, B. Christianson, & C. Riadt Section, Township, Range: 20 11N SE
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.79061364 Long: -121.4342309 Datum: NAD 83
 Soil Map Unit Name: Alamo-Fiddymen complex, 0-5% slopes NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (if no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 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>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Originally mapped in field as Wetland #15, but polygon removed from map due to lack of hydrology indicators. Feature consists of old tire ruts in upland near a larger wetland feature. Abnormally low rainfall totals for the season: only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek). Area may be grazed occasionally, cows are present on field to the west.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>r = 30 ft</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. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
-Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% Prevalence Index is ≤3.0 ¹ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
-Total Cover				
Herb Stratum (Plot size: <u>r = 5 ft</u>)				
1. <u>Hordeum marinum</u>	<u>20%</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. <u>Plagiobothrys stipitatus</u>	<u>12%</u>	<u>Yes</u>	<u>FACW</u>	
3. <u>Festuca perennis</u>	<u>3%</u>	_____	<u>FAC</u>	
4. <u>Eleocharis macrostachya</u>	<u>2%</u>	_____	<u>OBL</u>	
5. <u>Veronica peregrina</u>	<u>1%</u>	_____	<u>FAC</u>	
6. <u>Crassula aquatica</u>	<u>1%</u>	_____	<u>OBL</u>	
7. <u>Juncus bufonius</u>	<u>1%</u>	_____	<u>FACW</u>	
8. <u>Psilacarpus oregonus</u>	<u>1%</u>	_____	<u>OBL</u>	
-Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
-Total Cover				
% Bare Ground in Herb Stratum	<u>59%</u>	% Cover of Biotic Crust		
Remarks:				

SOIL

Sampling Point: _____ 011-A

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		
0-3	7.5YR 3/2	96	10YR 4/6	4	C	M	sandy clay loam	
3-7	10YR 4/2	86	10YR 4/6	12	C	M	clay	
-	-	-	10YR 2/1	2	C	M	-	manganese masses

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.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

Restrictive Layer (if present):

Type: none

Depth (inches): 7"

Hydric Soil Present? Yes No

Remarks: A layer that has a depleted matrix with 60 percent or more chroma of 2 or less and that has a minimum thickness of 2 inches starting at a depth \leq 4 inches from the soil surface. A depleted matrix requires a value of 4 or more and chroma of 2 or less. Redox concentrations, including soft iron-manganese masses, are required in soils with matrix colors of 4/2.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)	
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)	

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 wetland hydrology indicators present. No inundation or saturation visible on aerial imagery. Feature is very small and consists of old tire ruts in upland.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/21/21
 Applicant/Owner: SMUD State: CA Sampling Point: 020 A
 Investigator(s): J. Wurlitzer & C. Battaglia Section: Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 1.2%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.785451 Long: 121.432676 Datum: NAD 83
 Soil Map Unit Name: Xerfluents, hardpan substratum NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 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>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Wetland #20, Adjacent to ditch feature and connects to the ditch via several breaks in berm between this wetland and the ditch. Rice fields to the east influence hydrology, whereby this wetland will fill with water when the rice fields are flooded during what would normally be the dry season. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek).	

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>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
1. _____	_____	_____	_____		Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: OBL species: _____ x1 = _____ FACW species: _____ x2 = _____ FAC species: _____ x3 = _____ FACU species: _____ x4 = _____ UPL species: _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
=Total Cover					
Sapling/Shrub Stratum (Plot size: _____)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
=Total Cover					
Herb Stratum (Plot size: r = 10 ft.)					
1. <i>Eleocharis macrostachya (pakistris)</i>	20%	yes	OBL		
2. <i>Cyperus eragrostis</i>	25%	yes	FACW		
3. <i>Rumex crispus</i>	5%	_____	FAC		
4. <i>Helminthotheca echioides</i>	5%	_____	FAC		
5. <i>Juncus effusus</i>	8%	yes	FACW		
6. <i>Alopecurus aequalis</i>	8%	yes	OBL		
7. <i>Sorghus asper</i>	3%	_____	FAC		
8. <i>Erodium brachycarpum</i>	3%	_____	NI		
=Total Cover					
Woody/Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. _____	_____	_____	_____		
=Total Cover					
% Bare Ground in Herb Stratum	10%	% Cover of Biotic Crust	0%	Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
Remarks:					

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/21/21
 Applicant/Owner: SMUD State: CA Sampling Point: 020-B
 Investigator(s): J. Wurlitzer & C. Battaglia Section: Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 1%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.785435 Long: 121.432704 Datum: NAD 83
 Soil Map Unit Name: Xerfluents, hardpan substratum NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Upland point paired to wetland #20. Abnormally low rainfall totals for the season, only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek).	

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>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)	
1. _____					Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: OBL species: <u>0</u> x1 = <u>0</u> FACW species: <u>0</u> x2 = <u>0</u> FAC species: <u>40</u> x3 = <u>120</u> FACU species: <u>10</u> x4 = <u>40</u> UPL species: <u>25</u> x5 = <u>125</u> Column Totals: <u>75</u> (A) <u>285</u> (B) Prevalence Index = B/A = <u>3.8</u>
2. _____					
3. _____					
4. _____					
=Total Cover					
Sapling/Shrub Stratum (Plot size: _____)					
1. _____				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. _____					
3. _____					
4. _____					
5. _____					
=Total Cover					
Herb Stratum (Plot size: 1 = 5 ft²)					
1. <i>Erodium brachycarpum</i>	20%	yes	NL		
2. <i>Plantago lanceolata</i>	13%	yes	FAC		
3. <i>Bromus diandrus</i>	5%		NL		
4. <i>Bromus hordeaceus</i>	10%	yes	FACU		
5. <i>Festuca perennis</i>	25%	yes	FAC		
6. <i>Sonchus asper</i>	2%		FAC		
7. _____					
8. _____					
=Total Cover					
Woody/Vine Stratum (Plot size: _____)					
1. _____				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	
2. _____					
=Total Cover					
% Bare Ground in Herb Stratum	<u>2%</u>	% Cover of Biotic Crust	<u>0%</u>		
Remarks:					

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/21/21
 Applicant/Owner: SMUD State: CA Sampling Point: 021-A
 Investigator(s): T. Worlitz, C. Battaglia, C. Poali & B. Christensen Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 30.78814853 Long: 121.4326891 Datum: NAD 83
 Soil Map Unit Name: San Joaquin Cometa sandy loams, 1-5% slopes NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: Wetland #21. Soils appear to have been historically disturbed; feature is in an area that is between an ag ditch to the east and a fence line to the west. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek). NOTE: Wetland #22 is represented by Sample Point 005-A (datasheet DS 7).		

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	
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A _____
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
			=Total Cover	
Herb Stratum (Plot size: r = 10 ft.)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <i>Festuca perennis</i>	50%	Yes	FAC	
2. <i>Tritilaria hyacinthina</i>	10%		FAC	
3. <i>Holocarpha virgata</i>	15%		NL	
4. <i>Festuca [Vulpia] bromoides</i>	10%		FACU	
5. <i>Erodium botrys</i>	2%		FACU	
6. <i>Bromus hordeaceus</i>	3%		FACU	
7. <i>Hordeum marinum</i>	1%		FAC	
8. <i>Elymus caput-medusae</i>	3%		NL	
			94% =Total Cover	
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____				
2. _____				
			=Total Cover	
% Bare Ground in Herb Stratum	6%	% Cover of Biotic Crust	0%	
Remarks:				

SOIL

Sampling Point: _____ 021-A

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		
0-3	10YR 4/2	50	5YR 4/6	50	C	M	sandy clay loam	
3-8	7.5YR 4/3	50	2.5YR 2.5/4	40	C	M	loam	
			10YR 2/1	10	C	M	loam	manganese masses

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.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input checked="" type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: <u>none</u> Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____
--	--

Remarks: A layer that has a depleted matrix with 60 percent or more chroma of 2 or less and that has a minimum thickness of 5 cm (2 inches) if the 5 cm starts at a depth ≤10 cm (4 inches) from the soil surface; in the sample, the depleted matrix is 50%. In closed depressions subject to ponding, 5 percent or more distinct or prominent redox concentrations occurring as soft masses or pore linings in a layer that is 5 cm (2 inches) or more thick and starts at a depth ≤10 cm (4 inches) from the soil surface; in the sample, redox concentrations are at 50% as soft masses in a layer that is 3 inches thick and starts just below the soil surface.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (2 or more required)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)			
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)			
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)			
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)			
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)			

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/21/21
 Applicant/Owner: SMUD State: CA Sampling Point: 021-B
 Investigator(s): J. Wurlitzer, C. Battaglia, G. Kouti & B. Christianson Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0-1%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.7880929 Long: -121.4327074 Datum: NAD 83
 Soil Map Unit Name: San Joaquin-Cometa sandy loams, 1-5% slopes NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Upland point paired to wetland #21. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek).	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	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)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover _____				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ - Total Cover _____				
Herb Stratum (Plot size: r = 5 ft.) 1. <i>Bromus hordeaceus</i> 80% Yes FACU 2. <i>Erodium botrys</i> 5% _____ FACU 3. <i>Elymus caput-medusae</i> 10% _____ NL 4. <i>Holocarpha virgata</i> 1% _____ NL 5. <i>Triteleia hyacinthina</i> 2% _____ FAC 6. <i>Brodiaea coronaria</i> 1% _____ FAC 7. <i>Vicia villosa ssp. varia</i> 1% _____ NL 8. _____ 100% = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ - Total Cover _____				
% Bare Ground in Herb Stratum <u>0%</u> % Cover of Biotic Crust <u>0%</u>				
Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks:				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/23/21
 Applicant/Owner: SMUD State: CA Sampling Point: 026 A
 Investigator(s): J. Wurlitzer, C. Battaglia, & B. Christianson Section, Township, Range: 20 11N 5E
 Landform (hill/slope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.798197 Long: -121.432802 Datum: NAD 83
 Soil Map Unit Name: Xerfluvents, hardpan substratum NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Wetland #26 - palustrine emergent marsh adjacent to perennial drainage feature. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek).	

