

# Aquatic Resources Delineation Report Adobe Road and Main Street Intersection Improvement Project

# Penngrove, Sonoma County, California

August 2023

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#### 1.0 INTRODUCTION AND BACKGROUND

Sequoia Ecological Consulting, Inc. (Sequoia) conducted a delineation of aquatic resources potentially regulated under Section 404 of the federal Clean Water Act (CWA) and the State Water Resources Control Board (SWRCB) State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (2019) for the proposed Adobe Road and Main Street Intersection Improvements Project (Project) site, located in Penngrove, Sonoma County, California (Assessor's Parcel Number 059-300-003) (Figures 1 and 2). The proposed project involves road widening, restriping, and walking path additions and improvements at the intersection of Adobe Road and Main Street.

The "study area" for the aquatic resource delineation covers approximately 2.7 acres and includes all areas of the proposed project (Figure 2). Sequoia's delineation of "waters of the United States" followed the U.S. Army Corps of Engineers' (USACE) Wetlands Delineation Manual and 2008 Regional Supplement for the Arid West Region (1987). Sequoia understands that only USACE and/or the Regional Water Quality Control Board/State Water Resource Control Board (SWCRB) can determine the actual limits of their jurisdiction pursuant to Section 404 and Section 401 of the CWA, respectively.

# 1.1 Location and Setting

The project site is located at the intersection of Adobe Road and Main Street in Penngrove—a censusdesignated place—in Sonoma County, California (Figure 1). The project site is bordered by Penngrove Elementary School to the northwest, residential development to the northeast and southwest, and commercial development to the southeast (Figure 2). The project site is comprised of ruderal/developed, non-native annual grassland, and riparian woodland communities.



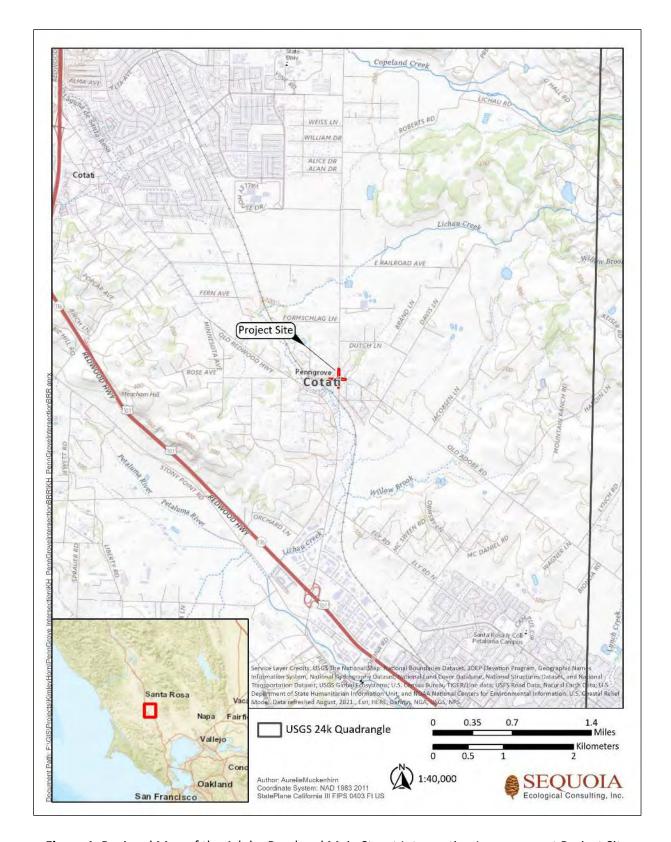


Figure 1. Regional Map of the Adobe Road and Main Street Intersection Improvement Project Site



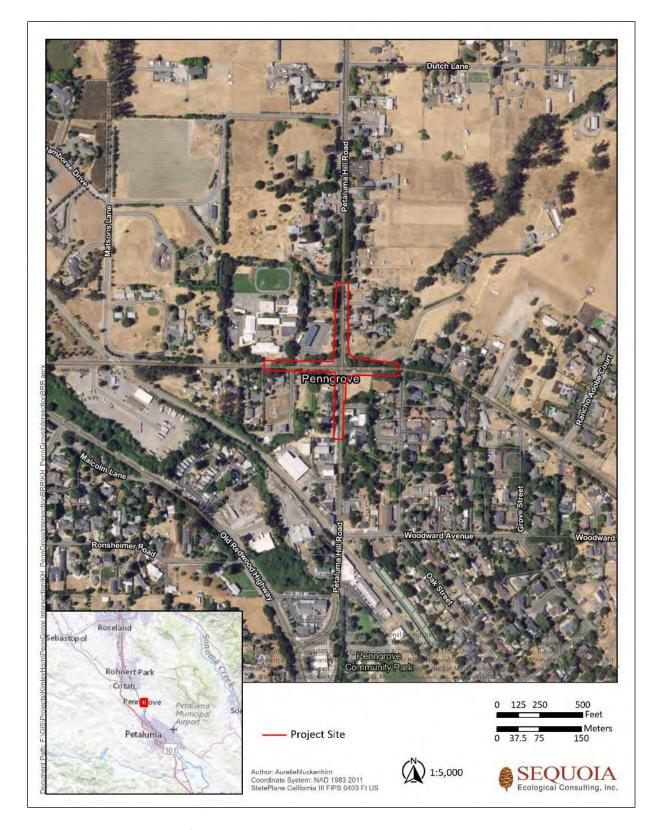


Figure 2. Location Map of the Adobe Road and Main Street Intersection Improvement Project Site



#### **METHODS** 2.0

Prior to the field delineation, available reference materials were reviewed, including the Natural Resource Conservation Service (NRCS) Web Soil Survey (NRCS 2022a; Figure 3), hydric soils lists (NRCS 2022b), the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI; Figure 4; USFWS 2022), the U.S. Geological Survey (USGS) National Hydrography Dataset (NHD; USGS 2022), geologic data (California Geological Survey 2010), topographic maps, and aerial imagery (Google Earth 2022). A routine-level aquatic resource delineation was conducted on the project site on May 26, 2022.

The project site was field-checked for indicators of hydrophytic vegetation, wetland hydrology, and hydric soils. During the aquatic resource delineation, eight sample points were taken on the project site and recorded on USACE data forms provided in the Regional Supplement to the U.S. Army Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (Arid West Manual; USACE 2008a). A delineation map of the study area is provided in Appendix A and USACE data forms are included in Appendix B.

This aquatic resource delineation was conducted in accordance with the Arid West Manual and the U.S. Army Corps of Engineers Wetlands Delineation Manual (USACE 2008a; Environmental Laboratory 1987). Based on the presence or absence of field indicators—including vegetation, hydrology, and soils—the limits of potential jurisdictional wetlands and waters of the United States were determined. Potential jurisdictional aquatic features were mapped with a Trimble GPS unit (sub-meter accuracy) and overlain on a digital orthophoto using ArcGIS mapping software (Appendix A).

# 2.1 Hydrophytic Vegetation

Hydrophytic vegetation is defined as "the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present" (Environmental Laboratory 1987). To determine if hydrophytic vegetation is present, each plant species occurring in a sample plot is identified and assigned a wetland indicator status (Table 1) based on the *National Wetland Plant List* (USACE 2020).

Table 1. Wetland Plant Indicator Status

Wetland Indicator Status	Definition
OBL – Obligate	Occur over 99% of the time in wetlands
FACW – Facultative Wetland	Occur 33 to 67% of the time in wetlands
FAC – Facultative	Occur 50% of the time in wetlands
FACU – Facultative Upland	Occur 1 to 33% of the time in wetlands
UPL – Upland	Occur less than 1% of the time in wetlands
NI – Non-Indicator	No classification given due to lack of information



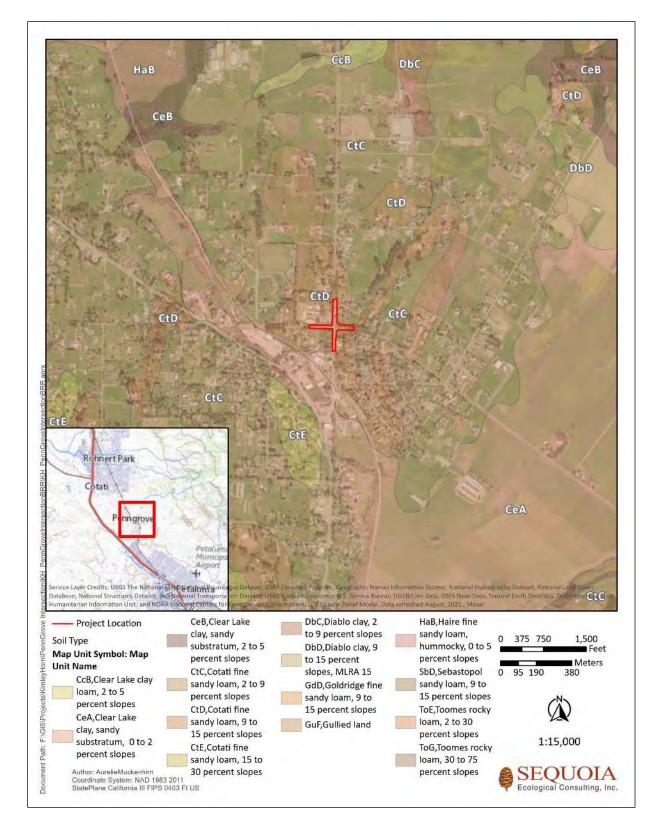


Figure 3. Soil Types on the Adobe Road and Main Street Intersection Improvement Project Site



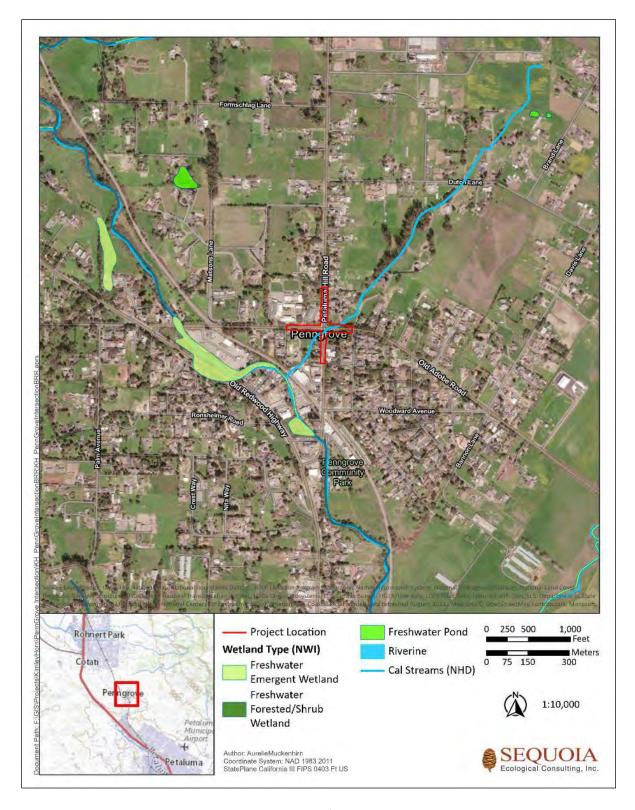


Figure 4. USFWS National Wetlands Inventory Map for the Adobe Road and Main Street Intersection Improvement Project Site



Plants that have an indicator status of OBL, FACW, and FAC are considered to be typically adapted for life in anaerobic soils conditions and qualify as hydrophytic species for Section 404 of the CWA delineations. If more than 50 percent of the dominant plant species present in a sample plot are classified as hydrophytic species (e.g., FAC or wetter), the area has met the hydrophytic vegetation criterion. Dominant species are selected using the "50/20 rule" (USACE 2008a).

# 2.2 Wetland Hydrology

Wetland hydrology "encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season sufficient to create anaerobic and reducing conditions" (Environmental Laboratory 1987). The jurisdictional wetland hydrology criterion is satisfied if the area supports "14 or more consecutive days of flooding or ponding, or a water table 12 in. (30 cm) or less below the soil surface, during the growing season at a minimum frequency of 5 years in 10 (50 percent or higher probability)" (USACE 2008a). If recorded data—such as stream, tidal gauge, or hydrologic monitoring—are lacking, field indicators are used to determine the presence of wetland hydrology. Field indicators include primary indicators, such as observed inundation or saturation, biotic crust, and oxidized rhizospheres on living roots; or secondary indicators, such as drainage patterns and FAC-neutral test. The presence of one primary indicator, or two secondary indicators, is sufficient to conclude that an area has wetland hydrology (USACE 2008a).

