Appendix D.2

Wetland Delineations

Delineation of Potentially Jurisdictional Wetlands and Waters

for

South Chandler Ranch

Paso Robles,
San Luis Obispo County

Prepared for

Ayres Group
355 Bristol Street, Suite A
Costa Mesa, CA 93626-7923

by

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES
1602 Spring Street
Paso Robles, CA 93446
(805) 237-9626

November 2017

982.03

Table of Contents

Tables

Charts

Figures

Exhibits

Appendices

Cover Page: Potential wetland within Study Area. May 4, 2017

Synopsis

- This wetland delineation examines a 116.42-acre Study Area located in the City of Paso Robles, California (Section 1.2).

- Based on the results of the formal field delineation following regulatory protocol, we conclude that there are 0.08 acres of potentially jurisdictional isolated wetlands under jurisdiction of the Regional Water Quality Control Board and California Department of Fish and Wildlife (Section 4.1).

- An additional 591 linear feet of non-wetland waters within the Study Area are jurisdictional per standards set forth by the United States Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife (Section 4.2).

List of Acronyms and Abbreviations

CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
CWA	Clean Water Act
EPA	Environmental Protection Agency
FEMA-FIRM	Federal Emergency Management Agency Flood Insurance Rate Map
GPS	Global Positioning System
HUC	Hydrologic Unit Code
NAIP	National Agriculture Imagery Program
NRCS	Natural Resource Conservation Service
NTCHS	National Technical Committee for Hydric Soils
OHWM	Ordinary High Water Mark
RWQCB	Regional Water Quality Control Board
SSURGO	Soil Survey Geographic Database
SWRCB	State Water Resources Control Board
TNW	Traditional Navigable Water
TOB	Top of Bank
U.S.	United States
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WETS	Climate Analysis for Wetlands Tables

Definitions of Wetland Indicators

Wetland Plant Indicator Status Ratings In Order of Wetland Affinity		
OBL	Obligate	Hydrophyte, almost always occur in wetland. Estimated probability >99 percent to occur in wetlands under natural conditions.
FACW	Facultative Wetland	Hydrophyte, usually occur in wetland, but may occur in non-wetland. Estimated probability >67% to 99% to occur in wetlands under natural conditions.
FAC	Facultative	Equally likely to occur in wetland and non-wetland. Estimated probability 33% to 67% to occur in wetlands under natural conditions.
FACU	Facultative Upland	Non-hydrophyte, usually occurs in non-wetland, but may occur in wetland. Estimated probability 1% to <33% to occur in wetlands under natural conditions.
UPL	Upland	Almost never occur in wetland. Estimated probability <1% to occur in wetlands under natural conditions.
NL	No Listed	Species not included in the federal list of wetland indicator plants. Assumed upland for purposes of wetland analysis.

1.0 Introduction

1.1 Purpose

This report provides a delineation of potentially jurisdictional wetlands and non-wetland waters on the 116-acre South Chandler Ranch (Study Area), located in the City of Paso Robles in San Luis Obispo County, California. The purpose of this report is to describe potentially jurisdictional waters and wetlands according to the Clean Water Act (CWA) Section 404, the Porter-Cologne Water Quality Act (State Water Code), and Fish and Game Code Section 1600. This document presents a comprehensive inventory and mapping effort of wetland and non-wetland aquatic resources within the Study Area and provides information for owners, the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW), and the Lead Agency in decisions regarding activities in the Study Area. Section 2.0 provides more detail on the regulatory framework and scope of this jurisdictional delineation.

TABLE 1. RESPONSIBLE PARTIES.

Owner/Applicant	Project Planner	Biological Consultant
Ayres Group 355 Bristol Street, Suite A, Costa Mesa, CA 93626-7923	**Larry Werner** Land Development Specialist 725 Creston Road, Suite B Paso Robles, CA 93446 (805) 239-3127 x207	**Althouse and Meade, Inc.** 1602 Spring Street Paso Robles, CA 93446 (805) 237-9626 Contact: Jacqueline Tilligkeit

1.2 Study Area Location and Extent

The Study Area is 116.42 acres located within the city limits at the eastern edge of Paso Robles. It is bounded by Fontana Road to the west, Linne Road to the south, a vineyard to the east, and additional Chandler Ranch property to the north (Figure 1). Along Fontana and Linne Roads are industrial and business properties as well as residential subdivisions. Approximate coordinates for the center of the Study Area are 35.616° N / 120.645° W (WGS84) in the Templeton United States Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 2). Elevation ranges from approximately 810 to 940 feet above mean sea level. The Study Area is composed of 62 parcels; the Assessor's Parcel Numbers are provided in Appendix A.

1.3 Current Conditions

The large majority of the Study Area is fallow cropland turned grassland. It has rolling hills and gently sloping plains with more than 100 feet in elevation change from the north to south. The Study Area was first farmed prior to 1949 and has laid fallow since around 2006 except for being occasionally grazed.

In the southeastern portion of the Study Area, 15 acres was subdivided into 54 lots in the 1960's to develop the subdivision Our Town (Dirkx 2017; Figure 3). The project ceased after 13 lots

were developed on one of the six cul-de-sacs originating from the constructed Aaroe Road. Currently, some of the homes are inhabited, some dilapidated, and the remaining cul-de-sacs are paved and unmaintained, surrounded by weedy grassland.

1.3.1 ***Hydrology***

The Study Area is only a few hundred feet from the highest point of the Mustard Creek – Salinas River (12-digit Hydrologic Unit Code) watershed within the larger Salinas watershed (8-digit HUC) which is formed by the Coastal Range (Figure 4). Less than 2 miles to the west is the Salinas River, a TNW. Highest elevations onsite occur in the northeast corner and the lowest occur in the southwest. Water onsite flows southwest to culverts at the corner of Fontana Road and Linne Road and at the intersection of Linne Road and Airport Road.

Water from adjacent vineyards enters the site at the eastern boundary and is diverted around rolling hills into shallow valleys across the Study Area. Otherwise, the main water source for the site is direct precipitation. Figure 5 shows the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) and indicates that the Study Area is well within the minimal flood hazard zone (FEMA 2017). In addition, neither the National Hydrography Dataset nor the National Wetlands Inventory have indicated wetland features within the Study Area (Figure 6 and 7).

A drainage ditch that bisects the southeastern portion of the Study Area was created in the 1960's to divert water from Our Town (Figure 3). It begins at a culvert underneath Aaroe Road and continues to 120 feet northeast of the intersection of Linne Road and Airport Road. This ditch does not appear to be maintained.

1.3.2 ***Vegetation and Habitats***

Annual grassland is the predominant habitat within the Study Area, covering approximately 108 acres of the site. Most of the grassland has been disturbed by past farming and ranching operations, leaving much of the area to be comprised of non-native grasses and forbs. The landscape composition includes typical non-native grassland habitat, with dominant species including wild oats (*Avena barbata* and *Avena fatua*), annual bromes (*Bromus diandrus, Bromus hordeaceus,* and *Bromus madritensis* subsp. *rubens*), filaree (*Erodium* ssp.), and mustards (*Brassica nigra* and *Hirschfeldia incana*).

1.3.3 ***Soils***

Four individual soil map units from the Natural Resource Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO) overlap the Study Area: Arbuckle-Positas complex, Nacimiento-Los Osos complex, Rincon clay loam, and San Ysidro loam (Soil Survey Staff 2017).

A custom soil report for the Study Area is provided as Appendix B.

1.3.4 ***Climate***

The Climate Analysis for Wetlands Tables (WETS) for Paso Robles Municipal Airport (Station ID 046742, 3.5 miles north of Project site) indicates that average 30-year rainfall is 13.08 inches

(Table 2). The 2016-2017[1] rainfall year was above average particularly in January with the annual precipitation totaling 16.14 inches (NOAA 2017). Rainfall was above the WETS range in the majority of the wet months (Chart 1). Soil pits were investigated in May 2017.

TABLE 2. PRECIPITATION (INCHES) BY MONTH.

Year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1971-2000	0.01	0.06	0.36	0.51	1.12	1.73	2.83	2.87	2.65	0.68	0.23	0.02
2016-2017	0	0	0	1.39	1.26	1.03	6.91	3.89	0.53	0.95	0.18	0

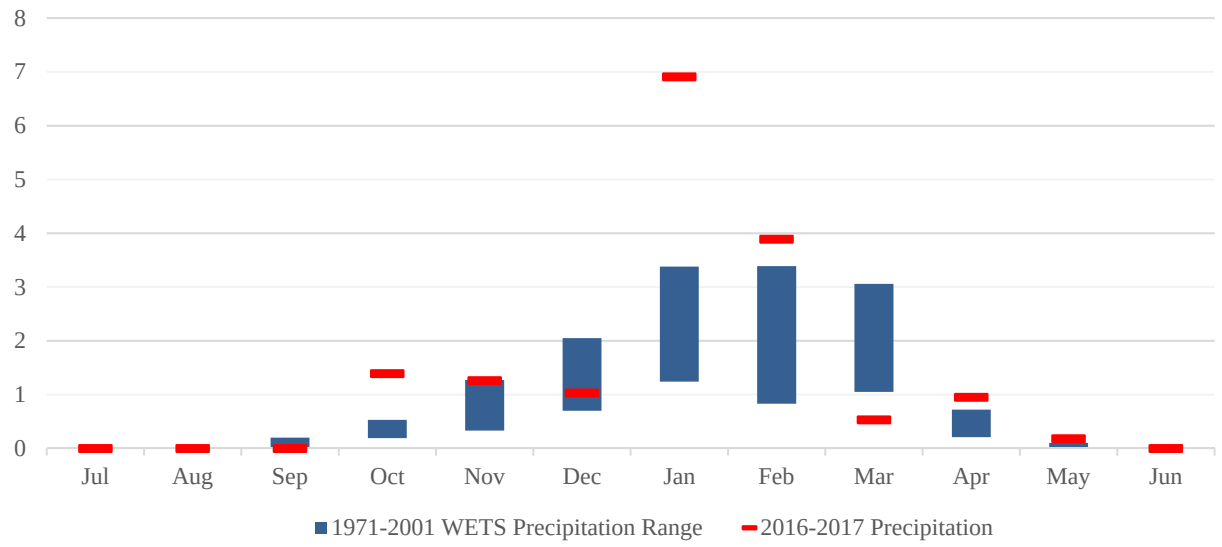


CHART 1. WETS[2] PRECIPITATION AND 2016-2017 RAINFALL YEAR (INCHES).

[1] Rainfall years range from July to June.

[2] WETS tables display the average range of precipitation by month by providing a probability analysis.

2.0 Regulatory Framework

2.1 United States Army Corps of Engineers

Section 404 of the CWA authorizes the USACE to regulate activities that discharge dredged or fill material to wetlands and other waters of the United States. The term "waters of the United States" encompasses resources described by the Environmental Protection Agency (EPA) and the Corps regulations, 40 CFR (Code of Federal Regulations) § 230.3(s) and 33 CFR § 328.3(a). The geographic limits of relevant federal jurisdiction for non-tidal waters of the U.S. are defined at 33 CFR § 328.4(c).

The *Corps of Engineers Wetlands Delineation Manual* (hereafter "1987 Manual"; Environmental Laboratory 1987) defines wetlands (Environmental Protection Agency regulations at 40 CFR § 230.3(t); USACE regulations at 33 CFR § 328.3(b)). Wetlands are considered "special aquatic sites" under the USACE definition. Special aquatic sites are afforded protection under the CWA (Sections 401 and 404). The 1987 Manual and various regional supplements describe the criteria that must be met to determine the presence of a wetland, the methods used to determine whether they are met, and the geographic extent of wetland areas identified in the field.

The USACE takes jurisdiction over wetlands that exhibit hydrology, hydric soil, and hydrophytic vegetation (three parameters) by the standard set forth in the Arid West Regional Supplement. For non-wetland water features, USACE jurisdiction is limited to the Ordinary High Water Mark (OHWM). Both wetlands and non-wetland waters (drainages) must exhibit a significant nexus to a Traditionally Navigable Water (TNW).

2.2 Regional Water Quality Control Board

Waters are defined in California Water Code section 13050(e) as "any surface water or groundwater, including saline waters, within the boundaries of the state." However, July 2017 guidance from the RWQCB indicates that they have adopted the USACE policy of a "three-parameter wetland" (SWRCB 2017). They will also take jurisdiction over a non-wetland water to the OHWM. In contrast to the USACE, however, the RWQCB will take jurisdiction over isolated wetland features that do not have significant nexus to a TNW. Therefore, all USACE features are RWQCB jurisdiction but not all RWQCB features are USACE jurisdiction.

2.3 California Department of Fish and Wildlife

CDFW found the U.S. Fish and Wildlife Service (USFWS) wetland definition and classification system based on the 1979 Cowardin definition to be the most biologically valid (Cowardin et al. 1979). In general, CDFW will take jurisdiction over drainage or lake features with a bed and bank and will limit their jurisdiction to the top of bank (TOB), and may include adjacent wetland or riparian areas on a case by case basis.

The RWQCB and CDFW (hence forward may be referred to as "state" or "state of California") receive regulatory authority over wetlands and waters within California as specified in Section 401 of the Clean Water Act (CWA), the Porter-Cologne Water Quality Act (California Water Code), the California Coastal Act of 1975 (CCA), and Fish and Game Code Section 1600.

3.0 Delineation Methods

3.1 Overview of Sampling Methodology

Jurisdictional wetlands and other waters were identified using methods and guidelines described in the 1987 Manual, the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (hereafter "2008 Supplement"; USACE 2008b), and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (hereafter "OHWM Manual"; USACE 2008a). Site visits were made in May 2017 by Wetland Scientist Jacqueline Tilligkeit and Botanist Jason Dart (Table 3). Table 3 summarizes dates of field work and personnel attending each site visit.

TABLE 3. FIELD WORK LOG.

Survey Date	Activities	Personnel
May 3, 2017	Site survey and sample sites	Jacqueline Tilligkeit Jason Dart
May 4, 2017	Sample sites	Jacqueline Tilligkeit
November 10, 2017	Current conditions and observational soil pit	Jacqueline Tilligkeit Ken McCarron

3.1.1 ***Wetlands***

Soil pits were dug by hand at three sampling sites based on low relief and investigation of aerial photographs. Locations of sampling sites were recorded on the Delineation of Jurisdictional Areas Map (Exhibit A) and USACE Arid West Region Wetland Determination Data Forms (Exhibit B). Photos of each site are included in Section 8.0.

Wetland Hydrology

The presence or absence of wetland hydrology field indicators was assessed following methodology presented in the 1987 Manual and the 2008 Supplement. Wetland indicators used to determine if wetland hydrology features are present include, but are not limited to, high water table, site topography, drift lines, drainage patterns, sediment deposits, inundation, observation of wet conditions during the growing season, and saturation of soils.

Wetland Soils

Soils were examined according to methodology presented in the 2008 Supplement and 1987 Manual. The presence or absence of hydric soil indicators was determined by soil characteristics outlined within the USDA-NRCS publication, *Field Indicators of Hydric Soils in the United States* (version 7.0; USDA-NRCS 2010) and the National Technical Committee for Hydric Soils (NTCHS) definition of hydric soils.

Wetland Vegetation

To determine if wetland species were present, vegetation in each stratum was identified to the species level and confirmed using the *National Wetland Plant List* (Lichvar et al. 2016). If wetland

species were found, species dominance was recorded for each stratum using the "50/20 Rule," as per the 2008 Supplement. Dominance test was calculated for all samples and prevalence index was calculated if samples had a presence of hydric soil and hydrology but did not pass the dominance test.

3.1.2 Non-Wetland Waters

Potential non-wetland waters occur when drainages display evidence of hydrology but do not contain vegetation suggestive of wetlands. Evidence of OHWM is used to determine extent of Corps jurisdiction over non-wetland waters of the U.S. The OHWM Manual lists and describes indicators associated with areas that become flooded or ponded, but are not dominated by wetland vegetation and the duration of flooding, ponding, and/or near-surface soil saturation (less than or equal to 12 inches) is not sufficient to cause hydric soils to form or wetland hydrology conditions to occur. OHWM, if present, was identified and noted according to guidance provided in the OHWM Manual. Wetland Determination Data Forms (USACE 2010) were used to determine OHWM for non-wetland waters and are included under Exhibit C.

3.1.3 Waters Connectivity/Adjacency

Connectivity to Traditional Navigable Waters and their tributaries is established via field work where accessible, as well through analysis of aerial photographs, USGS topographic map, and the USGS National Hydrography Dataset. This connectivity determines whether the feature has "significant nexus" (i.e., it significantly affects the chemical, biological, or physical integrity of a Traditionally Navigable Water).

3.2 Mapping Methodology

Mapping efforts utilized Samsung Galaxy Tab A tablets equipped with Garmin GLO Global Positioning System (GPS) Receivers. Delineation boundaries were drawn using aerial photography and field notes. Existing datasets such as the National Hydrography Dataset and the USGS topographic maps were considered during mapping. Our results vary somewhat from these existing publications due to the finer scale and on-the-ground data collection techniques used in our work. GPS data, digitized notes, and photos were imported into Esri ArcGIS, a Geographic Information Systems software suite, and interpreted into maps. Maps were produced at a minimum scale of 1 map inch to 400 feet on the ground using field data, and presented over a 2016 National Agriculture Imagery Program (NAIP) Aerial Photograph.

4.0 Technical Findings

Wetland habitats in the Study Area meet state definitions and drainage features meet federal and state definitions. Our 2017 field work resulted in the delineation of 0.08 acre state jurisdictional wetlands and 591 linear feet of federal non-wetland waters within the Study Area.

4.1 State Wetlands

Two State wetland patches were mapped within the Study Area, one in a bowl on the east side and one in a swale feature on the west (Exhibit A). These wetland features are isolated palustrine persistent emergent (Cowardin et al. 1979) wetlands dominated by native and non-native herbs and grasses. Table 4 summarizes Determination Data Form findings.

4.1.1 ***Bowl Wetland***

The Bowl Wetland is a low spot 250 feet north of Our Town. It was likely created during the construction of Our Town when a pile of asphalt was left in the field. Plowing around the asphalt may have left the area lower and undisturbed, collecting water and creating a 0.01 acre (602 square feet) isolated wetland.

Hydrology

Water enters Bowl Wetland through precipitation and surface runoff. Water cannot exit the pool except through percolation into the soil therefore there is no connectivity to a TNW and this feature is considered isolated. Standing water was not present during an early May site visit but biotic crust and oxidized rhizospheres indicate hydrology.

Hydric Soils

Within the top eight inches of soil, the black silty clay (10YR 2/1) matrix contains dark grayish brown (10YR 4/2) depletions and dark yellowish brown (10YR 3/6) redoximorphic concentrations in the pore linings. The percentages and color distinction were sufficient to mark depleted matrix, redox dark surface, and redox depressions as hydric soil indicators.

Hydrophytic Vegetation

Dominant plant species within the wetland are seaside barley (*Hordeum marinum,* FAC) and curly dock (*Rumex crispus,* FAC) with a presence of other hydrophytes such as toad rush (*Juncus bufonius,* FACW) and slender woolly marbles (*Psilocarphus tenellus,* OBL). The wetland feature passes the dominance text and also contains two percent biotic crust.

4.1.2 ***Swale Wetland***

The Swale Wetland lays in a swale feature in the northwest portion of the property and is 0.07 acre (2999 square feet). Water is concentrated in a small drainage that supports hydrophytic vegetation. There is no clear flow path or connection from the wetland to a TNW. Downslope of the wetland, water likely sheet or subsurface flows to the street or a culvert at the corner of Fontana Road and Linne Road. It is unclear where the culvert would connect to a storm ditch or creek.

Hydrology

Water originating from surface or subsurface runoff from hills onsite is concentrated in a small swale in the Study Area. Biotic crust was present during the field investigations. The narrow swale continues for less than 300 feet before the topography flattens into a gentle southwest sloping hillside with no sign of hydrology.

Hydric Soils

Five percent dark yellowish brown redoximorphic features were present at three inches within the very dark brown (10YR 2/2) sandy clay loam matrix. The prominence, depth, and quantity of the redox features qualified as a redox dark surface and redox depressions indicator.

Hydrophytic Vegetation

Italian ryegrass (*Festuca perennis*, FAC) and seaside barley are dominant within the sample site with a presence of toad rush and slender woolly marbles. The sample site passes the dominance test and presented ten percent biotic crust. Adjacent upland areas and downslope of the wetland feature was dominated strongly (95 percent cover) by rattail sixweeks grass (*Festuca myuros*, FACU).

4.1.3 ***Additional Areas Investigated***

Two swale features on the eastern edge of the Study Area were investigated during site visits due to greener vegetation in aerial imagery and suggestive topography.

In the northern feature, Italian ryegrass (FAC) was the only dominant species in this location with the second highest percent absolute coverage from ripgut brome (UPL). A soil pit was dug to 16 inches. It displayed a very dark brown silty clay matrix with no sign of redoximorphic features nor a restrictive layer. Hydrology indicators were also absent within the feature. This location was not mapped as a wetland because it only displayed one parameter: the dominance of a plant species that is equally likely to occur in a wetland and upland.

The southern feature was hardly identifiable in the field. It did not have distinct vegetation communities compared to adjacent upland areas. Italian ryegrass (FAC), rattail sixweeks grass (FACU), and wild oats (NL) are dominants within the swale with no clear change in vegetation percent coverage nor species dominance to demarcate an OHWM. An observational soil pit revealed less than one percent redoximorphic features in a very dark brown matrix. Additionally, the topography undulates from historic plowing and burrowing mammal activity without a clear path for the water to flow and no bed and bank.

TABLE 4. WETLAND CHARACTERISTICS.