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	_____			
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0' Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
=Total Cover	_____			
Herb Stratum (Plot size: r = 10 ft.)				
1. <i>Paspalum distichum</i>	30%	Yes	FACW	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. <i>Eleocharis macrostachya (palustris)</i>	20%	Yes	OBL	
3. <i>Typha latifolia</i>	10%		OBL	
4. <i>Lythrum hyssopifolium</i>	3%		OBL	
5. <i>Vicia villosa ssp. varia</i>	1%		NL	
6. <i>Cyperus eragrostis</i>	1%		FACW	
7. <i>Rumex crispus</i>	1%		FAC	
8. <i>Juncus effusus</i>	1%		FACW	
9. <i>Festuca perennis (F. ovina)</i>	10%		FAC	
10. _____	_____	_____	_____	
=Total Cover	80%			
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
=Total Cover	_____			
% Bare Ground in Herb Stratum <u>20%</u>	% Cover of Biotic Crust <u>0%</u>			
Remarks:				

SOIL

Sampling Point: 026.A

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		
0-3	10YR 3/2	97	10YR 3/6	3	C	M	loam	
3-11	10YR 4/2	25	5YR 4/6	55	C	M	silty clay loam	
-	-	-	7.5YR 2.5/1	20	C	M	-	manganese masses

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.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input checked="" type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: <u>none</u> Depth (inches): _____	Hydric Soil Present? Yes <u>X</u> No _____
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Remarks: In closed depressions subject to ponding, 5 percent or more distinct or prominent redox concentrations occurring as soft masses or pore linings in a layer that is 5 cm (2 inches) or more thick and starts at a depth ≤10 cm (4 inches) from the soil surface; in the sample, 75% redox concentrations occurring as soft masses in a layer that is 8 inches thick and starts at a depth of 3 inches from the soil surface.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input checked="" type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>10-11 bgs</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Crayfish burrows. Sample is on the edge of a cattail marsh (palustrine emergent wetland) that is inundated year-round

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/23/21
 Applicant/Owner: SMUD State: CA Sampling Point: 026-B
 Investigator(s): J. Wurlitzer, C. Battaglia, & B. Christianson Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 2%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.79100 Long: -121.442640 Datum: NAD 83
 Soil Map Unit Name: Cometa-Fiddymert complex, 1-5% slopes NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Upland point paired to wetland #26. Site has been historically and regularly disked and farmed for hay. Abnormally low rainfall totals for the season, only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek).	

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>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	_____ = Total Cover
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Herb Stratum (Plot size: 1 = 10 ft)				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0' _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain)
1. <i>Cynodon dactylon</i>	40%	Yes	FACU	
2. <i>Vicia villosa ssp. varia</i>	35%	Yes	NL	
3. <i>Bromus diandrus</i>	15%	_____	NL	
4. <i>Cyperus eragrostis</i>	1%	_____	FACW	
5. <i>Bromus hordeaceus</i>	3%	_____	FACU	
6. <i>Trifolium hirtum</i>	2%	_____	NL	
7. <i>Festuca perennis (Lotium perenne)</i>	2%	_____	FAC	
8. <i>Geranium dissectum</i>	4%	_____	NL	
9. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>	% Cover of Biotic Crust <u>0%</u>			Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
Remarks:				

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/23/21
 Applicant/Owner: SMUD State: CA Sampling Point: 27
 Investigator(s): J. Wurlitzer & B. Christianson Section, Township, Range: 20 11N 5E
 Landform (hill slope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0-1%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.791022 Long: -121.443495 Datum: NAD 83
 Soil Map Unit Name: Cometa-Fiddymont complex, 1-5% slopes NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (if no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes _____ No <u>X</u>		
Remarks: Sample #27. Site has been historically and regularly disked and farmed for hay. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek).			

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				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x1 = <u>0</u> FACW species <u>0</u> x2 = <u>0</u> FAC species <u>48</u> x3 = <u>144</u> FACU species <u>52</u> x4 = <u>208</u> UPL species <u>3</u> x5 = <u>15</u> Column Totals: <u>103</u> (A) <u>367</u> (B) Prevalence Index = B/A = <u>3.6</u>
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: r = 6 ft.)				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≥3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ² (Explain)
1. <u>Festuca perennis (Lolium perenne)</u>	<u>45%</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Lactuca serriola</u>	<u>8%</u>		<u>FACU</u>	
3. <u>Bromus hordeaceus</u>	<u>5%</u>		<u>FACU</u>	
4. <u>Vicia sativa</u>	<u>38%</u>	<u>Yes</u>	<u>FACU</u>	
5. <u>Flymus caput medusae</u>	<u>3%</u>		<u>NI</u>	
6. <u>Hordeum marinum</u>	<u>3%</u>		<u>FAC</u>	
7. <u>Erodium botrys</u>	<u>1%</u>		<u>FACU</u>	
8. _____				
9. _____				
_____ = Total Cover	<u>108%</u>			
Woody/Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>		% Cover of Biotic Crust <u>0%</u>		
Remarks: Vegetation is regularly disturbed and sample taken in abnormally dry year.				

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		
0-5	7.5YR 4/3	87	5YR 5/8	10	C	M	loam	
-	-	-	5YR 2.5/1	7	C	M	-	
5-11	10YR 4/3	75	2.5YR 4/8	7	PL	M	loam	
			2.5YR 4/8	8	C	M		
			5YR 2.5/1	10	C	M		manganese masses

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.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input checked="" type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: <u>none</u> Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks: In closed depressions subject to ponding, 5 percent or more distinct or prominent redox concentrations occurring as soft masses or pore linings in a layer that is 5 cm (2 inches) or more thick and starts at a depth ≤10 cm (4 inches) from the soil surface; sample is from a closed depressional feature with 17% prominent redox concentrations occurring as soft masses in a layer that is 5 inches thick and starts just below the soil surface. This indicator occurs on depressional landforms, such as vernal pools, playa lakes, rainwater basins, "Grady" ponds, and potholes

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No indicators of hydrology

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/23/21
 Applicant/Owner: SMUD State: CA Sampling Point: 028 A
 Investigator(s): J. Wurlitzer, C. Battaglia, & B. Christianson Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.78775 Long: -121.446225 Datum: NAD 83
 Soil Map Unit Name: Cometa-Fiddymert complex, 1-5% slopes NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Wetland #28. Site has been historically and regularly disked and farmed for hay. Tire tracks visible inside feature. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek)	

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>67%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover	_____	_____	_____	
Sapling/Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover	_____	_____	_____	
Herb Stratum (Plot size: r = 8 ft.)				
1. <i>Plagiobothrys greenii</i>	15%	Yes	FACW	
2. <i>Castilleja campestris</i>	15%	Yes	FACW	
3. <i>Leontodon saxatilis</i>	20%	Yes	FACU	
4. <i>Holocarpha virgata</i>	12%		NL	
5. <i>Briza minor</i>	3%		FAC	
6. <i>Aira caryophylla</i>	2%		FACU	
7. <i>Gratiola ebracteata</i>	2%			
8. <i>Juncus butonius</i>	1%			
_____ = Total Cover	70%			
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover	_____	_____	_____	
% Bare Ground in Herb Stratum <u>25%</u>	% Cover of Biotic Crust <u>0%</u>			
Remarks: 20% moss cover of ground.				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/23/21
 Applicant/Owner: SMUD State: CA Sampling Point: 028-B
 Investigator(s): J. Wurlitzer, C. Battaglia, & B. Christianson Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.78771 Long: -121.446285 Datum: NAD 83
 Soil Map Unit Name: Cometa-Fiddymert complex, 1-5% slopes NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Upland point paired to wetland 28. Site has been historically and regularly disked and farmed for hay. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek)	

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. _____				
=Total Cover				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____				
2. _____				
3. _____				
=Total Cover				
Herb Stratum (Plot size: <u>1 = 8 ft.</u>)				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Bromus hordeaceus</u>	50%	YES	FACU	
2. <u>Erodium botrys</u>	10%		FACU	
3. <u>Holocarpha virgata</u>	5%		NL	
4. <u>Leontodon saxatilis</u>	5%		FACU	
5. <u>Acmispon americanus</u>	3%		UPL	
6. <u>Festuca [Vulpia] bromoides</u>	15%		FACU	
7. <u>Briza minor</u>	3%		FAC	
=Total Cover <u>91%</u>				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____				
2. _____				
=Total Cover				
% Bare Ground in Herb Stratum <u>9%</u>	% Cover of Biotic Crust <u>0%</u>			
Remarks: 20% moss cover of ground.				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/23/21
 Applicant/Owner: SMUD State: CA Sampling Point: 029-A
 Investigator(s): J. Wurlitzer, C. Battaglia, & B. Christianson Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 2-5%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.78798 Long: -121.44897 Datum: NAD 83
 Soil Map Unit Name: Cometa-Fiddymert complex, 1-5% slopes NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Wetland #29. Site has been historically and regularly disked and farmed for hay. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek)	