# 2.3 Hydric Soils

Hydric soils are defined by the NRCS as "soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil" (Federal Register 1994). Nearly all hydric soils exhibit characteristic morphologies that result from repeated periods of saturation or inundation, or both, for more than a few days. Characteristic hydric soil indicators observable in the field include: histic epipedons; sulfidic material; aquic or preaquic moisture regime; reducing conditions; iron and manganese concretions; and soil colors (gleyed soils, soils with mottles and/or low chroma matrix). Color designations are determined by comparing a soil sample with a standard Munsell soil color chart (Munsell 2012). The presence of any one of the above listed field indicators is considered sufficient to meet the hydric soil criterion.

## 2.4 Other Waters of the U.S.

In addition to potential jurisdictional wetlands, this study evaluated the potential presence of any "Waters of the U.S." other than wetlands potentially subject to jurisdiction under Section 404 of the CWA. "Other Waters" are seasonal or perennial water bodies, such as lakes, stream channels, drainages, ponds, and other surface water features that exhibit an Ordinary High Water Mark (OHWM) but lack positive indicators of one or more of the three wetland parameters (hydrophytic vegetation, wetland hydrology, hydric soils) (Federal Register 1986). In non-tidal "other waters," USACE jurisdiction extends to the OHWM, defined as "that line on the shore established by the fluctuations of water and indicated



by physical characteristics such as clear, natural line impressions on the bank, shelving, changes in the characteristics of the soil, destruction of terrestrial vegetation, the presence of litter and debris" (Federal Register 1986; USACE 2005; 2008b).

## 2.5 Waters of the State

All potential aquatic resources observed on the study area were delineated during the field visit. Areas that may be exempt from USACE jurisdiction (discussed in Section 5.1) but may be included as waters of the state under the SWRCB's State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (which took effect May 28, 2020) or the Porter-Cologne Water Quality Control Act, were identified during the delineation. Final regulatory jurisdiction would need to be determined by the applicable agencies.

#### **ENVIRONMENTAL SETTING** 3.0

# 3.1 Topography and Hydrology

The project site is predominately flat and slightly slopes from northeast to southwest. Elevation on the project site ranges from 84 to 120 feet above mean sea level. Two (2) aquatic features occur on or immediately adjacent to the project site. These features consist of a roadside ditch along Adobe Road west of the intersection with Main Street and an unnamed intermittent drainage that flows northeast to southwest beneath Adobe Road and Main Street.

The climate of the project site is Mediterranean (i.e., dry-summer subtropical) with warm, dry summers with average highs in the 70s and 80s Fahrenheit, and cool, wet winters with average highs in the 50s and 60s and average lows in the 30s and 40s Fahrenheit. The average annual precipitation is approximately 31.43 inches, falling primarily between November and March (U.S. Climate Data 2022).

# 3.2 Soils

One soil type occurs within the project site, as mapped by the NRCS (Figure 4); this mapped soil unit is Cotati fine sandy loam, 9 to 15 percent slopes (NRCS 2022a). The Cotati series consists of moderately well-drained fine sandy loams that have a clay subsoil. They formed in weakly consolidated sand, gravel, and clay of old marine-terrace material and weathered siltstone and shale with occasional strata of weakly consolidated conglomerate. These soils are on undulating to hilly terraces and occur mainly in the south-central part of the county between Petaluma and Cotati. Cotati fine sandy loam, 9 to 15 percent slopes, has rapid runoff, high hazard of erosion, and is used mainly for grazing. This soil is not listed as a hydric soil (NRCS 2022b).

Test pits dug by Sequoia at each sample site confirmed that soils were consistent with the soil description provided by the NRCS. Soils observed in pits on the study area are shown in Appendix A and described on USACE data forms in Appendix B.



# 3.3 Project Site Vegetation

On May 26, 2022, Sequoia staff conducted a survey of the project site and characterized plant communities and vegetation present. Nomenclature used for plant names follows The Jepson Manual Second Edition (Baldwin 2012). Wetland indicator species (i.e., species that can tolerate soil saturation during grow period and/or prolonged inundation) were taken into consideration when classifying vegetation types.

Three plant communities occur on the project site (Sawyer and Keeler-Wolf 1995) and are further described below. Representative photographs of the project site are included in Appendix C and a list of all plant species observed during the surveys are provided in Appendix D.

# 3.3.1 Ruderal/Developed

The project site is dominated by ruderal herbaceous vegetation along the shoulders of Adobe Road and Main Street. Ruderal communities are groupings of plants that thrive in areas disturbed by human activity. Ruderal vegetation is adapted to high levels of disturbance and endures for long periods of time in areas that have continual disturbance. Dominant grass and forb species observed within the ruderal community on the project site include wild oat (Avena fatua), English ivy (Hedera helix), hemlock (Conium maculatum), and Himalayan blackberry (Rubus armeniacus). Additionally, trees including blackwood acacia (Acacia melanoxylon), plum (Prunus sp.), and elm (Ulmus sp.) are present within this habitat.

### 3.3.2 Non-Native Annual Grassland

Non-native annual grassland occurs immediately southeast of the intersection of Adobe Road and Main Street. Non-native annual grassland communities are comprised primarily of plant species that mature in spring and early summer, before spreading seed and dying in late summer and fall. Dominant grass and forb species observed within the non-native annual grassland community on the project site include wild oat, ripgut brome (Bromus diandrus), foxtail brome (Bromus madritensis), and annual bluegrass (Poa annua). A few oak trees, including black oak (Quercus kelloggii) and coast live oak (Quercus agrifolia), occur along within the grasslands on the project site.

## 3.3.3 Riparian Woodland

Riparian woodland is present along the unnamed intermittent drainage which runs northeast to southwest and beneath the intersection of Adobe Road and Main Street. Riparian woodland is dominated by a canopy of red willow (Salix laevigata) and an understory of Himalayan blackberry, fathen (Atriplex prostrata), and curly dock (Rumex crispus).



#### **RESULTS** 4.0

Aquatic resources delineated on the project site during the May 26, 2022 delineation fall into two categories: (1) Intermittent Drainage and (2) Roadside Ditch. Intermittent Drainages are indicated by intermittent flow during a typical year. Roadside Ditches are features constructed in uplands for roadside drainage that do not occur in a wetland or replace a natural tributary.

Where observable in the field, culverts were mapped to help determine the hydrologic connections between aquatic resources and observed or presumed downstream waters which discharge into a TNW. Aquatic resources identified during the May 26, 2022 delineation are discussed below and are listed in Table 2. A map of aquatic resources is included in Appendix A and delineation data forms are included in Appendix B. Representative photographs of aquatic resources and delineation sample points are included in Appendix C. A list of plant species observed on the project site, and their wetland indicator status, is included in Appendix D.

Table 2. Potential Aquatic Resources Delineated on the Project Site

Feature Name	Area (ft²)	Length (ft)	Acre(s)	Avg Width (ft)	Sample Point	Bed/Bank /OHWM	Hydrology/ Observed Outlet	Lat/Long	Potential Agency Jurisdiction	
	Intermittent Drainage									
ID-01					3A/3B	Yes	Intermittent /Channel and Culvert	38.299878, - 122.666210	USACE /State	
	Roadside Ditch									
RD-01					1A/1B	Marginal	Ephemeral/ Drain Inlet	38.299852, - 122.667983	State (?)	

# 4.1 Intermittent Drainage

One Intermittent Drainage was delineated on the project site (Table 2; Appendices A and B). The Drainage was considered intermittent because: (1) the channel had pooled and flowing water that appeared to be the result of seasonal rains and not perennial hydrology; (2) the channel had significant OHWM indicators such as natural line impressed on the bank, shelving, changes in soil character, presence of litter and debris, and matted and bent vegetation to indicate seasonal flow; and (3) background sources (the NWI, NHD, USGS topographic maps, and other sources) indicated seasonal flow. A sample point (Sample Point 3A; Appendices A and B) taken within the center of the drainage contained a dominance of hydrophytic vegetation, namely fat-hen (FACW). Additionally, the sample point contained primary (surface soil crack [B6], biotic crusts [B12], and oxidized rhizospheres along living roots [C3]) indicators of wetland hydrology and positive soil indications (depleted matrix [F3]). The paired upland sample point (Sample Point 3B; Appendices A and B) was taken in the adjacent low terrace east of the creek channel and lacked all three wetland criteria.



## 4.2 Roadside Ditch

One Roadside Ditch was delineated on the western edge of the project site, running along the north side of Adobe Road near Penngrove Elementary School (Table 2; Appendices A and B). This Roadside Ditch is an area of low elevation along the roadside that collects and pools runoff, and during high flows runs through a culvert beneath a driveway immediately to the east and into a drain inlet that likely connects to the unnamed intermittent drainage beneath the intersection of Adobe Road and Main Street. The Roadside Ditch was saturated with a dominance of hydrophytic vegetation, namely broadleaf cattail (Typha latifolia; OBL) and met all three wetland indicators (Sample Point 1A). A broken water line upslope of the feature is presumed to be the hydrologic source of this aquatic feature. Due to water being present as a temporal result of an artificial source, it is presumed that this location is an artificially created wetland and is therefore not a jurisdictional feature.

#### 5.0 AGENCY JURISDICTION

## 5.1 Potential Federal Jurisdiction

On January 23, 2020, the U.S. Environmental Protection Agency (USEPA) and the USACE finalized the Navigable Waters Protection Rule to define "waters of the U.S." The rule took effect on June 22, 2020. On August 30, 2021, the U.S. District Court for the District of Arizona vacated and remanded the Navigable Waters Protection Rule in the case of Pascua Yaqui Tribe v. U.S. Environmental Protection Agency.

According to the USEPA (2021): "In light of this order, the agencies have halted implementation of the Navigable Waters Protection Rule and are interpreting "waters of the United States" consistent with the pre-2015 regulatory regime until further notice. The agencies continue to review the order and consider next steps. This includes working expeditiously to move forward with the rulemakings announced on June 9, 2021, in order to better protect our nation's vital water resources that support public health, environmental protection, agricultural activity, and economic growth. The agencies remain committed to crafting a durable definition of "waters of the United States" that is informed by diverse perspectives and based on an inclusive foundation.

The agencies are interpreting "waters of the United States" consistent with the pre-2015 regulatory regime until further notice ... The term waters of the United States means:

- 1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands;
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural



ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

- a. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
- b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
- c. Which are used or could be used for industrial purposes by industries in interstate commerce;
- 4. All impoundments of waters otherwise defined as waters of the United States under this definition;
- Tributaries of waters identified in paragraphs (s)(1) through (4) of this section;
- 6. The territorial sea;
- 7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (s)(1) through (6) of this section; waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States.

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

According to guidance present prior to the pre-2015 regulatory regime (USEPA 2008):

"The agencies will assert jurisdiction over the following waters:

- Traditional navigable waters
- Wetlands adjacent to traditional navigable waters
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months)
- Wetlands that directly abut such tributaries

The agencies will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary

The agencies generally will not assert jurisdiction over the following features:



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

The agencies will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters
- Significant nexus includes consideration of hydrologic and ecologic factors"

Based on current guidance (USEPA 2008; 2021), the Intermittent Drainage delineated on the project site would presumably qualify as "non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months)" and therefore fall under USACE jurisdiction.

The Roadside Ditch (RD-01) does not appear to have direct surface connection to a TNW or tributary (Appendix A). The presence/absence of a significant nexus may influence the jurisdictional determination of the Roadside Ditch but is unlikely to, as these "Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water" are specifically excluded from USACE jurisdiction under current guidance (USEPA 2008; 2021).

The regulatory analysis described above is preliminary. Due to recent changes based on Court decisions, the regulatory definition of jurisdiction is in flux, and therefore the USACE would need to determine its jurisdiction on the study area based on a verification of this report.

## 5.2 Potential State Jurisdiction

On April 2, 2019, the SWRCB adopted a State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures), for inclusion in the Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California. The Procedures took effect May 28, 2020. The Procedures consist of four major elements: (1) a wetland definition; (2) a framework for determining if a feature that meets the wetland definition is a water of the state; (3) wetland delineation procedures; and (4) procedures for the submittal, review and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities. Aquatic resources (such as ephemeral tributaries, some drainage ditches, and isolated wetlands), which may be exempt from federal jurisdiction under the Navigable Waters Protection Rule would likely be considered waters of the state under the Porter-Cologne Water Quality Control Act and/or the Procedures that took effect May 28, 2020.