Feature	Sample Site	Dominant Species	Wetland Vegetation?	Soil Indicator	Wetland Soil?	Hydrology Indicator	Wetland Hydrology?	Connection	Jurisdiction	Wetland Type
n/a	1	FAC	Yes	None	No	None	No	No	None	n/a
Bowl Wetland	2	FAC, FAC	Yes	F3, F6, F8	Yes	B12, C3	Yes	No	State Only	Palustrine Persistent Emergent
Swale Wetland	4	FAC, FAC	Yes	F6, F8	Yes	B12	Yes	No	State Only	Palustrine Persistent Emergent

FAC: 34-66% in wetlands

F3: Depleted Matrix
F6: Redox Dark Surface
F8: Redox Depressions

B12: Biotic Crust
C3: Oxidized Rhizospheres along Living Roots

4.2 Federal Non-Wetland Waters

One potential federal non-wetland water was delineated within the Study Area (Our Town Drainage). The artificial unconsolidated bottom palustrine feature contains less than five percent vegetation at the bottom of the ditch. The general flow path begins in the property to the east in a vineyard where it is fed by runoff from precipitation and irrigation and ends northeast of the intersection of Linne Road and Airport Road. An aerial photograph from 1949 reveals a clear flow path in this corner of the property prior to the installation of the neighboring vineyard (Figure 3). In this photo, the drainage continues across Linne and flows for 1300 feet before converging with an unnamed creek. A 1962 aerial photo shows that the drainage downslope of Our Town within the Study Area was channelized during the construction of the partial development (Figure 3). Currently the channel ends just short of a culvert that carries the water across Linne and into a storm ditch. The storm ditch zigs and zags through developed land before meeting up with the same unnamed creek near the intersection of Commerce Way and Scott Street. The creek ends at the Salinas River, a TNW.

As discussed in paragraph three of Section 4.1.3, there is no evidence of an OHWM north of Our Town. The artificial channel and jurisdictional feature begins at the road and continues to approximately 60 feet from Linne Road where it sheet flows to the culverts. The end of the drainage has become more poorly defined since the 1962 aerial, likely due to transportation of sediment down the ditch and deposition during sheet flow when the water velocity slows.

The channel is lined with coyote bush (*Baccharis pilularis*), wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), and soft brome. The bottom of the channel contains less than five percent vegetation and more than 50 percent biotic crust coverage in some locations. Hydrology indicators include biotic crust and drift deposit. The OHWM is approximately 2.5 feet wide and is demarcated by a change in vegetation percentage, break in bank slope, and presence/absence of hydrology. The TOB is 5 feet wide on average.

5.0 Jurisdictional Delineation

The Study Area does not contain habitat that meets the definition of wetland by the USACE. Approximately 0.08 acre (3601 square feet) of isolated wetland habitat was delineated as state jurisdiction (Table 5). Despite displaying hydrology, hydric soil, and hydrophytic vegetation, both wetland features are only considered state jurisdictional due to the lack of connectivity to a TNW.

TABLE 5. STATE JURISDICTIONAL WETLAND MEASUREMENTS.

Feature	Area (ac)	Area (sq ft)
Bowl Wetland	0.01	602
Swale Wetland	0.07	2999
Total	**0.08**	**3601**

Our Town Drainage (591 feet) meets the definition of an USACE non-wetland water within the Study Area. It is federally jurisdictional due to the presence of an OHWM as well as its proximity to a culvert that carries water along a clear path to the Salinas River. The state (RWQCB and CDFW) would also take jurisdiction over this potentially federal feature.

Jurisdictional area calculations are included in Table 6.

TABLE 6. FEDERAL JURISDICTIONAL NON-WETLAND WATER MEASUREMENTS.

Feature	OHWM Width (ft)	TOB Width (ft)	Length (ft)
Our Town Drainage	2.5	5	591

This report is subject to verification by the USACE, RWQCB, and CDFW.

6.0 Photographs

Bowl Wetland

Low lying area likely created by leaving a mound of asphalt during Our Town construction. View west.

May 3, 2017

Bowl Wetland

Dominated by seaside barley and curly dock.

May 3, 2017.

Swale Wetland

View looking downslope. Dominated by Italian rye grass and seaside barley. View west.

May 4, 2017

Upslope from Swale Wetland

Dominated by rattail sixweeks grass.

May 4, 2017.

Our Town Drainage

Coyote bush lines drainage to Our Town.

May 3, 2017

Our Town Drainage

The downstream end of the drainage dissipates and sheet flows.

May 3, 2017

Our Town Drainage

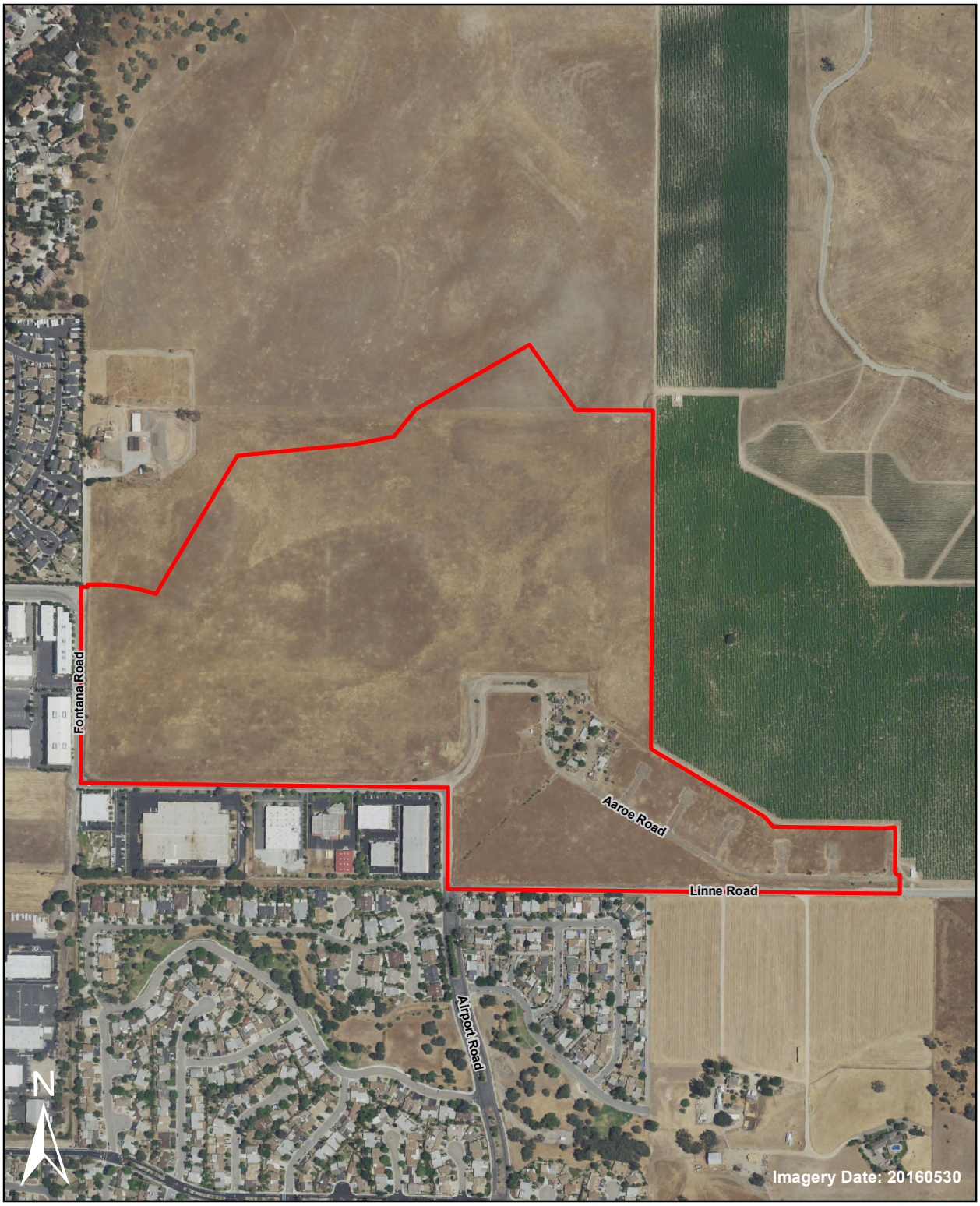
The substrate of the drainage presents hydrology indicators and minimal vegetation.

May 3, 2017

7.0 Figures

- Figure 1. Aerial Photograph
- Figure 2. United States Geological Survey Topographic Map
- Figure 3. Aerial Imagery History
- Figure 4. Hydrologic Unit Codes
- Figure 5. Federal Emergency Management Agency Flood Insurance Rate Map
- Figure 6. National Wetlands Inventory
- Figure 7. National Hydrography Dataset

Figure 1. Aerial Photograph



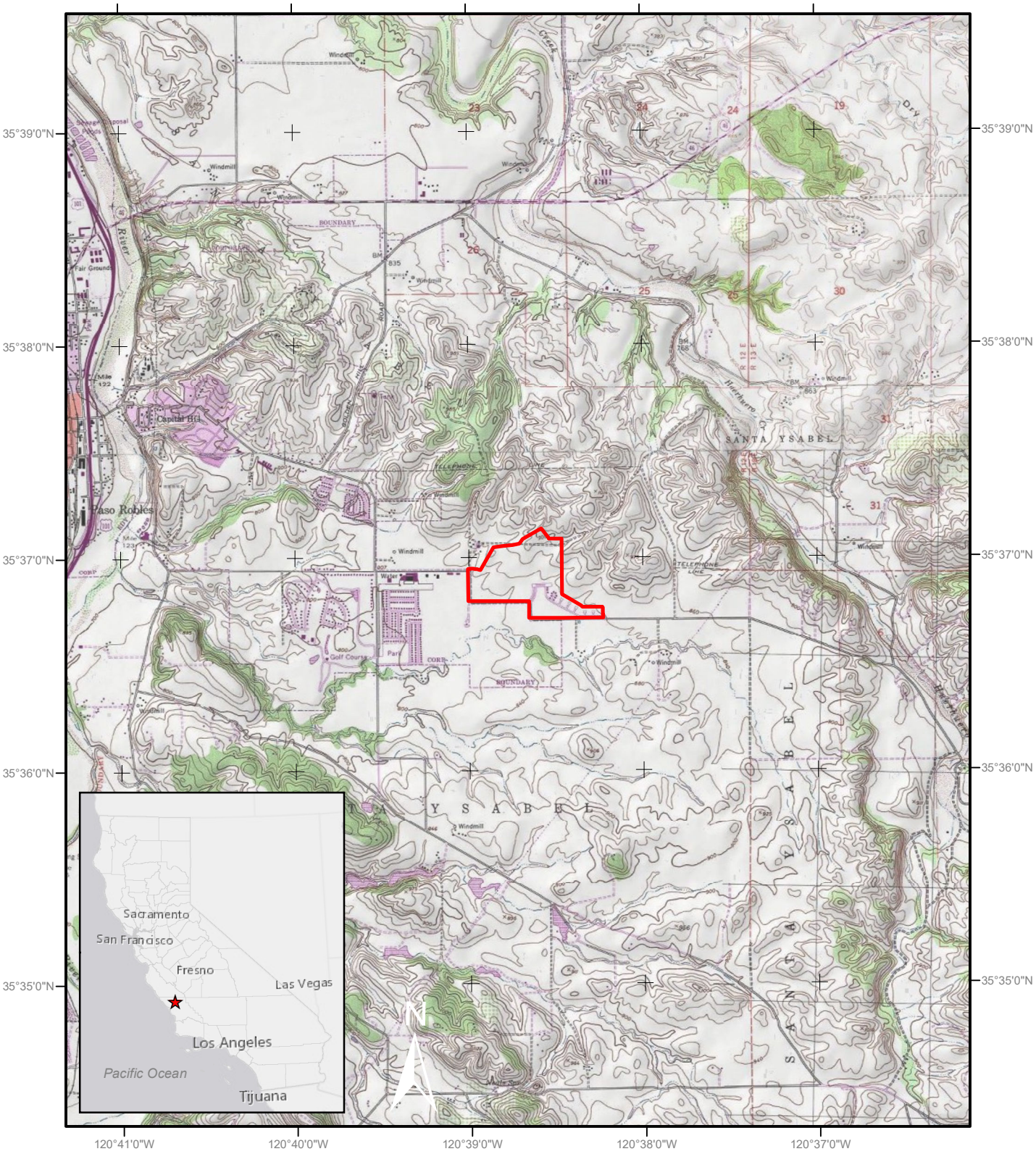
Study Area (117.3 acres)

1 inch = 700 feet

0 250 500 750 1,000 Feet

Updated November 16, 2017 08:15 AM by JBB

Figure 2. United States Geological Survey Topographic Map



Project Location (35.6155, -120.6450)

Study Area (117.3 acres)

1 inch = 0.75 mile

0 0.25 0.5 0.75 1 Mile

Templeton 7.5-minute USGS Quadrangle
Unsectioned T26S R12E

Updated November 09, 2017 03:00 PM by JBB

Figure 3. Aerial Imagery History

Figure 4. Hydrologic Unit Codes

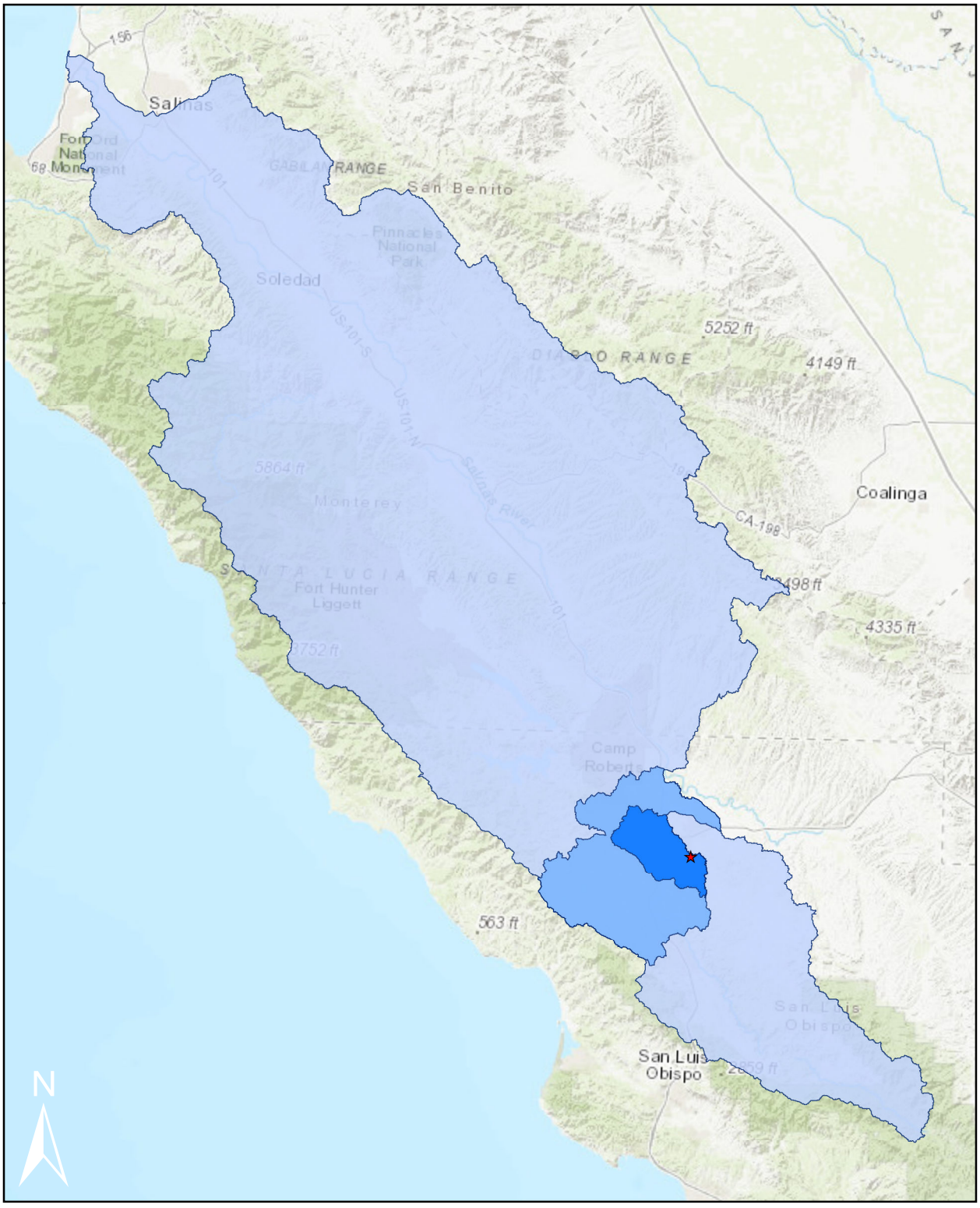
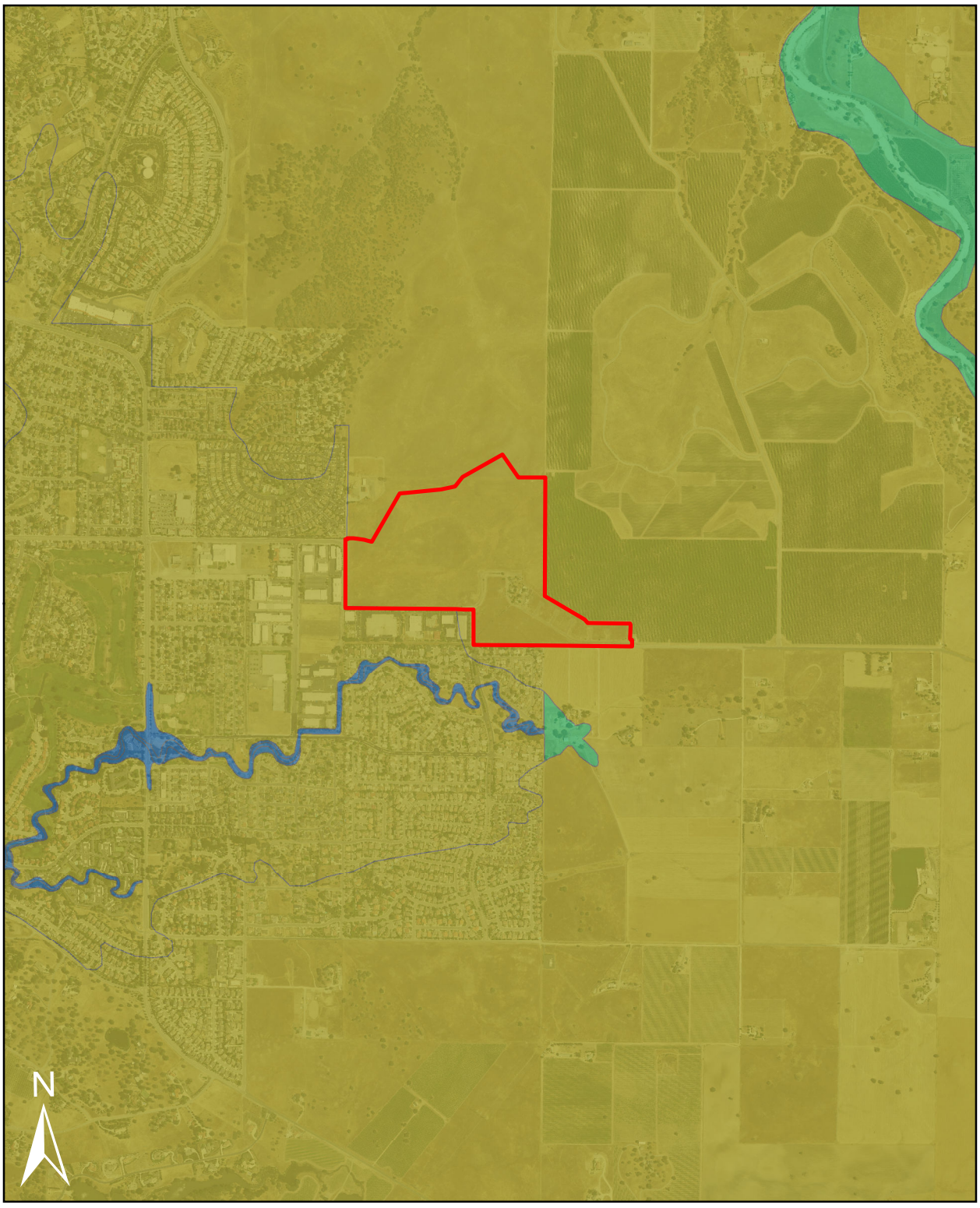


Figure 5. Federal Emergency Management Agency Flood Insurance Rate Map



FEMA/FIRM Zone Classification

Moderate to Low Risk Areas

Zone	Description
B and X (shaded)	Area of moderate flood hazard, usually the area between the limits of the 100- year and 500-year floods. B Zones are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
C and X (unshaded)	Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level. Zone C may have ponding and local drainage problems that don't warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100- year flood.

High Risk Areas

Zone	Description
A	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
AE	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
A1-A30	These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format).
AH	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
AO	River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
AR	Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.
A99	Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.
V	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. No base flood elevations are shown within these zones.
VE, V1-30	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.