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. _____	_____	_____	_____	
=Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
=Total Cover				
Herb Stratum (Plot size: r = 10 ft)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <i>Festuca perennis (Lolium perenne)</i>	80%	Yes	FAC	
2. <i>Lactuca serriola</i>	10%		FACU	
3. <i>Rumex crispus</i>	5%		FAC	
4. <i>Corvolvulus arvensis</i>	2%		NL	
5. <i>Plagiobothrys stipitatus</i>	1%		FACW	
6. <i>Hordeum marinum</i>	1%		FAC	
7. <i>Hypochaeris radicata</i>	1%		FACU	
8. _____	_____	_____	_____	
=Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
=Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>	% Cover of Biotic Crust <u>0%</u>			
Remarks:				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/30/21
 Applicant/Owner: SMUD State: CA Sampling Point: 029 B
 Investigator(s): J. Wurlitzer and O. Rouit Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.78880374 Long: -121.4483532 Datum: NAD 83
 Soil Map Unit Name: Cometa-Fiddymert complex, 1-5% slopes NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Upland point paired to wetland #29. Site has been historically and regularly disked and farmed for hay. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek)	

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				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
=Total Cover				
Herb Stratum (Plot size: 1 = 6 ft.)				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0' _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet)
1. <u>Avena fatua</u>	<u>50%</u>	<u>Yes</u>	<u>NL</u>	
2. <u>Elymus caput-medusae</u>	<u>25%</u>		<u>NL</u>	
3. <u>Bromus hordeaceus</u>	<u>5%</u>		<u>FACU</u>	
4. <u>Holocarpha virgata</u>	<u>3%</u>		<u>NL</u>	
5. <u>Erodium botrys</u>	<u>5%</u>		<u>FACU</u>	
6. <u>Lactuca serriola</u>	<u>2%</u>		<u>FACU</u>	
7. <u>Leontodon saxatilis</u>	<u>2%</u>		<u>FACU</u>	
8. _____				
=Total Cover	<u>92%</u>			
Woody Vine Stratum (Plot size: _____)				_____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet)
1. _____				
2. _____				
=Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>	% Cover of Biotic Crust <u>0%</u>			Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
Remarks: About 8% of ground cover is medusahed thatch				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/26/21
 Applicant/Owner: SMUD State: CA Sampling Point: 031-A
 Investigator(s): J. Wurlitzer and T. Torrez Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.78838069 Long: -121.4364595 Datum: NAD 83
 Soil Map Unit Name: Xerfluvents, hardpan substratum NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology X 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>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	

Remarks: Sample point taken from wetland #31, and also applies to conditions of wetland #30. These wetlands are close to the northern boundary of a perennial drainage/creek and appear to receive hydrology from this drainage/creek when it floods, which may happen in the winter and also in the spring/summer when the nearby rice fields are flooded. Site has been historically disturbed by burning activities. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek)

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				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0' Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Sapling/Shrub Stratum (Plot size: _____)	1. _____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
=Total Cover				
Herb Stratum (Plot size: r = 6 ft.)	1. <i>Epilobium brachycarpum</i>	25%	Yes FAC	
2. <i>Eleocharis macrostachya (palustris)</i>	38%	Yes OBL		
3. <i>Hordeum marinum</i>	8%	FAC		
4. <i>Lactuca serriola</i>	8%	FACU		
5. <i>Festuca perennis (Lolium perenne)</i>	5%	FAC		
6. <i>Rumex crispus</i>	2%	FAC		
7. <i>Acmispon americanus</i>	1%	UPI		
8. _____	_____	_____	_____	
=Total Cover				
Woody Vine Stratum (Plot size: _____)	1. _____	_____	_____	
2. _____	_____	_____	_____	
=Total Cover				
% Bare Ground in Herb Stratum <u>13%</u>	% Cover of Biotic Crust <u>0%</u>			

SOIL

Sampling Point: _____ 031-A

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		
0-2	7.5YR 4/1	97	7.5YR 4/4	3	PL	M	silty clay loam	
2-7	5YR 4/1	92	2.5YR 3/4	1	C	M	silty clay loam	
-	-	-	2.5YR 2.5/1	7	C	M	-	manganese masses

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.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: <u>none</u> Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____
--	--

Remarks: A layer that has a depleted matrix with 60 percent or more chroma of 2 or less and that has a minimum thickness of 5 cm (2 inches) if the 5 cm starts at a depth \leq 10 cm (4 inches) from the soil surface. A depleted matrix requires a value of 4 or more and chroma of 2 or less. Redox concentrations, including soft iron-manganese masses and/or pore linings, are required in soils with matrix colors of 4/1. In the sample, 97% chroma of 1 in a layer 2 inches thick that starts immediately below the soil surface, with 3% pore linings.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (2 or more required)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)			
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)			
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)			
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)			
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)			

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Inundation visible on 8/2012 aerial

US Army Corps of Engineers

And West - Version 2.0

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/26/21
 Applicant/Owner: SMUD State: CA Sampling Point: 031 B
 Investigator(s): J. Wurlitzer, O. Roult and T. Torrez Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): convex Slope (%): 5%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.78843647 Long: -121.4363873 Datum: NAI183
 Soil Map Unit Name: Cometa-Fiddymert complex, 1-5% slopes NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil X, 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Upland point paired to wetlands #30, #31, and #32. Site has been historically bermed; it is part of an upland terrace north of a perennial drainage/creek and often is flooded in spring/summer due to rice field operations. Abnormally low rainfall totals for the season: only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek)	

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				
Sapling/Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: 1 = 6 ft.)				
1. <i>Vicia villosa ssp. varia</i>	60%	Yes	NL	
2. <i>Bromus diandrus</i>	25%		NL	
3. <i>Geranium dissectum</i>	2%		NL	
4. <i>Festuca perennis [Lolium perenne]</i>	2%		FAC	
5. <i>Epilobium brachycarpum</i>	1%			
6. <i>Bromus hordeaceus</i>	1%		FACU	
7. <i>Erodium botrys</i>	3%		FACU	
8. _____				
_____ = Total Cover	94%			
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>10%</u>		% Cover of Biotic Crust <u>0%</u>		
Remarks:				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/26/21
 Applicant/Owner: SMUD State: CA Sampling Point: 032-A
 Investigator(s): J. Wurlitzer, O. Routh and T. Torrez Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 0-1%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.78883428 Long: -121.4370025 Datum: NAD 83
 Soil Map Unit Name: Concise-Fiddymint complex, 1-5% slopes NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
 Are Vegetation Soil X or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation Soil or Hydrology X 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>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>	
Remarks: Wetland #32: upland point corresponds to sample 031-B. Site has been historically bermed; it is part of an upland terrace north of a perennial drainage/creek and often is flooded in spring/summer due to rice field operations. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek).		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	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>67%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: (A) _____ (B) _____ Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot size: _____) (n = 10 ft.)				
1. <i>Festuca perennis</i> (<i>lolium perenne</i>)	20%	Yes	FAC	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is >3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <i>Epilobium brachycarpum</i>	15%	Yes	FAC	
3. <i>Lactuca serriola</i>	12%	Yes	FACU	
4. <i>Trifolium hyacinthina</i>	5%		FAC	
5. <i>Lupinus bicolor</i>	3%		NL	
6. <i>Geranium dissectum</i>	5%		NL	
7. <i>Hordeum marium</i>	3%		FAC	
8. <i>Trifolium dubium</i>	5%		UPL	
9. <i>Achyrocline mollis</i>	3%		FAC	
10. <i>Plantago lanceolata</i>	1%		FAC	
11. <i>Rumex crispus</i>	1%		FAC	
12. <i>Leontodon saxatilis</i>	2%		FACU	
78% = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>22%</u>		% Cover of Biotic Crust <u>0%</u>		Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
Remarks:				

SOIL

Sampling Point: _____ 032-A

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		
0-3	10YR 4/2	96	5YR 4/6	1	C	M	clay	
-	-	-	5YR 4/6	3	PL	M	-	
3-10	5Y 4/2	98	black	2	C	M	clay	manganese masses
10-14	2.5Y 4/1	99	black	1	C	M	silty clay	manganese masses

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.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: <u>none</u> Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____
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Remarks: Bottom 4 inches of pedon very dense and hard/compacted. Depleted matrix = A layer that has 60 percent or more chroma of 2 or less and that has a minimum thickness of 5 cm (2 inches) if the 5 cm starts at a depth ≤10 cm (4 inches) from the soil surface. Requires a value of 4 or more and chroma of 2 or less. Redox concentrations are required in soils with matrix colors of 4/1. In sample, 96% chroma of 2 in a layer 3 inches thick that starts at a depth just below the soil surface, with 4% redox concentrations.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (2 or more required)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)			
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)			
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)			
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)			
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)			

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Clay layer at 10-14 inches bgs is moist

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/26/21
 Applicant/Owner: SMUD State: CA Sampling Point: 035-B
 Investigator(s): J. Wurlitzer, T. Torrez, and O. Roult Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): convex Slope (%): 2%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.79001778 Long: -121.4368313 Datum: NAD 83
 Soil Map Unit Name: San Joaquin-Coneta sandy loams, 1-5% slopes NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Upland point paired to wetlands #33 and #35. Site has been historically bermed and ploughed. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek)	