Based on the Procedures, the Intermittent Drainage would qualify as "Waters of the State" subject to jurisdiction by the RWQCB/SWRCB; however, the jurisdictional status of the Roadside Ditch is less clear. Based on previous delineations conducted by Sequoia within Sonoma County (Sequoia Ecological Consulting, Inc. 2020, 2021), Roadside Ditches were excluded from state jurisdiction. The Roadside Ditch delineated in this report is similar to those identified in previous delineations conducted by Sequoia in Sonoma County, and state regulations have not changed since those delineations occurred (Sequoia Ecological Consulting, Inc. 2020, 2021). In addition, this feature appears to be fed by an artificial source (i.e., broken pipe associated with Penngrove Elementary School) making it unlikely that this feature would be considered waters of the state. That said, the jurisdictional status of the Roadside Ditch would need to be determined by the RWQCB/SWRCB based on a verification of this report.

Work occurring within USACE jurisdiction, such as placement of fill material, normally requires a permit under Section 404 of the federal CWA. In addition, the USACE, under Section 401 of the federal CWA, is required to meet state water quality regulations prior to granting a Section 404 permit. This is accomplished by application to the local RWQCB for Section 401 certification that requirements have been met. Streams, rivers, and lakes up to the top-of-bank or dripline of riparian vegetation (whichever is greater) also fall within the jurisdiction of the California Department of Fish and Wildlife (CDFW). Since work is expected to occur within the dripline of riparian vegetation at the intermittent drainage near the Adobe Road and Main Street intersection, a Streambed Alteration Agreement as defined by Section 1600 of California Fish and Game Code will be required.

#### **LIMITATIONS** 6.0

The results of this delineation are preliminary. USACE and RWQCB/SWRCB make the final determination about the location and extent of waters of the U.S./state on the project site, and this delineation report should be sent to the USACE and/or RWQCB/SWRCB for verification, as appropriate. This report does not constitute authorization to conduct the project, and all necessary permits and approvals should be obtained from regulatory agencies prior to project implementation.



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# **Appendix A**

**Delineation Map of the Study Area** 





# **Appendix B**

# **Wetland Delineation Data Forms**

Project/Site: Penngrove Intersection Project		City/Count	y: Penngro	ve, Sonoma County	Sampling Date:5/26/22	
Applicant/Owner:				State: <u>CA</u>	Sampling Point:1A	
Investigator(s): Andrew Ford						
Landform (hillslope, terrace, etc.): Roadside		Local relie	ef (concave, d	convex, none): <u>conve</u> x	<u>(</u> Slope (%): <u>5</u>	je:
Subregion (LRR): C	Lat: <u>38.2</u>	299852		Long: <u>-122.667983</u>	Datum:	
Soil Map Unit Name:				NWI classi	fication:	
Are climatic / hydrologic conditions on the site typical for this						
Are Vegetation, Soil, or Hydrology s	significantly	disturbed?	Are "	Normal Circumstances	" present? Yes No	
Are Vegetation, Soil, or Hydrology r	naturally pro	blematic?	(If ne	eded, explain any ansv	vers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map	showing	samplii	ng point le	ocations, transec	ts, important features, et	c.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Yes   ✓ N  Yes  ✓ N  N  Remarks:	·		he Sampled hin a Wetlan		✓ No	
Roadside ditch alongside Adobe Rd. Stand	ling wate	r and o	bvious hy	drophytic vegeta	ation are present.	
VEGETATION – Use scientific names of plan	ts.					
Tree Stratum (Plot size: NA )			nt Indicator ? Status	Dominance Test wo		
1				Number of Dominant That Are OBL, FACV		
2.				Total Number of Dom	- 2 2 2	
3		si <del>.</del>	30	Species Across All S	20	
4				Percent of Dominant	Species	
Sapling/Shrub Stratum (Plot size: NA )	8	= Total C	over	That Are OBL, FACV	V, or FAC:100 (A/B	3)
1		,		Prevalence Index w	orksheet:	_
2				Total % Cover of	7.0 (C) (O) (O) (O) (O) (O) (O) (O) (O) (O) (O	
3				OBL species <u>80</u>	x 1 = <u>80</u>	
4				FACW species 5	x 2 = <u>10</u>	
5	-10			FAC species <u>26</u>	x 3 = <u>78</u>	
2011		= Total C	over		x 4 = <u>4</u>	
Herb Stratum (Plot size: 20 ft )	70		001	UPL species 1		
1. Typha latifolia		X		Column Totals:	118 (A) 344 (B)	)
2. <u>Helminthotheca echioides</u>	-200		FAC	Description and lead	-v - D/A - 2 O	
3. <u>Lythrum hyssopifolia</u>		-	OBL_		ex = B/A =3.0	
4. Festuca perennis		S	FAC	Hydrophytic Vegeta		
5. Cyperus eragrostis	_ 5	8 <del>.</del>	FACW	✓ Dominance Test ✓ Prevalence Inde:		
6. Epilobium brachycarpum	6	3	_ FAC_		daptations <sup>1</sup> (Provide supporting	
7. Avena fatua			UPL FACIL		rks or on a separate sheet)	
8. Medicago polymorpha		= Total C	FACU_	Problematic Hyd	rophytic Vegetation <sup>1</sup> (Explain)	
Woody Vine Stratum (Plot size: NA )  1		Stand Click of a Processor Construction	- <del></del>		soil and wetland hydrology must sturbed or problematic.	
2			_107	The state of the s	resembled 650 ffront in Truck To Table 1550 ff Truck To Table 1550 f	_
W Dans Crawed in 11 at Charter				Hydrophytic Vegetation	,	
% Bare Ground in Herb Stratum % Cove	r of Blotic Cr	ust	<del></del>	Present?	/es <u> </u>	_
Remarks:						

0.000	SOIL			Sampling Point:	1A
ĺ	Profile Description:	(Describe to the depth needed to	o document the indicator or confirm the absence of indic	ators.)	
ı	Depth	Matrix	Dadov Features		

Depth	Matrix		Redo	Features	anoutor (		45501100	or marvacors,
(inches)	Color (moist)	%	Color (moist)		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
<u>0-3</u>	10 YR 2/2	100	None				silty loam	
3-10	Gley 7.5/N	100	None					g
		- N. V						
	<del></del>	-	· 8				vi	·
	S	-822	- 2/		70		£	R. A.
<del></del>	-	-100	-					3
8	*	-879	3	· ·			<del>0</del>	e
	*	-	3		-		-	<u> </u>
			I=Reduced Matrix, CS			d Sand Gr		cation: PL=Pore Lining, M=Matrix.
(R))	100 0 0	able to al	I LRRs, unless other		i. j			for Problematic Hydric Soils <sup>3</sup> :
Histosol	oipedon (A2)		Sandy Redo Stripped Ma					Muck (A9) (LRR C) Muck (A10) (LRR B)
Black Hi			Loamy Muck		F1)			ed Vertic (F18)
The state of the s	n Sulfide (A4)		Loamy Gley					arent Material (TF2)
Stratified	l Layers (A5) ( <b>LRR</b>	C)	Depleted Ma				Other	(Explain in Remarks)
	ck (A9) (LRR D)		Redox Dark	m	5000 2000 2000 2000 2000 2000 2000 2000			
	d Below Dark Surfac ark Surface (A12)	e (A11)	Depleted Da Redox Depr				3Indicators	of hydrophytic vegetation and
	lucky Mineral (S1)		Vernal Pools		2			hydrology must be present,
	leyed Matrix (S4)			. ()				listurbed or problematic.
Restrictive I	ayer (if present):							
Туре: <u>No</u>	ne							
Depth (inc	ches):		<del></del>				Hydric Soil	Present? Yes No
Remarks:							- <b>I</b>	
HYDROLO	GY							
Wetland Hyd	drology Indicators:	9						
Primary India	ators (minimum of o	one require	ed; check all that apply	')			Seco	ndary Indicators (2 or more required)
✓ Surface	Water (A1)		Salt Crust (	B11)			v	Vater Marks (B1) ( <b>Riverine</b> )
High Wa	ter Table (A2)		Biotic Crus	t (B12)			s	sediment Deposits (B2) ( <b>Riverine</b> )
✓ Saturation			Aquatic Inv				[	Prift Deposits (B3) (Riverine)
	arks (B1) ( <b>Nonrive</b> i		Hydrogen S				4 <del>5</del>	Prainage Patterns (B10)
100	nt Deposits (B2) (No		11.				100 01 10 10	Pry-Season Water Table (C2)
	osits (B3) ( <b>Nonrive</b>	rine)	100 - 100 -	f Reduced				Crayfish Burrows (C8)
	Soil Cracks (B6)	lmogan, /F	Recent Iron			i Solis (Ce	· · · · · · · · · · · · · · · · · · ·	Saturation Visible on Aerial Imagery (C9)
	on Visible on Aerial tained Leaves (B9)	iiilageiy (c	37) Thin Muck Other (Exp				477 116	Shallow Aquitard (D3) AC-Neutral Test (D5)
Field Observ	8 %		Other (Exp	iaiii iii ixeiii	ai kə	Î	· · ·	Ac-Neutral Test (D3)
Surface Wate		′es √	No Depth (inc	hes):				
Water Table			No ✓ Depth (inc	10,800				
Saturation Pr		- ST	No Depth (inc				and Hydrolog	y Present? Yes <u>√</u> No
(includes cap	oillary fringe)							, 11036iii. 103 <u>-,</u> 110 <u>-</u>
Describe Red	corded Data (stream	n gauge, m	onitoring well, aerial p	hotos, prev	ious insp	pections),	if available:	
Remarks:								

Project/Site: Penngrove Intersection Project		City/Cou	nty: Penngrov	e, Sonoma County	Sampling Date:	5/26/22		
oplicant/Owner: State: <u>CA</u> Sampling Point: <u>1B</u>								
nvestigator(s): Andrew Ford Section, Township, Range: 6 TO5N, RO7W								
Landform (hillslope, terrace, etc.): Hillslope	- 1	Local re	lief (concave, c	onvex, none): <u>Concave</u>	Slope	(%): <u>10</u>		
Subregion (LRR): C	Lat: 38.2	299870		Long: <u>-122.667981</u>	Datum:			
Soil Map Unit Name:								
Are climatic / hydrologic conditions on the site typical for this								
Are Vegetation				Normal Circumstances" p		No		
Are Vegetation, Soil, or Hydrology na				eded, explain any answe	21 22- 25	_		
SUMMARY OF FINDINGS – Attach site map s				995 16 <sup>2</sup> 1 <del>22</del> 01		ures, etc.		
Hydrophytic Vegetation Present? Yes No		le	the Sampled	Area	<u>10</u> 100	396		
Hydric Soil Present? Yes No	<u> </u>		ithin a Wetlan		No <u>√</u> _			
Wetland Hydrology Present? Yes No	<u> </u>	1832						
Remarks:								
Hillslope directly upslope from sample poin	t 1A, un	der ca	anopy of liv	e oak.				
VEGETATION – Use scientific names of plants	s.							
= 0.6			ant Indicator s? <u>Status</u>	Dominance Test work				
1. Quercus agrifolia		()	1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Number of Dominant Sp That Are OBL, FACW, or		(A)		
2.	100		100					
3				Total Number of Domin Species Across All Stra		(B)		
4				Percent of Dominant Sp	necies			
Onelling (Observe Observer / Observer NA	50	= Total	Cover	That Are OBL, FACW,	or FAC:33	(A/B)		
Sapling/Shrub Stratum (Plot size: NA )				Prevalence Index wor	ksheet:			
1					Multiply by	V:		
2 3				OBL species	10 00 100 0			
4.				FACW species				
5			200 20	FAC species 20	x 3 = <u>60</u>	)		
50	-	= Total	Cover	FACU species 12				
Herb Stratum (Plot size: 50	<b>CO</b>	V	HDI	UPL species 130				
Avena barbata     Hypochaeris radicata	<u>60</u> 10	X	UPL FACU_	Column Totals:16	<u>i2</u> (A) <u>75</u> 8	8 (B)		
3. Bromus diandrus		XI	UPL	Prevalence Index	= B/A =4.7			
4. Bromus hordeaceus	2	3	FACU	Hydrophytic Vegetation				
5. Festuca perennis	20	х	7-1-1-1	Dominance Test is	>50%			
6. Sonchus oleraceus	1	·	UPL	Prevalence Index is				
7. Carduus pycnocephalus	1	ű,	UPL	Morphological Ada	ptations <sup>1</sup> (Provide sup s or on a separate she	oporting		
8		-	-0101	Problematic Hydro				
Woody Vine Stratum (Plot size: NA )	<u>96</u>	= Total	Cover	1 Toblematic Hydrol	onytic vegetation (E)	(piairi)		
1				<sup>1</sup> Indicators of hydric soi		gy must		
2		// <u></u>	469 48	be present, unless distu	Irbed or problematic.			
	9	= Total	Cover	Hydrophytic Vegetation				
% Bare Ground in Herb Stratum4 % Cover of	of Biotic Cr	ust			s No_ <u>√</u>	_		
Remarks:								