Figure 6. National Wetlands Inventory

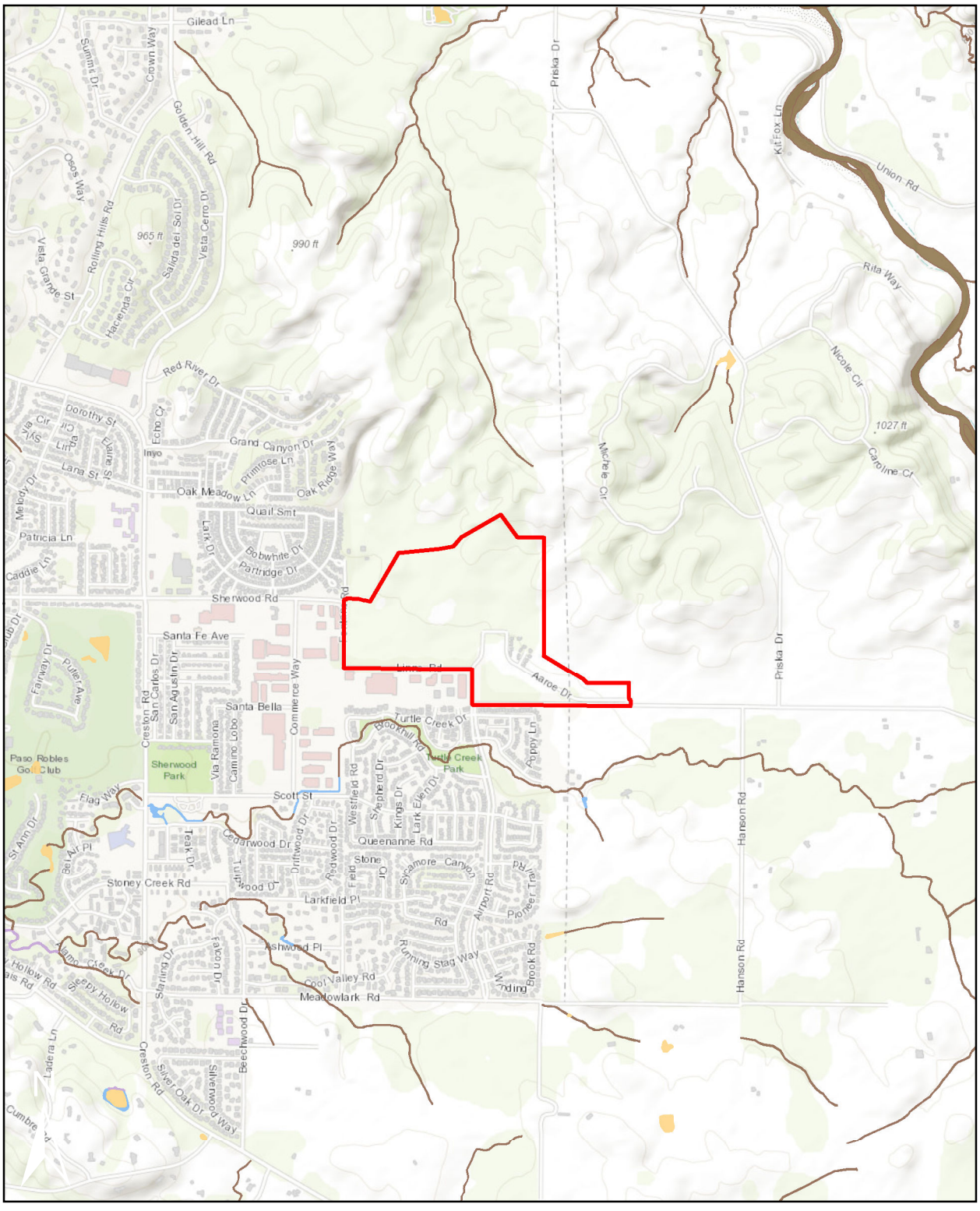
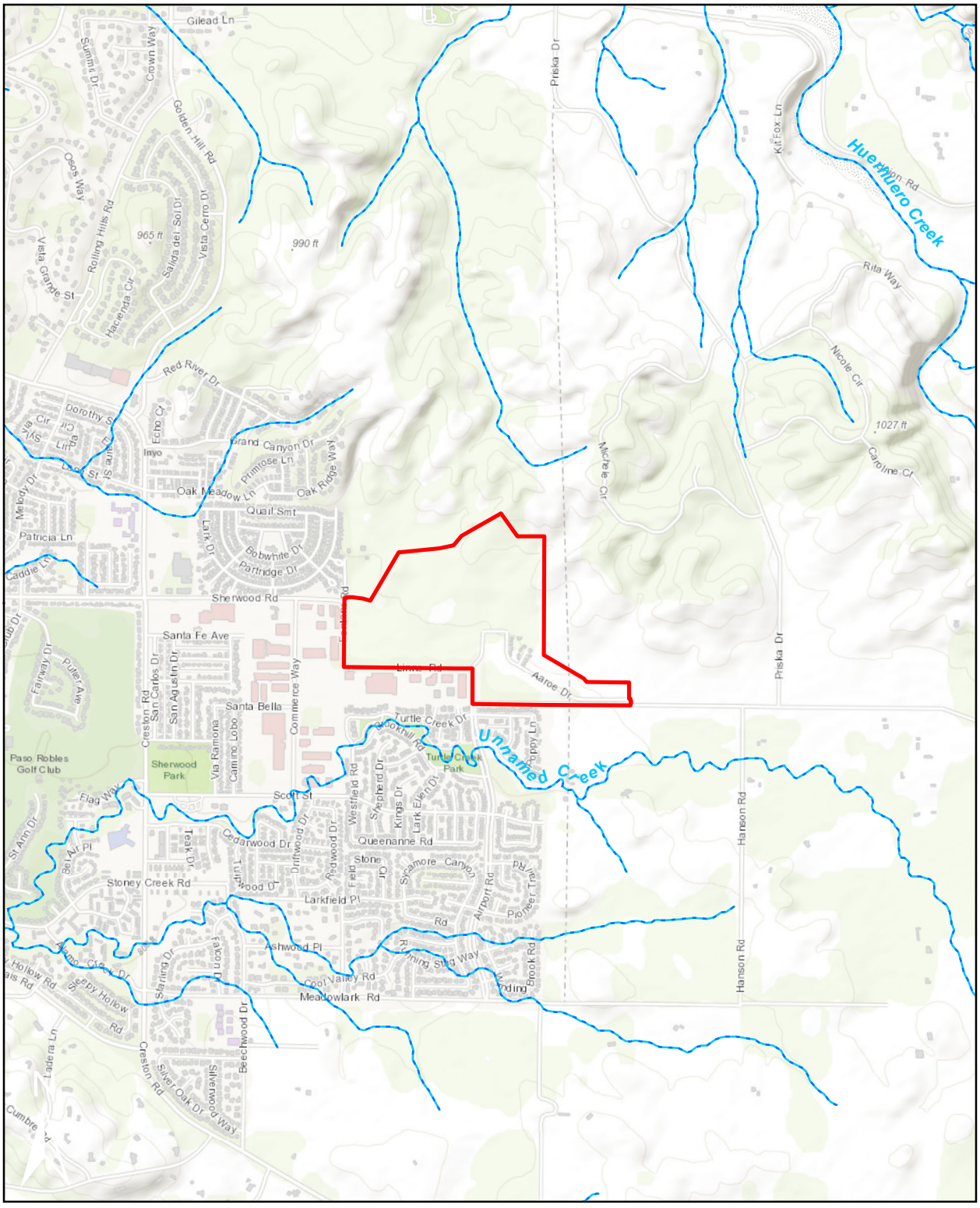


Figure 7. National Hydrography Dataset



8.0 References

33 CFR 320-332. Subsection of Regulations for Navigation and Navigable Waters. Text from Code of Federal Regulations. Available from: http://www.ecfr.gov. Accessed November 2017.

40 CFR 230. Section 404(b)(1) Guidelines for specification of disposal sites for dredged or fill material. Text from Code of Federal Regulations. Available at http://www.ecfr. gov. Accessed November 2017.

Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.

Dirkx, Phil. 2017. "Property planned for new Paso homes was once the site of a grand dream gone bankrupt." *The Tribune*, March 23, 2017. http://www.sanluisobispo.com/news/local/community/columns-blogs_/over-the-hill/article140442303.html

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss. Technical Report Y-87-1. 207

Federal Emergency Management Agency (FEMA). 2012. National Flood Hazard Layer. FIRM Panel 06079C0607G. Available from http://fema.maps.arcgis.com/.

National Oceanic and Atmospheric Administration (NOAA). 2017. USDA Field Office Climate Data. Paso Robles Municipal Airport (046742). Product generated by ACIS – NOAA Regional Climate Centers. Accessed November 2017.

Soil Survey Staff. 2017. Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/ Accessed September 2017.

State Water Resources Control Board (SWRCB). 2017. Preliminary Draft State Wetland Definition and Procedures for Discharges of Dredged or Fill Materials to Waters of the State. [Proposed for Inclusion in the Water Quality Control Plans for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California]. 21 July 2017

U.S. Army Corps of Engineers. 2008a. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. Ed. R.W. Lichvar and S.M. McColley. ERDC/CRREL TR-08-12. Hanover, NH: U.S. Army Engineer Research and Development Center.

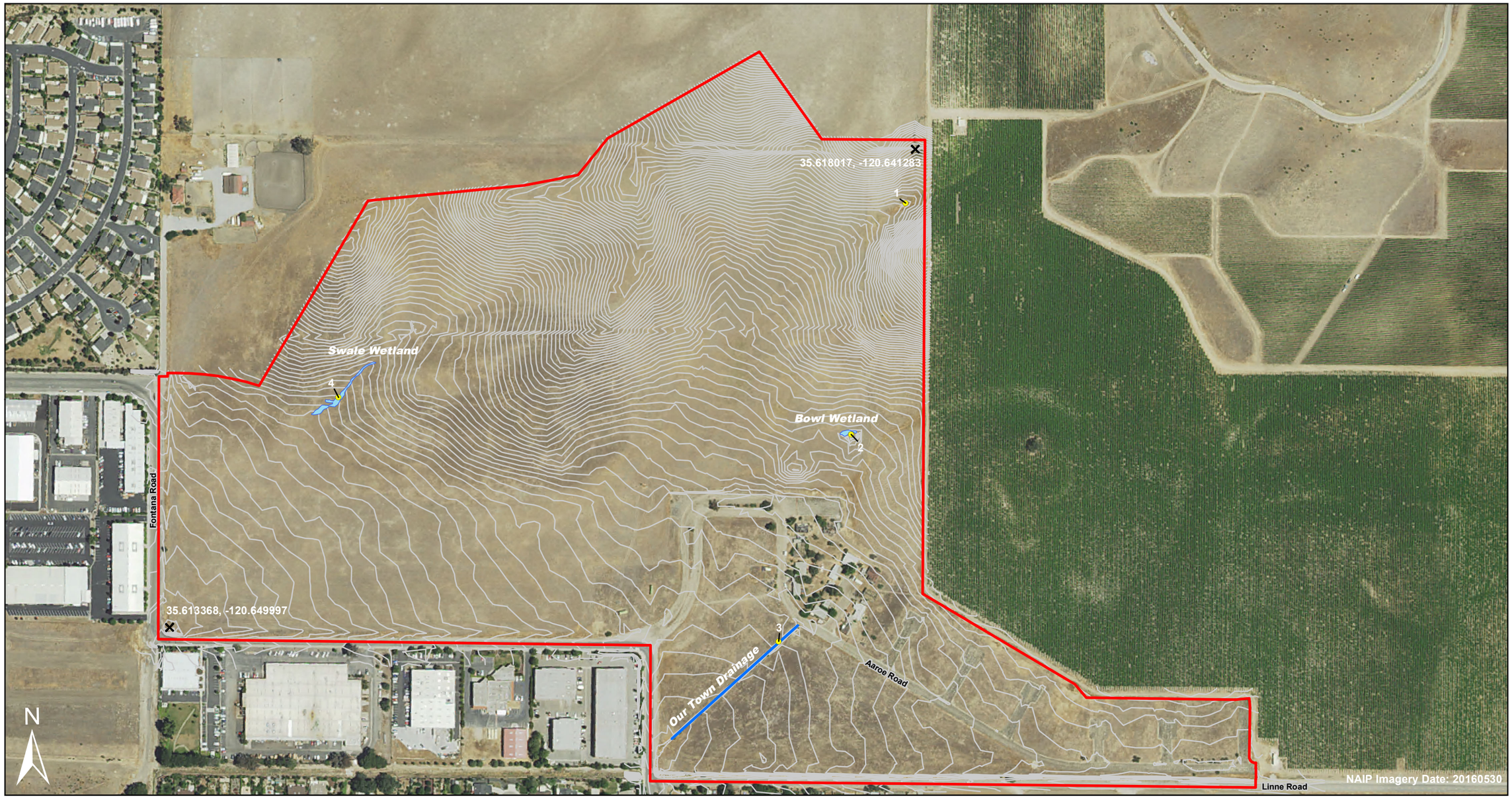
_____. 2008b. A Regional supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

_____. 2010. Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States. Ed. K.E. Curtis and R.W. Lichvar. ERDC/CRREL TN-10-1. Hanover, NH: U.S. Army Engineer Research and Development Center.

U.S. Department of Agriculture. Natural Resources Conservation District. 2010. Field Indicators of Hydric Soils in the United States. Version 7.0. G.W. Hurt and L.M. Vasilas (eds.). USDA, NRCS in cooperation with the National Technical Committee for Hydric Soils (NTCHS).

Exhibit A – Delineation of Jurisdictional Areas

Exhibit A. Delineation of Jurisdictional Areas



Sample Sites
Map Reference Point
State Wetlands (0.08 acre)
Study Area (117.3 acres)
Non-Wetland Waters of the U.S. (591 feet)
Site Topography (1-Foot Countour Interval)

Site Name: Chandler Ranch
Investigators: Jacqueline Tilligkeit, Jason Dart

1 inch = 350 Feet
0 100 200 300 400 500 600 Feet

Map Updated November 16, 2017 08:14 AM by JBB

Exhibit B – Wetland Determination Data Forms

A United States Army Corps of Engineers, Wetland Determination Data Form (2008 Arid West Supplement Version 2.0) was completed in the field for two sampling sites. The forms included here are copies of forms written in the field. The original forms are on file in the Althouse and Meade, Inc. office.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Chandler Ranch City/County: Paso Robles Sampling Date: 5-3-17

Applicant/Owner: Ayres Group State: CA Sampling Point: 1

Investigator(s): J. Tilligkeit Section, Township, Range: T26S R12E

Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 3

Subregion (LRR): LRR C Lat: 35.617524 Long: -120.641363 Datum: WGS84

Soil Map Unit Name: Nacimiento-Los Osos complex NWI classification: none

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: none)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: none)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 3'x3')			
1. Festuca perenne	85	Y	FAC
2. Bromus diandrus	10	N	UPL
3. Bromus hordeaceus	5	N	FACU
4. Hordeum murinum	5	N	FAC
5.			
6.			
7.			
8.			
	105 = Total Cover		
Woody Vine Stratum (Plot size: none)			
1.			
2.			
	= Total Cover		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

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

__ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: 1

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

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

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: None

Depth (inches): >16

Hydric Soil Present? Yes ____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? Yes ____ No ✓ Depth (inches): >16

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): >16

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: Chandler Ranch City/County: Paso Robles Sampling Date: 5-3-17

Applicant/Owner: Ayres Group State: CA Sampling Point: 2

Investigator(s): J. Tillgkeit & K. Anderson Section, Township, Range: T26S R12E

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

Subregion (LRR): LRR C Lat: 35.615282 Long: -120.647034 Datum:

Soil Map Unit Name: Arbuckle - Positas complex NWI classification: none

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

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

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

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

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

Remarks:
Artificial pool with a mound of asphalt in the middle. Does not display any sign of connectivity - isolated!

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: none)			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: none)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' x 10')			
1. Hordeum marinum	40	FAC	Y
2. Rumex crispus	15	FAC	Y
3. Juncus bufonius	10	FACW	N
4. Festuca perennis	3	FAC	N
5. Asclepia fascicularis	3	FAC	N
6. Bromus hordeaceus	1	FACU	N
7. Psilocarphus tenellus	1	OBL	N
8.	10		N
	83 = Total Cover		
Woody Vine Stratum (Plot size: none)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 7 % Cover of Biotic Crust 2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

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

__ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	95	10YR 4/2	60	D	M	S:C	
			10YR 3/6	5	C	PL		

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): >8

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? Yes ___ No ✓ Depth (inches): >8

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): >8

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

Water ends at pool - isolated feature.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Chandler Ranch City/County: Paso Robles Sampling Date: 5-4-17

Applicant/Owner: Ayres Group State: CA Sampling Point: 4

Investigator(s): J. Tillquist Section, Township, Range: T26S R12E

Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): LRR C Lat: 35.615593 Long: -120.648051 Datum: WGS84

Soil Map Unit Name: Arbuckle - Positas complex NWI classification: none

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

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

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

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

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

Remarks:
Wetland in swale feature with clear boundary. No clear flowpath to TNW

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: none)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: none)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: ____)			
1. Festuca perennis	30	Y	FAC
2. Hordeum marinum	30	Y	FAC
3. Bromus hordeaceus	5	N	FACU
4. Juncus bufonius	10	N	FACW
5. Festuca myuros	5	N	UPL
6. Psilocarphus tenellus	10	N	OBL
7.			
8.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: none)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

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

__ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 2/2	100					SCL	Very rocky
3-9+	10YR 2/2	95	10YR 3/6	5	C	PL	SCL	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): >9

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? Yes ___ No ✓ Depth (inches): >9

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): >9

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

Exhibit C – Wetland Determination Data Form to Determine OHWM

A United States Army Corps of Engineers, Wetland Determination Data Form was completed in the field for one drainage feature. The datasheet included here is a copy of the datasheet written in the field. The original is on file in the Althouse and Meade, Inc. office.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Chandler Ranch City/County: Paso Robles Sampling Date: 5-3-17

Applicant/Owner: Ayers Group State: CA Sampling Point: 3

Investigator(s): Sotillight.t + K. Anders Section, Township, Range: T26S R12E

Landform (hillslope, terrace, etc.): ditch Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): LRRC Lat: 35.61341 Long: -120.69285 Datum: _____

Soil Map Unit Name: San Ysidro loam NWI classification: none

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

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

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

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

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

Remarks:
Sheet being used to determine OHWM of an other (non-wetland) water.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: site)			
1. Baccharis pilularis			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: site)			
1. Avena fatua			
2. Bromus diandrus			
3. Bromus hordeaceus			
4. Trifolium sp.			
5. Hirschfeldia sp.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:
Less than 5% coverage of bottom of drainage. Banks dominated by upland species listed above.

SOIL

Sampling Point: 3

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

No pit

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No _____

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

Remarks:

Change in vegetation % to indicate OHWM. Width is approx 205 feet. Also break in bank and the above listed hydrology indicators w/in OHWM.