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>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover	_____	_____	_____	
Sapling/Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0' _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover	_____	_____	_____	
Herb Stratum (Plot size: 1 = 6 ft.)				
1. <i>Avena fatua</i>	25%	Yes	NL	
2. <i>Elymus caput-medusae</i>	20%	Yes	NL	
3. <i>Bromus hordeaceus</i>	20%	Yes	FACU	
4. <i>Vicia villosa ssp. varia</i>	15%	_____	NL	
5. <i>Bromus diandrus</i>	10%	_____	NL	
6. <i>Rumex crispus</i>	1%	_____	FAC	
7. <i>Erodium botrys</i>	3%	_____	FACU	
8. _____	_____	_____	_____	
_____ = Total Cover	94%	_____	_____	
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover	_____	_____	_____	
% Bare Ground in Herb Stratum <u>6%</u>	% Cover of Biotic Crust <u>0%</u>			
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks:				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/27/21
 Applicant/Owner: SMUD State: CA Sampling Point: 026 C
 Investigator(s): T. Torrez and C. Battaglia Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LR/R): Mediterranean California (LR/R C) Lat: 38.79138 Long: -121.43874 Datum: NAD 83
 Soil Map Unit Name: Xerluvents, hardpan substratum NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
 Are Vegetation , Soil X, or Hydrology significantly disturbed? Are 'Normal Circumstances' present? Yes X 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>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Sample from East Side of wetland #26. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 09, 2021, located about 3 miles west of project site along Pleasant Grove Creek)	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: _____)					
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</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>100%</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
Sapling/Shrub Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Herb Stratum (Plot size: r = 5 ft)					
1. <u>Polypogon monspeliensis</u>	20%	Yes	FACW		
2. <u>Typha latifolia</u>	15%	Yes	OBL		
3. <u>Juncus effusus</u>	10%	_____	FACW		
4. <u>Geranium dissectum</u>	10%	_____	NL		
5. <u>Festuca perennis (Lolium perenne)</u>	15%	Yes	FAC		
6. <u>Plantago lanceolata</u>	5%	_____	FAC		
7. <u>Eleocharis macrostachya (palustris)</u>	5%	_____	OBL		
8. <u>Lithrum hyssopifolium</u>	3%	_____	OBL		
83% = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	
% Bare Ground in Herb Stratum <u>17%</u> % Cover of Biotic Crust <u>0%</u>					
Remarks:					

SOIL

Sampling Point: _____ 026 C

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		
0-4	10YR 4/2	80	2.5YR 3/6	20	C	M	clay loam	
4-11	10YR 4/2	65	2.5YR 3/6	30%	C	M	sandy clay loam	
-	-	-	10R 2.5/1	5	C	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.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: <u>hardpan</u> Depth (inches): <u>11 inches</u>	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks: F3 = A layer that has a depleted matrix with 60 percent or more chroma of 2 or less and that has a minimum thickness of 5 cm (2 inches) if the 5 cm starts at a depth \leq 10 cm (4 inches) from the soil surface. A depleted matrix requires a value of 4 or more and chroma of 2 or less. Redox concentrations, including soft iron-manganese masses and/or pore linings, are required in soils with matrix colors of 4/1, 4/2.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (2 or more required)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)			
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)			
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)			
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)			
<input checked="" type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)			
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)			

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Edge of perennial cattail marsh

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/27/21
 Applicant/Owner: SMUD State: CA Sampling Point: 026 D
 Investigator(s): T. Torrez and C. Battaglia Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0.1%
 Subregion (LR/R): Mediterranean California (LR/R C) Lat: 38.791343 Long: 121.43875 Datum: NAD 83
 Soil Map Unit Name: Xerluvents, hardpan substratum NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
 Are Vegetation , Soil X, or Hydrology significantly disturbed? Are 'Normal Circumstances' present? Yes X 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 <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u>	No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>			
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>			
Remarks: Upland point for east side of marsh (wetland #26), paired to wetland point 026-C. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek)					

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				
1. _____	_____	_____	_____	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)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot size: r = 6 ft)				
1. <u>Bromus diandrus</u>	60%	Yes	NL	Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Plantago lanceolata</u>	30%		FACU	
3. <u>Geranium dissectum</u>	2%		NL	
4. <u>Bromus hordeaceus</u>	1%		FACU	
5. <u>Elymus caput-medusae</u>	5%		NL	
6. <u>Rumex crispus</u>	1%		FAC	
7. <u>Vicia villosa ssp. varia</u>	1%		NL	
8. _____	106%			
= Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>		% Cover of Biotic Crust <u>0%</u>		
Remarks:				

SOIL

Sampling Point: _____ 026 D

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		
0-2	7.5YR 3/4	60	7YR 2.5/1	40	C	M	clay loam	
2-4.5	10YR 4/3	50	7.5YR 2.5/1	50%	C	M	clay loam	
4.5-10	10YR 4/2	60	7.5YR 4/6	30	C	M	loam	
-	-	-	7.5YR 2.5/1	10	C	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.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)			
<input type="checkbox"/> Histic Epipedon (AZ)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)				
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)					

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

Restrictive Layer (if present): Type: <u>none</u> Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
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Remarks: No closed depression; matrix value of 4/2 starts more than 4 inches deep and is less than 6 inches

HYDROLOGY

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (2 or more required)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)			
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)			
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)			
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)			
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)			

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology indicators

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/27/21
 Applicant/Owner: SMUD State: CA Sampling Point: 036 A
 Investigator(s): O. Routh and J. Wurlitzer Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LR/R): Mediterranean California (LR/R C) Lat: 38.78890863 Long: -121.4377304 Datum: NAD 83
 Soil Map Unit Name: Xerofluvents, hardpan substratum NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil X, or Hydrology X significantly disturbed? Are 'Normal Circumstances' present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology X 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>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Wetland #36 - Site has been historically bermed. Sample point in area on the northern floodplain of a perennial drainage/creek, that floods in winter and also is influenced by artificial irrigation inputs from adjacent rice fields and thus floods in the dry season. This area likely connects to the drainage channel to the south and east. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek)	

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. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) Prevalence Index = B/A = _____ (B)
Sapling/Shrub Stratum (Plot size: _____)	1. _____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: r = 10 ft)	1. <u>Rumex crispus</u>	30%	Yes	FAC
2. <u>Festuca perennis [F. ovina]</u>	15%	Yes	FAC	
3. <u>Plagiobothrys stipitatus</u>	12%			FACW
4. <u>Polypogon monspeliensis</u>	7%			FACW
5. <u>Ranunculus bonariensis</u>	3%			OBL
6. <u>Phalaris aquatica</u>	2%			FACU
7. <u>Juncus effusus</u>	10%			FACW
8. <u>Hordeum marinum</u>	1%			FAC
_____ = Total Cover				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% Prevalence Index is ≤3.0 ¹ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>19%</u> % Cover of Biotic Crust <u>0%</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Remarks:				

SOIL

Sampling Point: 036-A

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		
0-3	10YR 4/1	95	2.5YR 3/6	5	PL	M	silty clay loam	
3-9	7.5YR 4/1	89	10R 3/4	10%	C	M	silty clay loam	
			black	1	C	M		manganese masses

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.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (AZ) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: none
 Depth (inches): _____

Hydric Soil Present? Yes No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)	
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)	

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: The bottom 2-3 inches of the soil pedon is moist

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/27/21
 Applicant/Owner: SMUD State: CA Sampling Point: 036 B
 Investigator(s): J. Wurlitzer and O. Roult Section, Township, Range: 20 11N 5E
 Landform (hillslope, terraca, etc.): Terrace Local relief (concave, convex, none): convex Slope (%): 2%
 Subregion (LR/R): Mediterranean California (LR/R C) Lat: 38.78904747 Long: -121.4376564 Datum: NAD 83
 Soil Map Unit Name: Cometa-Fiddymert Complex NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are 'Normal Circumstances' present? Yes X 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 <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks: Upland point paired to wetland #36. Point is on man-made berm north of drainage. Abnormally low rainfall totals for the season; only 4.02 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek)					

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				
1. _____	_____	_____	_____	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>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot size: r = 6 ft.)				
1. <u>Avena fatua</u>	20%	Yes	NL	Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Bromus diandrus</u>	25%	Yes	NL	
3. <u>Erodium botrys</u>	15%	Yes	FACU	
4. <u>Elymus caput-medusae</u>	10%		NL	
5. <u>Raphanus raphanistrum</u>	3%		NL	
6. <u>Vicia villosa ssp. varia</u>	5%		NL	
7. <u>Bromus hordeaceus</u>	10%		FACU	
8. <u>Convolvulus arvensis</u>	3%		NL	
= Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>9%</u>		% Cover of Biotic Crust <u>0%</u>		
Remarks:				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/30/21
 Applicant/Owner: SMUD State: CA Sampling Point: 37
 Investigator(s): J. Wurlitzer and O. Roult Section, Township, Range: 20 11N 5E
 Landform (hill/slope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 0.1%
 Subregion (LR/R): Mediterranean California (LR/R C) Lat: 38.79083843 Long: -121.4490794 Datum: NAD 83
 Soil Map Unit Name: Cometa-Fiddymint Complex NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology significantly disturbed? Are 'Normal Circumstances' present? Yes X 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 <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u>	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No <u> </u>			
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>			
Remarks: Sample point 37. Historic and recent disking and tilling of site. Abnormally low rainfall totals for the season; only 4.97 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek)					