SOIL Sampling Point: 1B

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

Depth	Matrix			Features		Marchaelle A Marchaelle (1977)	
(inches)	Color (moist)	%	Color (moist)	<u>% Type'</u>	Loc <sup>2</sup>	Texture	Remarks
0-5	10 YR 3/4	100			<u>lc</u>	oamy san	Intrusion of fill rock
5-12	10 YR 3/2	100			<u>lc</u>	amy san	Intrusion of fill rock
	s: <del></del>						
	81 P			<del></del>	<del></del>		3
	S1 <del>2.</del>	- 30					
	es <del>e</del>	<del></del>					<u>,</u>
2	# <del>2</del>						
<sup>1</sup> Type: C=C	oncentration. D=De	== ===================================	Reduced Matrix, CS=	Covered or Coated	Sand Grain	s. <sup>2</sup> Loc	eation: PL=Pore Lining, M=Matrix.
			RRs, unless otherv				for Problematic Hydric Soils <sup>3</sup> :
Histoso	I (A1)		Sandy Redox	(S5)		1 cm N	Muck (A9) (LRR C)
Histic E	pipedon (A2)		Stripped Mati	rix (S6)		2 cm N	Muck (A10) ( <b>LRR B</b> )
	listic (A3)		A CARLO DE MANGE AND CARLO MANGE AND CARLO DE CA	y Mineral (F1)		All The Victorian Administration	ed Vertic (F18)
and the property of the second	en Sulfide (A4)		Loamy Gleye			A DESCRIPTION OF THE PROPERTY	arent Material (TF2)
	d Layers (A5) (LRF	RC)	Depleted Mat			Other	(Explain in Remarks)
	uck (A9) ( <b>LRR D</b> ) d Below Dark Surfa	ace (A11)	Redox Dark S	k Surface (F6)			
	ark Surface (A12)	ace (ATT)	Redox Depre			3Indicators	of hydrophytic vegetation and
	Mucky Mineral (S1)		Vernal Pools				hydrology must be present,
	Gleyed Matrix (S4)			· -/			isturbed or problematic.
Restrictive	Layer (if present):	y 2					
Туре:							
Depth (in	nches):				1	Hydric Soil	Present? Yes No
Remarks:			9.17		A	147	
IYDROLC							
Wetland Hy	drology Indicator	s:					
Primary Indi	cators (minimum of	fone required;	check all that apply)			<u>Secor</u>	idary Indicators (2 or more required)
Surface	Water (A1)		Salt Crust (	311)		v	/ater Marks (B1) ( <b>Riverine</b> )
	ater Table (A2)		Biotic Crust	24700405705			ediment Deposits (B2) ( <b>Riverine</b> )
Saturati				ertebrates (B13)		— D	rift Deposits (B3) ( <b>Riverine</b> )
<del></del> .	Marks (B1) (Nonriv	M		ulfide Odor (C1)		10	rainage Patterns (B10)
	nt Deposits (B2) (N		() <del></del>	izospheres along L		No. 40	ry-Season Water Table (C2)
	posits (B3) ( <b>Nonri</b> v	verine)	01	Reduced Iron (C4)		1 1000	rayfish Burrows (C8)
<del></del>	Soil Cracks (B6)	V-10 10425_1		Reduction in Tilled	Soils (C6)		aturation Visible on Aerial Imagery (C9
<del></del>	ion Visible on Aeria	10T T. A. A	1/2 <del></del>	18 1861		\$61 150	hallow Aquitard (D3)
5 <del>5 - 1</del> 8	Stained Leaves (B9	)	Other (Expir	ain in Remarks)	Ĭ	=	AC-Neutral Test (D5)
Field Obser		Marie N	- / D-#-	05/24.8			
	ter Present?		lo✓_ Depth (inch				
Water Table		87	lo✓ Depth (inch	-	_		B
Saturation F (includes ca	resent? pillary fringe)	Yes IN	lo <u>√</u> Depth (inch	nes):	_   wetland	ı Hyarolog	y Present? Yes No
		m gauge, mor	nitoring well, aerial ph	otos, previous insp	ections), if a	vailable:	
Remarks:							

Project/Site: Penngrove Intersection Project		City/Cou	nty: Penngro	ve, Sonoma Count	v Sampling Date:	5/26/22
Applicant/Owner:	State: <u>CA</u>	Sampling Point: _	2A			
Investigator(s): Andrew Ford						
Landform (hillslope, terrace, etc.): Hillslope	lief (concave, d	convex, none): None Slope (%): 1				
Subregion (LRR): C						
Soil Map Unit Name:						
Are climatic / hydrologic conditions on the site typical for this						
Are Vegetation, Soil√, or Hydrologysi					es" present? Yes	No. ✓
Are Vegetation, Soil, or Hydrology na				eded, explain any an	25 Sp	
SUMMARY OF FINDINGS – Attach site map s				96 25 (23)		atures, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Yes No  Yes No  Yes No	)		the Sampled		No <b>√</b>	900
Remarks:	<u> </u>					
Ground seepage from likely broken pipe poo	oling wat	ter alo	ng Old Ado	be Road at the	base of Penngrov	re
Elementary.						
VEGETATION – Use scientific names of plant	s.					
Tree Stratum (Plot size: NA ) 1	% Cover	Specie	ant Indicator s? Status	Dominance Test v Number of Domina That Are OBL, FAC	nt Species	(A)
2 3				Total Number of Do Species Across All	120	(B)
4.				2000 - 000 March 2000 a 1-00 m	This can be a second	(5)
Sapling/Shrub Stratum (Plot size: NA )	8			Percent of Dominar That Are OBL, FAC	of Species SW, or FAC: <u>50</u>	(A/B)
1	<del> </del>			Prevalence Index	worksheet:	
2		-015 <u></u>			of: Multiply	
3	×			10 conserva	x 1 =	
4				estar state were increased acceptant. At	) x 2 =	
5				VAN	) x 3 =	27
Herb Stratum (Plot size: 20 ft )	B <del></del>	= Total	Cover			<u>0</u>
1. Helminthethera echoides	15		FAC	Column Totals:	) x 5 =	275 (B)
2. Cyperus eragrostis		X	escuentación o marc	Column Totals	(A)	<u>.75</u> (D)
3. Avena fatua	25	Х	UPL	Prevalence In	dex = B/A =3.	2
4. Lythrum hyssopifolia	5	*	OBL	Hydrophytic Vege	tation Indicators:	
5. Geranium dissectum	5		UPL	Dominance Te		
6. Poa annua	5	·	FAC	Prevalence Inc		
7. Juncus bufonius	5	7	<u>FACW</u>		Adaptations¹ (Provide s narks or on a separate s	
8					/drophytic Vegetation <sup>1</sup>	
Woody Vine Stratum (Plot size: NA )	85	= Total	Cover	i robicinatio i i	varopitytio vogotation	, Εχριαπή
1		ii.			soil and wetland hydro disturbed or problemati	
2		= Total	Cover	Hydrophytic Vegetation		
% Bare Ground in Herb Stratum15	of Biotic Cr	ust		Present?	Yes No	<u>/</u>
Remarks:				···		

SOIL Sampling Point: 2A

Profile Desc	ription: (Describe	to the depth	needed to docur	nent the i	ndicator	or confirm	n the absence of indicators.)	
Depth	Matrix			x Features		- 2		
(inches)	Color (moist)		Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks	<del></del>
<u>0-3</u>	10 YR 2/1	<u> 100 _ </u>			-		sandy loar	
<u>3-7</u>	10 YR 3/1	100					sandy loar	
-	W:				**			
	<u>.</u>				-		3 5	*
-	8			42	<del>(</del>			
		-107		****	-			
	<u> </u>	-00		110	× ×		<u></u>	
								-
	oncentration, D=Dep					ed Sand Gr		
Hydric Soil I	ndicators: (Applic	able to all LF	RRs, unless other	wise note	ed.)		Indicators for Problematic Hydric Soils <sup>3</sup> :	
Histosol			Sandy Red				1 cm Muck (A9) (LRR C)	
	ipedon (A2)		Stripped Ma	BOTH-STORY OF CLUSTER CO.			2 cm Muck (A10) (LRR B)	
Black His			Loamy Muc				Reduced Vertic (F18)	
A. D. D. D. M. B.	n Sulfide (A4) I Layers (A5) ( <b>LRR</b> (	<b>C</b> )	Loamy Gley Depleted M		(FZ)		Red Parent Material (TF2) Other (Explain in Remarks)	
	ck (A9) (LRR D)	<b>C</b> į	Redox Dark		F6)		Other (Explain in Nemarks)	
The second second second second	Below Dark Surfac	e (A11)	Depleted D	111 10 10 10 E	No. of the Contract of the Con			
The state of the s	rk Surface (A12)	,	Redox Dep				<sup>3</sup> Indicators of hydrophytic vegetation and	
Sandy M	lucky Mineral (S1)		Vernal Pool	s (F9)			wetland hydrology must be present,	
Sandy G	leyed Matrix (S4)		3.5	200 St.			unless disturbed or problematic.	
Restrictive L	.ayer (if present):							
Туре:			_					
Depth (inc	ches):		_				Hydric Soil Present? Yes ✓ No	
Remarks:								
HYDROLO	GY							
Wetland Hvo	drology Indicators:	<u> </u>						
	ators (minimum of o		check all that appl	v)			Secondary Indicators (2 or more required	1)
✓ Surface		nio reganos,	Salt Crust				Water Marks (B1) (Riverine)	-,
A RECEIPTION OF	ter Table (A2)		Biotic Crus	No. of the Control of			Sediment Deposits (B2) (Riverine)	
Saturatio			Aquatic In		s (R13)		Drift Deposits (B3) (Riverine)	
The second of the second	arks (B1) ( <b>Nonrive</b> r	ine)	Hydrogen				Drainage Patterns (B10)	
<del></del>	t Deposits (B2) ( <b>No</b>	35				Livina Roc	ots (C3) Dry-Season Water Table (C2)	
	osits (B3) (Nonrive		Presence				Crayfish Burrows (C8)	
	Soil Cracks (B6)	22223.V	Recent Iro				The second of th	(C9)
	on Visible on Aerial	Imagery (B7)	Thin Muck				Shallow Aquitard (D3)	()
	ained Leaves (B9)	<b>J</b> , ( ,	Other (Exp				FAC-Neutral Test (D5)	
Field Observ	0. 2.					ĺ		
Surface Wate	er Present? Y	′es √ No	Depth (in	ches):				
Water Table			Depth (in					
Saturation Pr			Depth (in				land Hydrology Present? Yes <u>√</u> No	
(includes cap		03	Bepair (iii	ones)		_   '''	and right ology resents res No	
Describe Red	corded Data (stream	n gauge, moni	toring well, aerial ¡	photos, pre	evious ins	pections),	if available:	
Remarks:								
Source of	hydrology arti	ficial (i.e.,	fed by broke	n pipe).				
		e un un un comme un comme de 🐧 de segui actividad de 🕬						