Appendix A – Assessor Parcel Numbers within Study Area

APN	Acres
020-211-006	1.21
020-211-009	0.89
020-211-010	0.10
020-211-012	10.63
020-321-001	1.11
020-321-002	0.25
020-322-001	0.17
020-322-002	0.15
020-322-003	0.11
020-322-004	0.18
020-322-005	0.16
020-322-006	0.16
020-322-007	0.17
020-322-008	0.17
020-322-009	0.17
020-323-001	0.16
020-323-002	0.14
020-323-003	0.12
020-323-004	0.19
020-323-005	0.20
020-323-006	0.12
020-323-007	0.17
020-323-008	0.19
020-324-001	0.16
020-324-002	0.14
020-324-003	0.12
020-324-004	0.19
020-324-005	0.19
020-324-006	0.12
020-324-007	0.14
020-324-008	0.16

APN	Acres
020-331-001	0.16
020-331-002	0.14
020-331-003	0.12
020-331-004	0.19
020-331-005	0.19
020-331-006	0.12
020-331-007	0.14
020-331-008	0.16
020-332-001	0.20
020-332-002	0.17
020-332-003	0.16
020-332-004	0.19
020-332-005	0.19
020-332-006	0.12
020-332-007	0.15
020-332-008	0.16
020-333-001	0.17
020-333-002	0.16
020-333-003	0.15
020-333-004	0.15
020-333-005	0.16
020-333-006	0.17
020-334-001	0.18
020-334-002	0.24
020-334-003	0.19
020-334-004	0.15
020-334-005	0.16
020-334-006	0.17
025-362-037	0.76
025-381-001	4.45
025-381-005	83.46

Appendix B – Custom USDA Soil Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for San Luis Obispo County, California, Paso Robles Area

Chandler Ranch Wetland Delineation

September 25, 2017

Preface

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

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

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

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

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

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

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Soil Map

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

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: San Luis Obispo County, California, Paso Robles Area
Survey Area Data: Version 10, Sep 28, 2016

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

Date(s) aerial images were photographed: Mar 16, 2016—Feb 23, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

San Luis Obispo County, California, Paso Robles Area (CA665)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
102	Arbuckle-Positas complex, 9 to 15 percent slopes	51.3	44.1%
179	Nacimiento-Los Osos complex, 9 to 30 percent slopes	10.1	8.7%
188	Rincon clay loam, 2 to 9 percent slopes, MLRA 14	0.0	0.0%
197	San Ysidro loam, 0 to 2 percent slopes, MLRA 14	54.9	47.2%
Totals for Area of Interest		**116.4**	**100.0%**

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

San Luis Obispo County, California, Paso Robles Area

102—Arbuckle-Positas complex, 9 to 15 percent slopes

Map Unit Setting

National map unit symbol: hbrk
Elevation: 600 to 1,500 feet
Mean annual precipitation: 12 to 20 inches
Mean annual air temperature: 60 to 61 degrees F
Frost-free period: 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Arbuckle and similar soils: 40 percent
Positas and similar soils: 30 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arbuckle

Setting

Landform: Terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium from mixed rock sources

Typical profile

H1 - 0 to 29 inches: fine sandy loam
H2 - 29 to 53 inches: sandy clay loam
H3 - 53 to 62 inches: stratified sandy loam to very gravelly sandy clay loam

Properties and qualities

Slope: 9 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: COARSE LOAMY (R014XE003CA)
Hydric soil rating: No

Description of Positas

Setting

Landform: Terraces

Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium from mixed rock sources

Typical profile

H1 - 0 to 10 inches: coarse sandy loam
H2 - 10 to 28 inches: clay
H3 - 28 to 40 inches: sandy clay loam
H4 - 40 to 60 inches: stratified sandy loam to gravelly clay loam

Properties and qualities

Slope: 9 to 15 percent
Depth to restrictive feature: 9 to 20 inches to abrupt textural change
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very low (about 1.2 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: COARSE LOAMY CLAYPAN (R014XE005CA)
Hydric soil rating: No

Minor Components

Greenfield, fine sandy loam

Percent of map unit: 10 percent
Hydric soil rating: No

Positas

Percent of map unit: 10 percent
Hydric soil rating: No

Cropley

Percent of map unit: 4 percent
Hydric soil rating: No

Hanford, fine sandy loam

Percent of map unit: 3 percent
Hydric soil rating: No

Unnamed, areas of 15 to 30 percent slope

Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed, areas of 15 to 30 percent slope

Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed, areas with cobbles on the surface

Percent of map unit: 1 percent
Hydric soil rating: No

179—Nacimiento-Los Osos complex, 9 to 30 percent slopes

Map Unit Setting

National map unit symbol: hbv1
Elevation: 600 to 1,500 feet
Mean annual precipitation: 12 to 20 inches
Mean annual air temperature: 60 degrees F
Frost-free period: 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Nacimiento and similar soils: 30 percent
Los osos and similar soils: 20 percent
Minor components: 50 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nacimiento

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from calcareous shale and/or sandstone

Typical profile

H1 - 0 to 18 inches: silty clay loam
H2 - 18 to 28 inches: silty clay loam
H3 - 28 to 32 inches: weathered bedrock

Properties and qualities

Slope: 9 to 30 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: Fine Loamy 9-13 (R015XE020CA)
Hydric soil rating: No

Description of Los Osos

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from shale and/or sandstone

Typical profile

H1 - 0 to 14 inches: clay loam
H2 - 14 to 24 inches: clay
H3 - 24 to 59 inches: weathered bedrock

Properties and qualities

Slope: 9 to 30 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: Fine Loamy 9-13 (R015XE020CA)
Hydric soil rating: No

Minor Components

Balcom, loam

Percent of map unit: 10 percent
Hydric soil rating: No

Positas, coarse sandly loam

Percent of map unit: 10 percent
Hydric soil rating: No

Unnamed, similar to los osos soil

Percent of map unit: 10 percent
Hydric soil rating: No

Ayar, silty clay
Percent of map unit: 5 percent
Hydric soil rating: No

Diablo, clay
Percent of map unit: 5 percent
Hydric soil rating: No

Shimmon, loam
Percent of map unit: 5 percent
Hydric soil rating: No

Arbuckle, fine sandy loam
Percent of map unit: 1 percent
Hydric soil rating: No

Greenfield, fine sandy loam
Percent of map unit: 1 percent
Hydric soil rating: No

Rincon, clay loam
Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed, gr/cb surfaces
Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed, slopes of 30 to 50 percent
Percent of map unit: 1 percent
Hydric soil rating: No

188—Rincon clay loam, 2 to 9 percent slopes, MLRA 14

Map Unit Setting

National map unit symbol: 2tb8p
Elevation: 10 to 3,110 feet
Mean annual precipitation: 11 to 33 inches
Mean annual air temperature: 56 to 62 degrees F
Frost-free period: 250 to 320 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Rincon and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rincon

Setting

Landform: Alluvial fans, terraces

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium derived from sedimentary rock

Typical profile

A - 0 to 6 inches: clay loam
Ap - 6 to 18 inches: clay loam
Bt - 18 to 52 inches: clay
Btk - 52 to 64 inches: clay loam

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Available water storage in profile: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: FINE LOAMY BOTTOM (R014XE025CA)

Minor Components

Arbuckle

Percent of map unit: 2 percent
Hydric soil rating: No

Cropley

Percent of map unit: 2 percent
Hydric soil rating: No

Lockwood

Percent of map unit: 2 percent
Hydric soil rating: No

Capay

Percent of map unit: 2 percent
Hydric soil rating: No

Brentwood

Percent of map unit: 1 percent
Hydric soil rating: No

Antioch

Percent of map unit: 1 percent
Hydric soil rating: No

197—San Ysidro loam, 0 to 2 percent slopes, MLRA 14

Map Unit Setting

National map unit symbol: 2tyys
Elevation: 70 to 1,990 feet
Mean annual precipitation: 13 to 22 inches
Mean annual air temperature: 59 to 61 degrees F
Frost-free period: 300 to 360 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

San ysidro and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of San Ysidro

Setting

Landform: Alluvial fans, terraces, valley floors
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile

A - 0 to 23 inches: loam
B1 - 23 to 38 inches: clay loam
Bt2 - 38 to 64 inches: loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 16 to 24 inches to abrupt textural change
Natural drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: LOAMY CLAYPAN (R014XE029CA)
Hydric soil rating: No

Minor Components

Arbuckle
Percent of map unit: 6 percent
Hydric soil rating: No

Rincon
Percent of map unit: 2 percent
Hydric soil rating: No

Pleasanton, loam
Percent of map unit: 2 percent
Hydric soil rating: No

Solano
Percent of map unit: 2 percent
Hydric soil rating: No

Cropley, clay
Percent of map unit: 1 percent
Hydric soil rating: No

Pescadero
Percent of map unit: 1 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Palexeralfs
Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Delineation of Potentially Jurisdictional Wetlands and Waters

for

Olsen Ranch

Paso Robles, San Luis Obispo County

Prepared for

Olsen Ranch 212, LLC
Mike Naggar & Associates
445 S. D St.
Perris, CA 92570

by

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES
1602 Spring Street
Paso Robles, CA 93446
(805) 237-9626

April 2019

1154.01

Table of Contents

List of Tables

List of Figures

List of Appendices

Cover Page: Mouth of pond with common spikerush. March 26, 2019.

Definitions of Wetland Indicators

Wetland Plant Indicator Status Ratings in Order of Wetland Affinity

OBL	Obligate	Hydrophyte, almost always occur in wetland. Estimated probability >99 percent to occur in wetlands under natural conditions.
FACW	Facultative Wetland	Hydrophyte, usually occur in wetland, but may occur in non-wetland. Estimated probability >67% to 99% to occur in wetlands under natural conditions.
FAC	Facultative	Equally likely to occur in wetland and non-wetland. Estimated probability 33% to 67% to occur in wetlands under natural conditions.
FACU	Facultative Upland	Non-hydrophyte, usually occurs in non-wetland, but may occur in wetland. Estimated probability 1% to <33% to occur in wetlands under natural conditions.
UPL	Upland	Almost never occur in wetland. Estimated probability <1% to occur in wetlands under natural conditions.
NL	Not Listed	Species not included in federal list of wetland indicator plants. Assumed upland for purposes of wetland analysis.

1 INTRODUCTION

1.1 Purpose

This report provides a delineation of potential jurisdictional wetland and non-wetland waters according to federal standards on the Olsen Ranch Property (Study Area), located in the City of Paso Robles in San Luis Obispo County, California. Olsen Ranch 212, LLC requested this delineation from Althouse and Meade, Inc. Its purpose is to describe potentially jurisdictional waters and wetlands according to the Clean Water Act (CWA) Section 404, the Porter-Cologne Water Quality Act (State Water Code), and Fish and Game Code Section 1600. This document presents a comprehensive inventory and mapping effort of wetland and non-wetland aquatic resources within the Study Area and provides information for owners, the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW), and the Lead Agency in decisions regarding activities in the Study Area. Section 2.0 provides more detail on the regulatory framework and scope of this jurisdictional delineation.

1.2 Study Area Location and Extent

Approximate coordinates for the center of the Study Area are 35.606° N / 120.637° W (WGS84) in the Templeton United States Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 1). Elevation ranges from approximately 815 to 1000 feet above mean sea level. The Study Area is 254.1 acres bounded by Linne Road to the north, Hanson Road to the east, Meadowlark Road to the south, and a subdivision to the west (Figure 2).

1.3 Current Conditions

The Study Area covers approximately 248 acres of rolling hills, seasonal drainages, and agricultural land. *Quercus douglasii* (blue oaks) dot the landscape in the grasslands, and *Populus fremontii* (Fremont cottonwoods), *Salix laevigata* (red willows), and *Quercus lobata* (valley oaks) are associated with wet areas in the northernmost seasonal drainage. An ephemeral pond, created by a man-made dam, occurs on the property in a natural drainageway near the center of the property discussed in Section 1.3.2.

Three residential lots are currently on the property, with barns, irrigated and non-irrigated pastures, and other facilities associated with a livestock operation on the ranch. Debris piles consisting of old irrigation pipes, fence posts, and assorted farm equipment are on the property. The entire property has been historically grazed, and most of it has been farmed, except the steepest slopes in the southwest and northeast corners. The most recent farming has occurred in the northwest and eastern-center of the Study Area. The long history of intensive grazing and dry farming has left the landscape dominated by non-native plants, with few trees or shrubs outside of the riparian area. Blue oaks are scattered throughout the Study Area but are concentrated in the riparian habitat in the northern portion.

1.3.1 Vegetation and Habitats

Habitats in the Study Area are generally moderately disturbed and modified through land management practices such as disking and livestock range but are otherwise undeveloped except

for a few rural houses and associated dirt roads which support non-native, herbaceous, forbs and grasses dominated by weedy species such as the invasive yellow star-thistle (*Centaurea solstitialis*) and Russian thistle (*Salsola tragus*).

The previously farmed and grazed land is dominated by wild oats (*Avena barbata* and *A. fatua*), barley (*Hordeum murinum*), annual bromes (*Bromus diandrus, B. hordeaceus,* and *B. madritensis* subsp. *rubens*), and mustards (*Brassica nigra* and *Hirschfeldia incana*) in high abundance with other occasional grasses and forbs. Large patches of dense yellow star-thistle occur in the northern pastures and the invasive annual grass medusahead (*Elymus caput-medusae*) is common in the southern portion.

The California annual grassland is composed primarily of non-native grasses and forbs. Dominant species include wild oats, annual bromes, filaree (*Erodium* ssp.), and mustards. Both early and late season wildflowers occur regularly in low abundance. Early season wildflowers include fiddlenecks (*Amsinckia* ssp.), blow wives (*Achyrachaena mollis*), valley tassels (*Castilleja attenuata*), lupines (*Lupinus* ssp.), and valley popcornflower (*Plagiobothrys canescens* var. *canescens*). Late-season wildflowers include spikeweed (*Centromadia fitchii),* clarkias (*Clarkia* ssp.), annual fireweed (*Epilobium brachycarpum*), and navarretia (*Navarretia* ssp.). Native perennial herbs such as milkweeds (*Asclepias* ssp.) and dwarf brodiaea (*Brodiaea terrestris*) are also found in low abundance.

1.3.2 Hydrology

Water enters the property from the east in two locations: one to the north and one near the center. The northern ephemeral drainage conveys water from east to west in a sinuous swale feature. Valley oak trees dominate the canopy with riparian trees such as Fremont cottonwood, red willow, and blue oak occurring occasionally. The understory is dominated by ripgut brome (*Bromus diandrus*) with occasional patches of a native perennial grass, creeping wild rye (*Elymus triticoides*). Other occasional species include the native narrowleaf milkweed (*Asclepias fascicularis*), non-native milk thistle (*Silybum marinum*), seaside barley (*Hordeum marinum*), and yellow star-thistle. The drainage supports seasonal pools.

The central drainage originates in the fallow fields on the property to the east which collects sheet flow from offsite. This small drainage, dominated by seaside barley, medusahead, and patches of Mexican rush (*Juncus mexicanus*), gathers water from plowed fields and carries water in a small channel for approximately 600 feet. Water in this drainage then enters a man-made stock pond. The stock pond supports a few red willow trees along its perimeter with the pool size variable throughout the wet season depending on precipitation and surface flow. Lotus sweetjuice (*Glinus lotoides*), hyssop loosestrife (*Lythrum hyssopifolia*), toad rush (*Juncus bufonius*), seaside barley, seaside heliotrope (*Heliotropium curassavicum* var. *oculatum*), common spikerush (*Eleocharis macrostachya*), and Bermuda grass (*Cynodon dactylon*) are found within and near the stock pond. Overflow from this stock pond is channeled to a subterranean drainage system that carries water under the adjacent housing development to the west.

Both the northern and central drainage are recorded in the National Hydrography Dataset (NHD). In this dataset, the central drainage is delineated as extending close to the eastern boundary of the Study Area and the northern drainage has a quarter mile long spur to the south (Figure 3). The National Wetlands Inventory (NWI) has a similar extent but a shorter spur and shorter central drainage. The spur on the northern drainage and the extension of the central drainage likely existed

at one time but have been altered through ranching practices such as plowing and road development. The stock pond is labeled as a Freshwater Pond wetland type in the NWI and the drainages are Riverine (Figure 4).

The USGS and United States Department of Agriculture (USDA)-Natural Resource Conservation Service (NRCS) developed nationally consistent watershed boundaries which range from a two digit code as the first level of classification (Hydrologic Unit Code [HUC] 2) to a 12 digit code for the most detailed watershed delineation (HUC12). The Study Area is in the Salinas watershed (HUC8) which is formed by Santa Lucia and Diablo ranges (Figure 5). The Salinas River flows north-northwest originating in the Los Padres National Forest and ending in Monterey Bay at the Pacific Ocean. The Study Area is approximately 2.75 miles east of the Salinas River. When water exits the Study Area in the northern drainage, it flows through housing developments as an open space, stormwater ditches, and underground sewer systems before reaching the Salinas. Figure 6 shows that the Study Area is dominated by an area of minimal flood hazard map unit in the National Flood Hazard Layer (FEMA 2019). A small section in the northwest portion of the Study Area, the western end of the northern drainage, is categorized as Zone A which is a one percent annual chance of flood hazard.

1.3.3 Soils

Six individual soil map units from the NRCS Soil Survey Geographic Database (SSURGO) overlap the Study Area: Arbuckle-Positas complex, Arbuckle-San Ysidiro complex, Cropley clay, Nacimiento-Los Osos complex, Rincon clay loam, and San Ysidro loam (USDA and NRCS 2019). These soil types are typically found on terraces and have alluvium parent material derived from calcareous or sedimentary rock. Slopes range from flat to 15 percent and the drainage class is well drained to moderately well drained. Soil pits were investigated in March and April 2019.

A custom soil report for the Study Area can be found as Appendix A.

1.3.4 Climate

The Climate Analysis for Wetlands Tables (WETS) for Paso Robles (Station ID 046730, 3 miles west of Study Area) indicates that average 30-year rainfall is 14.97 inches with maximum precipitation typically from January through March (Table 1).

TABLE 1. PRECIPITATION BY MONTH.

Data are provided in inches for the current rain year as well as the historical average.

Year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1971-2000	0.02	0.05	0.33	0.58	1.35	1.95	3.34	3.39	2.9	0.79	0.23	0.03
2018-2019	0	0	0	0.28	3.23	1.12	5.3	6.72	3.01[1]	-	-	-

Rainfall was above the WETS range in November 2018, January 2019, and February 2019 (NOAA 2019). Chart 1 shows the precipitation range minimum calculated at 70 percent probability the

[1] Value from the City of Paso Robles website, NOAA had not reported March totals when this report was written.

total will be higher than than the monthly average between 1971 and 2000. The precipitation range maximum probability is calculated at 30 percent chance the total will be higher than the monthly average. This results in a range of expected precipitation for each month where the total precipitation is likely to fall in any given year.

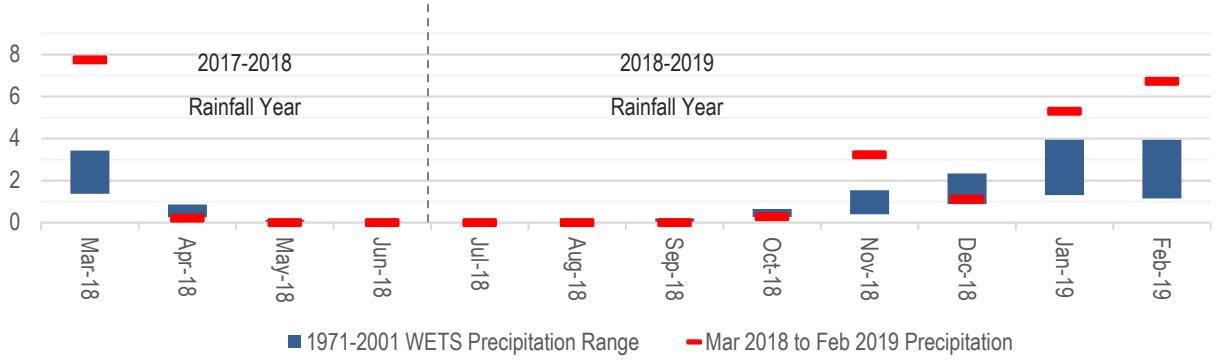


CHART 1. WETS PRECIPITATION AND RECENT 2018-2019 RAINFALL (INCHES)

WETS average range of precipitation from a probability analysis of 1971 to 2001 data compared to March 2018 to February 2019 precipitation. Data were retrieved from NOAA Regional Climate Centers in Paso Robles, CA (NOAA 2019).

2 REGULATORY FRAMEWORK

2.1 United States Army Corps of Engineers

Section 404 of the CWA authorizes the USACE to regulate activities that discharge dredged or fill material to wetlands and other waters of the United States. The term "waters of the United States" encompasses resources described by the Environmental Protection Agency (EPA) and the Corps regulations, 40 CFR (Code of Federal Regulations) § 230.3(s) and 33 CFR § 328.3(a). The geographic limits of relevant federal jurisdiction for non-tidal waters of the U.S. are defined at 33 CFR § 328.4(c). Terms within 40 CFR, such as "adjacency" and "tributary" are defined by the 2015 Clean Water Rule currently followed by USACE branches in California, and 22 other states.

The *Corps of Engineers Wetlands Delineation Manual* (hereafter "1987 Manual"; Environmental Laboratory 1987) defines wetlands (EPA regulations at 40 CFR § 230.3(t); USACE regulations at 33 CFR § 328.3(b)). Wetlands are considered "special aquatic sites" under the USACE definition. Special aquatic sites are afforded protection under the CWA (Sections 401 and 404). The 1987 Manual and various regional supplements describe the criteria that must be met to determine the presence of a wetland, the methods used to determine whether they are met, and the geographic extent of wetland areas identified in the field.

The USACE takes jurisdiction over wetlands that exhibit hydrology, hydric soil, and hydrophytic vegetation (three parameters) by the standard set forth in the Arid West Regional Supplement. These areas must also exhibit a significant nexus to a Traditionally Navigable Water (TNW). For non-wetland water features, USACE jurisdiction is limited to the Ordinary High Water Mark (OHWM).

2.2 Regional Water Quality Control Board

Recent March 2019 guidance from the RWQCB indicates that they have adopted the USACE policy of a "three-parameter wetland" but will also consider saturated, anaerobic features that lack vegetation, wetlands (SWRCB 2019).

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

They will also take jurisdiction over a non-wetland water to the OHWM. In contrast to the USACE, however, the RWQCB will take jurisdiction over isolated wetland features that do not have significant nexus to a TNW. In some cases, the RWQCB will take jurisdiction to the edge of riparian habitat surrounding the water or wetland, as CDFW takes jurisdiction over trees, shrubs, and grasslands associated with the wetted channel (the edge of riparian canopy).

2.3 California Department of Fish and Wildlife

CDFW found the USFWS wetland definition and classification system based on the 1979 Cowardin definition to be the most biologically valid (Cowardin et al. 1979). In general, CDFW will take jurisdiction over drainage or lake features with a bed and bank and will limit their

jurisdiction to the top of bank and may include adjacent wetland or riparian areas on a case by case basis.

3 DELINEATION METHODS

3.1 Overview of Sampling Methodology

Jurisdictional wetlands and other waters were identified using methods and guidelines described in the 1987 Manual, the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (hereafter "2008 Supplement"; USACE 2008b), and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008a). Site visits were made in the spring of 2019. Planned open spaces are mapped as jurisdictional waters without detailed delineation of wetland features. Proposed impacts to the northern drainage within proposed open space would require focused delineation of wetland inclusions. Focused delineation of wetland features in the vicinity of proposed road crossings was implemented for the purpose of future permitting efforts. This methodology is described in more detail in Section 4.1. Table 2 summarizes dates of field work and personnel attending each site visit.

TABLE 2. FIELD WORK LOG

Wetland delineation survey dates, action taken, and field personnel are provided.

Survey Date	Activities	Personnel
March 12, 2019	Reconnaissance survey	Jason Dart Jacqueline Tilligkeit
March 18, 2019	Aerial photography at northern drainage	Kyle Nessen Jessica Boone
March 26, 2019	Sample sites	Kristen Andersen Jacqueline Tilligkeit
April 4, 2019	OHWM assessments	Jacqueline Tilligkeit
April 16, 2019	Focused delineation	Jacqueline Tilligkeit LynneDee Althouse

3.1.1 Wetlands

Soil pits were dug by hand at twelve sampling sites based on the presence of hydrophytic vegetation, wetland hydrology, or low relief indicated potential wetland. For each wetland site an adjacent upland observational pit was dug to compare upland soil and vegetation features. Locations of all twelve sampling sites were recorded on the Jurisdictional Delineation Map (Figure 7) and USACE Arid West Region Wetland Determination Data Forms (Appendix B; updated sheet from 2010).