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				
1. _____	_____	_____	_____	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)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover	_____	_____	_____	
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x1 = <u>0</u> FACW species <u>1</u> x2 = <u>2</u> FAC species <u>40</u> x3 = <u>120</u> FACU species <u>28</u> x4 = <u>112</u> UPL species <u>2</u> x5 = <u>10</u> Column Totals: <u>71</u> (A) <u>244</u> (B) Prevalence Index = B/A = <u>3.4</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover	_____	_____	_____	
Herb Stratum (Plot size: r = 6 ft)				
1. <u>Festuca perennis (Lolium perenne)</u>	<u>25%</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Lactuca sermola</u>	<u>20%</u>	<u>Yes</u>	<u>FACU</u>	
3. <u>Hordeum marinum</u>	<u>15%</u>	<u>Yes</u>	<u>FAC</u>	
4. <u>Eryngium vaseyi</u>	<u>1%</u>	_____	<u>FACW</u>	
5. <u>Avena fatua</u>	<u>1%</u>	_____	<u>NL</u>	
6. <u>Bromus diandrus</u>	<u>1%</u>	_____	<u>NL</u>	
7. <u>Leontodon saxatilis</u>	<u>5%</u>	_____	<u>FACU</u>	
8. <u>Erodium botrys</u>	<u>3%</u>	_____	<u>FACU</u>	
_____ = Total Cover	<u>71%</u>	_____	_____	
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>
2. _____	_____	_____	_____	
_____ = Total Cover	_____	_____	_____	
% Bare Ground in Herb Stratum <u>0%</u> % Cover of Biotic Crust <u>0%</u>				
Remarks: 30% thatch cover (all thatch is Festuca perennis)				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/30/21
 Applicant/Owner: SMUD State: CA Sampling Point: 038-A
 Investigator(s): J. Wurlitzer and O. Routt Section, Township, Range: 20 11N 5E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.79110783 Long: -121.4467625 Datum: NAD 83
 Soil Map Unit Name: Concise-Fiddymint Complex NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
 Are Vegetation X Soil X or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes X 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>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>	
Remarks: Wetland #38. Historic and recent disking and tilling of site. Hydrology influenced by irrigated pasture to the north during summer, which is normally the dry season. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek)		

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u> </u>)				Number of Dominant Species That Are OBL, FACW, or FAC: <u> 3 </u> (A)
1. <u> </u>				Total Number of Dominant Species Across All Strata: <u> 3 </u> (B)
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
	= Total Cover			Percent of Dominant Species That Are OBL, FACW, or FAC: <u> 100% </u> (A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u> </u>)				Prevalence Index Worksheet:
1. <u> </u>				Total % Cover of: <u> </u> Multiply by: <u> </u>
2. <u> </u>				OBL species <u> </u> x1 = <u> </u>
3. <u> </u>				FACW species <u> </u> x2 = <u> </u>
4. <u> </u>				FAC species <u> </u> x3 = <u> </u>
5. <u> </u>				FACU species <u> </u> x4 = <u> </u>
				UPL species <u> </u> x5 = <u> </u>
	= Total Cover			Column Totals: <u> </u> (A) <u> </u> (B)
				Prevalence Index = B/A = <u> </u>
<u>Herb Stratum</u> (Plot size: <u>r = 10 ft</u>)				Hydrophytic Vegetation Indicators:
1. <u>Plagiobothrys stipitatus</u>	8%	Yes	FACW	<input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is >3.0 Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Polygonum aviculare</u>	10%	Yes	FAC	
3. <u>Ranunculus bonariensis</u>	5%			
4. <u>Festuca perennis [Lolium perenne]</u>	7%	Yes	FAC	
5. <u>Epilobium brachycarpum</u>	2%			
6. <u>Hordeum marinum</u>	2%			
7. <u>Rumex crispus</u>	6%			
8. <u>Cyperus eragrostis</u>	1%			
9. <u>Leontodon saxatilis</u>	1%			
10. <u>Achyrochaena mollis</u>	1%			
11. <u>Convolvulus arvensis</u>	1%			
12. <u>Lactuca serriola</u>	2%			
	46% = Total Cover			
<u>Woody Vine Stratum</u> (Plot size: <u> </u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. <u> </u>				
2. <u> </u>				
	= Total Cover			
% Bare Ground in Herb Stratum <u>0%</u>		% Cover of Biotic Crust <u>0%</u>		
Remarks: More than 50% thatch cover (all thatch is Festuca perennis)				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/30/21
 Applicant/Owner: SMUD State: CA Sampling Point: 038.B
 Investigator(s): J. Wurlitzer and O. Routh Section, Township, Range: 20 11N 5E
 Landform (hill/slope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.79123903 Long: -121.4470236 Datum: NAD 83
 Soil Map Unit Name: Cometa-Fiddlyment Complex NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology _____ significantly disturbed? Are 'Normal Circumstances' present? Yes X 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Upland point paired to wetland #38. Historic and recent disk and tilling of site. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek)	

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>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____			
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot size: _____ = 5 ft)	Hydrophytic Vegetation Indicators: Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
1. <i>Festuca bromoides</i> [<i>Vulpia bromoides</i>]	38%	Yes	F ACU	
2. <i>Erodium botrys</i>	20%	Yes	F ACU	
3. <i>Festuca perennis</i> [<i>Lolium perenne</i>]	15%		FAC	
4. <i>Vicia villosa</i> ssp. <i>varia</i>	5%		NL	
5. <i>Holocarpha virgata</i>	2%		NL	
6. <i>Convolvulus arvensis</i>	1%		NL	
7. <i>Leontodon saxatilis</i>	1%		F ACU	
8. <i>Bromus hordeaceus</i>	5%		F ACU	
9. <i>Elymus caput-medusae</i>	2%		NL	
91% = Total Cover				
Woody Vine Stratum (Plot size: _____)	Hydrophytic Vegetation Present? Yes <u>X</u> No _____			
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>	% Cover of Biotic Crust <u>0%</u>			

Remarks: About 10% thatch cover of ground, comprised of dead standing *Vicia villosa*, *Elymus caput-medusae*, and *Festuca bromoides*.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 04/30/21
 Applicant/Owner: SMUD State: CA Sampling Point: 39
 Investigator(s): J. Wurlitzer and O. Rount Section, Township, Range: 20 11N 5E
 Landform (hill/slope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0-1%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.78956979 Long: -121.4509459 Datum: NAD 83
 Soil Map Unit Name: Alamo-Fiddymont Complex NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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>X</u> No _____	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>		
Wetland Hydrology Present?	Yes _____ No <u>X</u>		
Remarks: Sample point 39. Historic and recent disking and tilling of site. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1796, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek)			

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%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% Prevalence Index is ≤3.0 ¹ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot size: _____ 1 = 5 ft)				
1. <i>Hordeum maritimum</i>	38%	Yes	FAC	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. <i>Festuca perennis (Lolium perenne)</i>	20%	Yes	FAC	
3. <i>Aira caryophylla</i>	20%	Yes	FACU	
4. <i>Lactuca serriola</i>	2%			
5. <i>Leontodon saxatilis</i>	3%			
6. <i>Epilobium brachycarpum</i>	1%			
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>0%</u> % Cover of Biotic Crust <u>0%</u>				
Remarks: About 20% thatch cover of ground, comprised of dead standing <i>Hordeum maritimum</i> and <i>Festuca perennis</i> .				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 08/16/21
 Applicant/Owner: SMUD State: CA Sampling Point: 047-A
 Investigator(s): J. Wurlitzer and O. Routh Section, Township, Range: 20 11N 5E
 Landform (hill/slope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0-2%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 35.758805 Long: -121.419937 Datum: NAD 83
 Soil Map Unit Name: Alamo Fiddlyment Complex NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes No X
 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>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>		
Remarks: Corresponds to Wetland #47. Site is disturbed by adjacent agricultural activities in almond orchards, including runoff and vehicle travel. Feature connects to a ditch at the NE corner of the parcel. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek).			

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				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: X Dominance Test is >50% Prevalence Index is ≤3.0 ¹ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot size: r = 6 ft)				
1. <i>Eleocharis macrostachya</i>	25%	Yes	OBL	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
2. <i>Lasthenia glaberrima</i>	25%	Yes	OBL	
3. <i>Lachnagrostis filiformis</i>	2%		FACW	
4. <i>Polypogon monitumus</i>	1%		OBL	
5. <i>Festuca perennis</i>	2%		FAC	
6. <i>Leontodon saxatilis</i>	1%		FACU	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>44%</u>		% Cover of Biotic Crust <u>0%</u>		
Remarks: Seasonal wetland with inputs from ditches, receives seasonal and ag irrigation runoff from adjacent orchards.				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 6065629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 08/16/21
 Applicant/Owner: SMUD State: CA Sampling Point: 047-B
 Investigator(s): J. Wurlitzer and O. Routt Section, Township, Range: 20 11N 5E
 Landform (hill/slope, terrace, etc.): Terrace/Backslope Local relief (concave, convex, none): convex Slope (%): 0-1%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.758835 Long: -121.420362 Datum: NAD 83
 Soil Map Unit Name: San Joaquin-Cometa Sandy Loam NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology _____ significantly disturbed? Are 'Normal Circumstances' present? Yes _____ No X
 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Remarks: Paired upland point to Wetland #47 and wetland #48. Point taken from edge of access road in almond orchard, some garbage nearby.. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek).			

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: _____)				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
1. _____				Total Number of Dominant Species Across All Strata: <u>3</u> (B)
2. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
3. _____				
4. _____				
	= Total Cover			
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				Prevalence Index Worksheet:
1. _____				Total % Cover of: _____ Multiply by: _____
2. _____				OBL species _____ x1 = _____
3. _____				FACW species _____ x2 = _____
4. _____				FAC species _____ x3 = _____
5. _____				FACU species _____ x4 = _____
				UPL species _____ x5 = _____
	= Total Cover			Column Totals: _____ (A) _____ (B)
<u>Herb Stratum</u> (Plot size: <u>1 = 5 ft</u>)				Prevalence Index = B/A = _____
1. <u>Bromus hordeaceus</u>	25%	Yes	FACU	Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Elymus caput-medusae</u>	20%	Yes	NL	
3. <u>Erodium botrys</u>	20%	Yes	FACU	
4. <u>Holocarpha virgata</u>	5%		NL	
5. <u>Bromus diandrus</u>	10%		NL	
6. <u>Croton setiger</u>	1%		NL	
7. <u>Festuca bromoides</u>	10%		FACU	
8. <u>Festuca perennis</u>	2%		FAC	
9. _____				
	93% = Total Cover			
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____				
2. _____				
	= Total Cover			
% Bare Ground in Herb Stratum <u>7%</u>		% Cover of Biotic Crust <u>0%</u>		Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
Remarks: No hydrophytes except for one FAC at low (2%) cover				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 60656629 SMUD Country Acres Solar City/County: Placer County Sampling Date: 08/18/21
 Applicant/Owner: SMUD State: CA Sampling Point: 049 B
 Investigator(s): J. Wurlitzer and O. Routt Section, Township, Range: 20 11N 5E
 Landform (hill/slope, terrace, etc.): Terrace/Backslope Local relief (concave, convex, none): none Slope (%): 0-1%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.757905 Long: -121.420718 Datum: NAD 83
 Soil Map Unit Name: San Joaquin-Cometa NWI Classification: n/a
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are 'Normal Circumstances' present? Yes _____ No X
 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Remarks: Paired upland point to Wetland #49. Point taken from from disturbed grassland between ag access road and fence line. Abnormally low rainfall totals for the season; only 4.92 inches of rain for the rain year to date, when normal is 35 inches for the County (Placer County rain gauge #1786, collected from October 1, 2020 to April 08, 2021, located about 3 miles west of project site along Pleasant Grove Creek).			

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<u>Tree Stratum (Plot size: _____)</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
1. _____				Total Number of Dominant Species Across All Strata: <u>2</u> (B)
2. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
3. _____				
4. _____				
= Total Cover				
<u>Sapling/Shrub Stratum (Plot size: _____)</u>				Prevalence Index Worksheet:
1. _____				Total % Cover of: _____ Multiply by: _____
2. _____				OBL species _____ x1 = _____
3. _____				FACW species _____ x2 = _____
4. _____				FAC species _____ x3 = _____
5. _____				FACU species _____ x4 = _____
				UPL species _____ x5 = _____
= Total Cover				Column Totals: _____ (A) _____ (B)
<u>Herb Stratum (Plot size: _____ r = 5 ft)</u>				Prevalence Index = B/A = _____
1. <u><i>Bromus hordeaceus</i></u>	45%	Yes	FACU	Hydrophytic Vegetation Indicators:
2. <u><i>Festuca bromoides</i></u>	30%	Yes	FACU	
3. <u><i>Festuca perennis</i></u>	8%		FAC	Dominance Test is >50% _____
4. <u><i>Holocarpha virgata</i></u>	5%		NL	Prevalence Index is ≤3.0 ¹ _____
5. <u><i>Erodium botrys</i></u>	3%		FACU	Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet)
6. _____				
7. _____				
8. _____				
9. _____				
= Total Cover	91%			
<u>Woody Vine Stratum (Plot size: _____)</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum <u>2%</u>		% Cover of Biotic Crust <u>0%</u>		
Remarks: Gopher mound in center of plot. About 10% thatch cover.				

APPENDIX C

Plant Species Observed

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Plant Species Observed in Study Area

Scientific Name	Common Name	Indicator Status ¹
<i>Acer negundo</i>	box Elder	FACW
<i>Achyrachaena mollis</i>	blow-wives	FAC
<i>Acmispon americanus</i>	Spanish clover	UPL
<i>Aira caryophylla</i>	common silver-hairgrass	FACU
<i>Alopecurus aequalis</i>	short-awn meadow-foxtail	OBL
<i>Apocynum cannabinum</i>	Indian hemp	FAC
<i>Asclepias fascicularis</i>	narrow-leaf milkweed	FAC
<i>Avena fatua</i>	wild oats	NL
<i>Azolla microphylla</i>	mosquito fern	OBL
<i>Baccharis salicifolia</i>	mule fat	FAC
<i>Brassica nigra</i>	black mustard	NL
<i>Brassica rapa</i>	common mustard	FACU
<i>Briza minor</i>	lesser quaking grass	FAC
<i>Brodiaea appendiculata</i>	Hoover's brodiaea	NL
<i>Brodiaea coronaria</i>	harvest cluster lily	FAC
<i>Brodiaea minor</i>	cluster Lily	NL
<i>Bromus diandrus</i>	ripgut brome	NL
<i>Bromus hordeaceus</i>	soft brome	FACU
<i>Calandrinia ciliata</i>	fringed redmaids	FACU
<i>Callitriche stagnalis</i>	vernal pool-starwort	OBL
<i>Carduus pycnocephalus</i>	Italian thistle	NL
<i>Castilleja attenuata</i>	valley tassels	NL
<i>Castilleja campestris</i>	vernal pool-Indian paintbrush	FACW
<i>Centromadia fitchii</i>	Fitch's false tarplant	FACU
<i>Chlorogalum pomeridianum</i>	wavy-leafed soap plant	NL
<i>Cirsium vulgare</i>	bull thistle	FACU
<i>Convolvulus arvensis</i>	field bindweed	NL
<i>Crassula aquatica</i>	water pygmyweed	OBL
<i>Croton setigerus</i>	doveweed	NL
<i>Cyperus eragrostis</i>	tall flat sedge	FACW
<i>Deschampsia caespitosa</i>	tufted hair grass	FACW
<i>Dichelostemma multiflorum</i>	round-toothed snake lily	NL
<i>Downingia bicornuta</i>	double-horn calico-flower	OBL
<i>Echinochloa crus-galli</i>	large barnyard grass	FACW
<i>Eleocharis macrostachya [E. palustris]</i>	common spike-rush	OBL
<i>Elymus caput-medusae</i>	medusa head	NL
<i>Epilobium brachycarpum</i>	willowherb	FAC
<i>Erodium botrys</i>	long-beak stork's-bill	FACU
<i>Eryngium vaseyi</i>	coyote thistle	FACW
<i>Festuca arundinacea</i>	tall fescue	NL
<i>Festuca bromoides</i>	brome fescue	NL
<i>Festuca myuros</i>	rattail sixweeks fescue	NL
<i>Festuca perennis [Lolium perenne]</i>	Italian ryegrass	NL
<i>Ficus carica</i>	edible fig	FACU
<i>Geranium dissectum</i>	wild geranium	NL
<i>Glyceria declinata</i>	waxy manna grass	FACW
<i>Gratiola ebracteata</i>	bractless hedge-hyssop	OBL
<i>Grindelia camporum</i>	Great Valley gumweed	FACW
<i>Helminthotheca echioides</i>	bristly ox tongue	FAC
<i>Holocarpha virgata</i>	pitgland tarweed	NL
<i>Hordeum marinum</i>	seaside barley	FAC
<i>Hypochaeris glabra</i>	smooth cat's ear	NL
<i>Hypochaeris radicata</i>	hairy cat's ear	FACU
<i>Iris pseudacorus</i>	yellow-flag Iris	OBL
<i>Juncus bufonius</i>	toad rush	FACW

Plant Species Observed in Study Area

Scientific Name	Common Name	Indicator Status ¹
<i>Juncus capitatus</i>	leafy-bract dwarf rush	FACU
<i>Juncus effusus</i>	soft rush	FACW
<i>Juncus patens</i>	spreading rush	FACW
<i>Juncus xiphioides</i>	iris-leaf rush	OBL
<i>Lactuca serriola</i>	prickly lettuce	FACU
<i>Lasthenia fremontii</i>	Fremont's goldfields	OBL
<i>Lasthenia glaberrima</i>	smooth goldfields	OBL
<i>Leontodon saxatilis</i>	hawkbit	FACU
<i>Lupinus bicolor</i>	miniature lupine	NL
<i>Lythrum hyssopifolia</i>	hyssop loosestrife	NL
<i>Matricaria discoidea</i>	pineapple weed	FACU
<i>Navarretia leucocephala</i>	white-flower pincushion-plant	OBL
<i>Parentucellia viscosa</i>	yellow gland-weed	FAC
<i>Paspalum distichum</i>	jointed crown grass	FACW
<i>Phalaris aquatica</i>	harding grass	FACU
<i>Plagiobothrys greenei</i>	Greene's popcorn-flower	FACW
<i>Plagiobothrys stipitatus</i>	stalked popcorn-flower	FACW
<i>Plantago lanceolata</i>	English plantain	FAC
<i>Plantago erecta [biglovii ssp. californica]</i>	California plantain	OBL
<i>Pleuropogon californicus</i>	California false semaphore grass	OBL
<i>Persicaria sp.</i>	smartweed	-
<i>Persicaria lapathifolia</i>	common knotweed	FACW
<i>Polypogon maritimus</i>	maritime rabbit's-foot grass	OBL
<i>Polypogon monspeliensis</i>	annual rabbit's-foot grass	FACW
<i>Populus fremontii</i>	Fremont cottonwood	NL
<i>Psilocarphus brevisimus</i>	dwarf woollyheads	FACW
<i>Psilocarphus oregonus</i>	oregon woollyheads	OBL
<i>Psilocarphus tenellus</i>	slender woollyheads	OBL
<i>Ranunculus bonariensis</i>	vernal pool buttercup	OBL
<i>Raphanus raphanistrum</i>	wild radish	NL
<i>Raphanus sativus</i>	jointed charlock	NL
<i>Rorippa curvisiliqua</i>	curve-pod yellowcress	OBL
<i>Rorippa palustris</i>	bog yellowcress	OBL
<i>Rosa rubiginosa</i>	sweet brier	UPL
<i>Rubus armeniacus</i>	Himalayan blackberry	FAC
<i>Rumex crispus</i>	curly dock	FAC
<i>Salix exigua</i>	narrow-leaf willow	FACW
<i>Salix gooddingii</i>	Goodding's black willow	FACW
<i>Senecio vulgaris</i>	old-man in-the-spring	FACU
<i>Sonchus asper</i>	spiny-leaf sow-thistle	FAC
<i>Spergularia rubra</i>	ruby sand spurrey	FAC
<i>Spergularia macrotheca var. leucantha</i>	white sticky sand spurrey	FAC
<i>Toxicodendron diversilobum</i>	Pacific poison oak	FACU
<i>Trifolium dubium</i>	suckling clover	UPL
<i>Trifolium repens</i>	white clover	FACU
<i>Triteleia laxa</i>	lthuriel's spear	NL
<i>Triphysaria eriantha</i>	butter 'n' eggs	NL
<i>Typha latifolia</i>	broad-leaf cattail	OBL
<i>Veronica peregrina</i>	neckweed	FAC
<i>Vicia sativa</i>	spring vetch	FACU
<i>Vicia villosa ssp. varia</i>	smooth winter vetch	NL

¹ OBL=Obligate, FACW=Facultative Wetland, FAC = Facultative, FACU = Facultative Upland; UPL = Upland, NL= Not Listed

Sources: Jepson Flora Project 2021; USACE 2018

Compiled by AECOM in 2021

APPENDIX D

Representative Photographs

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Photo 1. Agricultural canal, AC-01 (other waters). Looking south. April 7, 2021.



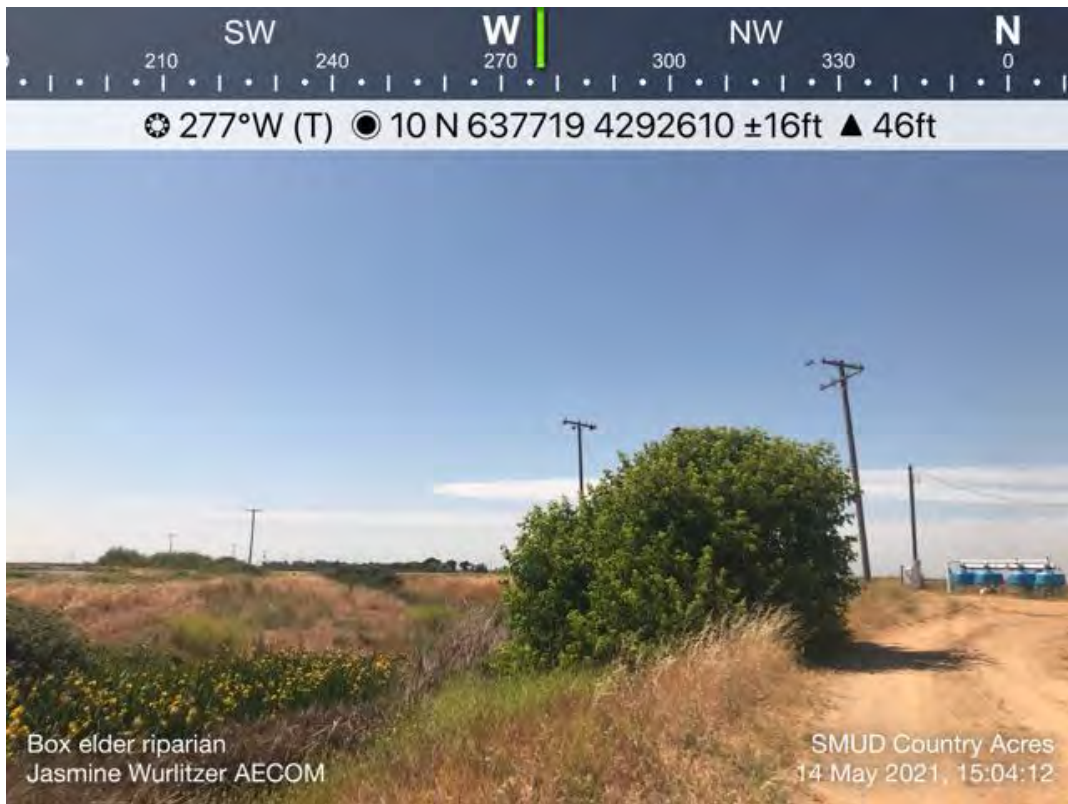
Photo 2. Agricultural ditch, AD-01 (other waters). Looking west. April 9, 2021.



Photo 3. Almond orchard and disturbed (road) land cover types. Looking west. July 14, 2021.



Photo 4. Annual grassland land cover type. Looking east. May 14, 2021.



**Photo 5. Intermittent Drainage (ID-01) (other waters).
Looking west. May 14, 2021.**



Photo 6. Cattail marsh land cover type. Looking northwest. April 7, 2021.



Photo 7. Ditch, D-43, along fence line north of orchard access road. Looking east. August 18, 2021.



Photo 8. Himalayan blackberry thicket land cover type. Flooded rice fields in background to the east, and annual grassland in the background to the west. Looking southeast. May 14, 2021.



Photo 9. Intermittent drainage, ID-04. Looking southwest. May 14, 2021.

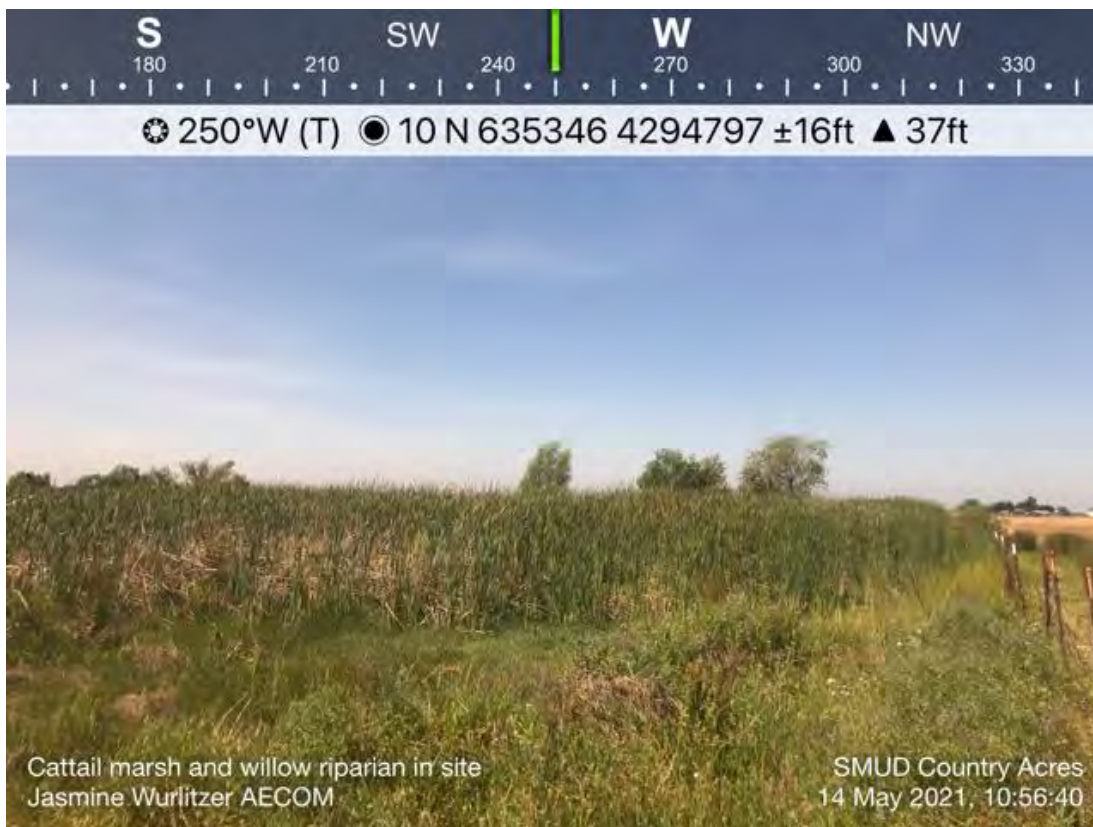


Photo 10. Perennial emergent marsh, PEM-26. Looking west. May 14, 2021.

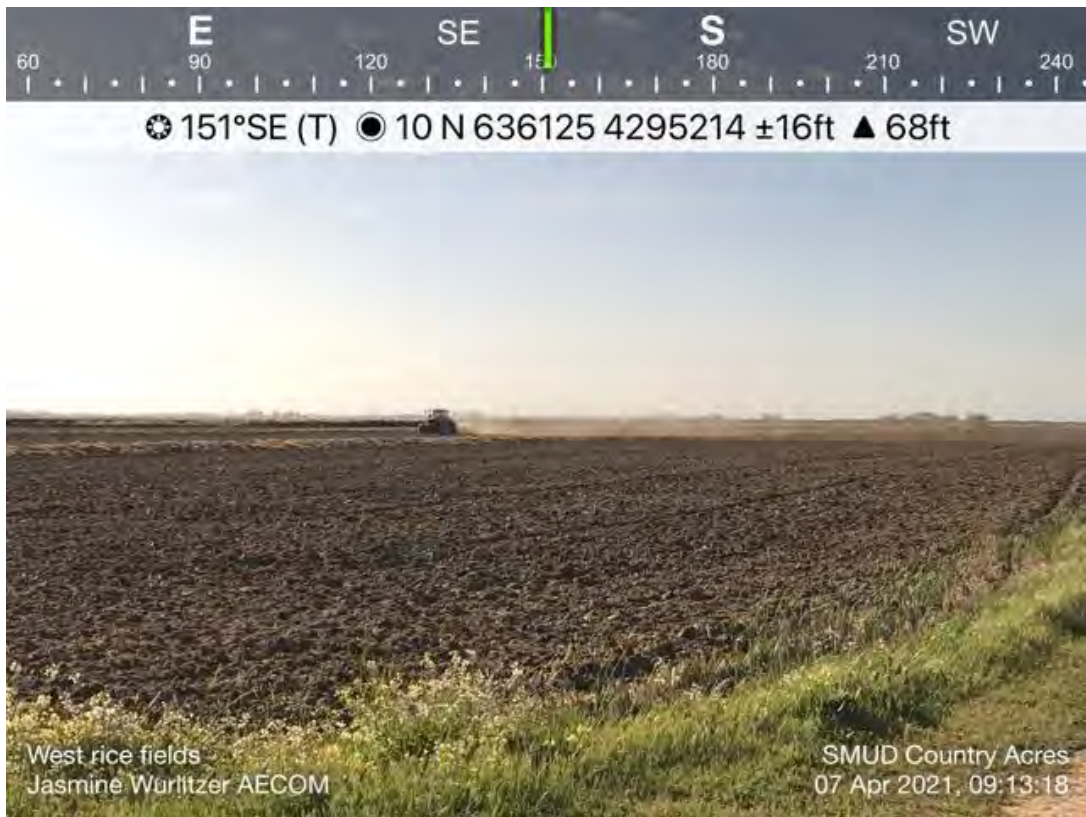


Photo 11. Rice field land cover type. Looking southeast. April 7, 2021.



Photo 12. Willow riparian land cover type, along ID-02. Looking west. May 14, 2021.

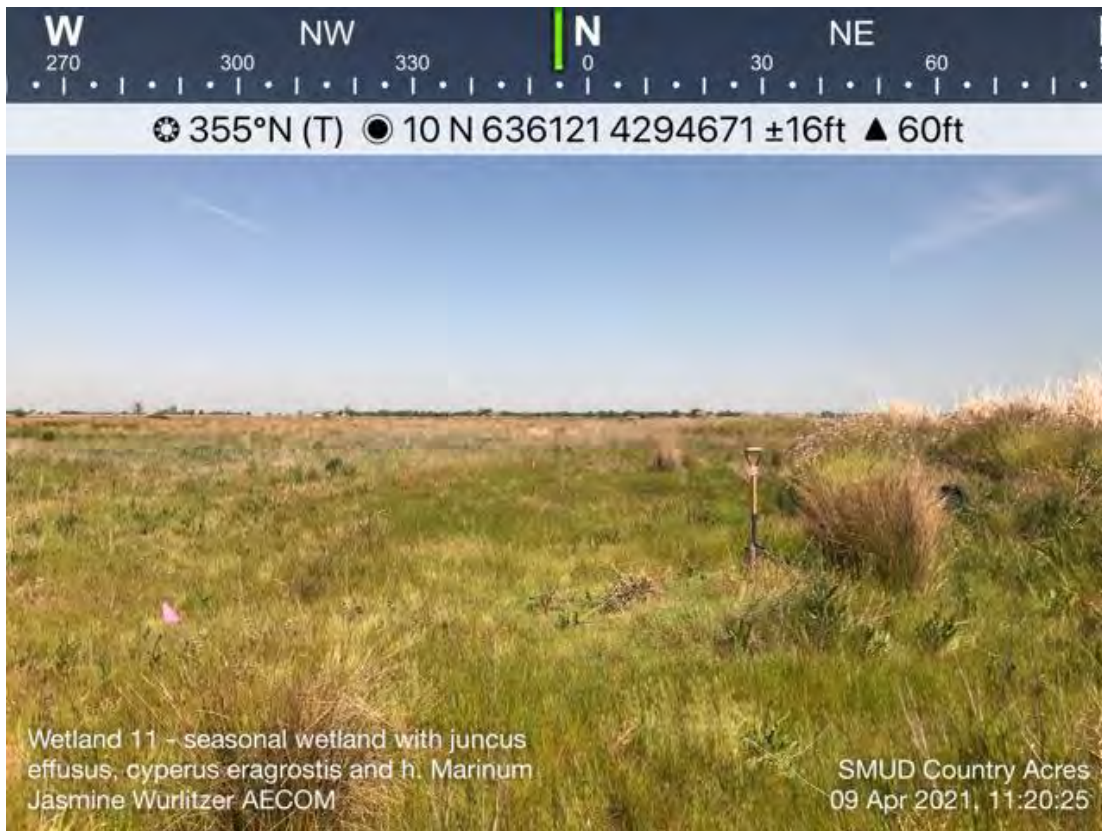


Photo 13. Seasonal wetland, SW-11. Looking north. April 9, 2021.

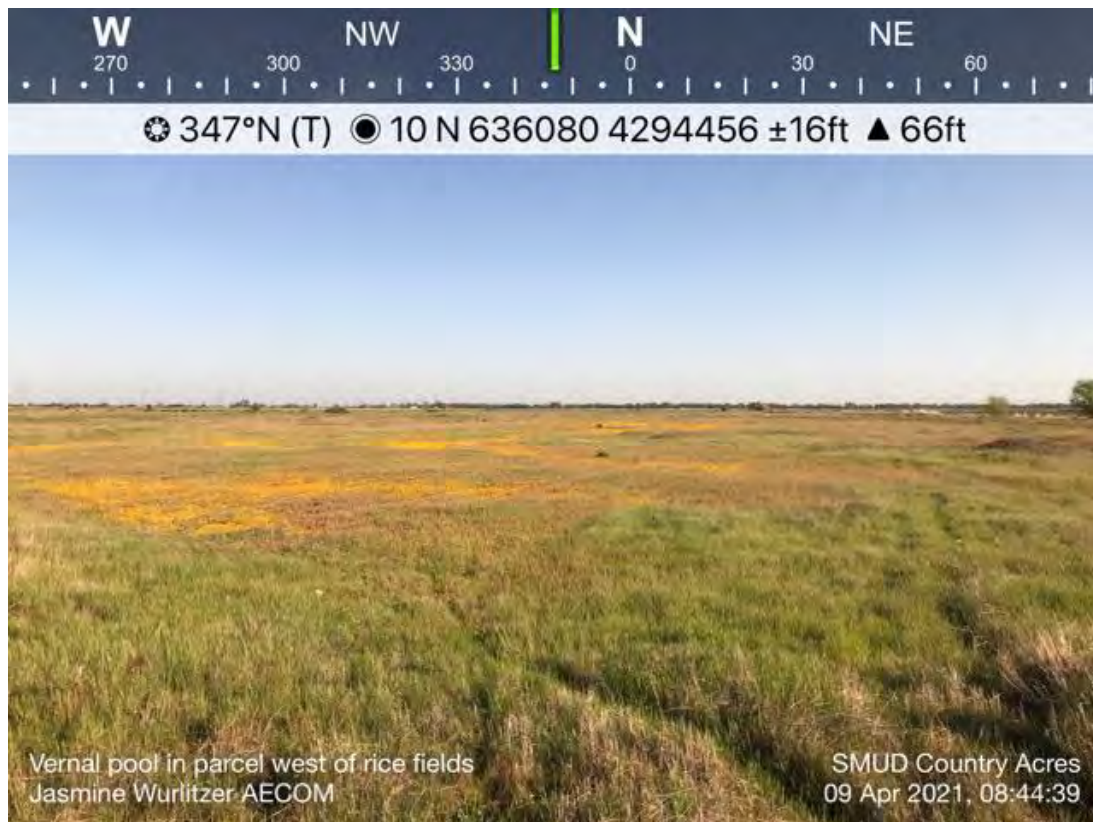


Photo 14. Vernal pool, VP-5, in grassland matrix. Looking north. April 9, 2021.



Photo 15. Wetland, W-20, adjacent to AC-01. Looking north. April 21, 2021.