Project/Site: Penngrove Intersection Project	Cit	y/County: <u>Per</u>	ngrove, Sonoma	a COunty	Sampling Date: _	5/26/22
Applicant/Owner:	State	: <u>CA</u>	Sampling Point: _	2B		
Investigator(s): Andrew Ford						
Landform (hillslope, terrace, etc.): Hillslope	Lo	ocal relief (cond	cave, convex, none	e): <u>none</u>	Slop	oe (%):5
Subregion (LRR): C	Lat: <u>38.29</u>	9881	Long: <u>-12</u>	2.667015	Datur	n:
Soil Map Unit Name:	VX. 92-		000000000000000000000000000000000000000	NWI classific	ation:	×.
Are climatic / hydrologic conditions on the site typical for thi						
Are Vegetation, Soil, or Hydrologys	significantly dis	sturbed?	Are "Normal Circ	umstances" r	oresent? Yes <u>√</u>	′ No
Are Vegetation, Soil, or Hydrology r	naturally proble	ematic?	(If needed, explai	n any answe	rs in Remarks.)	
SUMMARY OF FINDINGS – Attach site map	showing s	ampling po	int locations,	transects	, important fe	atures, etc.
Hydrophytic Vegetation Present? Yes N	lo √					
Hydric Soil Present? Yes N	lo <u>√</u>		npled Area	V	No <u> </u>	
Wetland Hydrology Present? Yes N	lo <u>√</u>	within a V	vetiand?	res	NO <u>*</u>	i.
Remarks:						
VEGETATION – Use scientific names of plan						
Tree Stratum (Plat size: NA		Dominant India	fu a	e Test work		
Tree Stratum (Plot size: NA		Species? Sta	- Nullibel Of	Dominant Sport FACW, of		(A)
1 2			—   mar Ale C	ADL, FACEV, I	01 FAC0	(^)
399				ber of Domin		(B)
3 4			Species Ai	cross All Stra	ııa. <u> </u>	(B)
1.	=			Dominant Sp	pecies or FAC: <u>0</u>	(A/D)
Sapling/Shrub Stratum (Plot size: NA )			That Ale C	ADL, FACVV, I	0 FAC0	(AVD)
1	-0		Prevalenc	e Index wor	ksheet:	
2	-101	**************************************			Multiply	
3	- W				x 1 =	
4	-03				x 2 =	
5					x 3 =	
Herb Stratum (Plot size:20)		Total Cover	4000 POWERS - MINES - MINES		x 4 =	
Herb Stratum (Plot size: 20 )  1. Avena fatua	80	х п			70 99	370
Geranium dissectum			PL Column To	otals:/	8 (A)	393 (B)
Hypochaeris radicata	- NO NO.	-000		alence Index	= B/A =5	5
4. Helminthotheca echioides					on Indicators:	
5				nance Test is	>50%	
6.			Preval	lence Index is	s ≤3.0 <sup>1</sup>	
7.			Morph	nological Ada	ptations1 (Provide	
8.			dat		s or on a separate	
	=	Total Cover	Proble	matic Hydro	phytic Vegetation <sup>1</sup>	(Explain)
Woody Vine Stratum (Plot size:)			1,	· · · · · · · · · · · · · · · · · · ·		CONTRACTOR CONTRACTOR
1					il and wetland hydr urbed or problemat	
2						107.2
	=	Total Cover	Hydrophy Vegetation			
% Bare Ground in Herb Stratum 12	r of Biotic Crus	st			s No	<u>✓</u>
Remarks:			<u>.</u>			

SOIL	Sampling Point:	2B
Profile Description: (Describe to the depth peoded to decument the indicator or confirm the al	sansa of Indicators )	

Depth	Matrix			x Features		1 = -2	Tando	Arine Demonto		
(inches)	Color (moist)	%	Color (moist)	%	Type'	Loc	<u>Textu</u>	ture Remarks		
<u>0-6</u>	10 YR 3/3	<u> 100</u> .		. ———	——		Ž.	3 3		
6-12	10 YR 3/2	100		185						
	0 N			***************************************	,		-			
	<u> </u>			•				3 3		
	1 <del>5</del>	<del>-</del>		132 <del></del>			=			
	: <del></del>			****						
	9 .40	2000					22			
				-			-			
1Type: C=C	oncentration, D=De	nletion PM-	Peduced Matrix CS	S-Covered	or Coate	d Sand Gr	aine	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.		
	Indicators: (Appli					a Garia Gr		cators for Problematic Hydric Soils <sup>3</sup> :		
Histosol	(20) (C V		Sandy Red		8			1 cm Muck (A9) (LRR C)		
	oipedon (A2)		Stripped Ma					2 cm Muck (A10) (LRR B)		
	istic (A3)		Loamy Muc		(F1)			Reduced Vertic (F18)		
Hydroge	en Sulfide (A4)		Loamy Gley	ed Matrix (	(F2)			Red Parent Material (TF2)		
Stratified	d Layers (A5) ( <b>LRR</b>	C)	Depleted M	atrix (F3)			_ (	Other (Explain in Remarks)		
	ıck (A9) ( <b>LRR D</b> )		Redox Dark	Surface (F	<del>-</del> 6)					
	d Below Dark Surfa	ce (A11)	Depleted D							
And the same of th	ark Surface (A12)		Redox Dep		8)			icators of hydrophytic vegetation and		
	Mucky Mineral (S1)		Vernal Pool	s (F9)				vetland hydrology must be present,		
	Gleyed Matrix (S4)  Layer (if present):						un T	nless disturbed or problematic.		
	Layer (II present).									
Type:	-0X.		<del></del>				1122	de Oell BressertO - No.		
Depth (in	cnes):						Hydri	ic Soil Present? Yes No✓		
Remarks:										
IYDROLO	GY									
Wetland Hy	drology Indicators	:								
Primary India	cators (minimum of	one required	check all that appl	y)				Secondary Indicators (2 or more required)		
Surface	Water (A1)		Salt Crust	(B11)				Water Marks (B1) (Riverine)		
- Lorentzenous	ater Table (A2)		Biotic Crus				Sediment Deposits (B2) ( <b>Riverine</b> )			
Saturation			Aquatic In		(B13)		Drift Deposits (B3) (Riverine)			
	farks (B1) (Nonrive	rine)	Hydrogen					Drainage Patterns (B10)		
<del></del> .	nt Deposits (B2) ( <b>N</b>	35				_ivina Roc	ots (C3)	Dry-Season Water Table (C2)		
Y	oosits (B3) ( <b>Nonriv</b>		70.	of Reduced		1000	9000 50 15	Crayfish Burrows (C8)		
	Soil Cracks (B6)		0	n Reductio	AS NOTWOOD CONTRACTOR OF		4	Saturation Visible on Aerial Imagery (C9)		
	on Visible on Aerial	Imagery (B7	a Samuel Samuel Company	Surface (C			,	Shallow Aquitard (D3)		
— Water-S	stained Leaves (B9)	9	8 7/ <del>1 7</del> /	olain in Ren	0.00			FAC-Neutral Test (D5)		
Field Obser	2 2									
Surface Wat		Yes N	lo <u>√</u> Depth (in	ches):						
Water Table			lo <u>√</u> Depth (in			_				
Saturation P			lo <u>√</u> Depth (in				and Hud	drology Present? Yes No_√_		
(includes cap		165	io_+ Deptii (iii	Cires)		-   Well	anu nyu	diology Fresent? Tes No		
	corded Data (strea	m gauge, mor	nitoring well, aerial	photos, pre	vious insp	pections),	if availab	ble:		
Remarks:										

Project/Site: Penngrove Intersection Project		City/County	: Penngro	ve, Sonoma County Sampling Date: 5/26/22
Applicant/Owner:	- (3	5E0 =0		State: <u>CA</u> Sampling Point: <u>3A</u>
Investigator(s): Andrew Ford				
Landform (hillslope, terrace, etc.): Channel				
Subregion (LRR): C				
Soil Map Unit Name:				
Are climatic / hydrologic conditions on the site typical for this				
Are Vegetation, Soil, or Hydrologysi				Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology na				eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map s			19	
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Remarks:  Yes   ✓ No N	) <u> </u>	with	e Sampled in a Wetlar	2
Middle of dried channel of unnamed intern	nittent d	drainage.		
VEGETATION – Use scientific names of plant	s.			
Trac Otration (District		Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30 )  1. Salix laevigata		Species?	3	Number of Dominant Species That Are OBL, FACW, or FAC:4 (A)
2				
3.				Total Number of Dominant Species Across All Strata:4(B)
4.				(2)
		= Total Co		Percent of Dominant Species That Are OBL, FACW, or FAC:100 (A/B)
Sapling/Shrub Stratum (Plot size: NA )				
1				Prevalence Index worksheet:
2				Total % Cover of: Multiply by:
3				OBL species 5 x 1 = 5 FACW species 105 x 2 = 210
4			<del></del>	FAC species 60 x 3 = 180
5		= Total Co		FACU species 0 x 4 = 0
Herb Stratum (Plot size: 20 )	i <del>l</del>	_ rotar co	VCI	UPL species <u>0</u> x 5 = <u>0</u>
1. Atriplex prostrata	60	X	FACW	Column Totals: <u>170</u> (A) <u>395</u> (B)
2. Rubus armeniacus	30	x	FAC	
3. Rumex crispus	30	x	FAC_	Prevalence Index = B/A =
4. Polypogon monspeliensis	10		<u>FACW</u>	Hydrophytic Vegetation Indicators:
5. Conium maculatum	- C			✓ Dominance Test is >50%
6. <u>Lythrum hyssopifolia</u>				✓ Prevalence Index is ≤3.0¹     Morphological Adaptations¹ (Provide supporting)
7				data in Remarks or on a separate sheet)
8		= Total Co		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size: NA ) 1				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2		97 <u> </u>	75 <u> </u>	SOLO I MADERIANO PIRA PROPERTIES
		= Total Co		Hydrophytic Vegetation
% Bare Ground in Herb Stratum % Cover	of Biotic Ci	rust		Present? Yes <u>√</u> No
Remarks:				

OIL								Sampling Point:3A	
Profile Des	cription: (Describe to	o the de	pth needed to doc	ument the	indicator	or confir	m the absence of in	dicators.)	
Depth	<u>Matrix</u>			dox Feature		. 2			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks	
)-6	7.5 YR 3/2	100	ł 9 <del></del>		- /	1	<u>Clay loam</u>		
5-12	2.5 YR 4/3	90	2.5 YR 3/6	10	RM	<u> M</u>	Sandy loar		
	a <del></del>	Tip.	¥ ::			a <del></del>			
			3 V		_ :		- 2 %		
	22 %		s 0				- 2 2		
				- 350					
		19							
vpe: C=C	oncentration, D=Deple	etion. RI	- ————————————————————————————————————	— ——— CS=Covere	ed or Coat	ed Sand C		: PL=Pore Lining, M=Matrix.	
	Indicators: (Applica							roblematic Hydric Soils <sup>3</sup> :	
_ Histoso	I (A1)		Sandy Re	dox (S5)			1 cm Muck	(A9) (LRR C)	
_ Histic E	pipedon (A2)		Stripped N	Matrix (S6)			2 cm Muck (A10) ( <b>LRR B</b> )		
_ Black H	listic (A3)		Loamy Mu	ucky Miner	al (F1)		Reduced Ve	ertic (F18)	
_ Hydrog	en Sulfide (A4)		Loamy Gl	eyed Matri:	x (F2)		Red Parent	Material (TF2)	
_ Stratifie	d Layers (A5) (LRR C)	)	✓ Depleted	Matrix (F3)	)		Other (Expla	ain in Remarks)	
_ 1 cm M	uck (A9) ( <b>LRR D</b> )		Redox Da	rk Surface	(F6)				
_ Deplete	d Below Dark Surface	(A11)	Depleted	Dark Surfa	ice (F7)				
_ Thick D	ark Surface (A12)		Redox De	pressions	(F8)		<sup>3</sup> Indicators of hy	drophytic vegetation and	
** 123 191 12	and the special first state from		Water Orders	"Test Granden			and the second of the	CO TO THE STATE OF	

\_\_\_ Vernal Pools (F9)

# Depth (inches): \_\_\_\_\_

\_\_\_ Sandy Mucky Mineral (S1)

\_\_ Sandy Gleyed Matrix (S4)

Restrictive Layer (if present):

1111	DDC	1 0	~1

Туре: \_\_

Remarks:

HIDROLOGI		
Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; ch	eck all that apply)	Secondary Indicators (2 or more required)
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1) (Nonriverine)</li> <li>Sediment Deposits (B2) (Nonriverine)</li> <li>Drift Deposits (B3) (Nonriverine)</li> </ul>	Salt Crust (B11)  ✓ Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  ✓ Oxidized Rhizospheres along Livin  Presence of Reduced Iron (C4)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) ng Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8)
✓ Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)	Recent Iron Reduction in Tilled Sc. Thin Muck Surface (C7) Other (Explain in Remarks)	ills (C6) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)✓ FAC-Neutral Test (D5)
Water Table Present? Yes <u>√</u> No_	✓         Depth (inches):           Depth (inches):         1           Depth (inches):         1	Wetland Hydrology Present? Yes <u>√</u> No
Describe Recorded Data (stream gauge, monito	ring well, aerial photos, previous inspect	tions), if available:

wetland hydrology must be present,

Hydric Soil Present? Yes \_\_\_\_ No \_\_

unless disturbed or problematic.

Project/Site: Penngrove Intersection Project	(	City/Coun	nty: Penngrov	e, Sonoma County	Sampling Date:	5/26/22
Applicant/Owner:		10000		State: <u>CA</u>	Sampling Point:	3B
Investigator(s): Andrew Ford						
Landform (hillslope, terrace, etc.): terrace		Local reli	ief (concave, c	onvex, none): none	Slope	(%): <u>5</u>
Subregion (LRR): C	Lat: 38.2	299852		Long: -122.666205	Datum	
Soil Map Unit Name:	7.0			S. WELL AN		2
Are climatic / hydrologic conditions on the site typical for this						
Are Vegetation, Soil, or Hydrologys				Normal Circumstances"		No
Are Vegetation, Soil, or Hydrology n				eded, explain any answe	2	
SUMMARY OF FINDINGS – Attach site map				<i>y</i>		tures, etc.
Hydrophytic Vegetation Present? Yes N						-
Hydric Soil Present? Yes N	°		the Sampled			
Wetland Hydrology Present? Yes N	10 <u>√</u>	Wi	ithin a Wetlan	d? Yes	No	
Remarks:		ļ				
VEGETATION – Use scientific names of plan	te					
VEGETATION – Ose scientific flames of plan		Domina	nt Indicator	Dominance Test work	(sheet:	
Tree Stratum (Plot size: NA )			? Status	Number of Dominant S		
- i.			-(1)(1)	That Are OBL, FACW,		(A)
2		X <del></del>		Total Number of Domir	nant	
3				Species Across All Stra	ata: <u>2</u>	(B)
4				Percent of Dominant S		
Sapling/Shrub Stratum (Plot size: NA )	8	= lotalt	Jover	That Are OBL, FACW,	or FAC:50	(A/B)
1			- S	Prevalence Index wor	rksheet:	
2		7	-773	Total % Cover of:	Multiply t	DY:
3	<b>=</b> 0.	ŭ.	—	OBL species 0		
4			200	FACW species 1		
5				FAC species 30 FACU species 20		
Herb Stratum (Plot size: 20 ft )	i <del></del>	= lotal(	Jover	UPL species 37		85 <u> </u>
1. Lactuca serriola	10		FACU	Column Totals: 8		57 (B)
2. Raphanus sativus	5	S <del></del>	UPL			
3. Rumex crispus	5		FACU_		c = B/A =4.05	5
4. Rubus armeniacus	30	X	<u>FAC</u>	Hydrophytic Vegetati		
5. <u>Galium aparine</u>	5	-	FACU_	Dominance Test is Prevalence Index is		
6. Conium maculatum	1		<u>FACW</u>	Morphological Ada		innorting
7. <u>Carduus pycnocephalus</u> 8. Avena fatua	30	X	UPL UPL		s or on a separate sl	
o. Avena latua		= Total (	200 10	Problematic Hydro	phytic Vegetation <sup>1</sup> (E	Explain)
Woody Vine Stratum (Plot size: NA )		- Total C	50001			
1		ŭ.		<sup>1</sup> Indicators of hydric so be present, unless dist		
2		98 <u></u>	_0000	**************************************	urbed or problematic	
	0	= Total (	Cover	Hydrophytic Vegetation		
% Bare Ground in Herb Stratum 12 % Cover	r of Biotic Cr	ust			esNo✓	
Remarks:						

SOIL Sampling Point: 3B

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

Depth	Matrix		Redox	(Features	3			
(inches)	Color (moist)		Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks
<u>0-6</u>	5 YR 3/2	100					loamy san	
6-9	10 YR 3/1	100					loamy san	
		1000						
<u>=</u>	8 W	<del>-</del> (3)			<del>"</del>			
	*				-			
	3 5	-800						
	35 · <b>W</b>			70				
	-	60						
1Typo: C=C	oncentration, D=De	olotion DM-E	Poducod Motriy CS			d Sand Cr	21 000	ation: PL=Pore Lining, M=Matrix.
	Indicators: (Applie					u Sanu Gi		for Problematic Hydric Soils <sup>3</sup> :
Histosol	120 27 5		Sandy Redo		, u.,			uck (A9) (LRR C)
	pipedon (A2)		Stripped Ma					uck (A10) (LRR B)
	istic (A3)		Loamy Muck		L(F1)			ed Vertic (F18)
	en Sulfide (A4)		Loamy Gley				The Annual Control of the Control of	rent Material (TF2)
Stratified	d Layers (A5) (LRR	C)	Depleted Ma	atrix (F3)			Other (E	Explain in Remarks)
	uck (A9) ( <b>LRR D</b> )		Redox Dark	Surface (	F6)			
	d Below Dark Surfac	ce (A11)	Depleted Da					
	ark Surface (A12)		Redox Depr		F8)			of hydrophytic vegetation and
	Mucky Mineral (S1)		Vernal Pools	s (F9)				ydrology must be present,
	Gleyed Matrix (S4)  Layer (if present):						uniess ais	sturbed or problematic.
	Layer (II present).							
Туре:	N 9		<del></del>				20 20 20 20 20 20 20 20 20 20 20 20 20 2	
Depth (in	ches):						Hydric Soil F	Present? Yes No <u>√</u>
Remarks:								
HYDROLO	GY							
	drology Indicators	•3						
	cators (minimum of		check all that annly	Ä			Second	dary Indicators (2 or more required)
		one required,						
	Water (A1)		Salt Crust	Arcaroscente				ater Marks (B1) (Riverine)
	ater Table (A2)		Biotic Crus	20 EV 20	- (D42)			ediment Deposits (B2) (Riverine)
Saturation	and the second second	elen a \	Aquatic Inv					ift Deposits (B3) (Riverine)
S	Marks (B1) (Nonrive	35	Hydrogen S		(S) 5	Livina Doo	4 <del>7</del> 4	ainage Patterns (B10)
- N	nt Deposits (B2) ( <b>N</b> o		Presence of	95		= = = = = = = = = = = = = = = = = = = =		y-Season Water Table (C2)
	posits (B3) ( <b>Nonri ve</b> Soil Cracks (B6)	arrie)	Recent Iro		the stransporters of			ayfish Burrows (C8) aturation Visible on Aerial Imagery (C9)
	on Visible on Aerial	Imagany (P7)	2			u Solis (Co		nallow Aquitard (D3)
<i>5</i> −−−8	Stained Leaves (B9)	iiilageiy (D/)	10 <del>1</del>	100	0.50		3/1 186	AC-Neutral Test (D5)
Field Obser	3 2		Other (Exp	iaiii iii Ke	illaiks)	<u> </u>		(C-Neutral Test (D3)
		Zoo N	o V Donth (inc	.b.c.c.\.				
Surface Wat			o√_ Depth (inc					
Water Table			o ✓ Depth (inc					
Saturation P (includes car		res N	o <u>√</u> Depth (inc	nes):		-   Wetla	and Hydrology	Present? Yes No✓
	corded Data (strean	n gauge, mon	itoring well, aerial p	hotos, pre	evious ins	pections),	if available:	
	## ## ## ## ## ## ## ## ## ## ## ## ##	57 235X	200 C	16				
Remarks:								

Project/Site: Penngrove Intersection Project		City/Count	y: Penngrov	ve, Sonoma County	Sampling Date:	5/26/22
Applicant/Owner:				State: <u>CA</u>	Sampling Point:	4A
Investigator(s): Andrew Ford						
Landform (hillslope, terrace, etc.): <u>roadside</u>		Local relie	ef (concave, c	convex, none): <u>convex</u>	Slope	(%): <u>1</u>
Subregion (LRR): C	_ Lat: <u>38.2</u>	229298		Long: <u>-122.666345</u>	Datum:	S
Soil Map Unit Name:	700		,	NWI classific	ation:	5.
Are climatic / hydrologic conditions on the site typical for this						
Are Vegetation, Soil, or Hydrology si				Normal Circumstances" p		No
Are Vegetation, Soil, or Hydrologyn				eded, explain any answei		
SUMMARY OF FINDINGS – Attach site map s						tures, etc.
Hydrophytic Vegetation Present? Yes <u>✓</u> No	2					
Hydric Soil Present? Yes ✓ No.			he Sampled		No.	
Wetland Hydrology Present? Yes No		Wit	hin a Wetlan	ar res	No <u>√</u>	
Remarks:						
VEGETATION – Use scientific names of plant	ts.					
[		Dominan	nt Indicator	Dominance Test work	sheet:	
Not seem a service array and a service array are a service array are a service array array and a service array			? Status	Number of Dominant Sp		
1			2/17/2	That Are OBL, FACW, o	or FAC: 2	(A)
2				Total Number of Domin		
3			0.00	Species Across All Stra	ta: <u>2</u>	(B)
4				Percent of Dominant Sp		(A/B)
Sapling/Shrub Stratum (Plot size: NA )	( <del>-</del>			That Are OBL, FACW, o	37 FAC	(AVB)
1	c. <del></del>			Prevalence Index worl		
2				Total % Cover of:	70.00	
3			~~~	OBL species 10  FACW species 30		
4			- 200	FAC species 56		
5	(c)			FACU species 0		2 22
Herb Stratum (Plot size: 5 ft )	1.	, 0.0.		UPL species 2		.0
1. Epilobium brachycarpum		X	<u>FAC</u>	Column Totals: 98	3 (A) <u>24</u>	48 (B)
2. <u>Epilobium ciliatum</u>	200	X	-,00	Dravalanaa Inday	= B/A = <u>2.5</u>	
3. Lythrum hyssopifolia	-	( <del>-</del>	OBL_	Hydrophytic Vegetation	24	ă <u>a</u> .
Rumex crispus     Carduus pycnocephalus	2		<u>FAC</u> UPL	✓ Dominance Test is		
6. Lysimachia arvensis			FAC	✓ Prevalence Index is		
7	ORL	S <del></del>		Morphological Ada	ptations¹ (Provide su	pporting
8.				400000000000000000000000000000000000000	s or on a separate sh	
	98	= Total C	over	Problematic Hydror	ohytic Vegetation (E	:xplain)
Woody Vine Stratum (Plot size: NA )				<sup>1</sup> Indicators of hydric soil	l and wetland hydrol	oay muet
1		39	-11	be present, unless distu		
2		= Total C	over	Hydrophytic		
0/ Barro Consum d in Hamb Charles 2			TO THE WORLD STORES	Vegetation	- / N-	
	of Biotic Cr	ust		Present? Yes	s_√_ No	
Remarks:						

SOIL

Sampling Point: 4A

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

(inches) Color (moist) % Color (moist) % Type¹ Loc² Texture Remarks  0-4 10 YR 3/2 100 sandy loar  4-9 7.5 YR 3/3 90 2.5 YR 3/1 10 C M sandy loar  ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix	
4-9 7.5 YR 3/3 90 2.5 YR 3/1 10 C M sandy loar	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix	-
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix	
Type. C-Concentration, D-Depletion, Rivi-Reduced Matrix, C5-Covered of Coated Sand Grains. Eccation. PL-Pore Lining, M-Matrix	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils <sup>3</sup> :	-
Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C)	
Histosid (A1)	
Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18)	
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2)	
Stratified Layers (A5) (LRR C) ✓ Depleted Matrix (F3) — Other (Explain in Remarks)	
1 cm Muck (A9) ( <b>LRR D</b> ) Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)	
Thick Dark Surface (A12) Redox Depressions (F8) Indicators of hydrophytic vegetation and	
Sandy Mucky Mineral (S1) Vernal Pools (F9) wetland hydrology must be present,	
Sandy Gleyed Matrix (S4) unless disturbed or problematic.	
Restrictive Layer (if present):	
Type:	
Depth (inches): Hydric Soil Present? Yes ✓ No _	
Remarks:	
HYDROLOGY	
TIDROLOGI	
Wetland Hydrology Indicators:	<u>d)</u>
Wetland Hydrology Indicators:	<u>d)</u>
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  Salt Crust (B11)  Water Marks (B1) (Riverine)	<u>d)</u>
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Secondary Indicators (2 or more required)  Surface Water (A1)  High Water Table (A2)  Sediment Deposits (B2) (Riverine)	<u>d)</u>
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  Salt Crust (B11)  Water Marks (B1) (Riverine)	<u>d)</u>
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Secondary Indicators (2 or more required)  Surface Water (A1)  High Water Table (A2)  Salt Crust (B12)  Biotic Crust (B12)  Sediment Deposits (B2) (Riverine)  Sediment Deposits (B3) (Riverine)  Drift Deposits (B3) (Riverine)	<u>d)</u>
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         Surface Water (A1)       Salt Crust (B11)       Water Marks (B1) (Riverine)         High Water Table (A2)       Biotic Crust (B12)       Sediment Deposits (B2) (Riverine)         Saturation (A3)       Aquatic Invertebrates (B13)       Drift Deposits (B3) (Riverine)         Water Marks (B1) (Nonriverine)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)	<u>d)</u>
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Aquatic Invertebrates (B13)  Water Marks (B1) (Nonriverine)  Hydrogen Sulfide Odor (C1)  Sediment Deposits (B2) (Nonriverine)  Oxidized Rhizospheres along Living Roots (C3)  Dry-Season Water Table (C2)	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         Surface Water (A1)       Salt Crust (B11)       Water Marks (B1) (Riverine)         High Water Table (A2)       Biotic Crust (B12)       Sediment Deposits (B2) (Riverine)         Saturation (A3)       Aquatic Invertebrates (B13)       Drift Deposits (B3) (Riverine)         Water Marks (B1) (Nonriverine)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Sediment Deposits (B2) (Nonriverine)       Oxidized Rhizospheres along Living Roots (C3)       Dry-Season Water Table (C2)         Drift Deposits (B3) (Nonriverine)       Presence of Reduced Iron (C4)       Crayfish Burrows (C8)	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         Surface Water (A1)       Salt Crust (B11)       Water Marks (B1) (Riverine)         High Water Table (A2)       Biotic Crust (B12)       Sediment Deposits (B2) (Riverine)         Saturation (A3)       Aquatic Invertebrates (B13)       Drift Deposits (B3) (Riverine)         Water Marks (B1) (Nonriverine)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Sediment Deposits (B2) (Nonriverine)       Oxidized Rhizospheres along Living Roots (C3)       Dry-Season Water Table (C2)         Drift Deposits (B3) (Nonriverine)       Presence of Reduced Iron (C4)       Crayfish Burrows (C8)         Surface Soil Cracks (B6)       Recent Iron Reduction in Tilled Soils (C6)       Saturation Visible on Aerial Imager	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         Surface Water (A1)       Salt Crust (B11)       Water Marks (B1) (Riverine)         High Water Table (A2)       Biotic Crust (B12)       Sediment Deposits (B2) (Riverine)         Saturation (A3)       Aquatic Invertebrates (B13)       Drift Deposits (B3) (Riverine)         Water Marks (B1) (Nonriverine)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Sediment Deposits (B2) (Nonriverine)       Oxidized Rhizospheres along Living Roots (C3)       Dry-Season Water Table (C2)         Drift Deposits (B3) (Nonriverine)       Presence of Reduced Iron (C4)       Crayfish Burrows (C8)         Surface Soil Cracks (B6)       Recent Iron Reduction in Tilled Soils (C6)       Saturation Visible on Aerial Imager (D3)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Shallow Aquitard (D3)	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required; check all that apply)         Surface Water (A1)       Salt Crust (B11)       Water Marks (B1) (Riverine)         High Water Table (A2)       Biotic Crust (B12)       Sediment Deposits (B2) (Riverine)         Water Marks (B1) (Nonriverine)       Hydrogen Sulfide Odor (C1)       Drift Deposits (B3) (Riverine)         Sediment Deposits (B2) (Nonriverine)       Oxidized Rhizospheres along Living Roots (C3)       Dry-Season Water Table (C2)         Drift Deposits (B3) (Nonriverine)       Presence of Reduced Iron (C4)       Crayfish Burrows (C8)         Surface Soil Cracks (B6)       Recent Iron Reduction in Tilled Soils (C6)       Saturation Visible on Aerial Imager         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Shallow Aquitard (D3)         Water-Stained Leaves (B9)       Other (Explain in Remarks)       FAC-Neutral Test (D5)	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         Surface Water (A1)       Salt Crust (B11)       Water Marks (B1) (Riverine)         High Water Table (A2)       Biotic Crust (B12)       Sediment Deposits (B2) (Riverine)         Saturation (A3)       Aquatic Invertebrates (B13)       Drift Deposits (B3) (Riverine)         Water Marks (B1) (Nonriverine)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Sediment Deposits (B2) (Nonriverine)       Oxidized Rhizospheres along Living Roots (C3)       Dry-Season Water Table (C2)         Drift Deposits (B3) (Nonriverine)       Presence of Reduced Iron (C4)       Crayfish Burrows (C8)         Surface Soil Cracks (B6)       Recent Iron Reduction in Tilled Soils (C6)       Saturation Visible on Aerial Imager         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Shallow Aquitard (D3)         Water-Stained Leaves (B9)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Field Observations:         Surface Water Present?       Yes No Depth (inches):	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         Surface Water (A1)       Salt Crust (B11)       Water Marks (B1) (Riverine)         High Water Table (A2)       Biotic Crust (B12)       Sediment Deposits (B2) (Riverine)         Saturation (A3)       Aquatic Invertebrates (B13)       Drift Deposits (B3) (Riverine)         Sediment Deposits (B2) (Nonriverine)       Oxidized Rhizospheres along Living Roots (C3)       Dry-Season Water Table (C2)         Drift Deposits (B3) (Nonriverine)       Presence of Reduced Iron (C4)       Crayfish Burrows (C8)         Surface Soil Cracks (B6)       Recent Iron Reduction in Tilled Soils (C6)       Saturation Visible on Aerial Imager         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Shallow Aquitard (D3)         Water-Stained Leaves (B9)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Field Observations:         Surface Water Present?       Yes       No       ✓ Depth (inches):         Water Table Present?       Yes       No       ✓ Depth (inches):	/ (C9)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         Surface Water (A1)       Salt Crust (B11)       Water Marks (B1) (Riverine)         High Water Table (A2)       Biotic Crust (B12)       Sediment Deposits (B2) (Riverine)         Saturation (A3)       Aquatic Invertebrates (B13)       Drift Deposits (B3) (Riverine)         Water Marks (B1) (Nonriverine)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Sediment Deposits (B2) (Nonriverine)       Oxidized Rhizospheres along Living Roots (C3)       Dry-Season Water Table (C2)         Drift Deposits (B3) (Nonriverine)       Presence of Reduced Iron (C4)       Crayfish Burrows (C8)         Surface Soil Cracks (B6)       Recent Iron Reduction in Tilled Soils (C6)       Saturation Visible on Aerial Imager         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Shallow Aquitard (D3)         Water-Stained Leaves (B9)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Field Observations:         Surface Water Present?       Yes No Depth (inches):	/ (C9)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         Surface Water (A1)       Salt Crust (B11)       Water Marks (B1) (Riverine)         High Water Table (A2)       Biotic Crust (B12)       Sediment Deposits (B2) (Riverine)         Saturation (A3)       Aquatic Invertebrates (B13)       Drift Deposits (B3) (Riverine)         Water Marks (B1) (Nonriverine)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Sediment Deposits (B2) (Nonriverine)       Oxidized Rhizospheres along Living Roots (C3)       Dry-Season Water Table (C2)         Drift Deposits (B3) (Nonriverine)       Presence of Reduced Iron (C4)       Crayfish Burrows (C8)         Surface Soil Cracks (B6)       Recent Iron Reduction in Tilled Soils (C6)       Saturation Visible on Aerial Imager         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Shallow Aquitard (D3)         Water-Stained Leaves (B9)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Field Observations:         Water Table Present?       Yes No Depth (inches):         Water Table Present?       Yes No Depth (inches):	/ (C9)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required; check all that apply)         Surface Water (A1)       Salt Crust (B11)       Water Marks (B1) (Riverine)         High Water Table (A2)       Biotic Crust (B12)       Sediment Deposits (B2) (Riverine)         Saturation (A3)       Aquatic Invertebrates (B13)       Drift Deposits (B3) (Riverine)         Sediment Deposits (B2) (Nonriverine)       Oxidized Rhizospheres along Living Roots (C3)       Dry-Season Water Table (C2)         Drift Deposits (B3) (Nonriverine)       Presence of Reduced Iron (C4)       Crayfish Burrows (C8)         Surface Soil Cracks (B6)       Recent Iron Reduction in Tilled Soils (C6)       Saturation Visible on Aerial Imager         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Shallow Aquitard (D3)         Water-Stained Leaves (B9)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Field Observations:         Surface Water Present?       Yes       No       Depth (inches):          Water Table Present?       Yes       No       Depth (inches):          Water Table Present?	/ (C9)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         Surface Water (A1)       Salt Crust (B11)       Water Marks (B1) (Riverine)         High Water Table (A2)       Biotic Crust (B12)       Sediment Deposits (B2) (Riverine)         Saturation (A3)       Aquatic Invertebrates (B13)       Drift Deposits (B3) (Riverine)         Water Marks (B1) (Nonriverine)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Sediment Deposits (B2) (Nonriverine)       Oxidized Rhizospheres along Living Roots (C3)       Dry-Season Water Table (C2)         Drift Deposits (B3) (Nonriverine)       Presence of Reduced Iron (C4)       Crayfish Burrows (C8)         Surface Soil Cracks (B6)       Recent Iron Reduction in Tilled Soils (C6)       Saturation Visible on Aerial Imager         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Shallow Aquitard (D3)         Water-Stained Leaves (B9)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Field Observations:         Surface Water Present?       Yes       No       Depth (inches):         Water Table Present?       Yes       No       Depth (inches):         Saturation Present?       Yes       No       Depth (inches):         Wetland H	/ (C9)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         Surface Water (A1)       Salt Crust (B11)       Water Marks (B1) (Riverine)         High Water Table (A2)       Biotic Crust (B12)       Sediment Deposits (B2) (Riverine)         Saturation (A3)       Aquatic Invertebrates (B13)       Drift Deposits (B3) (Riverine)         Sediment Deposits (B1) (Nonriverine)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Sediment Deposits (B3) (Nonriverine)       Oxidized Rhizospheres along Living Roots (C3)       Dry-Season Water Table (C2)         Drift Deposits (B3) (Nonriverine)       Presence of Reduced Iron (C4)       Crayfish Burrows (C8)         Surface Soil Cracks (B6)       Recent Iron Reduction in Tilled Soils (C6)       Saturation Visible on Aerial Imager         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Shallow Aquitard (D3)         Water-Stained Leaves (B9)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Field Observations:         Surface Water Present?       Yes       No       Depth (inches):       Wetland Hydrology Present? Yes       No         Water Table P	/ (C9)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         _ Surface Water (A1)       _ Salt Crust (B11)       _ Water Marks (B1) (Riverine)         _ High Water Table (A2)       _ Biotic Crust (B12)       _ Sediment Deposits (B2) (Riverine)         _ Saturation (A3)       _ Aquatic Invertebrates (B13)       _ Drift Deposits (B3) (Riverine)         _ Sediment Deposits (B2) (Nonriverine)       _ Hydrogen Sulfide Odor (C1)       _ Drainage Patterns (B10)         _ Sediment Deposits (B3) (Nonriverine)       _ Oxidized Rhizospheres along Living Roots (C3)       _ Dry-Season Water Table (C2)         _ Drift Deposits (B3) (Nonriverine)       _ Presence of Reduced Iron (C4)       _ Crayfish Burrows (C8)         _ Surface Soil Cracks (B6)       _ Recent Iron Reduction in Tilled Soils (C6)       _ Saturation Visible on Aerial Imager         _ Inundation Visible on Aerial Imagery (B7)       _ Thin Muck Surface (C7)       _ Shallow Aquitard (D3)         _ Water-Stained Leaves (B9)       _ Other (Explain in Remarks)       _ FAC-Neutral Test (D5)         Field Observations:         Surface Water Present?       Yes       No       _ Depth (inches):       _ Wetland Hydrology Present?       Yes       _ No         Water Table Present?       Yes       _ No       _ Depth (inches):       _	/ (C9)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         _ Surface Water (A1)       _ Salt Crust (B11)       _ Water Marks (B1) (Riverine)         _ High Water Table (A2)       _ Biotic Crust (B12)       _ Sediment Deposits (B2) (Riverine)         _ Saturation (A3)       _ Aquatic Invertebrates (B13)       _ Drift Deposits (B3) (Riverine)         _ Sediment Deposits (B2) (Nonriverine)       _ Hydrogen Sulfide Odor (C1)       _ Drainage Patterns (B10)         _ Sediment Deposits (B3) (Nonriverine)       _ Oxidized Rhizospheres along Living Roots (C3)       _ Dry-Season Water Table (C2)         _ Drift Deposits (B3) (Nonriverine)       _ Presence of Reduced Iron (C4)       _ Crayfish Burrows (C8)         _ Surface Soil Cracks (B6)       _ Recent Iron Reduction in Tilled Soils (C6)       _ Saturation Visible on Aerial Imager         _ Inundation Visible on Aerial Imagery (B7)       _ Thin Muck Surface (C7)       _ Shallow Aquitard (D3)         _ Water-Stained Leaves (B9)       _ Other (Explain in Remarks)       _ FAC-Neutral Test (D5)         Field Observations:         Surface Water Present?       Yes       No       _ Depth (inches):       _ Wetland Hydrology Present?       Yes       _ No         Water Table Present?       Yes       _ No       _ Depth (inches):       _	/ (C9)