3.1.1.1 Wetland Hydrology

The presence or absence of wetland hydrology field indicators was assessed following methodology presented in the 1987 Manual and the 2008 Supplement. Wetland indicators included, but were not limited to, high water table, site topography, drift lines, drainage patterns, sediment deposits, inundation, observation of wet conditions during the growing season, and saturation of soils.

3.1.1.2 Wetland Soils

Soils were examined according to methodology presented in the 2008 Arid West Supplement and 1987 Manual. Hydric soil indicators were recognized by soil characteristics from the USDA-NRCS publication, *Field Indicators of Hydric Soils in the United States* (version 7.0; USDA-NRCS 2010) and the National Technical Committee for Hydric Soils (NTCHS) definition of hydric soils.

3.1.1.3 Wetland Vegetation

Vegetation in each stratum was identified to species and recorded. The indicator status of plants was confirmed by referring to the *National Wetland Plant List* (Lichvar *et al.* 2016). Species dominance was noted for each stratum using the "50/20 Rule." Dominance test was calculated for all samples.

3.1.1.4 Wetland Connectivity/Adjacency

Connectivity to Traditional Navigable Waters and their tributaries is established via field work where accessible, as well through analysis of aerial photographs, USGS topographic map, USGS National Hydrography Dataset, and site-specific topographic survey.

3.1.2 Non-Wetland Waters

Drainages were identified onsite as features that display evidence of hydrology but do not contain vegetation suggestive of wetlands. Evidence of OHWM was used to determine extent of Corps jurisdiction over these non-wetland waters of the U.S. The OHWM Manual (USACE 2010) lists and describes indicators associated with areas that become flooded or ponded but are not dominated by wetland vegetation and the duration of flooding, ponding, and/or near-surface soil saturation (less than or equal to 12 inches) is not sufficient to cause hydric soils to form or wetland hydrology conditions to occur. Ordinary High Water Mark was identified and noted according to guidance provided in the OHWM Manual.

3.1.2.1 OHWM Assessments

OHWM assessments were completed along each jurisdictional drainage in representative locations where there was a substantial change in either OHWM or TOB width. For each area, photographs were taken to document current conditions and hydrology and OHWM indicators were recorded and described based on the Arid West OHWM Manual and Datasheets. OHWM width and depth was also recorded. Photos are in Section 4 and locations of OHWM Assessments are shown on Figure 7.

3.1.2.2 Waters Connectivity/Adjacency

Connectivity to Traditional Navigable Waters and their tributaries is established via field work where accessible, as well through analysis of aerial photographs, United States Geographic Service (USGS) topographic map, USGS National Hydrography Dataset, and site-specific topographic survey. This connectivity determines whether the feature has "significant nexus" (i.e. it significantly affects the chemical, biological, or physical integrity of a Traditional Navigable Water).

3.2 Mapping Methodology

Airborne digital photographs of the Study Area were acquired on March 18, 2019 using a commercially available sUAV by Part 107 certified pilot and visual spotter. A georeferenced RGB orthomosaic image of the Study Area was generated from the acquired aerial images for baseline review. All flight operations were conducted within visual line of sight and below a maximum altitude of 200 feet above-ground level. The study area occurs in class E2 airspace and ATC authorization was acquired through the FAA UAS Data Exchange (confirmation number: ARMZZ116XR) prior to flying. Permission from the property owner was granted before flight.

Mapping efforts also utilized Samsung Galaxy Tab 4 tablets equipped with Garmin GLO GPS Receivers. Delineation boundaries were drawn using the AmigoCollect mapping application, aerial photography, site specific topography, and field notes. Existing datasets such as the National Hydrography Dataset and the USGS topographic maps were considered during mapping. Our results vary from these existing publications due to the finer scale and on-the-ground data collection techniques used in our work. GPS data, digitized notes, and photos were imported into Esri ArcGIS, a Geographic Information Systems software suite, and interpreted into maps. Maps were produced at a minimum scale of one map inch to 400 feet on the ground using field data and presented over the existing conditions CAD file from Wallace Group.

These delineation shapes are for planning purposes only. Wetland boundaries proximal to proposed improvements should be marked in the field by an environmental scientist and surveyed by a professional land surveyor with submeter accuracy.

4 TECHNICAL FINDINGS

The Study Area contains 0.24 acre of habitat that meets the definition of wetland by the USACE and RWQCB. An additional 4,594 feet and 1.26 acres of drainages that meets the definition of non-wetland waters also exists within the Study Area. Approximately 0.68 of the 1.26 acres has the potential to support non-persistent emergent wetlands. These wetlands may occupy less than 25 percent of the 0.68 acre. Approximately 0.02 acre of the 1.26 acres may be considered a wetland by RWQCB standards but not USACE. The following narrative description provides details of each feature's wetland vegetation, soil, and hydrology.

4.1 Northern Drainage

The northern drainage enters the Study Area at the eastern border under Hanson Road and flows west creating a braided stream across the northern half the Study Area. This drainage occasionally has multiple flow paths and has also been manipulated in areas where ranching or farming activities have occurred. Water enters the Study Area on the eastern property boundary, flows through oak riparian habitat dominated by oats, barley, bromes, mustard, and thistle, for approximately 2,230 feet before it enters a farmed field and then several sheep pastures. There are two crossings proposed in the Northern Drainage, therefore it was revisited after the water receded to identify any non-persistent emergent wetlands that may be present within the channel near the proposed crossing locations. These areas are referred to as the Focused Study Areas henceforth.

In the oak riparian habitat section of drainage, hydrology indicators include standing water, drift deposits, ripples, presence of bed and bank, and a strong presence of algal mats (Table 3, OHWM assessments A – G on Figure 7). The OHWM indicator was clear due to a change in average sediment texture, vegetation species, vegetation cover, as well as a break in bank slope.

4.1.1 Eastern Focused Study Area

The eastern Focused Study Area exists approximately 720 feet from the eastern boundary of the Study Area in the oak riparian habitat. It encompasses two drainage paths, one to the south that is straight and likely was ditched. Upland grasses such as ripgut brome, vetch, and yellow star-thistle are dominant in the southern drainage path. It has an OHWM width of approximately one to two feet wide and six inches to one foot deep. The berm is several feet taller on the north side of the drainage than on the south side.

The northern drainage path is a curved, oxbow section that has been partially bypassed by the creation of the southern ditch. In a portion of this drainage path there is a strong presence of hydrophytic species such as Italian rye grass (*Festuca perennis*, FAC) and common spikerush. Sample site 8 demonstrated sandy depletions below a dark clay surface horizon. As the vegetation changes to more upland grasses and bare ground downstream, the channel widens to almost 30 feet wide in some areas and was covered in dried algal mats during April site visits. After the confluence of the oxbow and the southern drainage path, the drainage narrows but continues to be bare ground and incised with a presence of bed and bank until another wetland inclusion where the population of Italian rye grass and common spikerush has increased.

In this Focused Study Area, 0.05 acre of wetlands, jurisdictional to the USACE and RWQCB were delineated in the northern oxbow area based on the presence of hydrophytic vegetation, hydrology,

and hydric soils. The remaining 0.10 acre of drainage in this Focused Study Area are non-wetland waters jurisdictional to the USACE and RWQCB.

Photo 1. View of soil pit at Sample Site 8 that showed evidence of depletions and redoximorphic concentrations. 04/16/2019

Photo 2. Dominant common spikerush in the oxbow wetland area. 04/16/2019

After the oak riparian, surface water flows through a barbed wire and hog fence that has gathered debris (Photo 3) and floods a recently plowed and planted farm field (Photo 4). The channel is widest and most shallow through the farm field that is routinely plowed (Table 3, OHWM assessments H and I).

Photo 3. Barbed wire and hog fence full of debris, farm field to the left in the picture and oak riprian to the right. View north. 03/12/2019.

Photo 4. Drainage through farm field from southern fence. View northeast. 03/12/2019.

4.1.2 Western Focused Study Area

Another crossing is proposed near the existing ranch road, therefore this area is described in detail and was visited later in the growing season to identify non-persistent emergent wetlands. The fence south of the plowed field splits the flow path before it enters a pasture. After the drainage is bisected by the fence, it is mostly unvegetated or supports upland grasses. The southern path through the pasture travels about 100 feet before there is a pile of riprap and rubble that slows the flow of water. This allows for the growth of hydrophytic vegetation such as hyssop loosestrife,

cudweed, (*Gnaphalium* sp.), knotweed (*Polygonum aviculare* ssp. *depressum*), and toad rush downstream and along the fringe of the pool. The northern flowpath, also supportive of upland grasses or unvegetated, travels along the fenceline for 170 feet before eroding under the fence and allowing water to enter the pool from the north. The center of the pond is inundated and anaerobic for prolonged periods and does not support vegetative growth. Aquatic invertebrates and their remains are prominent in and around the pool.

After pooling, a damaged pipe culvert, more than a foot higher than the pool elevation, conveys water under the western ranch access road to another sheep pasture. This area is dominated by seaside barley within the channel and foxtail barley along the banks, showing a clear change in vegetation species as the OHWM indicator.

In this Focused Study Area, 0.09 acre of wetlands, jurisdictional to the USACE and RWQCB were delineated around the fringe and at the mouth of the pool as well as through the western pasture where the drainage was dominated by seaside barley. The pool itself was unvegetated and may be considered a wetland by the RWQCB definition but would be a non-wetland water per USACE. The remaining 0.05 acre of drainage in this Focused Study Area are non-wetland waters jurisdictional to the USACE and RWQCB.

Photo 5. Fringe of pool with aquatic invertebrate remains and hydrophytes, 04/16/2019.

Photo 6. Soils in Sample Site 11 showed evidence of stratified layers, 04/18/2019.

Photo 7. Eastern sheep pasture and pool, view south from the ranch road, 03/26/2019.

Photo 8. View west towards culverts from southern flow path. Hydrophytes, algal mats, aquatic invertebrate remains, and salt crust present outside of standing water, 04/04/2019.

Photo 9. Western sheep pasture and drainage, view from culvert looking west, 03/26/2019.

Photo 10. Culverts underneath ranch road, view from western sheep pasture looking east, 03/26/2019.

The drainage continues westward where it passes under another ranch road via a small six inch culvert. During high flow periods, the water flows through the small culvert and over the ranch road before entering an incised channel through oak riparian habitat where it continues inside the Study Area for 828 feet. This reach is surrounded by upland grasses and the bed contained mudcracks and algae as a hydrology indicator in April 2019 (OHWM assessments K and L). The OHWM indicator is a change in vegetation cover and sediment texture and in some areas a break in bank slope.

Photo 11. Small culvert underneath ranch road on western side of western sheep pasture, road to the right of the photo, 03/26/2019.

Photo 12. View from the western edge of the western sheep pasture looking west across ranch road that shows evidence of flow and ponding, 03/26/2019.

For the purpose of this study, the entire drainage was mapped as a non-wetland water with wetland inclusions. Wetlands and non-wetlands were mapped in detail in the Focused Study Area. The total approximate distance of the Northern Drainage is 4,122 feet and the total area of the drainage is approximately 0.99 acre.

TABLE 3. NORTHERN DRAINAGE OHWM ASSESSMENTS

Location	OHWM Width (ft)	OHWM Depth (ft)	Hydrology Indicator	OHWM Indicator	Photograph
A	15	4	○ Water stained leaves ○ Mudcracks	○ Change in sediment texture ○ Change in vegetation cover ○ Break in bank slope	 04/04/2019
B	10	1.5	○ Algal mats ○ Debris/drifts ○ Mudcracks	○ Change in sediment texture ○ Change in vegetation cover ○ Change in vegetation species	 04/04/2019

Location	OHWM Width (ft)	OHWM Depth (ft)	Hydrology Indicator	OHWM Indicator	Photograph
C	8	0.5	○ Algal mats ○ Debris/drifts ○ Mudcracks	○ Change in sediment texture ○ Change in vegetation cover ○ Change in vegetation species	 04/04/2019
D	2	1	○ Algal mats ○ Debris/drifts ○ Mudcracks ○ Bed/bank	○ Change in sediment texture ○ Change in vegetation cover ○ Change in vegetation species ○ Break in bank slope	 04/04/2019

Location	OHWM Width (ft)	OHWM Depth (ft)	Hydrology Indicator	OHWM Indicator	Photograph
E	10	0.5	○ Algal mats ○ Debris/drifts ○ Mudcracks	○ Change in sediment texture ○ Change in vegetation cover ○ Change in vegetation species	 04/04/2019
F	2	1	○ Algal mats ○ Debris/drifts ○ Mudcracks ○ Bed/bank	○ Change in sediment texture ○ Change in vegetation cover ○ Change in vegetation species ○ Break in bank slope	 04/04/2019

Location	OHWM Width (ft)	OHWM Depth (ft)	Hydrology Indicator	OHWM Indicator	Photograph
G	6	2	○ Standing water ○ Algal mats ○ Debris/drifts ○ Mudcracks ○ Bed/bank	○ Change in sediment texture ○ Change in vegetation cover ○ Change in vegetation species ○ Break in bank slope	 03/12/2019
H	25	1	○ Standing water ○ Algal mats ○ Mudcracks	○ Change in vegetation cover	 03/12/2019

Location	OHWM Width (ft)	OHWM Depth (ft)	Hydrology Indicator	OHWM Indicator	Photograph
I	30	<0.5	○ Standing water ○ Algal mats ○ Mudcracks	○ Change in vegetation cover	 03/12/2019
J	15	0.5	○ Algal mats ○ Debris/drifts ○ Mudcracks ○ Ripples	○ Change in sediment texture ○ Change in vegetation cover ○ Change in vegetation species	 04/04/2019

Location	OHWM Width (ft)	OHWM Depth (ft)	Hydrology Indicator	OHWM Indicator	Photograph
K	4	0.5	○ Mudcracks ○ Algal mats	○ Change in sediment texture ○ Change in vegetation cover ○ Break in bank slope	 04/04/2019
L	4	0.5	○ Mudcracks ○ Algal mats	○ Change in sediment texture ○ Break in bank slope	 04/04/2019

4.2 Central Drainage and Pond

The Central Drainage begins at the north-south ranch road and flows west with a clear bed and bank. There was no sign of concentrated flow on the east side of the road and fence. Adjacent to the incised channel, there was a strong presence of medusahead and other upland grasses as well as Mexican rush. Sample Site 1, where Mexican rush and upland grasses were both dominant, was adjacent to the drainage and had no sign of hydric soils or hydrology.

Photo 13. View from the head of the Central Drainage looking west, 03/12/2019.

Photo 14. View north from the Central Drainage in the Sample Site 1 area; the darker grass is Mexican rush, 03/12/2019.

Downstream from Site 1, the convex part of the drainage supports mostly upland grasses with patches of Mexican rush. The OHWM width varied between one and a half to three feet in width and was demarcated by a presence of water, drift deposits, algal mats, or drainage patterns. Sample Site 5 was dug in the drainage within a patch of Mexican rush that contained hydrophytic vegetation dominance and hydrology in the form of saturation. However, this sample area and in observational soil pits nearby within the drainage, did not display evidence of hydric soil. The drainage feature appeared to not saturate for sufficient duration to produce anaerobic conditions in a typical year due to the sandy soil and sloping ground which conveys water from the drainage to the pond. The drainage prior to entering the pond is approximately 795 feet long and 0.13 acre.

Photo 15. View down into Central Drainage where Mexican rush is a dominant species, 03/26/2019.

Photo 16. View of sandy soil with no redoximorphic features in sample site within drainage where Mexican rush is dominant, 03/26/2019.

Prior to surface flow to the pond, velocity slows and water pools up to a foot deep, supporting large patches of common spikerush in the drainage, as it widens to a "V" shape at the mouth of the pond. This area contained various aquatic insects and tadpoles. Sample Site 3 revealed depletions and a reduced matrix in clay soil. Additionally, there is a fringe of common spikerush approximately three feet wide around most of the pond, though the middle (55 feet wide, 288 feet long, 0.28 acre) is unvegetated and several feet deep. The vegetated wetland portion of the pond makes up 0.04 acre and would be considered palustrine persistent emergent in the Cowardin classification.

Photo 17. View from the drainage looking west into the pond mouth with bunches of common spikerush, 03/26/2019.

Photo 18. Depleted clay soil at mouth of the pond with common spikerush, Sample Site 3, 03/26/2019.

Photo 19. Entrance of the pond with common spikerush on banks, view southwest, 03/26/2019.

Photo 20. View from south bank of the pond, fringe of common spikerush on banks, view northeast, 03/26/2019.

Additionally, on the northern side of the pond, Mexican rush dominated a small portion of the northern aspect of the berm. This hydrophyte is likely supported by water from the pond seeping through the berm. Sample Site 2 did not reveal hydrology nor hydric soil so the area was not delineated as wetland.

At the western end of the pond, there was an overflow drainage with flowing water on March 12, 2019 but not during subsequent site visits. During peak flows, surface water flows 107 feet west and south from the pond before exiting the Study Area through a storm drain drop inlet.

Photo 21. Overflow path out of western edge of pond, view west, 03/12/2019.

Photo 22. Overflow path into sewer inlet, view west, 03/12/2019.

TABLE 4. CENTRAL DRAINAGE OHWM ASSESSMENTS

Area	OHWM Width (ft)	OHWM Depth (ft)	Hydrology Indicator	OHWM Indicator	Photograph
M	1.5	1	○ Water present ○ Algal mats ○ Debris/drifts ○ Mudcracks	○ Change in sediment texture ○ Change in vegetation cover ○ Change in vegetation species ○ Break in bank slope	 03/12/2019
N	2	1.5	○ Water present ○ Algal mats ○ Debris/drifts ○ Mudcracks	○ Change in sediment texture ○ Change in vegetation cover ○ Change in vegetation species ○ Break in bank slope	 03/12/2019

4.3 Southern Corner Wetland

At the southwest corner of the Study Area there is a poor quality, weedy wetland supported by surface sheetflow and subsurface lateral return flow from the hills directly east. The elevation of the wetland is one to three feet lower than the adjacent Meadowlark Road and neighboring subdivision. Stormwater from surrounding, higher elevations flow to this corner where it is trapped and pools in the Study Area. The wetland showed evidence of hydrology in the form of biotic crust (up to 40 percent coverage in some areas), dominance of hydrophytic vegetation (toad rush and annual bluegrass, as well as a presence of an obligate species, hyssop loosestrife, and redox features within the top twelve inches.

Photo 23. High percentage of redoximorphic features in sandy clay loam soil in Sample Site 6, 03/26/2019.

Photo 24. Dominance of hydrophytic vegetation in Southern Corner Wetland, view west, 03/26/2019.

5 JURISDICTIONAL DELINEATION

The Study Area contains 0.24 acre of habitat that meets the definition of wetland by the USACE and RWQCB. An additional 4,594 feet and 1.26 acres of drainages that meets the definition of non-wetland waters also exists within the Study Area. Approximately 0.68 of the 1.26 acres has the potential to support non-persistent emergent wetlands. These wetlands may occupy less than 25 percent of the 0.68 acre. Approximately 0.02 acre of the 1.26 acres may be considered a wetland by RWQCB standards but not USACE.

The Northern Drainage flows from the eastern to the western boundary of the Study Area, has approximately 4,122 feet of streambed, covers 0.99 acre, and has the potential to support non-persistent emergent wetlands within the stream channel. Two Focused Study Areas were investigated later in the growing season after the waters had receded. Approximately 0.13 acre of non-persistent emergent wetlands (federal and state), 0.14 acre of non-wetland streambed (federal and state), and 0.02 acre of unvegetated pooling habitat that would be considered non-wetland by USACE standards but may be a wetland per RWQCB, were identified within the Focused Study Areas. OHWM indicators include changes in sediment texture, vegetation species and cover, and a break in bank slope. The adjacent upland area supports weedy non-hydrophytes. The remaining 0.68 acre of the Northern Drainage was delineated as non-wetland waters of the U.S. and state with less than 25 percent wetland inclusions.

The Central Drainage, including the overflow path out of the pond, is a 815 foot long (average OHWM width of 2 feet, 0.14 acre total area) non-wetland water that carries water to the Central Pond (0.28 acre) and associated persistent emergent wetland feature on the banks and mouth of the pond (0.06 acre). OHWM indicators include changes in sediment texture, vegetation species and cover, and a break in bank slope. The 2015 Clean Water Rule and the 2019 State Wetland Definition lists artificial, stock watering ponds as non-jurisdictional but since the pond has a jurisdictional drainage flowing to it and the pond will be converted as part of a large development project, it is considered jurisdictional for the purpose of this delineation.

Water pools in the southwestern corner of the property in the area delineated as the Southern Corner Wetland (0.05 acre). This area demonstrated hydrology, hydric soil, and a dominance of hydrophytic vegetation and would be classified as a persistent emergent palustrine wetland.

Aquatic feature jurisdictional area calculations are included in Table 5.

TABLE 5. JURISDICTIONAL AQUATIC FEATURE CHARACTERISTICS.

Feature	Feature Type	State	Federal
Northern Drainage	Stream with riparian and possible non-persistent emergent or unvegetated state wetlands	Jurisdictional Non-Wetland with Wetland Inclusions	Jurisdictional Non-Wetland with Wetland Inclusions
Eastern Focused Study Area			
Northern Wetland	Non-persistent emergent wetland	Jurisdictional Wetland	Jurisdictional Wetland
Northern Non-Wetland	Stream	Jurisdictional Non-Wetland	Jurisdictional Non-Wetland
Ditch Non-Wetland	Stream	Jurisdictional Non-Wetland	Jurisdictional Non-Wetland
Western Focused Study Area			
Fence Drainage	Stream	Jurisdictional Non-Wetland	Jurisdictional Non-Wetland
Pasture Drainage	Stream	Jurisdictional Non-Wetland	Jurisdictional Non-Wetland
Pool Fringe and Mouth	Non-persistent emergent wetland	Jurisdictional Wetland	Jurisdictional Wetland
Unvegetated Pool	Unvegetated wetland	Jurisdictional Wetland	Jurisdictional Non-Wetland
Seaside Barley Drainage	Non-persistent emergent wetland	Jurisdictional Wetland	Jurisdictional Wetland
Central Drainage	Stream	Jurisdictional Non-Wetland	Jurisdictional Non-Wetland
Central Pond Fringe	Persistent emergent wetland	Jurisdictional Wetland	Jurisdictional Wetland
Central Pond (Unvegetated)	Unvegetated stock pond with possible non-persistent emergent wetland	Jurisdictional Non-Wetland	Jurisdictional Non-Wetland
Southern Corner Wetland	Persistent emergent wetland	Jurisdictional Wetland	Jurisdictional Wetland

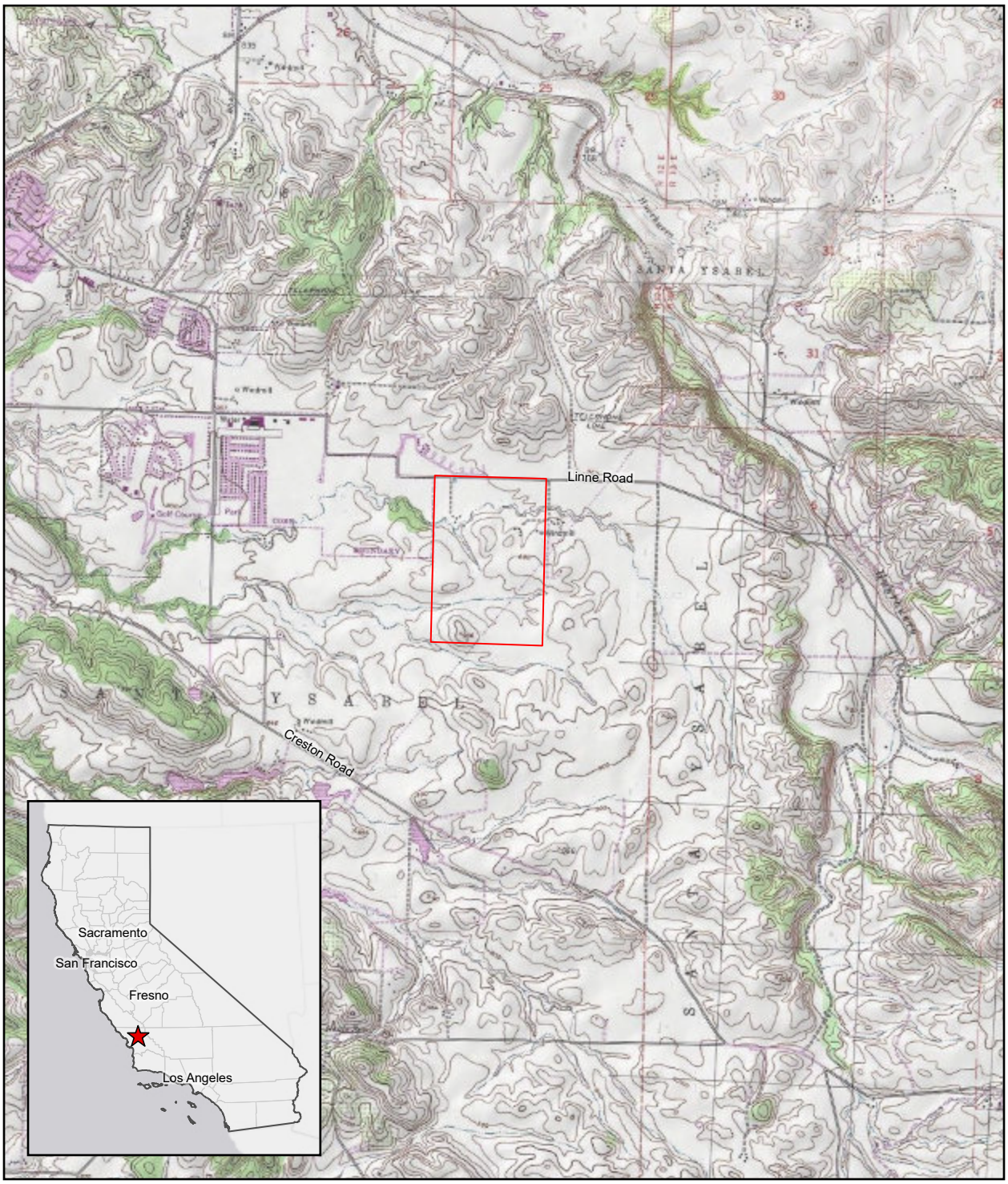
TABLE 6. JURISDICTIONAL AQUATIC FEATURE MEASUREMENTS.

Feature	Avg Appx OHWM Width (ft)	Avg Appx OHWM Depth (ft)	Length (ft)	Area (ac)	Area (sq ft)
Northern Drainage	Varies 2 to 30	Varies 0.5 to 4.5	4,122	0.99	43,012
Eastern Focused Study Area					
Northern Wetland	6	0.5 to 1	308	0.05	1974
Northern Non-Wetland	Varies 5 to 30	<0.5 to 1	81	0.07	3,107
Ditch Non-Wetland	2	1	259	0.03	1,108
Western Focused Study Area					
Fence Drainage	8	<0.5	189	0.03	1,517
Pasture Drainage	11	0.5	31	0.01	524
Pond Fringe and Mouth	13	0.5 to 1	117	0.05	2,347
Unvegetated Pool	15	1	47	0.02	738
Seaside Barley Drainage	9.5	1	152	0.03	1,449
Central Drainage	2	1	815	0.14	5,989
Central Pond Fringe	n/a	n/a	74	0.06	2,728
Central Pond (Unvegetated)	n/a	n/a	280	0.28	12,187
Southern Corner Wetland	n/a	n/a	119	0.05	2,075

This report is subject to verification by the USACE and RWQCB.

6 FIGURES

Figure 1. United States Geological Survey Topographic Map



Legend

Study Area

N

0 0.25 0.5 0.75 1 Mile

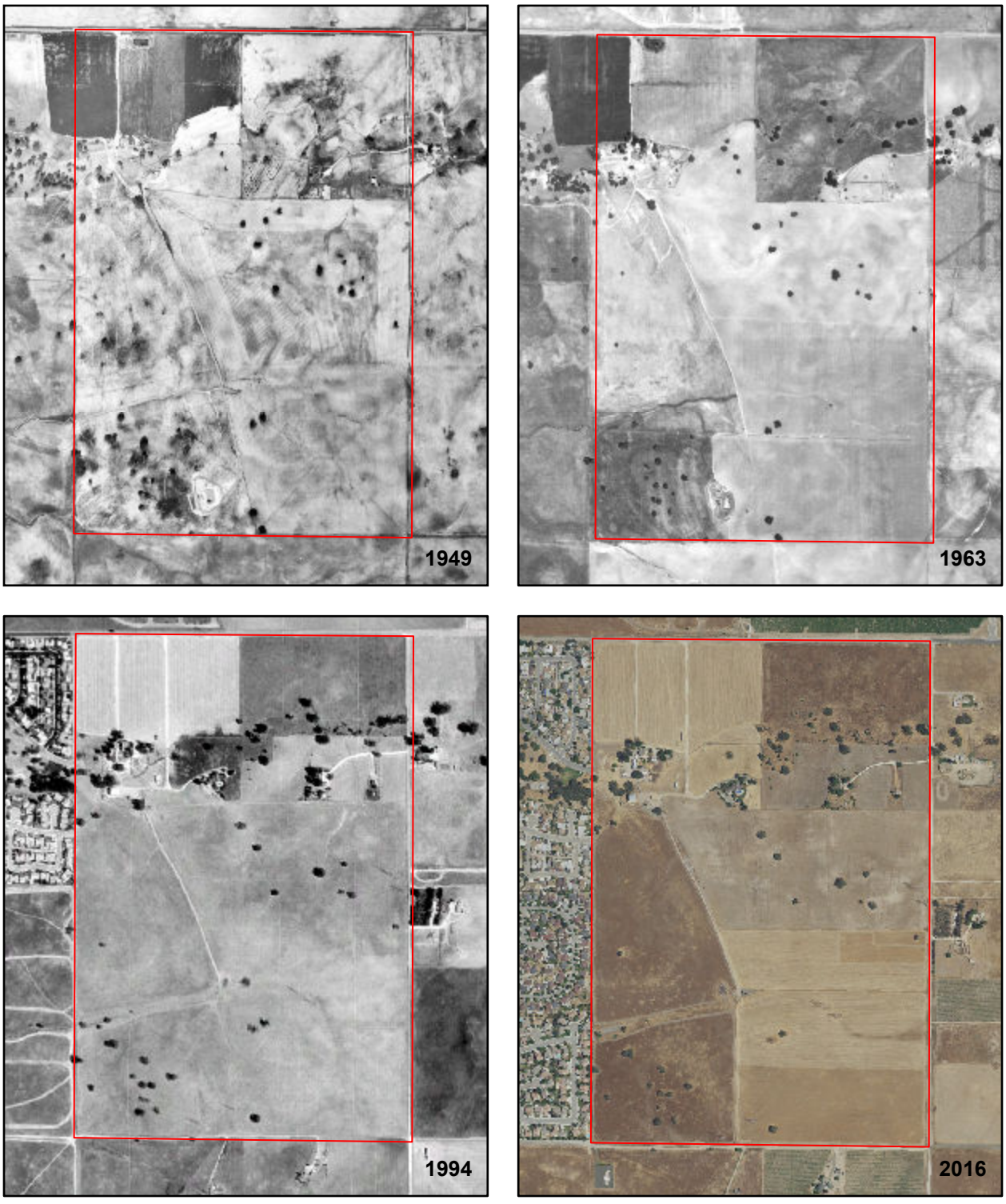
Olsen Ranch
Map Center: 120.63535°W 35.60441°N
Paso Robles, San Luis Obispo County

USGS Quadrangle: Templeton

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
April 05, 2019 09:44 AM by JBB

Figure 2. Aerial Imagery History



Legend

Study Area

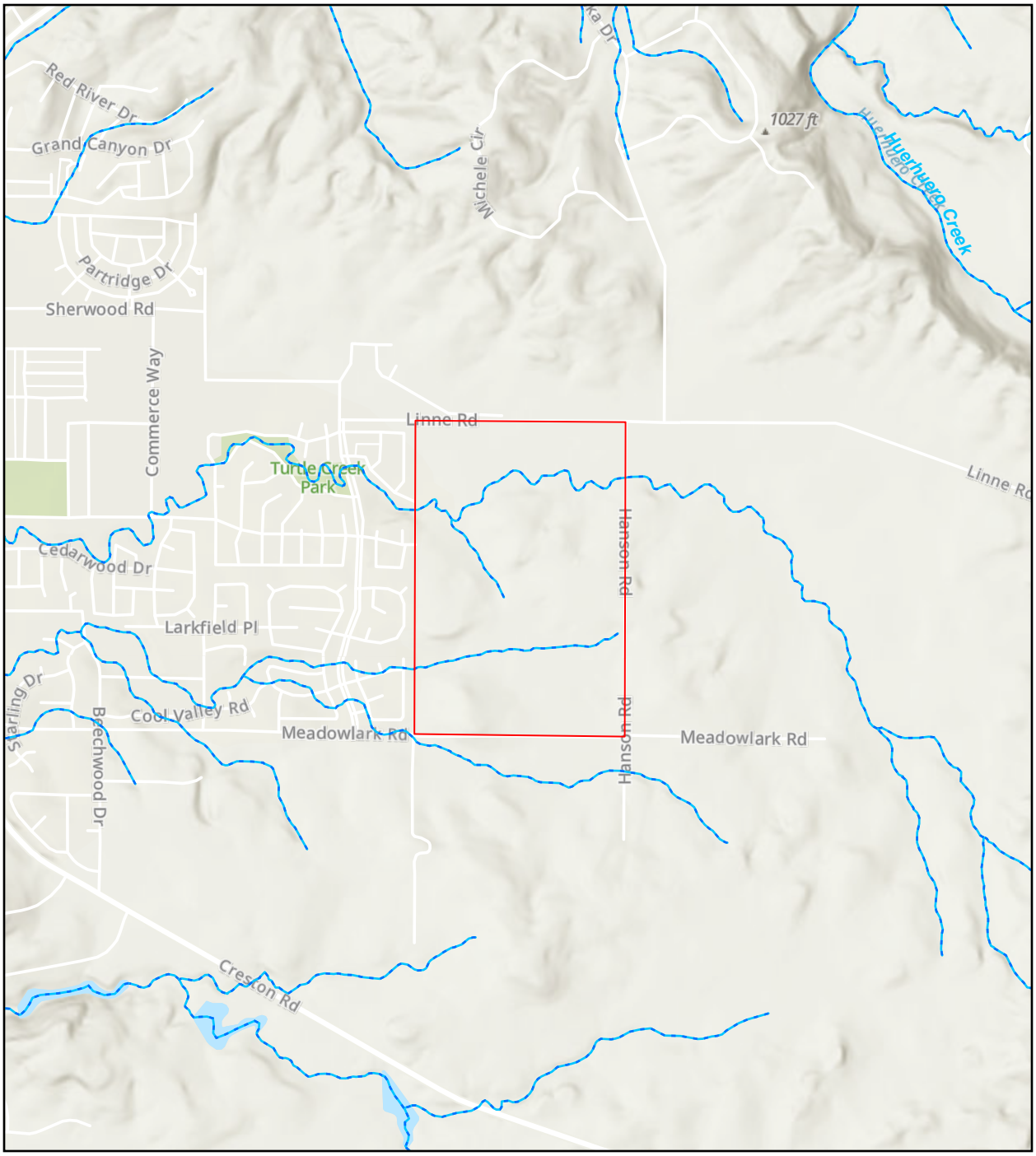
N

0 0.25 0.5 Miles

Olsen Ranch
Map Center: 120°38'12"W 35°36'22"N
Paso Robles, San Luis Obispo County

Data Source: USDA NAIP, UCSB MIL, Google Earth

Figure 3. National Hydrography Dataset



Legend

Study Area

Drainages

N

0 0.25 0.5 Miles

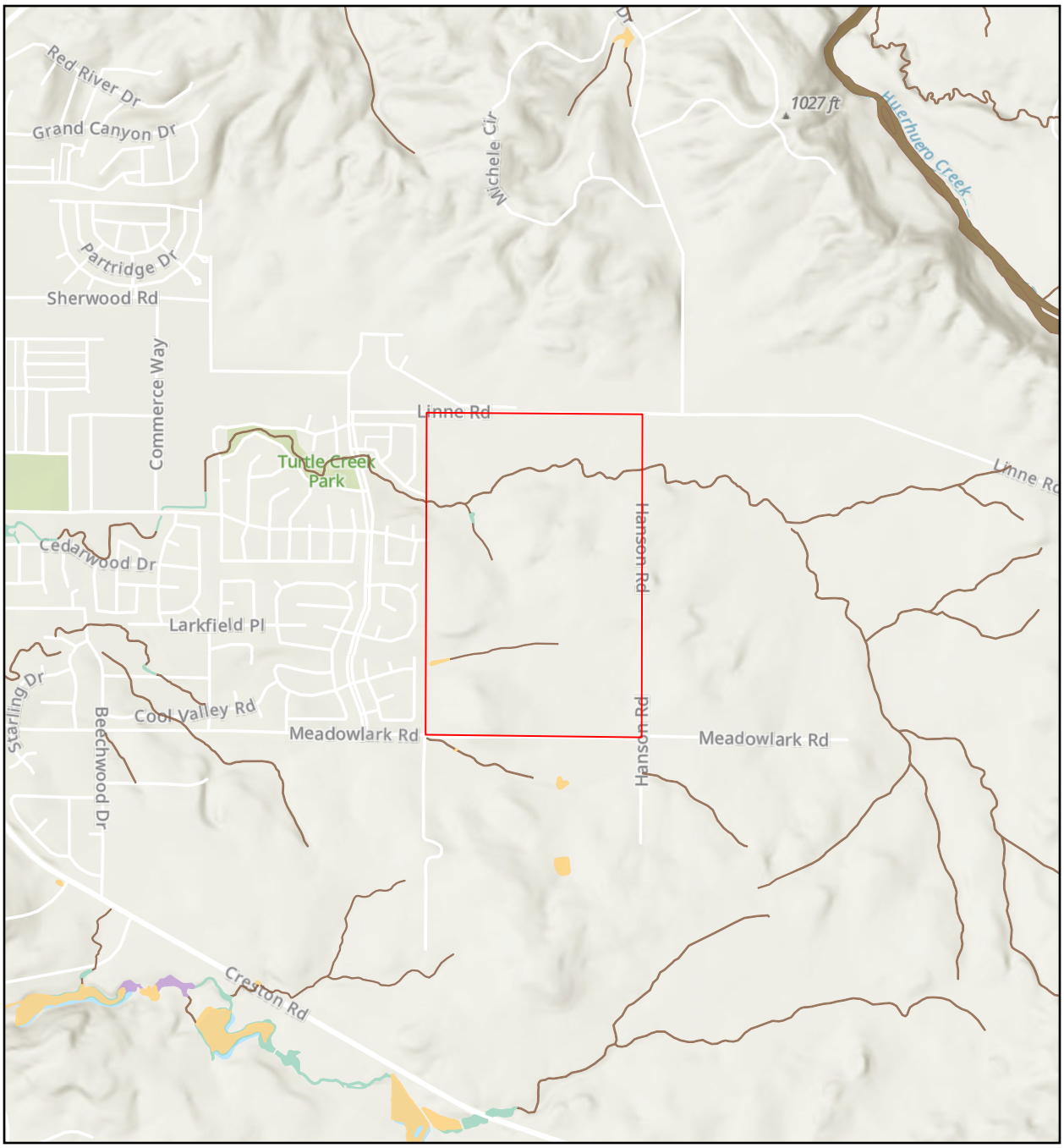
Olsen Ranch
Map Center: 120.63674°W 35.60648°N
Paso Robles, San Luis Obispo County

Data Source: United States Geological Survey

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
April 05, 2019 09:45 AM by JBB

Figure 4. National Wetland Inventory



Legend

- Study Area
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

N

0 0.25 0.5 Miles

Olsen Ranch
Map Center: 120.63674°W 35.60648°N
Paso Robles, San Luis Obispo County

Data Source: United States Fish and Wildlife Service

Figure 5. Hydrologic Unit Codes

Legend

- Study Area Location
- 1806000050405 (Mustard Creek - Salinas River)
- 1806000504 (Paso Robles Creek - Salinas River)
- 18060005 (Salinas)

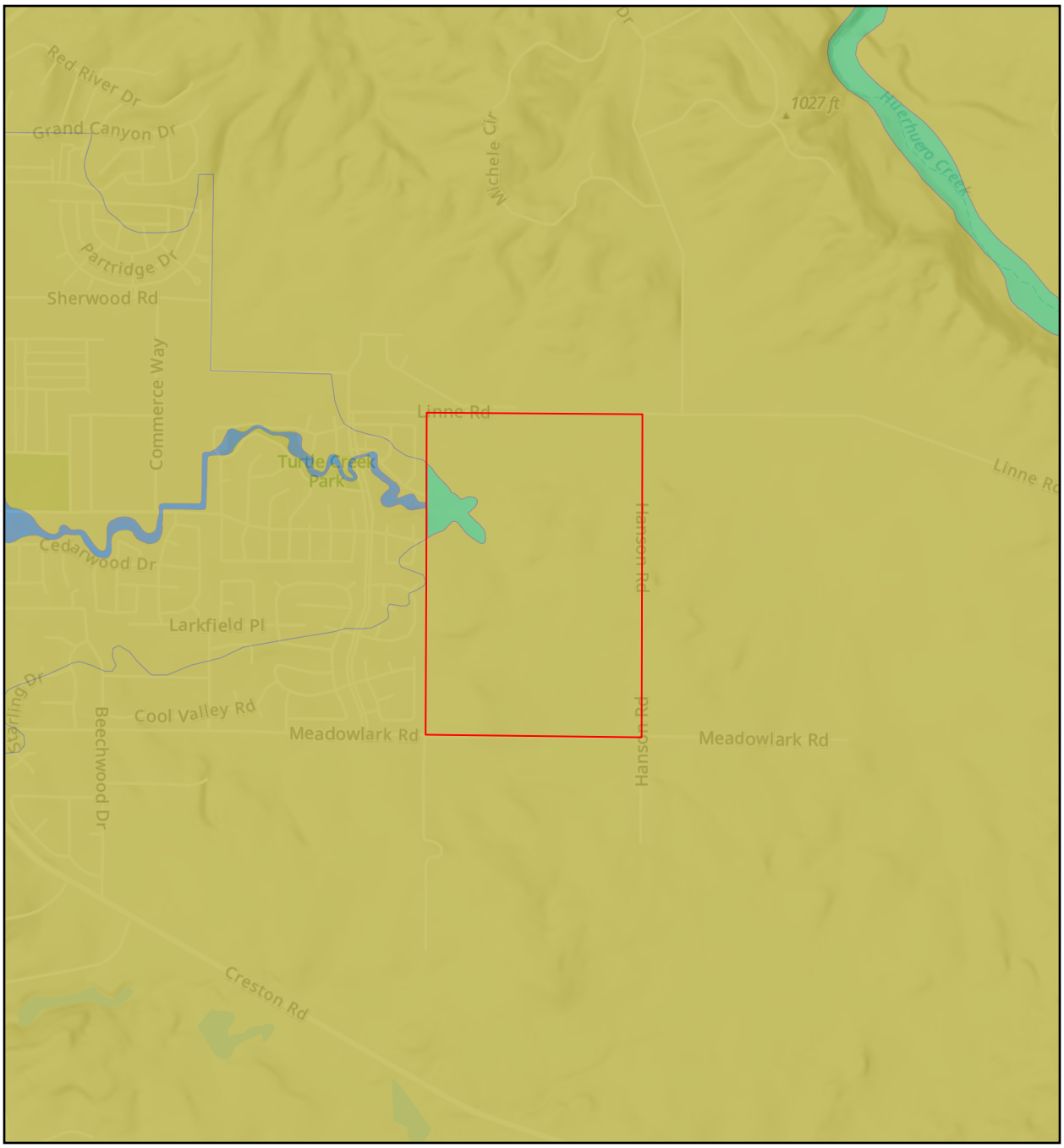
N

0 10 20 Miles

Olsen Ranch
Map Center: 121.03167°W 35.98504°N
Paso Robles, San Luis Obispo County