Applicant/Owner:
Investigator(s): Andrew Ford  Section, Township, Range: 6 TOSN, RO7W  Landform (hillslope, terrace, etc.): roadside  Local relief (concave, convex, none): none  Slope (%): 2  Subregion (LRR): C  Lat: 38.299327  Long: -122.666327  Datum:  Soil Map Unit Name:  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?  Yes No  within a Wetland?  Yes No  Within a Wetland?
Subregion (LRR): C  Lat: 38.299327  Long: -122.666327  Datum:  NWI classification:  Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)  Are Vegetation, Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No Are Vegetation, Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? Yes No within a Wetland?
Soil Map Unit Name:
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
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
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?  Hydric Soil Present?  Yes No  Yes No  Within a Wetland?  Yes No  Within a Wetland?
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?  Hydric Soil Present?  Yes No  Yes No  Within a Wetland?  Yes No  Within a Wetland?
Hydrophytic Vegetation Present?  Yes No ✓ Hydric Soil Present?  Yes No ✓ Within a Wetland?  Yes No ✓
Hydric Soil Present?  Yes No within a Wetland?  Yes No
Hydric Soil Present?  Yes No within a Wetland?  Yes No
Wetland Hydrology Present? Yes No
Remarks:
VEGETATION – Use scientific names of plants.
Absolute Dominant Indicator Dominance Test worksheet:
Tree Stratum (Plot size: NA )
Z Total Number of Dominant
3 Species Across All Strata: [B]
4 Percent of Dominant Species = Total Cover That Are OBL, FACW, or FAC: 0 (A/B
Sapling/Shrub Stratum (Plot size: NA ) = Total Cover That Are OBL, FACW, or FAC: (A/B
1. Prevalence Index worksheet:
2
3 OBL species <u>0</u> x 1 = <u>0</u>
4 FACW species 0 x 2 = 0
5 FAC species 10 x 3 = 30
= Total Cover
01 E SPOSICO <u>CO</u> X O <u>100</u>
1. Avena fatua       70       X       UPL       Column Totals:       100       (A)       470       (B)         2. Raphanus sativus       10       UPL       UPL
3. <u>Festuca perennis</u> 10 FAC Prevalence Index = B/A = 4.7
4. <u>Hypochaeris radicata</u> 10 <u>FACU</u> Hydrophytic Vegetation Indicators:
5 Dominance Test is >50%
6 Prevalence Index is ≤3.0¹
7. Morphological Adaptations¹ (Provide supporting
data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: NA )
1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2
= Total Cover Hydrophytic Vegetation
% Bare Ground in Herb Stratum % Cover of Biotic Crust Present? Yes No _✓
% Bare Ground in Herb Stratum % Cover of Biotic Crust Present? Yes No _✓ Remarks:
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SOIL Sampling Point: 4B

Profile Desc	ription: (Describe	to the depti	n needed to docun	ent the ind	icator or co	onfirm the	e absence of indicators.)
Depth	Matrix		Redo	Features			
(inches)	Color (moist)		Color (moist)		Type <sup>1</sup> Lo	oc² T	Texture Remarks
<u>0-5</u>	10 YR 3/3	100				loa	amy san
5-12	10 YR 3/2	100				loa	amy san
	,		,				
	<u> </u>	-33		:			
	·,-	100 - 100		,,,			·
-0	<del>(1</del>	-11	W. Carlotte and Ca	·		***************************************	
	\$						
	ncentration, D=Dep						
(R))	ndicators: (Applic	able to all L			)	ş <b>11</b>	Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol			Sandy Redo			<u> </u>	1 cm Muck (A9) (LRR C)
	ipedon (A2)		Stripped Ma		- 40	_	2 cm Muck (A10) (LRR B)
Black His	With the second second		Loamy Mucl			_	Reduced Vertic (F18)
	n Sulfide (A4)	~\	Loamy Gley		2)	-	Red Parent Material (TF2)
	Layers (A5) (LRR	<b>L</b> )	Depleted Ma		•	-	Other (Explain in Remarks)
	ck (A9) ( <b>LRR D</b> )	~ /A11\	Redox Dark		And a second of		
	l Below Dark Surfac rk Surface (A12)	e (ATT)	Depleted Date			3	Indicators of hydrophytic vegetation and
	ucky Mineral (S1)		Vernal Pools		,		wetland hydrology must be present,
	leyed Matrix (S4)			, (1 3)			unless disturbed or problematic.
	ayer (if present):						amedo diotal bed of problematio.
Type:							
Depth (inc	hac):		<del></del>			ш.	lydric Soil Present? Yes No✓
7/A/A 9/3/A			i i			П	lydic Soil Fleseit? Tes No
Remarks:							
HYDROLOG	27						
		9					
	Irology Indicators:						
Primary Indic	ators (minimum of o	ne required;	check all that apply	')			Secondary Indicators (2 or more required)
Surface \	Water (A1)		Salt Crust	(B11)			Water Marks (B1) (Riverine)
High Wat	ter Table (A2)		Biotic Crus	t (B12)			Sediment Deposits (B2) (Riverine)
— Saturation	n (A3)		2 <del></del>	ertebrates (	8		Drift Deposits (B3) (Riverine)
Water Ma	arks (B1) ( <b>Nonrive</b> i	ine)	Hydrogen	Sulfide Odor	·(C1)		Drainage Patterns (B10)
Sedimen	t Deposits (B2) ( <b>No</b>	nriverine)	Oxidized R	hizospheres	along Living	ng Roots (C	C3) Dry-Season Water Table (C2)
Drift Dep	osits (B3) ( <b>Nonrive</b>	rine)	Presence	of Reduced I	ron (C4)		Crayfish Burrows (C8)
Surface \$	Soil Cracks (B6)		Recent Iron	n Reduction	in Tilled Soi	ils (C6)	Saturation Visible on Aerial Imagery (C9)
Inundation	on Visible on Aerial	lmagery (B7)	Thin Muck	Surface (C7	<b>'</b> )		Shallow Aquitard (D3)
Water-St	ained Leaves (B9)		Other (Exp	lain in Rema	arks)		FAC-Neutral Test (D5)
Field Observ	ations:		50 VY 49 EH				80 TO 100
Surface Water	er Present?	es N	o✓_ Depth (inc	hes):			
Water Table		200	o ✓ Depth (inc	104001			
Saturation Pr		3	o <u>√</u> Depth (inc			Wotland	Hydrology Present? Yes No✓_
(includes cap		es iv	O_+ Deptil (illi			vvetianu	nydrology Fresent? Tes No
	orded Data (stream	gauge, mor	itoring well, aerial p	hotos, previ	ous inspecti	ions), if ava	/ailable:
Remarks:							



# **Appendix C**

**Representative Project Site Photographs** 





Photograph 1. View of Sample Point 1A in Roadside Ditch (RD-01) on northern shoulder of Adobe Road.



Photograph 2. View of likely broken pipe at entrance to Penngrove Elementary School just east and outside of Study Area on Adobe Road. Broken pipe is presumed to be artificial source of RD-01.





**Photograph 3.** View of Sample Point 2A on northern shoulder of Adobe Road.



Photograph 4. View of what appears to be a broken pipe at first driveway on Adobe Road west of intersection. Broken pipe is presumed to be artificial source that likely resulted in Sample Point 2A meeting two of three wetland parameters.





Photograph 5. View of Sample Point 3A (ID-01) in Intermittent Drainage.



Photograph 6. View of concrete box culvert beneath northeast corner of intersection on (upstream side) of unnamed intermittent drainage.





Photograph 7. View of CMP that runs beneath Adobe Road in the northeast corner of intersection that outfalls into unnamed intermittent drainage (ID-01).



Photograph 8. View of Sample Point 4A on eastern shoulder of Main Street south of the intersection with Adobe Road.



# **Appendix D**

**Plant Species Observed on the Project Site** 



Scientific Name	Common Name	Family Name	Indicator Status
Acacia melanoxylon	blackwood acacia	Fabaceae	-
Alnus rhombifolia	white alder	Betulaceae	FACW
Atriplex prostrata	fat-hen	Chenopodiaceae	FACW
Avena barbata	slender oat	Poaceae	-
Avena fatua	wild oat	Poaceae	UPL
Bromus diandrus	ripgut brome	Poaceae	-
Bromus hordeaceus	soft brome	Poaceae	FACU
Bromus madritensis	foxtail brome	Poaceae	UPL
Carduus pycnocephalus	Italian thistle	Asteraceae	-
Conium maculatum	hemlock	Apiaceae	FACW
Cyperus eragrostis	tall flatsedge	Cyperaceae	FACW
Epilobium brachycarpum	annual fireweed	Onagraceae	FAC
Epilobium ciliatum	fringed fireweed	Onagraceae	FACW
Festuca perennis	Italian ryegrass	Poaceae	FAC
Galium aparine	cleavers	Rubiaceae	FACU
Geranium dissectum	cutleaf geranium	Geraniaceae	-
Geranium robertianum	Robert's herb	Geraniaceae	FACU
Hedera helix	English ivy	Araliaceae	FACU
Helminthotheca echioides	bristly ox-tongue	Asteraceae	FAC
Hordium murinum	wall barley	Poaceae	FACU
Hypochaeris radicata	flatweed	Asteraceae	FACU
Juncus bufonius	common toad rush	Juncaceae	FACW
Lactuca serriola	prickly lettuce	Asteraceae	FACU
Lathyrus latifolius	everlasting pea	Fabaceae	-
Lysimachia arvensis	scarlet pimpernel	Primulaceae	FAC
Lythrum hyssopifolia	hyssop loosestrife	Lythraceae	OBL
Medicago polymorpha	bur clover	Fabaceae	FACW
Phalaris paradoxa	hood canarygrass	Poaceae	FAC
Poa annua	annual bluegrass	Poaceae	FAC
Polypogon monspeliensis	rabbitsfoot grass	Poaceae	FACW
Prunus sp.	plum	Rosaceae	-
Quercus agrifolia	coast live oak	Fagaceae	-



Scientific Name	Common Name	Family Name	Indicator Status
Quercus kelloggii	black oak	Fagaceae	-
Raphanus sativus	wild radish	Brassicaceae	-
Rubus armeniacus	Himalayan blackberry	Rosaceae	FAC
Rumex crispus	curly dock	Polygonaceae	FAC
Salix laevigata	red willow	Salicaceae	FACW
Sequoia sempervirens	redwood	Cupressaceae	-
Sonchus oleraceus	common sowthistle	Asteraceae	UPL
Typha latifolia	bulrush	Typhaceae	OBL
Ulmus sp.	elm	Ulmaceae	-
Vicia sativa	common vetch	Fabaceae	FACU