Data Source: United States Geological Survey

Figure 6. Federal Emergency Management Agency Flood Insurance Rate Map



Legend

Study Area

Flood Zone*

A

AE

X

N

0 0.25 0.5 Miles

*Flood Zone Definitions on Reverse Side

Olsen Ranch
Map Center: 120.63674°W 35.60648°N
Paso Robles, San Luis Obispo County

Data Source: United States Geological Survey

FEMA/FIRM ZONE CLASSIFICATION

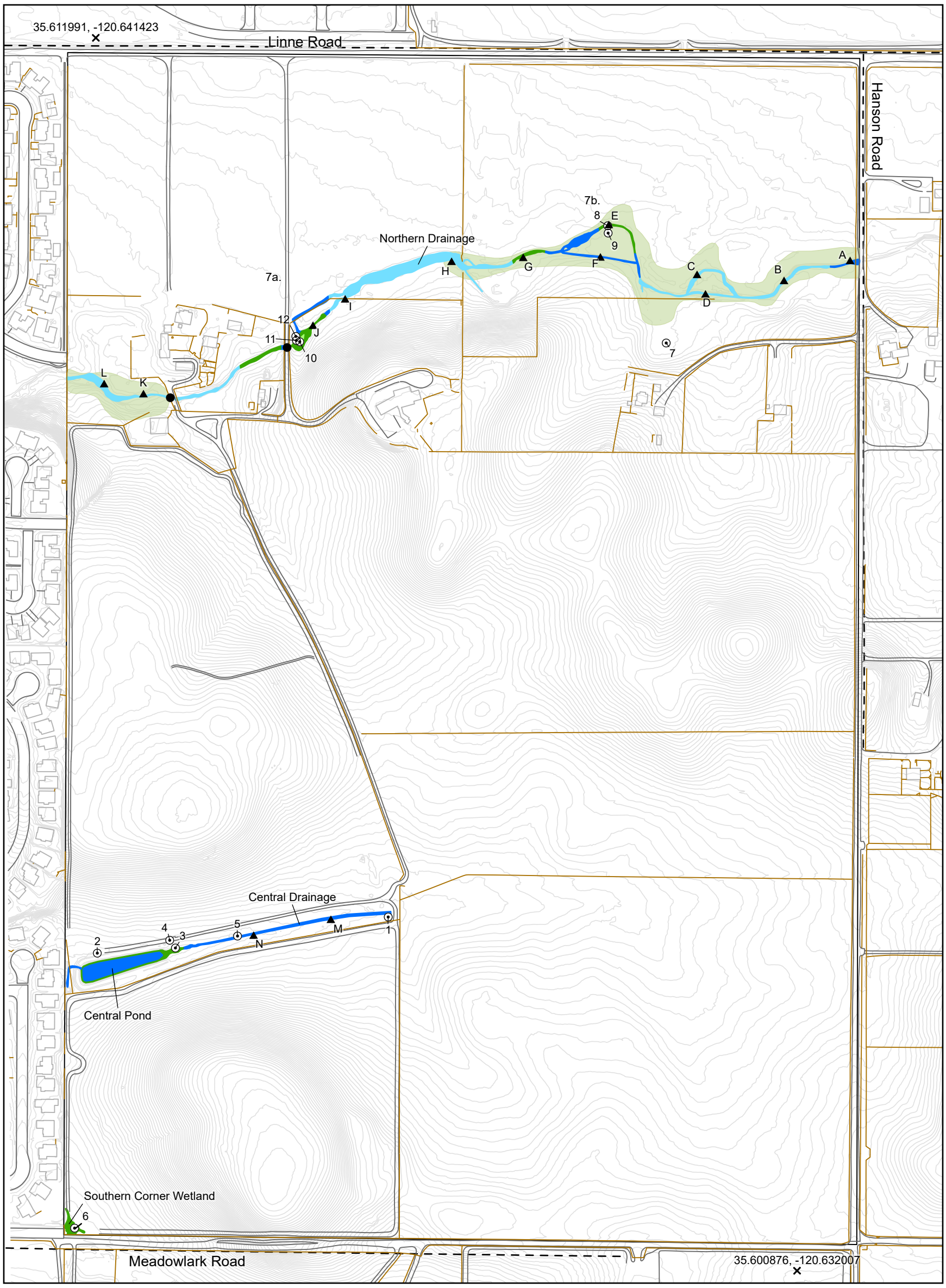
Moderate to Low Risk Areas

Zone	Description
B and X (shaded)	Area of moderate flood hazard, usually the area between the limits of the 100- year and 500-year floods. B Zones are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
C and X (unshaded)	Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level. Zone C may have ponding and local drainage problems that don't warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100- year flood.

High Risk Areas

Zone	Description
A	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
AE	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
A1-A30	These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format).
AH	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
AO	River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
AR	Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.
A99	Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.
V	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. No base flood elevations are shown within these zones.
VE, V1-30	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.

Figure 7. Potentially Jurisdictional Aquatic Features



Legend

- Study Area (254.1 acres)
- Site Control Point
- OHWM Assessment
- Sample Site
- Existing Crossing
- Fence
- Other Infrastructure
- Road
- Non-Wetland Waters of the U.S. and State (0.58 acres, 2,016 LF)
- State Wetland, Federal Non-Wetland (0.02 acre)
- Wetlands of the U.S. and State (0.24 acre)
- Non-Wetland Waters of the U.S. and State With Wetland Inclusions (0.68 acres, 2,578 LF)
- Riparian Habitat of the State (3.97 acres)

1 inch = 350 feet

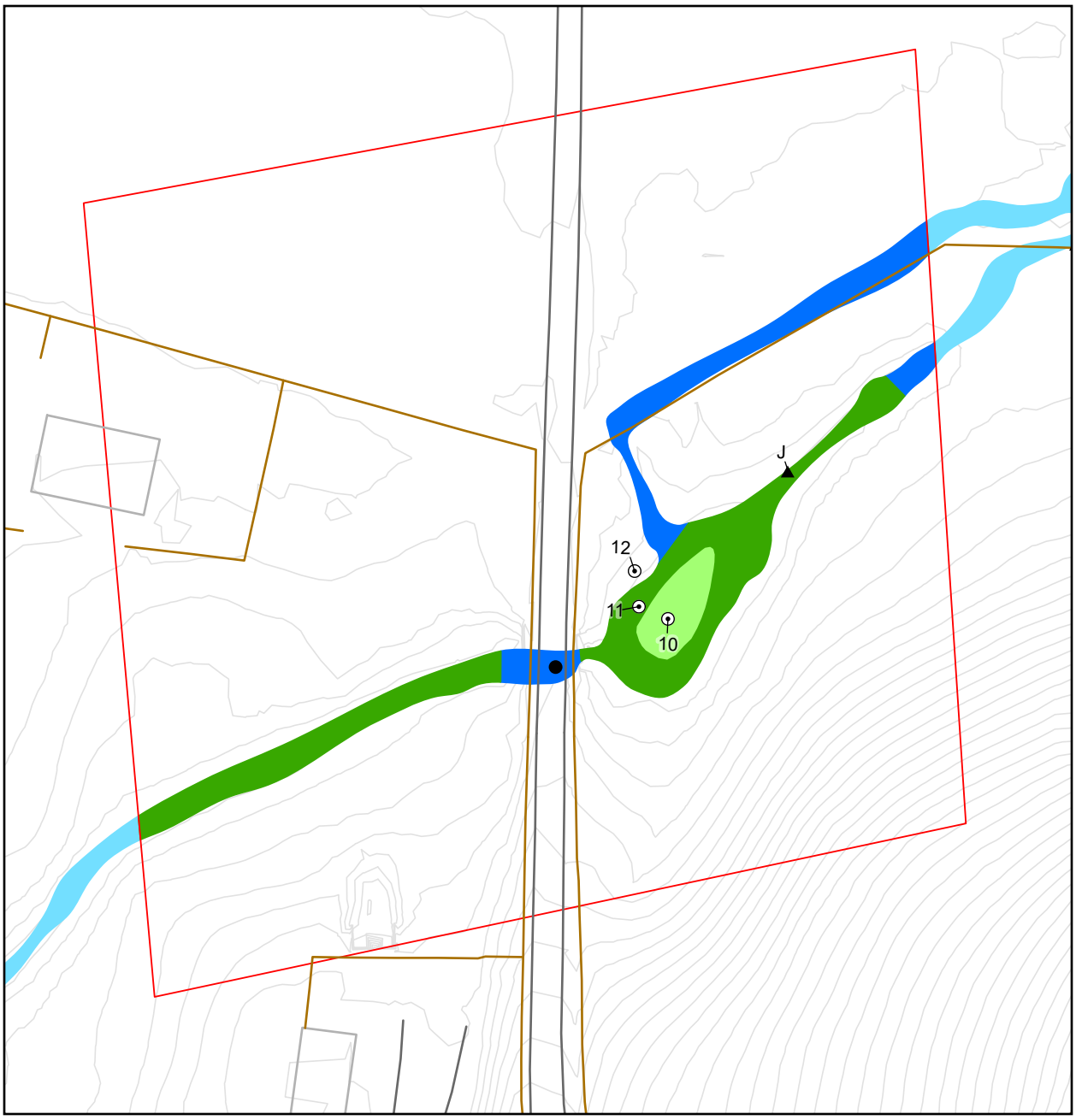
N

0 200 400 Feet

Olsen Ranch
Map Center: 120.63653°W 35.60651°N
Paso Robles, San Luis Obispo County

Contour Interval: 1-Foot
Site Investigator: Jacqueline Tillligkeit

Figure 7a. Potentially Jurisdictional Aquatic Features



Legend

- Focused Study Area
- Non-Wetland Waters of the U.S. and State
- Non-Wetland Waters of the U.S. and State With Wetland Inclusions
- State Wetland, Federal Non-Wetland
- Wetlands of the U.S. and State
- OHWM Assessment
- Sample Site
- Existing Crossing
- Fence
- Other Infrastructure
- Road

N

1 inch = 62.5 feet

0 25 50 Feet

Olsen Ranch
Map Center: 120.63868°W 35.60934°N
Paso Robles, San Luis Obispo County
Contour Interval: 1-Foot
Site Investigator: Jacqueline Tillligkeit

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
May 20, 2019 03:58 PM by JBB

Figure 7b. Potentially Jurisdictional Aquatic Features

Legend

- Focused Study Area
- Non-Wetland Waters of the U.S. and State
- Non-Wetland Waters of the U.S. and State With Wetland Inclusions
- Wetlands of the U.S. and State
- Riparian Habitat of the State
- ▲ OHWM Assessment
- ⊙ Sample Site
- Fence

1 inch = 50 feet

N

0 40 80 Feet

Olsen Ranch
Map Center: 120.63543°W 35.61019°N
Paso Robles, San Luis Obispo County
Contour Interval: 1-Foot
Site Investigator: Jacqueline Tillligkeit

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
May 22, 2019 11:35 AM by JBB

7 REFERENCES

33 CFR 320-332. Subsection of Regulations for Navigation and Navigable Waters. Text from Code of Federal Regulations. Available from: http://www.ecfr.gov. Accessed April 2019.

40 CFR 230. Section 404(b)(1) Guidelines for specification of disposal sites for dredged or fill material. Text from Code of Federal Regulations. Available at http://www.ecfr. gov. Accessed April 2019.

Cowardin, Lewis. M., Virgina Carter, Frances C. Golet, and Edward T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss. Technical Report Y-87-1. 207

Federal Emergency Management Agency (FEMA). 2012. National Flood Hazard Layer. FIRM Panel 06079C0607G. Available from http://msc.fema.gov.

National Oceanic and Atmospheric Administration (NOAA). 2019. USDA Field Office Climate Data. Paso Robles (046730). Product generated by ACIS – NOAA Regional Climate Centers. Accessed April 2019.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/ Accessed March 2019.

State Water Resources Control Board (SWRCB). 2019. State Wetland Definition and Procedures for Discharges of Dredged or Fill Materials to Waters of the State. [For Inclusion in the Water Quality Control Plans for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California]. Accessed April 2019. Available from https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/wrapp/df_procedures_clean.pdf.

U.S. Army Corps of Engineers. 2008a. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. Ed. R.W. Lichvar and S.M. McColley. ERDC/CRREL TR-08-12. Hanover, NH: U.S. Army Engineer Research and Development Center.

_____. 2008b. A Regional supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

_____. 2010. Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States. Ed. K.E. Curtis and R.W. Lichvar. ERDC/CRREL TN-10-1. Hanover, NH: U.S. Army Engineer Research and Development Center.

U.S. Department of Agriculture. Natural Resources Conservation District. 2010. Field Indicators of Hydric Soils in the United States. Version 7.0. G.W. Hurt and L.M. Vasilas (eds.). USDA, NRCS in cooperation with the National Technical Committee for Hydric Soils (NTCHS).

8 APPENDICES

- **Appendix A. USDA Custom Soils Report**
- **Appendix B. Wetland Determination Data Forms**

APPENDIX A. USDA CUSTOM SOILS REPORT

United States Department of Agriculture

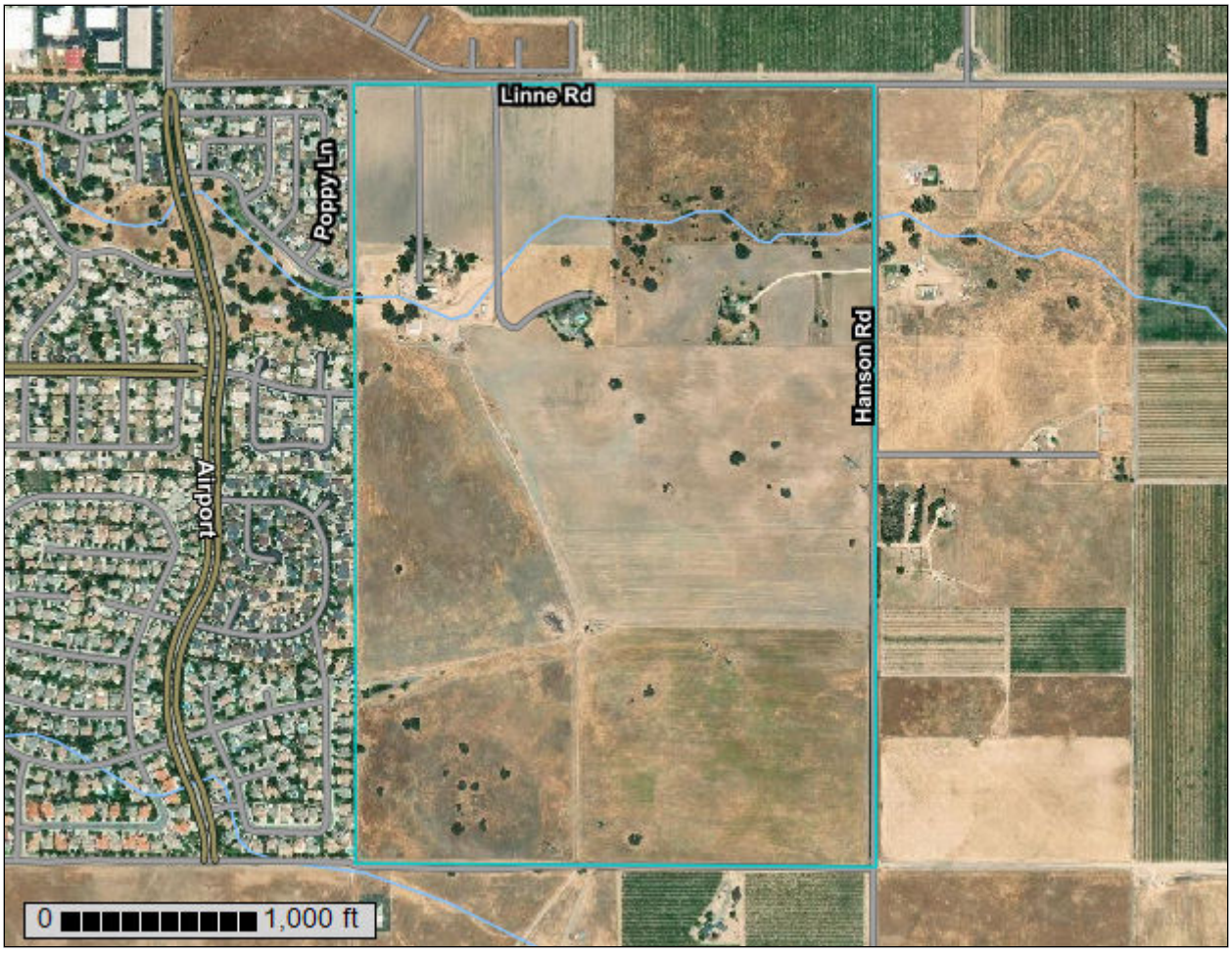
NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for San Luis Obispo County, California, Paso Robles Area

Olsen Ranch



April 17, 2019

Preface

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

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

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

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

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

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

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

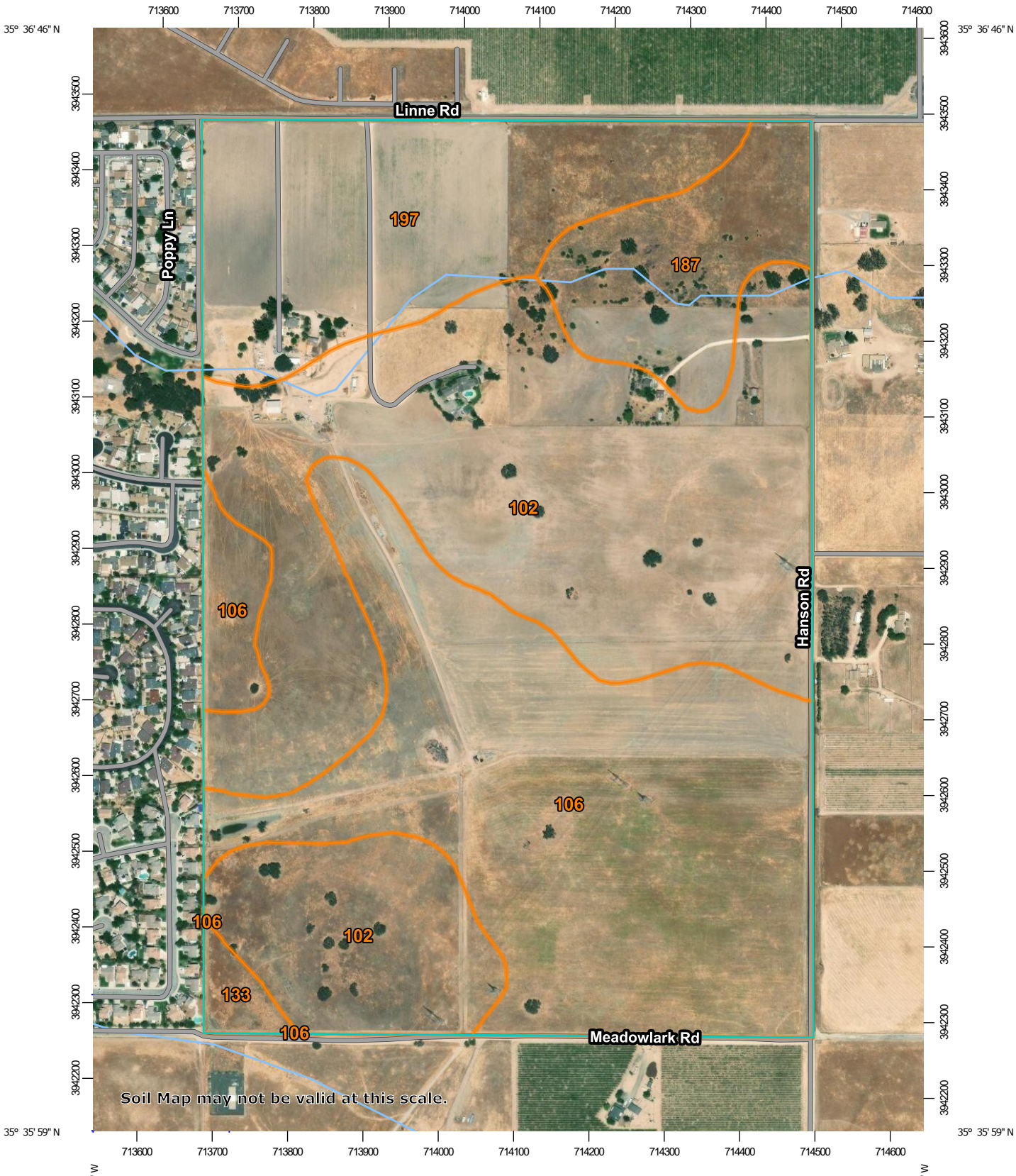
alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Soil Map

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

Custom Soil Resource Report
Soil Map



Map Scale: 1:7,110 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 100 200 400 600

Feet
0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: San Luis Obispo County, California, Paso Robles Area
Survey Area Data: Version 12, Sep 14, 2018

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

Date(s) aerial images were photographed: Apr 17, 2016—Oct 1, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
102	Arbuckle-Positas complex, 9 to 15 percent slopes	101.7	41.9%
106	Arbuckle-San Ysidro complex, 2 to 9 percent slopes	80.6	33.3%
133	Cropley clay, 2 to 9 percent slopes, MLRA 14	2.5	1.0%
187	Rincon clay loam, 0 to 2 percent slopes	18.7	7.7%
197	San Ysidro loam, 0 to 2 percent slopes, MLRA 14	38.9	16.1%
Totals for Area of Interest		**242.3**	**100.0%**

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

San Luis Obispo County, California, Paso Robles Area

102—Arbuckle-Positas complex, 9 to 15 percent slopes

Map Unit Setting

National map unit symbol: hbrk
Elevation: 600 to 1,500 feet
Mean annual precipitation: 12 to 20 inches
Mean annual air temperature: 60 to 61 degrees F
Frost-free period: 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Arbuckle and similar soils: 40 percent
Positas and similar soils: 30 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arbuckle

Setting

Landform: Terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium from mixed rock sources

Typical profile

H1 - 0 to 29 inches: fine sandy loam
H2 - 29 to 53 inches: sandy clay loam
H3 - 53 to 62 inches: stratified sandy loam to very gravelly sandy clay loam

Properties and qualities

Slope: 9 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: COARSE LOAMY (R014XE003CA)
Hydric soil rating: No

Description of Positas

Setting

Landform: Terraces

Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium from mixed rock sources

Typical profile

H1 - 0 to 10 inches: coarse sandy loam
H2 - 10 to 28 inches: clay
H3 - 28 to 40 inches: sandy clay loam
H4 - 40 to 60 inches: stratified sandy loam to gravelly clay loam

Properties and qualities

Slope: 9 to 15 percent
Depth to restrictive feature: 9 to 20 inches to abrupt textural change
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very low (about 1.2 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: COARSE LOAMY CLAYPAN (R014XE005CA)
Hydric soil rating: No

Minor Components

Greenfield, fine sandy loam

Percent of map unit: 10 percent
Hydric soil rating: No

Positas

Percent of map unit: 10 percent
Hydric soil rating: No

Cropley

Percent of map unit: 4 percent
Hydric soil rating: No

Hanford, fine sandy loam

Percent of map unit: 3 percent
Hydric soil rating: No

Unnamed, areas of 15 to 30 percent slope

Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed, areas of 15 to 30 percent slope

Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed, areas with cobbles on the surface

Percent of map unit: 1 percent
Hydric soil rating: No

106—Arbuckle-San Ysidro complex, 2 to 9 percent slopes

Map Unit Setting

National map unit symbol: hbrp
Elevation: 600 to 1,500 feet
Mean annual precipitation: 12 to 20 inches
Mean annual air temperature: 60 to 61 degrees F
Frost-free period: 200 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Arbuckle and similar soils: 40 percent
San ysidro and similar soils: 20 percent
Minor components: 39 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arbuckle

Setting

Landform: Terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium from mixed rock sources

Typical profile

H1 - 0 to 29 inches: fine sandy loam
H2 - 29 to 38 inches: sandy clay loam
H3 - 38 to 62 inches: stratified sandy loam to very gravelly sandy clay loam

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: COARSE LOAMY (R014XE003CA)
Hydric soil rating: No

Description of San Ysidro

Setting

Landform: Terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed rocks

Typical profile

H1 - 0 to 23 inches: loam
H2 - 23 to 38 inches: clay loam
H3 - 38 to 71 inches: sandy loam

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: 20 to 37 inches to abrupt textural change
Natural drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: LOAMY CLAYPAN (R014XE029CA)
Hydric soil rating: No

Minor Components

Greenfield, fine sandy loam

Percent of map unit: 14 percent
Hydric soil rating: No

Unnamed, similar to san ysidro soil

Percent of map unit: 10 percent
Hydric soil rating: No

Hanford, fine sandy loam

Percent of map unit: 5 percent
Hydric soil rating: No

Unnamed, simialr to arbuckle

Percent of map unit: 5 percent
Hydric soil rating: No

Cropley, clay

Percent of map unit: 2 percent

Hydric soil rating: No

Rincon, clay loam

Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent
Landform: Drainageways
Hydric soil rating: Yes

133—Cropley clay, 2 to 9 percent slopes, MLRA 14

Map Unit Setting

National map unit symbol: 2tb9j
Elevation: 0 to 2,340 feet
Mean annual precipitation: 12 to 28 inches
Mean annual air temperature: 56 to 60 degrees F
Frost-free period: 270 to 365 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Cropley and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cropley

Setting

Landform: Alluvial fans, terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Base slope, tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from calcareous shale

Typical profile

A1 - 0 to 11 inches: clay
Bss1 - 11 to 51 inches: clay
BCk1 - 51 to 79 inches: sandy clay loam

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Gypsum, maximum in profile: 2 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (1.0 to 3.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 5.0
Available water storage in profile: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: CLAYEY (R014XD001CA)
Hydric soil rating: No

Minor Components

Salinas

Percent of map unit: 3 percent
Landform: Terraces, alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Base slope, tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Los osos

Percent of map unit: 3 percent
Landform: Hillslopes, ridges
Landform position (two-dimensional): Backslope, shoulder, footslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, concave
Across-slope shape: Convex, concave
Hydric soil rating: No

Clear lake

Percent of map unit: 2 percent
Landform: Basin floors
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Capay

Percent of map unit: 2 percent
Landform: Flood plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Base slope, dip
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

187—Rincon clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hbv9
Elevation: 600 to 1,500 feet
Mean annual precipitation: 12 to 20 inches
Mean annual air temperature: 60 degrees F
Frost-free period: 200 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Rincon and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rincon

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile

H1 - 0 to 18 inches: clay loam
H2 - 18 to 64 inches: clay

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: C
Ecological site: FINE LOAMY BOTTOM (R014XE025CA)
Hydric soil rating: No

Minor Components

Unnamed
Percent of map unit: 10 percent
Hydric soil rating: No

San ysidro, loam
Percent of map unit: 5 percent
Hydric soil rating: No

Cropley, clay
Percent of map unit: 3 percent
Hydric soil rating: No

Lockwood, shaly loam
Percent of map unit: 2 percent
Hydric soil rating: No

197—San Ysidro loam, 0 to 2 percent slopes, MLRA 14

Map Unit Setting
National map unit symbol: 2tyys
Elevation: 70 to 1,990 feet
Mean annual precipitation: 13 to 22 inches
Mean annual air temperature: 59 to 61 degrees F
Frost-free period: 300 to 360 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
San ysidro and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of San Ysidro

Setting
Landform: Alluvial fans, valley floors, terraces
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile
A - 0 to 23 inches: loam
B1 - 23 to 38 inches: clay loam
Bt2 - 38 to 64 inches: loam

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: 16 to 24 inches to abrupt textural change

Natural drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: LOAMY CLAYPAN (R014XE029CA)
Hydric soil rating: No

Minor Components

Arbuckle

Percent of map unit: 6 percent
Hydric soil rating: No

Rincon

Percent of map unit: 2 percent
Hydric soil rating: No

Solano

Percent of map unit: 2 percent
Hydric soil rating: No

Pleasanton, loam

Percent of map unit: 2 percent
Hydric soil rating: No

Pescadero

Percent of map unit: 1 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Cropley, clay

Percent of map unit: 1 percent
Hydric soil rating: No

Palexeralfs

Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

APPENDIX B. WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Olsen City/County: Paso Robles Sampling Date: 3-12-19

Applicant/Owner: Olsen State: CA Sampling Point: 1

Investigator(s): J. Tillquist & J. Dart Section, Township, Range: T26S R13E

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

Subregion (LRR): LRRC Lat: 35.603992 Long: -120.637987 Datum: WGS84

Soil Map Unit Name: Arbuckle-San Ysidro complex NWI classification: riverine

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 ?	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:
Mexican rush a dominant species likely with upland grasses that are current unidentifiables. No sign of hydrology/hydric soil even with puddles everywhere after a wet month.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: n/a)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: n/a)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: ____)			
1. Juncus mexicanus	70	Y	FACW
2. Unidentifiable grasses	80+	Y	
3.			
4.			
5.			
6.			
7.			
8.			
	____ = Total Cover		
Woody Vine Stratum (Plot size: n/a)			
1.			
2.			
	____ = Total Cover		

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ____

Remarks:
adjacent last year growth includes medusahead, annual barley. Dominance uncertain

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/2	100					C	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): >17

Hydric Soil Present? Yes ____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? Yes ____ No ✓ Depth (inches): >12

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): >12

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Adjacent to drainage but at a higher elevation/contour

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Olsen City/County: Paso Robles Sampling Date: 3-26-19

Applicant/Owner: Olsen State: CA Sampling Point: 2

Investigator(s): Tilghman Andersen Section, Township, Range: T26S R13E

Landform (hillslope, terrace, etc.): berm Local relief (concave, convex, none): convex Slope (%): 30

Subregion (LRR): LRRC Lat: 35.603695 Long: -120.690767 Datum: WGS84

Soil Map Unit Name: Arbuckle-San Ysidro 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 ____, 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 ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ____ No ✓	

Remarks:
On northern aspect of northern berm of stockpond.
Higher than average rainfall year.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: n/a)	Absolute % Cover	Dominant Species?	Indicator Status
1. 0			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: n/a)			
1. 0			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1m x 1m)			
1. Juncus mexicanus	50	Y	FACW
2. Bromus diandrus	30	Y	UPL
3. Hordeum murinum	20	Y	UPL
4. Erodium sp	3	N	
5. Amsinckia sp	2	N	
6.			
7.			
8.			
	105 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1. 0			
2.			
	= Total Cover		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = n/a

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					SC	
2-12	10YR 3/2	20	10YR 5/4	75	RM	M	SC	(not depleted)
			10YR 5/8	5	C	PL		

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): >12"

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): >12

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): >12

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

Expected evidence of lateral flow through berm from pond water. No saturation or seeping.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Olsen City/County: Paso Robles Sampling Date: 3-26-19

Applicant/Owner: Olsen State: CA Sampling Point: 3

Investigator(s): Tilghkeit, Andersen Section, Township, Range: T26S R13E

Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): LRRC Lat: 35.603697 Long: -120.639886 Datum: WGS84

Soil Map Unit Name: Arbuckle-San Ysidro 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 ____, 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 ____

Hydric Soil Present? Yes ✓ No ____

Wetland Hydrology Present? Yes ✓ No ____

Is the Sampled Area within a Wetland? Yes ✓ No ____

Remarks:
Mouth of ag ponds. Above average rainfall

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: n/a)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: n/a)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 2'x2')			
1. Eleocharis macrostachya	100	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: n/a)			
1.			
2.			
	= Total Cover		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:
- Upland adjacent Erodium, Medusahead
- Eleocharis macrostachya not on 2016 NWPL but assumed FACW or OBL

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/1	85	10YR 4/6	15	RM	PL	C	depleted

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): >12

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 0.5

Water Table Present? Yes X No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Olsen City/County: Paso Robles Sampling Date: 3-26-19

Applicant/Owner: Olsen State: CA Sampling Point: 4

Investigator(s): Andersen, Tillgaard Section, Township, Range: T26S R13E

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

Subregion (LRR): LRRC Lat: 35.603767 Long: -120.639951 Datum: WGS84

Soil Map Unit Name: Arbuckle-San Ysidro 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 ____, 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 ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____ No ✓	
Wetland Hydrology Present?	Yes ____ No ✓	

Remarks:
Upland a Above average rainfall

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: n/a)	Absolute % Cover	Dominant Species?	Indicator Status
1. ∅			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: n/a)			
1. ∅			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m x 1m)			
1. Hordeum murinum	70	Y	FACU
2. Capsella bursa-pastoris	5	N	
3. Festuca myuros	5	N	
4. Plagiobothrys canescens	5	N	
5. Erodium sp.	5	N	
6. Poa annua	5	N	
7. Bromus madritensis ssp. rubens	5	N	
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: n/a)			
1. ∅			
2.			
	____ = Total Cover		

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR3/2	100					CL	
6-12	10YR3/2	97	10YR3/6	3			CL	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): > 12"

Hydric Soil Present? Yes ____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ____ No ✓

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

Remarks:

upland

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Olsen City/County: Paso Robles Sampling Date: 3-26-19

Applicant/Owner: Olsen State: CA Sampling Point: 5

Investigator(s): Tillgheit, Andersen Section, Township, Range: T26S R13E

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

Subregion (LRR): LRR C Lat: 35.603809 Long: -120.639186 Datum: WGS84

Soil Map Unit Name: Arbuckle-San Ysidro NWI classification: Riverine

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

Remarks:

in channel

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: n/a)			
1. Ø			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: n/a)			
1. Ø			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1mx1m)			
1. Bromus diandrus	30	Y	UPL
2. Hordeum murinum	30	Y	FACU
3. Juncus mexicanus	30	Y	FACW
4. Elymus caput-medusae	10	N	
5. Erodium sp.	5	N	
6. Capsella bursa-pastoris	5	N	
7.			
8.			
	110 = Total Cover		
Woody Vine Stratum (Plot size: n/a)			
1. Ø			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: 5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 3/2	100	-	-	-	-	SCL	sandy clay loam

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): >12

Hydric Soil Present? Yes ____ No X

Remarks:

Sandy soil - no hydric indicators

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): >12

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): >12

Wetland Hydrology Present? Yes X No ____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Olsen City/County: Paso Robles Sampling Date: 3-26-19

Applicant/Owner: Olsen State: CA Sampling Point: 6

Investigator(s): Andersen, Tillinghast Section, Township, Range: T26S R13E

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

Subregion (LRR): LRR C Lat: 35.60111 Long: -120.69107 Datum: WGS84

Soil Map Unit Name: Cropley clay 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 _____, 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:
Area may be historically disturbed through firebreaks.
Not recently disturbed.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: n/a)	Absolute % Cover	Dominant Species?	Indicator Status
1. Ø			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: n/a)			
1. Ø			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 1m x 1m)			
1. Juncus bufonius	36	Y	FACW
2. Poa annua	15	Y	FAC
3. Fester (?)	10	N	FAC
4. Lythys (?)	5	N	OBL
5.			
6.			
7.			
8.			
	60 = Total Cover		
Woody Vine Stratum (Plot size: n/a)			
1. Ø			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 35 % Cover of Biotic Crust 40

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 6

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/2						SCL	
5-12+	10YR 3/2	20	10YR 5/6	80			SL	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): >12

Hydric Soil Present? Yes ✓ No ___

Remarks:

Soil did not seem like a Cropley clay. Possibly sandier from deposition or disturbance.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? Yes ___ No ✓ Depth (inches): >12

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): >12

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: Olsen City/County: Paso Robles Sampling Date: 4-16-19

Applicant/Owner: Olsen State: CA Sampling Point: 7

Investigator(s): Althouse + Tilghman Section, Township, Range: T26S R13E

Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): LRR C Lat: 35.60429 Long: -120.639371 Datum: WGS84

Soil Map Unit Name: Rincon clay loam NWI classification: None

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

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

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

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

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

Remarks: North of house beside drainage. High rainfall year, Owner of house said septic system flooded up this year. Site may have been influenced by leach field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: n/a)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: n/a)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Calliandra	35	Y	OBL
2. Lythrum hyssopifolium	10	N	
3. Juncus bufonius	5	N	
4. Brassica spp.	10	N	
5. Calystegia spp.	5	N	
6. Epilobium spp.	1	N	
7. Tarweed	5	N	
8.			
	71 = Total Cover		
Woody Vine Stratum (Plot size: n/a)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust 50

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

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

__ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: 7

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	100					L	
6-12	10YR 2/1	97	10YR 5/2	2	D	M	SL	
			10YR 5/6	1	C	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.)

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): >12

Hydric Soil Present? Yes ___ No ✓

Remarks:

Likely not saturated annually

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): >12

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): >12

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

No evidence of inundation in historical aerials

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Olsen City/County: Paso Robles Sampling Date: 4-16-19

Applicant/Owner: Olsen State: CA Sampling Point: 8

Investigator(s): Althouse + Tillinghast Section, Township, Range: T26S R13E

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

Subregion (LRR): LRRC Lat: 35.610354 Long: -120.635038 Datum: WGS84

Soil Map Unit Name: Riacon clay loam NWI classification: Riverine

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

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

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

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Hydric Soil Present? Yes ✓ No ____

Wetland Hydrology Present? Yes ✓ No ____

Is the Sampled Area within a Wetland? Yes ✓ No ____

Remarks:
Eastern Noresco study area

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: n/a)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: n/a)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5'x8')			
1. Eleocharis macrostachya	50	Y	FACW
2. Festuca perennis	30	Y	FAC
3. Rumex conglomeratus	2		
4. Polypogon monspeliensis	2		
5.			
6.			
7.			
8.			
	84 = Total Cover		
Woody Vine Stratum (Plot size: n/a)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust 30

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:
Eleocharis > 50cm tall.
Festuca coming up in lower part of channel
Channel rounded in edge

SOIL

Sampling Point: 8

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-3	10YR 2/1	100					C	
3-12+	10YR 2/1	23	10YR 5/1	85	D		SC	
			10YR 3/4	2	D			

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): >12

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? Yes ___ No ✓ Depth (inches): >12

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): >12

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: Olsen City/County: Paso Robles Sampling Date: 4-16-19

Applicant/Owner: Olsen State: CA Sampling Point: 9

Investigator(s): Althouse + Tillinghast Section, Township, Range: T26S R13E

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): 3

Subregion (LRR): LRR C Lat: 35.610305 Long: -120.635096 Datum: WGS84

Soil Map Unit Name: Rincon clay loam NWI classification: none

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: n/a)			
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: n/a)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m)			
1. Vicia villosa	33	Y	UPL
2. Bromus diandrus	33	Y	UPL
3. Centaurea solstitialis	33	Y	UPL
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: n/a)			
1.			
2.			
	____ = Total Cover		

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: 9

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/2						L	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): >18

Hydric Soil Present? Yes ____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? Yes ____ No ✓ Depth (inches): >12

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): >12

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: Olsen City/County: Paso Robles Sampling Date: 4-16-19

Applicant/Owner: Olsen State: CA Sampling Point: 11

Investigator(s): A Howse & T. Tillquist Section, Township, Range: T26S R13E

Landform (hillslope, terrace, etc.): pool fringe Local relief (concave, convex, none): concave Slope (%): 3

Subregion (LRR): C RR C Lat: 35.609295 Long: -120.638594 Datum: WGS84

Soil Map Unit Name: Arbuckle-Positas complex NWI classification: riverine

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

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

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

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

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

Remarks: High rainfall year, elevated culvert creating pond. Location is fringe of pond

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: n/a)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: n/a)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Lythrum hyssopifolia	5	Y	OBL
2. Cynodon dactylon	5	Y	FACU
3. Polygonum aviculare ssp.	5	Y	FAC
4. Juncus bufonius	5	Y	FACW
5. Gnaphalium sp.	+		
6.			
7.			
8.			
	20 = Total Cover		
Woody Vine Stratum (Plot size: n/a)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 20 % Cover of Biotic Crust 60

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

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

__ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: 11

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 2/1	100					L	
5-12+	10YR 2/1	20	10YR 5/2	80	D	M	S	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): 7/12+

Hydric Soil Present? Yes ✓ No ___

Remarks:

Stripes of organic material through depleted sand

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): ___

Water Table Present? Yes ___ No ___ Depth (inches): ___

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Olsen City/County: Paso Robles Sampling Date: 4-16-19

Applicant/Owner: Olsen State: CA Sampling Point: 10

Investigator(s): Allhouse & Tillquist Section, Township, Range: T26S R13E

Landform (hillslope, terrace, etc.): pool Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): LRR C Lat: 35.609339 Long: -120.638511 Datum: WGS84

Soil Map Unit Name: Arbuckle-Positas complex NWI classification: Riverine

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

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

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

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

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

Remarks:
Pool in drainage ditch culvert

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:
Unvegetated

SOIL

Sampling Point: 10

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Ponded - detailed profile description not completed due to the presence of animal waste. Redox depletions present

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): ~3

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

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

Ponded since prior to 3/12/19

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Olsen City/County: Paso Robles Sampling Date: 4-16-19

Applicant/Owner: Olsen State: CA Sampling Point: 12

Investigator(s): Althouse + Tillquist Section, Township, Range: T26S R13E

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave Slope (%): 10

Subregion (LRR): LRR C Lat: 35.609333 Long: -120.638551 Datum: WGS84

Soil Map Unit Name: Arbuckle-Positas NWI classification: none

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

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

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

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

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

Remarks:
bank of drain near fence

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: n/a)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: n/a)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: m^2)			
1. Hordeum marinum	100	Y	OPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: n/a)			
1.			
2.			
	_____ = Total Cover		

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 12

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 3/2	100					L	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): >12

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? Yes ___ No ✓ Depth (inches): >12

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): >12

Wetland Hydrology Present? Yes ___ No ✓

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

Remarks: