

# **APPENDIX D**

## **Biological Resources Reports**



**DRAFT**

**PRELIMINARY JURISDICTIONAL DELINEATION OF  
WETLANDS AND WATERS OF THE UNITED STATES  
HUNTER SUBDIVISION PROJECT  
NAPA COUNTY, CALIFORNIA**

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# Preliminary Jurisdictional Delineation of Wetlands and Waters of the United States Hunter Subdivision Project

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## ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
ACOE	U.S. Army Corps of Engineers
CDFW	California Department of Fish and Wildlife
CWA	Clean Water Act
OHWM	ordinary high water mark
RWQCB	Regional Water Quality Control Board
SW	seasonal wetlands
SWANCC	<i>Solid Waste Agency of Northern Cook County v. United States Corps of Engineers</i>
TNW	traditional navigable waters

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Hunter Subdivision Project**

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# **Preliminary Jurisdictional Delineation of Wetlands and Waters of the United States Hunter Subdivision Project**

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## **1 INTRODUCTION**

This report documents the results of a preliminary jurisdictional delineation of wetlands and other waters of the United States conducted for the approximately 17-acre Hunter Subdivision Project (project) located in the northeast portion of the City of St. Helena, Sonoma County, California. The results of this delineation are preliminary until verified by the San Francisco District of the U.S. Army Corps of Engineers (ACOE).

### **1.1 Project Location**

The project consists of the 16.9-acre Vanzutphen Property (Study Area) located in the northeast portion of the City of St. Helena, in Sonoma County (County) (see Figure 1, Project Location). The Study Area is located at the eastern terminus of Adams Street, three blocks east of downtown and State Route 29 (SR 29), and west of the Napa River. Adjacent land uses include urban development to the south and undeveloped land currently under cultivation to the north. A gravel maintenance road and public trail borders the site along the north/northwest and a city storm water detention basin borders the site to the north/northeast. The Study Area is situated in Township 8 North, Range 6 West, and an undefined section in the 7.5-minute U.S. Geological Survey (USGS) Saint Helena quadrangle. The center of the site location corresponds to 38°30'40" north latitude and 122°27'53" west longitude.

### **1.2 Directions to the Study Area**

From San Francisco, travel east on Interstate 80. Take exit 33 for State Route 37 toward Napa. In 1.4 miles, take exit 19 for SR 29/ Sonoma Boulevard. Continue for approximately 30 miles then turn right onto Hunter Avenue. The project site is accessible from the west side of Hunter Avenue where it meets Starr Avenue.

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## **2 PROJECT DESCRIPTION**

The project involves the construction of a residential development on a 16.9-acre parcel (APN 009-030-057) east of Hunter Avenue, in the incorporated City of St. Helena. The project site would be subdivided to accommodate single-family residences and attached residential units. The existing vineyard on the project site would be removed with the exception of a small portion of the vineyard that would remain in the western “panhandle” portion of the site. The proposed project would extend Adams Street and Starr Avenue onto the project site to provide two points of ingress and egress. Adams Street would be extended from the terminus of the existing roadway to the east ending in a stub out at the City’s storm water basin. Sidewalks would be installed on both sides of the Adams Street extension. Additionally, two new streets may be constructed to intersect with the extension of Starr Avenue and extend to the west end of the site. All streets would include curb, gutter, and 4-foot-wide sidewalks.

The project would require the expansion, realignment, and/or removal of existing underground utilities, as well as the development of storm water infrastructure. The southwesterly portion of the project site may drain via gutter flow and proposed storm drain pipes and discharge into the existing Starr Avenue storm drain at several different locations. The rest of the project site may drain to the northeast via gutter flow and storm drain pipes and discharge into the existing storm water basin. The project site would be graded to create a gradual downward slope from west to east toward the existing storm water basin. Although a majority of the project site would be graded, no soil import or export is anticipated. Importing of some material, such as base rock, sand, and peat gravel used in the joint trenches, foundation, and roadways would be required.

The first phase of construction would require site clearing, grading, and trenching for utilities followed by construction of the roadways and residences. It is anticipated project construction would take 2 years to complete. Construction staging and parking for construction workers would be provided onsite.

The project would provide multiple benefits, including a variety of housing opportunities for very low to moderate-income families, minimize traffic-related environmental impacts, such as noise, air quality and greenhouse gases by lowering commute distances for people that work in the City, and support alternative transportation by providing pedestrian and bicycle links through the City.

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## **3 REGULATORY BACKGROUND**

### **3.1 Federal Statutes and Regulations – U.S. Army Corps of Engineers**

Any person or public agency proposing to discharge dredged or fill material into waters of the United States, including jurisdictional wetlands, must obtain a permit from the ACOE.

As defined in Title 33 of the Code of Federal Regulations, Section 328.3, waters of the United States include all waters subject to interstate or foreign commerce, including tidal waters, interstate waters and wetlands, many intrastate waters, impoundments, tributaries, the territorial seas, and adjacent wetlands. Specifically, Section 328.3 of Title 33 of the Code of Federal Regulations defines waters of the United States as follows:

1. For purposes of the Clean Water Act, 33 U.S.C. 1251 et seq. and its implementing regulations, subject to the exclusions in paragraph (b) of this section, the term “waters of the United States” means:
  1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
  2. All interstate waters, including interstate wetlands;
  3. The territorial seas;
  4. All impoundments of waters otherwise identified as waters of the United States under this section;
  5. All tributaries, as defined in paragraph (c)(3) of this section, of waters identified in paragraphs (a)(1) through (3) of this section;
  6. All waters adjacent to a water identified in paragraphs (a)(1) through (5) of this section, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters.
2. The following are not “waters of the United States” even where they otherwise meet the terms of paragraphs (a)(4) through (8) of this section.
  1. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act.
  2. 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.

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For non-tidal waters of the United States, the lateral limits of ACOE jurisdiction extend to the ordinary high water mark (OHWM) when no adjacent wetlands are present. As defined in the Code of Federal Regulations, Title 33, Section 328.3(e), the OHWM is “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.” If adjacent wetlands are present, the jurisdiction extends to the limit of wetlands.

Wetlands are “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3). Wetlands are jurisdictional if they meet this definition and the definition of waters of the United States. The ACOE predominantly uses *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (ACOE 2008) methodology to determine the presence of wetlands. According to the manual (ACOE 2008), three criteria must be satisfied to classify an area as a wetland: (1) a predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation); (2) soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and (3) permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology). Further guidance for determining jurisdictional limits in ephemeral riverine systems in the Arid West is detailed in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (ACOE 2010).

In the last two decades, two major court cases have affected the jurisdictional reach of Section 404 of the Clean Water Act (CWA): (1) *Solid Waste Agency of Northern Cook County v. United States Corps of Engineers* (SWANCC), and (2) *Rapanos v. United States* and *Carabell v. United States Army Corps of Engineers* (*Rapanos*).

### **Solid Waste Agency of Northern Cook County v. United States Corps of Engineers**

In 1986, in an attempt to clarify the reach of its jurisdiction, ACOE stated that Section 404(a) of the CWA extends to intrastate waters (51 FR 41217):

- a. Which are or would be used as habitat by birds protected by Migratory Bird Treaties; or
- b. Which are or would be used as habitat by other migratory birds which cross state lines; or
- c. Which are or would be used as habitat for endangered species; or
- d. Used to irrigate crops sold in interstate commerce.

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In 2001, the U.S. Supreme Court, in its judgment on the *SWANCC* case, held that the Code of Federal Regulations, Title 33, Section 328.3(a)(3), as clarified and applied to the *SWANCC* site pursuant to the Migratory Bird Rule (51 FR 41217), exceeded the authority granted to ACOE under Section 404(a) of the CWA. Therefore, ACOE may not rely on the Migratory Bird Rule to establish a “significant nexus” to interstate or foreign commerce. In additional language, the U.S. Supreme Court majority opinion reasoned that these types of waters required some nexus to navigable waters. Although no formal guidance was issued by ACOE interpreting the extent to which the *SWANCC* decision would limit jurisdictional determinations, in practice, ACOE considers intrastate waters as waters of the United States where there is an appropriate connection to navigable water or other clear interstate commerce connection (*Solid Waste Agency of Northern Cook County v. United States Corps of Engineers* 2001).

### **Rapanos v. United States and Carabell v. United States Army Corps of Engineers**

In 2006, the U.S. Supreme Court again issued an opinion on the extent ACOE had jurisdiction over certain waters under Section 404 of the CWA. The *Rapanos/Carabell* consolidated decisions addressed the question of jurisdiction over attenuated tributaries to waters of the United States, as well as wetlands adjacent to those tributaries (*Rapanos v. United States* 2006).

ACOE and the U.S. Environmental Protection Agency issued guidance related to the *Rapanos* decision on June 5, 2007. The guidance identifies the waters the agencies (i.e., ACOE and the U.S. Environmental Protection Agency) will assert jurisdiction over categorically and on a case-by-case basis based on the reasoning of the *Rapanos* opinions. In summary, ACOE will continue to assert jurisdiction over the following:

- Traditional navigable waters (TNWs) and their adjacent wetlands.
- Non-navigable tributaries of TNWs that are relatively permanent (e.g., tributaries that typically flow year-round or have a continuous flow at least seasonally) and wetlands that directly abut such tributaries (e.g., not separated by uplands, berm, dike, or similar feature).

*Note: Relatively permanent waters do not include ephemeral tributaries, which flow only in response to precipitation, and intermittent streams, which do not typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months).*

- Non-relatively permanent waters, if determined (on a fact-specific analysis) to have a significant nexus with a TNW—including non-navigable tributaries that do not typically flow year-round or have continuous flow at least seasonally, wetlands adjacent to such tributaries, and wetlands adjacent to but that do not directly abut such tributaries. Absent a significant nexus, jurisdiction is lacking.

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A significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or an insubstantial effect on the chemical, physical, and/or biological integrity of a TNW. Principal considerations when evaluating significant nexus include volume, duration, and frequency of the flow of water in the tributary and the proximity of the tributary to a TNW, including hydrologic, ecologic, and other functions performed by the tributary and all of its adjacent wetlands. Certain ephemeral waters in the Arid West are distinguishable from the geographic features described previously, where such ephemeral waters are tributaries and have a significant nexus to downstream TNWs. For example, these ephemeral tributaries may serve as a transitional area between the upland environment and the TNW. These ephemeral tributaries may provide habitat for wildlife and aquatic organisms in downstream TNWs and support nutrient cycling, sediment retention and transport, pollutant trapping and filtration, and improvement of water quality.

Swales or erosional features (e.g., gullies and small washes characterized by low-volume, infrequent, or short-duration flow) are generally not considered waters of the United States because they are not tributaries or they do not have a significant nexus to downstream TNWs. In addition, ditches (including roadside ditches) excavated wholly in and draining only uplands, and that do not carry a relatively permanent flow of water, are generally not considered waters of the United States because they are not tributaries or they do not have a significant nexus to downstream TNWs. Other jurisdictional exceptions include stormwater control features that are constructed in dry land to convey, treat, or store stormwater, and cooling ponds. Even when not jurisdictional under Section 404 of the CWA, these features may still be jurisdictional at state or local levels, such as under Section 401 of the CWA, the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), and Section 1602 of the California Fish and Game Code.

Prior to the *Rapanos* guidance, ACOE required its regional districts to request concurrence for only those jurisdictional determinations where the district was planning to assert jurisdiction over a non-navigable, intrastate, isolated water and/or wetland. The agencies now require that all determinations for non-navigable, intrastate, isolated waters be submitted for ACOE and U.S. Environmental Protection Agency review prior to the district making a final decision on the jurisdictional determination.

### ACOE-Regulated Activities

Under Section 404 of the CWA, ACOE regulates activities that involve a discharge of dredged or fill material, including but not limited to grading, placing riprap for erosion control, pouring concrete, laying sod, and stockpiling excavated material into waters of the United States. Activities that generally do not involve a regulated discharge (if performed specifically in a manner to avoid discharges) include driving pilings, providing some drainage channel maintenance activities, and excavating without stockpiling.



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## **3.2 State of California**

### **California Department of Fish and Wildlife**

Pursuant to Section 1602 of the California Fish and Game Code, the California Department of Fish and Wildlife (CDFW) regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife.

In Title 14 of the California Code of Regulations, Section 1.72, CDFW defines a “stream” (including creeks and rivers) as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation.”

In Title 14 of the California Code of Regulations, Section 1.56, CDFW’s definition of “lake” includes “natural lakes or man-made reservoirs.” Diversion, obstruction, or change to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife requires authorization from CDFW by entering into an agreement pursuant to Section 1602 of the Fish and Game Code.

### **California Regional Water Quality Control Board**

Pursuant to Section 401 of the federal CWA, the Regional Water Quality Control Board (RWQCB) regulates discharging waste, or proposing to discharge waste, within any region that could affect a water of the state (California Water Code, Section 13260(a)), pursuant to provisions of the Porter-Cologne Act. “Waters of the state” are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (California Water Code, Section 13050(e)). Before ACOE will issue a CWA Section 404 permit, applicants must receive a CWA Section 401 Water Quality Certification from the RWQCB. If a CWA Section 404 permit is not required for the project, the RWQCB may still require a permit (i.e., Waste Discharge Requirement) for impacts to waters of the state under the Porter-Cologne Act.

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## 4 METHODOLOGY

### 4.1 Literature Review

Prior to conducting fieldwork at the Study Area, Dudek biologists reviewed the following available resources:

- *Wetland Delineation for the 16± acre Hunter-St. Helena Property, St. Helena, Napa County, California* (North Fork Associates 2006)
- 1:200-scale aerial photograph (Google Earth 2019)
- Historic aerial photographs (Historicaerials.com 2019)
- U.S. Geological Survey 7.5-minute topographic quadrangle (USGS 2019)
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Services (NRCS) Web Soil Survey (USDA 2019a)
- National Wetland Inventory (USFWS 2019)

### 4.2 Jurisdictional Delineation

Potential wetland waters of the United States were delineated based on methodology described in the 1987 Corps of Engineers Wetlands Delineation Manual (ACOE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (ACOE 2008). Non-wetland waters of the United States are delineated based on the presence of an OHWM, as determined using the methodology in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (ACOE 2010). Dudek biologists collected photographic records that represent on-site habitats (Appendix A).

### 4.3 Flora

To the extent feasible due to the timing of the survey and the phenology of the plants, Dudek biologists identified all plant species encountered to the lowest taxonomic level needed to determine wetland plant indicator status. Those species that could not be immediately identified were brought into the laboratory for further investigation. Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2019), and common names follow the U.S. Department of Agriculture Natural Resources Conservation Service PLANTS Database (USDA 2019b). Wetland plant indicator status for each plant was determined using the Arid West regional list of the National

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Wetland Plant List: 2016 (ACOE 2016). Appendix A shows representative site photographs, and Appendix B contains a complete list of plant species observed during the field surveys.

### 4.4 Field Visit

Dudek biologist, Allie Sennett, M.S., conducted an initial survey of the Study Area on February 20, 2019, to document current site conditions and assess potential wetlands and other waters of the United States. Ms. Sennett and Dudek biologist, Laura Burris, conducted a follow-up survey of the Study Area on April 10, 2019, following the rainy season and during the period when most plants in the Study Area would be evident and identifiable. Dudek biologists reviewed previous wetland delineation mapping efforts presented in the *Wetland Delineation for the 16± acre Hunter-St. Helena Property, St. Helena, Napa County, California* (North Fork Associates 2006) prepared for the Study Area. When necessary, Dudek biologists took sample points in representative locations to assess the potential for hydric soils, hydrophytic vegetation, and hydrology. Data at two ditch transects were collected to assess channel hydrology and geomorphology. Sample point data sheets and channel transects are included in this report as Appendix C. Results of the sample points and channel transect analyses are presented in Section 6, Results of the Jurisdictional Delineation.

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## **5 PHYSICAL CHARACTERISTICS**

### **5.1 Land Uses**

The southern portion of the Study Area is currently under cultivation with a vineyard and the remainder is undeveloped. Based on a review of aerial photos, the undeveloped parcel is frequently disked. In 2010, an average of 2 feet of clean fill was placed over the undeveloped portion of the Study Area, which occurred as part of the St. Helena Flood Protection Project.

Adjacent land uses include single-family and multi-family residential development to the south. Office uses are located immediately adjacent to the site's most western edge at the terminus of Adams Street. Undeveloped land currently under cultivation is located to the north and northwest. A gravel maintenance road and public trail borders the site along the north/northwest and a city storm water detention basin borders the site to the north/northeast.

### **5.2 Topography and Soils**

Elevation throughout the Study Area ranges from approximately 210 feet above mean sea level in the northern portion of the site to 245 feet above mean sea level in the southern portion. Four soil types occur in the Study Area (Figure 2). These soil types consist of Bale clay loam, 0 to 2 percent slopes; Bale clay loam, 2 to 5 percent slopes; Cole silt loam, 0 to 2 percent slopes; and Cortina very gravelly loam, 0 to 5 percent slopes, moist (USDA 2019a).

The Bale series consist of very deep, somewhat poorly drained soils located on nearly level to gently sloping alluvial fans and terraces. These soils formed in stratified, gravelly and sandy alluvium from varied sources.

The Cole series consist of very deep, somewhat poorly drained soils located on stream terraces, floodplain steps, and alluvial fans. These soils formed in alluvium from varied sources.

The Cortina series consist of very deep, somewhat excessively drained soils on alluvial fans and floodplains. These soils formed in gravelly alluvium formed from varied rock sources.

Bale clay loam, 0 to 2 percent slopes, Cole silt loam, 0 to 2 percent slopes, and Cortina very gravelly loam, 0 to 5 percent slopes, moist are hydric soils as defined by the U.S. Department of Agriculture (USDA 2019a).

### **5.3 Watershed and Hydrology**

The Study Area is within the Middle Napa River subwatershed (Hydrologic Unit Code 180500020202). This subwatershed is part of the greater Napa River watershed, which drains

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approximately 426 square miles, beginning at the headwaters of Mt. St. Helena in the Mayacamas Mountain Range to San Pablo Bay south of the Study Area (NCRCD 2002).

Hydrology within the Study Area is shaped by precipitation and surface runoff, including irrigation runoff. Surface runoff in the Study Area generally drains to the north into the existing City detention basin or into two drainage ditches (Ditch 1 and Ditch 2) that occur along the northeastern and mid-eastern edge of the Study Area. The drainage ditches eventually empty into the detention basin, which contains a low-flow outlet that empties into the Napa River.

The National Wetlands Inventory (NWI) does not identify any waters of the U.S., including wetlands, in the Study Area (USFWS 2019). The U.S. Geologic Survey (USGS 2019) identifies one wetland onsite; this feature is likely associated with the detention basin located immediately north of the Study Area (refer to Figure 3).

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## 6 RESULTS OF THE JURISDICTIONAL DELINEATION

The land cover within the project area consists of a combination of terrestrial and aquatic land cover types. The vegetation communities and land covers have been adapted from the California Wildlife Habitat Relationships System (CDFW 2019). The following vegetation communities and land cover types were documented on site and are described in further detail in the following sections: California annual grassland, cultivated vineyard, upland swale, seasonal wetlands, and drainage ditches.

### 6.1 Terrestrial Habitat Types

**California Annual Grassland.** California annual grassland is the dominant land cover within the Study Area. This vegetation community is dominated by non-native grasses such as slender wild oats (*Avena barbata*), soft chess (*Bromus hordeaceus*), and seaside barley (*hordeum marinum*). Also present in this vegetation community are non-native forbs such as buttercup (*Ranunculus muricatus*), big heron bill (*Erodium botrys*), and fiddle dock (*Rumex pulcher*).

**Vineyard.** A cultivated vineyard occurs within the southern half of the Study Area. This land cover is divided into three distinct patches of vineyard, including one patch that dominates the southern pan handle of the Study Area. Based on a review of aerial photographs, the vineyard has been present in this area since at least 1993 (Google 2019). There are no trees or shrubs, other than grapevines, present within this community. The understory is dominated by similar species present in the California annual grassland community (discussed above).

**Upland Swale.** There is one upland swale in the northwest corner of the Study Area. The swale directs surrounding surface runoff to the detention basin north of the Study Area. Apart from the detention basin, the upland swale is isolated from aquatic features. Vegetation in the swale is consistent with the surrounding California annual grassland. No defined bed and bank are associated with the swale, which was likely excavated specifically for stormwater drainage purposes. No evidence of an OHWM is present. The swale does not meet the three parameter test for hydric soils, hydrophytic vegetation, and hydrology.

### 6.2 Aquatic Habitat Types

#### Wetlands

**Seasonal Wetlands (SW).** Four seasonal wetlands occur in topographic depressions the middle portion of the Study Area, just north of the vineyard. These four wetlands collect and hold surface runoff long enough to create wetland hydrology, soils, and vegetation. Seaside barely is the dominate hydrophytic species present at SW-2, SW-3, and SW-4, and fiddledock is the dominate

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hydrophytic species at SW-1. Hydric soils are present at the four seasonal wetlands as indicated by a depleted matrix (Hydric Soil Indicator F3), and a biotic crust (Hydrology Indicator B12) provides evidence of wetland hydrology at the four seasonal wetlands.

### Other Waters of the United States

**Ditch 1.** When inundated, Ditch 1 flows roughly north along the northeastern perimeter of the Study Area. Ditch 1 conveys surrounding urban and agricultural surface runoff into the detention basin outside of the Study Area. Ditch 1 is a stormwater control feature constructed in dry land to convey stormwater. The ditch is connected to the detention basin via a concrete culvert. Ditch 1 contained intermittent ponds of standing water up to 3 inches deep during the February site visit and lacked water during the April site visit. Based on conditions observed in the field, Ditch 1 contains ephemeral hydrology. Ditch 1 contains a defined bed and bank, with mostly soil and some large cobble in the ditch. Vegetation is sparse to absent in the bed of the ditch, with plants only present sporadically in the low-lying areas, such as Baltic rush (*Juncus balticus*), tall flatsedge (*Cyperus eragrostis*), and sedge (*Carex* sp.). The banks of the ditch contain a mix of vegetation, including valley oak (*Quercus lobata*) trees and saplings, toyon (*Heteromeles arbutifolia*), Himalayan blackberry (*Rubus armeniacus*), and non-native grasses associated with the California annual grassland community. Evidence of an OHWM also includes undercut banks and a change in sediment texture and vegetation cover.

**Ditch 2.** When inundated, Ditch 2 flows roughly north along the middle-east perimeter of the Study Area. Similar to Ditch 1, Ditch 2 is a stormwater control feature that also conveys surrounding urban and agricultural surface runoff. Ditch 2 may contribute flows to Ditch 1 when sufficient water is present. No water was observed in Ditch 2 during the February and April site visits. Based on conditions observed in the field, Ditch 2 contains ephemeral hydrology. Dense Himalayan blackberry dominates the length of Ditch 2 in the Study Area, and coyote brush (*Baccharis pilularis*) occurs within the ditch in lesser abundance. The geomorphology of Ditch 2 is similar to a swale and does not contain a defined bed and bank. There is no evidence of an OHWM at Ditch 2.

### 6.3 Results of Data Points

Results from three representative data points document potentially jurisdictional wetland features within the Study Area based on observable field indicators (Table 1). The data collected at each data station are included in Appendix C, on the ACOE's Wetland Determination Data Forms for the Arid West Region.



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**Table 1**  
**Data Point Summary**

Data Point	Wetland Determination Field Indicators			Determination	Jurisdiction
	<i>Vegetation</i>	<i>Hydric Soils</i>	<i>Hydrology</i>		
1	✓	✓	✓	SW-2 and SW-3	None
2	None	None	None	Upland	None
3	None	None	None	Upland	None
4	None	None	None	Upland	None
5	✓	✓	✓	SW-1	None
6	None	None	None	Upland	None
7	None	None	None	Upland	None
8	✓	✓	✓	SW-4	None

ACOE = U.S. Army Corps of Engineers; CDFW = California Department of Fish and Wildlife; RWQCB = Regional Water Quality Control Board.

## **Preliminary Jurisdictional Delineation of Wetlands and Waters of the United States Hunter Subdivision Project**

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# Preliminary Jurisdictional Delineation of Wetlands and Waters of the United States Hunter Subdivision Project

## 7 CONCLUSIONS

The Study Area supports 0.021 acres (300 linear feet) of waters that are anticipated to meet the criteria of a “stream” protected under California Fish and Game Code, based on an OHWM analysis of Ditch 1. Ditch 2 does not have a defined bed and bank or an OHWM.

The study area does not support TNWs, interstate waters, or waters that support interstate commerce (33 CFR 328.3(a)(1–4)); therefore, potential ACOE jurisdiction was determined based on connectivity or adjacency to off-site waters of the United States (33 CFR 328.3(a)(5)). There are no wetlands in the Study Area connected or adjacent to a TNW.

Figure 4 depicts the spatial extent of wetland and water features within the Study Area, and Table 2 includes the total acreage of wetland features and other waters of the United States. An aquatic resources table in accordance with the ACOE format is provided in Appendix D.

**Table 2**  
**Wetlands and Waters in the Study Area**

Feature	Cowardin Code	Potential Jurisdiction	Acres	Linear Feet
<i>Wetlands</i>				
SW-01	PEM2	None	0.048	N/A
SW-02	PEM2	None	0.002	N/A
SW-03	PEM2	None	0.017	N/A
SW-04	PEM2	None	0.004	N/A
<b>Total</b>			<b>0.071</b>	<b>N/A</b>
<i>Other Waters</i>				
Ditch 1	R6	CDFW	0.021	300
Ditch 2	R6	None	0.039	570
Upland Swale	PAB3A	None	0.018	N/A
<b>Total</b>			<b>0.078</b>	<b>870</b>

ACOE = Army Corps of Engineers; CDFW = California Department of Fish and Wildlife; N/A = not applicable; PEM2 = Palustrine, emergent, nonpersistent; R6 = Riverine, ephemeral; RWQCB; Regional Water Quality Control Board; SW = Seasonal Wetland.

There are no features identified as potentially jurisdictional wetlands or waters of the United States under ACOE jurisdiction. These findings are preliminary until verified by the San Francisco District of the ACOE.

# Preliminary Jurisdictional Delineation of Wetlands and Waters of the United States Hunter Subdivision Project

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## Preliminary Jurisdictional Delineation of Wetlands and Waters of the United States Hunter Subdivision Project

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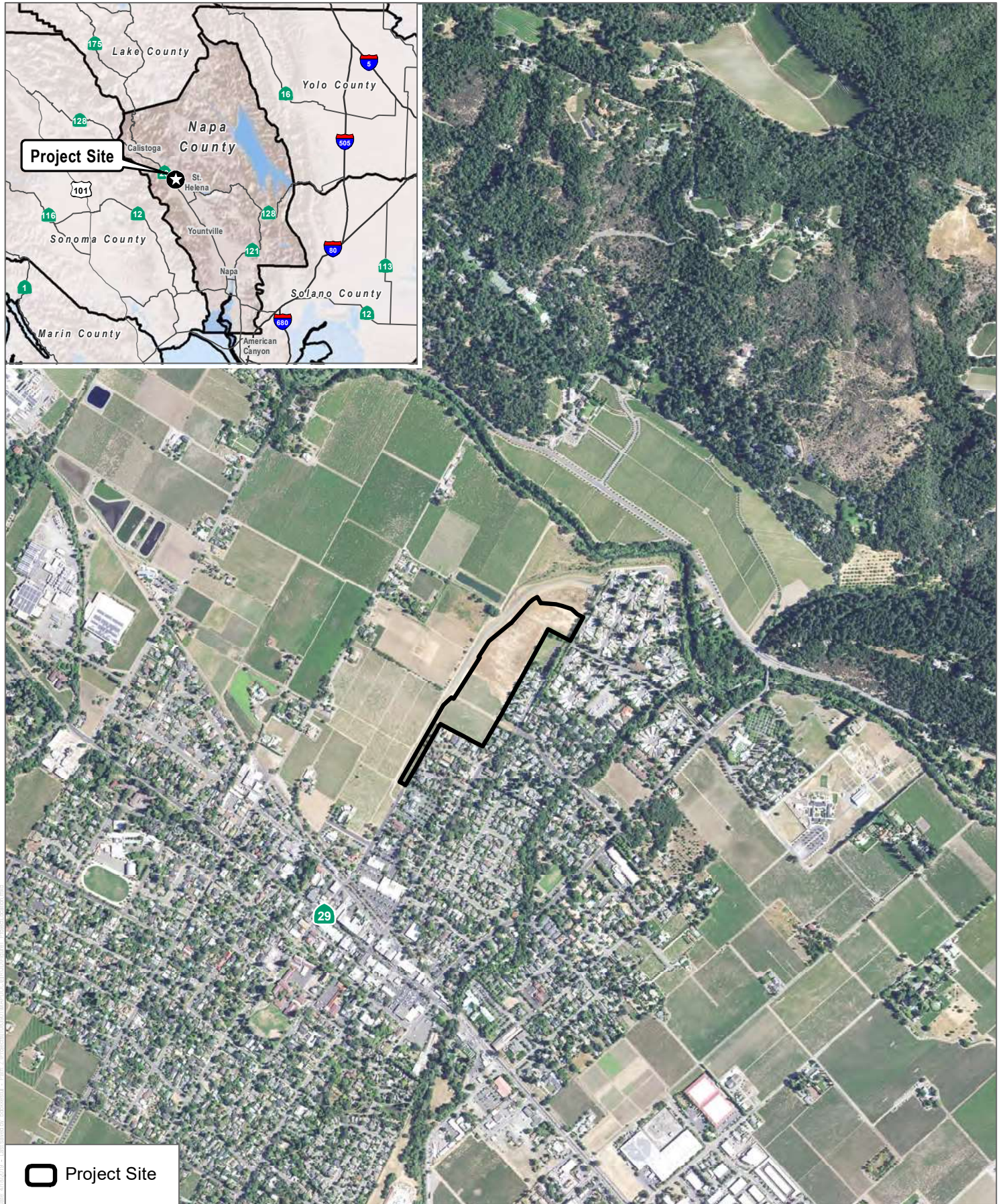
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## **Preliminary Jurisdictional Delineation of Wetlands and Waters of the United States Hunter Subdivision Project**

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SOURCE: Napa County 2015, USDA 2016

**FIGURE 1**  
Project Location  
Hunter Subdivision Project

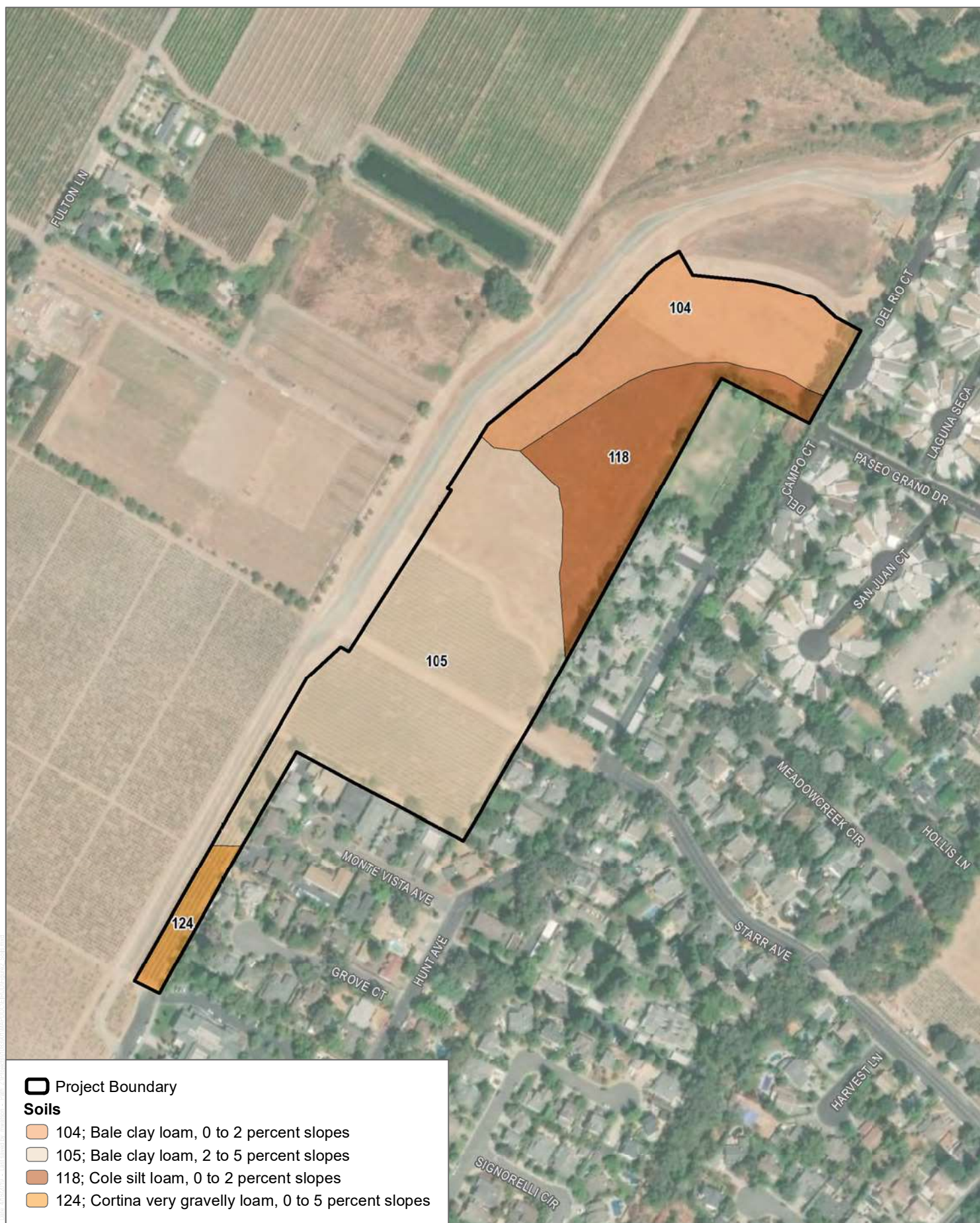


## **Preliminary Jurisdictional Delineation of Wetlands and Waters of the United States Hunter Subdivision Project**

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SOURCE: USDA 2007, Bing Maps 2019

**FIGURE 2**

**Soils**

Hunter Subdivision Project

## **Preliminary Jurisdictional Delineation of Wetlands and Waters of the United States Hunter Subdivision Project**

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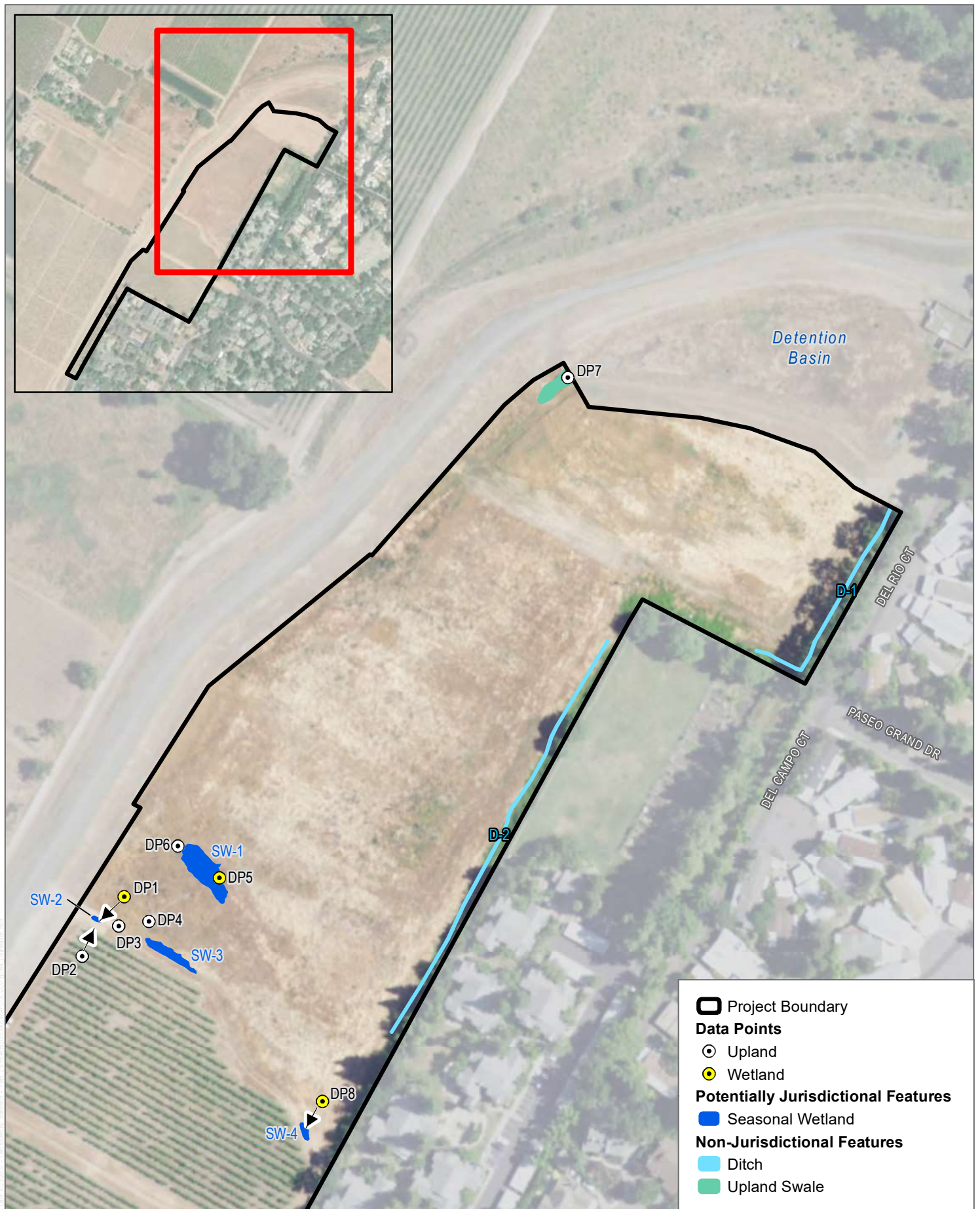
SOURCE: USGS 2018, Bing Maps 2019

## **Preliminary Jurisdictional Delineation of Wetlands and Waters of the United States Hunter Subdivision Project**

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SOURCE: USDA 2016

**DUDEK**



0 80 160 Feet

**FIGURE 4**  
Delineation of Wetlands and Waters of the U.S.  
Hunter Subdivision Project

## **Preliminary Jurisdictional Delineation of Wetlands and Waters of the United States Hunter Subdivision Project**

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# **APPENDIX A**

## ***Representative Site Photographs***





## APPENDIX A

### Representative Site Photographs

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**Photo 1:** View of the vineyard at the south end of the site, facing south. February 20, 2019.



**Photo 2:** View of SW-4, facing northwest. April 10, 2019.



## APPENDIX A (Continued)



**Photo 3:** View of SW-1, facing west. April 10, 2019.



**Photo 4:** View of SW-3, facing north. April 10, 2019.



## APPENDIX A (Continued)



**Photo 5:** View of Ditch-2, facing south. April 10, 2019.



**Photo 6:** View of Ditch-1, facing south. April 10, 2019.

## APPENDIX A (Continued)

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# **APPENDIX B**

## *Plant Species Observed*



# Preliminary Jurisdictional Delineation of Wetlands and Waters of the United States Hunter Subdivision Project

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## PLANT SPECIES

### EUDICOTS

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#### VASCULAR SPECIES

ANACARDIACEAE—Sumac Or Cashew Family

*Toxicodendron diversilobum*—poison oak

ASTERACEAE—Sunflower Family

*Baccharis pilularis*—coyote brush

*Calendula arvensis*—field marigold\*

*Centaurea solstitialis*—yellow star-thistle\*

*Lactuca serriola*—prickly lettuce\*

BRASSICACEAE—Mustard Family

*Brassica nigra*—black mustard\*

*Raphanus sativus*—cultivated radish\*

FABACEAE—Legume Family

*Acmispon americanus*—Spanish clover

*Medicago polymorpha*—burclover\*

FAGACEAE—Oak Family

*Quercus lobata*—valley oak

GERANIACEAE—Geranium Family

*Erodium botrys*—longbeak stork's bill\*

*Erodium cicutarium*—redstem stork's bill\*

*Geranium dissectum*—cutleaf geranium\*

LYTHRACEAE—Loosestrife Family

*Lythrum hyssopifolia*—hyssop loosestrife\*

MALVACEAE—Mallow Family

*Malva parviflora*—cheeseweed mallow\*

ONAGRACEAE—Evening Primrose Family

*Epilobium brachycarpum*—tall annual willowherb

POLYGONACEAE—Buckwheat Family

*Rumex crispus*—curly dock\*

*Rumex pulcher*—fiddle dock\*

RANUNCULACEAE—Buttercup Family

*Ranunculus muricatus*—spinyfruit buttercup\*

ROSACEAE—Rose Family

*Heteromeles arbutifolia*—toyon

*Rubus armeniacus*—Himalayan blackberry\*

### MONOCOTS

---

#### VASCULAR SPECIES

## Preliminary Jurisdictional Delineation of Wetlands and Waters of the United States Hunter Subdivision Project

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JUNCACEAE—Rush Family

*Juncus bufonius*—toad rush

POACEAE—Grass Family

*Avena barbata*—slender oat\*

*Avena fatua*—wild oat\*

*Bromus hordeaceus*—soft brome\*

*Festuca myuros*—rat-tail fescue\*

*Festuca perennis*—perennial rye grass\*

*Hordeum marinum*—seaside barley\*

*Poa annua*—annual bluegrass\*

\* signifies introduced (non-native) species



# **APPENDIX C**

## *Data Sheets*



# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Hunter Subdivision City/County: Napa County Sampling Date: 4/10/19  
 Applicant/Owner: Ben and Kelly Vanzutphen State: CA Sampling Point: 1  
 Investigator(s): A. Sennett, L. Burris Section, Township, Range: Undefined section, T8N, R6W  
 Landform (hillslope, terrace, etc.): Terrace/bottomland Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): C Lat: 38.511421° Long: -122.465411° Datum: WGS84  
 Soil Map Unit Name: See report NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks:  <u>Swale ~10 feet east of vineyard</u>	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>2-ft radius</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% _____ Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Hordeum marinum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Poa annua</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
3. <u>Erodium botrys</u>	<u>3</u>	<u>N</u>	<u>FACU</u>	
4. <u>Meticago polymorpha</u>	<u>3</u>	<u>N</u>	<u>FACW</u>	
5. <u>Ranunculus muricatus</u>	<u>3</u>	<u>N</u>	<u>FACW</u>	
6. <u>Juncus bufonius</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
7. <u>Festuca perennis</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
8. <u>Festuca myuros</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
<u>27</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>63</u> % Cover of Biotic Crust <u>60</u>				
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____				

Remarks:

## SOIL

Sampling Point: \_\_\_\_\_

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

[illegible]

<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.

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

### Indicators for Problematic Hydric Soils<sup>3</sup>:

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

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

## Restrictive Layer (if present):

Type: \_\_\_\_\_

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

Hydric Soil Present? Yes X No       

Remarks:

## HYDROLOGY

### Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

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

**Field Observations:**

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

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

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

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Hunter Subdivision City/County: Napa County Sampling Date: 4/10/19  
 Applicant/Owner: Ben and Kelly Vanzutphen State: CA Sampling Point: 2  
 Investigator(s): A. Sennett, L. Burris Section, Township, Range: Undefined section, T8N, R6W  
 Landform (hillslope, terrace, etc.): Terrace/bottomland Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): C Lat: 38.511399° Long: -122.465427° Datum: WGS84  
 Soil Map Unit Name: See report NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No        (If no, explain in Remarks.)  
 Are Vegetation       , Soil       , or Hydrology        significantly disturbed? Are "Normal Circumstances" present? Yes X No         
 Are Vegetation       , Soil       , or Hydrology        naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>      </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u>      </u> No <u>X</u>
Hydric Soil Present? Yes <u>X</u> No <u>      </u>	
Wetland Hydrology Present? Yes <u>      </u> No <u>X</u>	
Remarks:	

## VEGETATION – Use scientific names of plants.

<b>Tree Stratum</b> (Plot size: <u>      </u> ) 1. <u>      </u> 2. <u>      </u> 3. <u>      </u> 4. <u>      </u> <u>      </u> = Total Cover <b>Sapling/Shrub Stratum</b> (Plot size: <u>      </u> ) 1. <u>      </u> 2. <u>      </u> 3. <u>      </u> 4. <u>      </u> 5. <u>      </u> <u>      </u> = Total Cover <b>Herb Stratum</b> (Plot size: <u>2-ft radius</u> ) 1. <u>Avena barbata</u> 10 Y NL 2. <u>Erodium botrys</u> 6 Y FACU 3. <u>Festuca myuros</u> 3 N NL 4. <u>Lactuca serriola</u> 1 N FACU 5. <u>      </u> 6. <u>      </u> 7. <u>      </u> 8. <u>      </u> <u>20</u> = Total Cover <b>Woody Vine Stratum</b> (Plot size: <u>      </u> ) 1. <u>      </u> 2. <u>      </u> <u>      </u> = Total Cover % Bare Ground in Herb Stratum <u>80</u> % Cover of Biotic Crust <u>      </u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B) <b>Prevalence Index worksheet:</b> Total % Cover of: <u>      </u> Multiply by: <u>      </u> OBL species <u>      </u> x 1 = <u>      </u> FACW species <u>      </u> x 2 = <u>      </u> FAC species <u>      </u> x 3 = <u>      </u> FACU species <u>      </u> x 4 = <u>      </u> UPL species <u>      </u> x 5 = <u>      </u> Column Totals: <u>      </u> (A) <u>      </u> (B) Prevalence Index = B/A = <u>      </u> <b>Hydrophytic Vegetation Indicators:</b> <u>      </u> Dominance Test is >50% <u>      </u> Prevalence Index is ≤3.0 <sup>1</sup> <u>      </u> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. <b>Hydrophytic Vegetation Present?</b> Yes <u>      </u> No <u>X</u>
---	---

Remarks: + thatch (50/50)

## SOIL

Sampling Point: 2

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

[illegible]

<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.

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

### Indicators for Problematic Hydric Soils<sup>3</sup>:

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

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

## Restrictive Layer (if present):

Type: \_\_\_\_\_

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

Hydric Soil Present? Yes X No       

Remarks:

## HYDROLOGY

### Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

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

**Field Observations:**

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

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

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

Wetland Hydrology Present?    Yes                      No    **X**

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

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Hunter Subdivision City/County: Napa County Sampling Date: 4/10/19  
 Applicant/Owner: Ben and Kelly Vanzutphen State: CA Sampling Point: 3  
 Investigator(s): A. Sennett, L. Burris Section, Township, Range: Undefined section, T8N, R6W  
 Landform (hillslope, terrace, etc.): Bottomland Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): C Lat: 38.511402° Long: -122.465322° Datum: WGS84  
 Soil Map Unit Name: See report NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: <u>Upland swale between wetlands, ~20 feet east of vineyards</u>	

## VEGETATION – Use scientific names of plants.

<b>Tree Stratum</b> (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ _____ = Total Cover <b>Sapling/Shrub Stratum</b> (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover <b>Herb Stratum</b> (Plot size: <u>2-ft radius</u> ) 1. <u>Hordeum marinum</u> <u>70</u> <u>Y</u> <u>FAC</u> 2. <u>Festuca perennis</u> <u>5</u> <u>N</u> <u>FAC</u> 3. <u>Erodium botrys</u> <u>5</u> <u>N</u> <u>FACU</u> 4. <u>Ranunculus muricatus</u> <u>1</u> <u>N</u> <u>FACW</u> 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover <b>Woody Vine Stratum</b> (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover % Bare Ground in Herb Stratum <u>19</u> % Cover of Biotic Crust _____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B) <b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ <b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. <b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
Remarks:	

## SOIL

Sampling Point: 3

[illegible]

## HYDROLOGY

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



# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Hunter Subdivision City/County: Napa County Sampling Date: 4/10/19  
 Applicant/Owner: Ben and Kelly Vanzutphen State: CA Sampling Point: 4  
 Investigator(s): A. Sennett, L. Burris Section, Township, Range: Undefined section, T8N, R6W  
 Landform (hillslope, terrace, etc.): Bottomland Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): C Lat: 38.511418° Long: -122.465188° Datum: WGS84  
 Soil Map Unit Name: See report NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks:  Area distinguished by change in vegetation cover and type. Bare ground and biotic crust present.		

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>0</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A/B)
4. _____	_____	_____	_____		
			= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)					
1. _____	_____	_____	_____	Prevalence Index worksheet:	
2. _____	_____	_____	_____	Total % Cover of:	Multiply by:
3. _____	_____	_____	_____	OBL species _____	x 1 = _____
4. _____	_____	_____	_____	FACW species _____	x 2 = _____
5. _____	_____	_____	_____	FAC species _____	x 3 = _____
			= Total Cover	FACU species _____	x 4 = _____
Herb Stratum (Plot size: <u>2-ft radius</u> )					
1. <u>Epilobium brachycarpum</u>	<u>15</u>	<u>Y</u>	<u>NL</u>	UPL species _____	x 5 = _____
2. <u>Erodium botrys</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Column Totals: _____	(A) _____ (B) _____
3. _____	_____	_____	_____	Prevalence Index = B/A = _____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
5. _____	_____	_____	_____	___ Dominance Test is >50%	
6. _____	_____	_____	_____	___ Prevalence Index is ≤3.0 <sup>1</sup>	
7. _____	_____	_____	_____	___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
8. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
			<u>25</u> = Total Cover	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	
2. _____	_____	_____	_____		
			= Total Cover		
% Bare Ground in Herb Stratum <u>75</u> % Cover of Biotic Crust _____					

Remarks:

## SOIL

Sampling Point: 4

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

[illegible]

<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.

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

### Indicators for Problematic Hydric Soils<sup>3</sup>:

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

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

## Restrictive Layer (if present):

Type: cobble

Depth (inches): 7

Hydric Soil Present? Yes X No       

Remarks:

## HYDROLOGY

### Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

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

**Field Observations:**

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

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

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

Wetland Hydrology Present? Yes X No       

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

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Hunter Subdivision City/County: Napa County Sampling Date: 4/10/19  
 Applicant/Owner: Ben and Kelly Vanzutphen State: CA Sampling Point: 5  
 Investigator(s): A. Sennett, L. Burris Section, Township, Range: Undefined section, T8N, R6W  
 Landform (hillslope, terrace, etc.): Bottomland Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): C Lat: 38.511575° Long: -122.464877° Datum: WGS84  
 Soil Map Unit Name: See report NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation     , Soil     , or Hydrology      naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u>	No <u>    </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No <u>    </u>
Hydric Soil Present?	Yes <u>X</u>	No <u>    </u>			
Wetland Hydrology Present?	Yes <u>X</u>	No <u>    </u>			
Remarks:  Depression in grassland. Change in veg. species and cover. Bare ground and biotic crust present.					

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>    </u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>		
			= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>    </u> )					
1. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Prevalence Index worksheet:	
2. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Total % Cover of:	Multiply by:
3. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	OBL species <u>    </u>	x 1 = <u>    </u>
4. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	FACW species <u>    </u>	x 2 = <u>    </u>
5. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	FAC species <u>    </u>	x 3 = <u>    </u>
			= Total Cover	FACU species <u>    </u>	x 4 = <u>    </u>
Herb Stratum (Plot size: <u>2-ft radius</u> )					
1. <u>Rumex pulcher</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	UPL species <u>    </u>	x 5 = <u>    </u>
2. <u>Hordeum mariunum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	Column Totals:	<u>    </u> (A) <u>    </u> (B)
3. <u>Ranunculus muricatus</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	Prevalence Index = B/A = <u>    </u>	
4. <u>Lythrum hyssopifolium</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators:	
5. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>X</u> Dominance Test is >50%	
6. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u> Prevalence Index is ≤3.0 <sup>1</sup>	
7. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
8. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
			= Total Cover	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size: <u>    </u> )					
1. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Hydrophytic Vegetation Present?	
2. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Yes <u>X</u> No <u>    </u>	
			= Total Cover		
% Bare Ground in Herb Stratum <u>70</u> % Cover of Biotic Crust <u>15</u>					
Remarks:					

## SOIL

Sampling Point: 5

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

[illegible]

<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.

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

### Indicators for Problematic Hydric Soils<sup>3</sup>:

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

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

## Restrictive Layer (if present):

Type: cobble

Depth (inches): 8

Hydric Soil Present? Yes X No       

Remarks:

## HYDROLOGY

### Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

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

**Field Observations:**

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

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

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

Wetland Hydrology Present? Yes X No       

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

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Hunter Subdivision City/County: Napa County Sampling Date: 4/10/19  
 Applicant/Owner: Ben and Kelly Vanzutphen State: CA Sampling Point: 6  
 Investigator(s): A. Sennett, L. Burris Section, Township, Range: Undefined section, T8N, R6W  
 Landform (hillslope, terrace, etc.): Bottomland Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): C Lat: 38.511685° Long: -122.465063° Datum: WGS84  
 Soil Map Unit Name: See report NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: <u>On northwest edge of depression. Change in vegetation.</u>	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: _____)</b> 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
<b>Herb Stratum (Plot size: <u>2-ft radius</u>)</b> 1. <u>Avena barbata</u> <u>80</u> <u>Y</u> <u>NL</u> 2. <u>Bromus hordeaceus</u> <u>10</u> <u>N</u> <u>FACU</u> 3. <u>Hordeum mariunum</u> <u>2</u> <u>N</u> <u>FAC</u> 4. <u>Rumex pulcher</u> <u>1</u> <u>N</u> <u>FAC</u> 5. _____ 6. _____ 7. _____ 8. _____ <u>93</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b> 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>7</u> % Cover of Biotic Crust _____				
Remarks: <u>+Thatch</u>				<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>				

## SOIL

Sampling Point: 6

[illegible]

## HYDROLOGY

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

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Hunter Subdivision City/County: Napa County Sampling Date: 4/10/19  
 Applicant/Owner: Ben and Kelly Vanzutphen State: CA Sampling Point: 7  
 Investigator(s): A. Sennett, L. Burris Section, Township, Range: Undefined section, T8N, R6W  
 Landform (hillslope, terrace, etc.): channel Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): C Lat: 38.513321° Long: -122.463341° Datum: WGS84  
 Soil Map Unit Name: See report NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks:  Point in vegetated swale leading to detention basin. Small mammal burrows in banks.	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
Herb Stratum (Plot size: <u>2-ft radius</u> )				
1. <u>Bromus hordeaceus</u>	<u>55</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Festuca myuros</u>	<u>15</u>	<u>N</u>	<u>NL</u>	
3. <u>Bromus diandrus</u>	<u>5</u>	<u>N</u>	<u>NL</u>	
4. <u>Geranium dissecta</u>	<u>5</u>	<u>N</u>	<u>NL</u>	
5. <u>Avena barbata</u>	<u>1</u>	<u>N</u>	<u>NL</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>10</u> % Cover of Biotic Crust _____				
Remarks: <u>+Thatch (9%)</u>				



## SOIL

Sampling Point: 7

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

[illegible]

<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.

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

### Indicators for Problematic Hydric Soils<sup>3</sup>:

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

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

## Restrictive Layer (if present):

Type: clay

Depth (inches): 11

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

Remarks:

## HYDROLOGY

### Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

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

**Field Observations:**

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

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

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

Wetland Hydrology Present? Yes \_\_\_\_\_ No X

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

Remarks:



# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Hunter Subdivision City/County: Napa County Sampling Date: 4/10/19  
 Applicant/Owner: Ben and Kelly Vanzutphen State: CA Sampling Point: 8  
 Investigator(s): A. Sennett, L. Burris Section, Township, Range: Undefined section, T8N, R6W  
 Landform (hillslope, terrace, etc.): bottomland Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): C Lat: 38.510695° Long: -122.464486° Datum: WGS84  
 Soil Map Unit Name: See report NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks:  Point in vegetated swale leading to detention basin. Small mammal burrows in banks.					

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____	_____	_____	_____		
			= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)					
1. _____	_____	_____	_____	Prevalence Index worksheet:	
2. _____	_____	_____	_____	Total % Cover of:	Multiply by:
3. _____	_____	_____	_____	OBL species _____	x 1 = _____
4. _____	_____	_____	_____	FACW species _____	x 2 = _____
5. _____	_____	_____	_____	FAC species _____	x 3 = _____
			= Total Cover	FACU species _____	x 4 = _____
				UPL species _____	x 5 = _____
				Column Totals:	_____ (A) _____ (B)
				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: <u>2-ft radius</u> )					
1. <u>Festuca perennis</u>	<u>3</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators:	
2. <u>Ranunculus muricatus</u>	<u>2</u>	<u>Y</u>	<u>FACW</u>	<u>X</u> Dominance Test is >50%	
3. _____	_____	_____	_____	___ Prevalence Index is ≤3.0 <sup>1</sup>	
4. _____	_____	_____	_____	___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
5. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
			<u>5</u> = Total Cover	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Present?	
2. _____	_____	_____	_____	Yes <u>X</u> No _____	
			= Total Cover		
% Bare Ground in Herb Stratum <u>75</u>			% Cover of Biotic Crust <u>20</u>		

Remarks:

## SOIL

Sampling Point: 8

[illegible]

## HYDROLOGY

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

Project: Hunter SubdivisionDate: 4/10/19Location: St. HelenaInvestigator(s): AES, LAB**Project Description:**

See report

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

Some rip-rap is present in the channel, but only intermittently. No other major disturbances.  
Minor erosion present, but not throughout channel.

**Off-site Information**

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

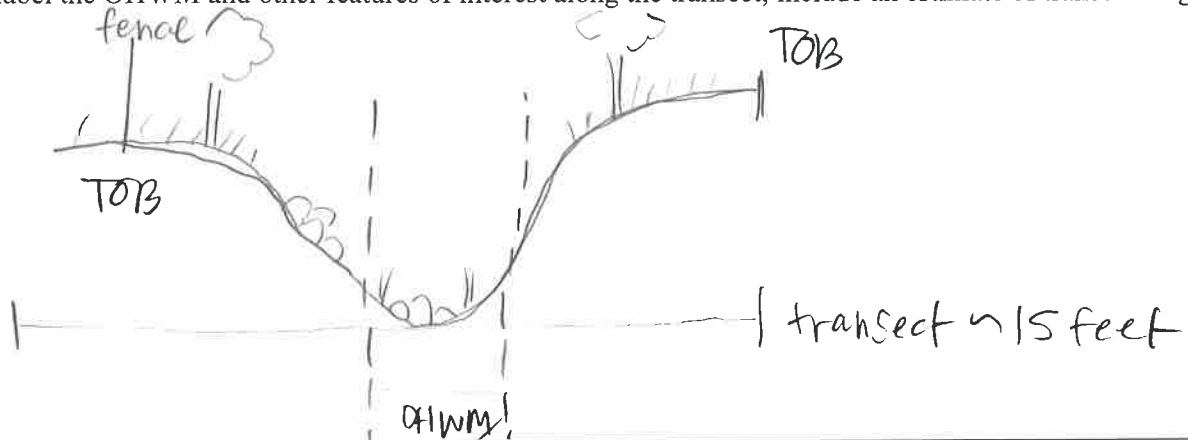
**Hydrologic/hydraulic information acquired?** ☐ Yes ☒ No [If yes, attach information to datasheet(s) and describe below.] Description:

**List and describe any other supporting information received/acquired:**

NA

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

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



**Break in Slope at OHWM:** ☐ Sharp ( $> 60^\circ$ ) | ☒ Moderate ( $30-60^\circ$ ) | ☐ Gentle ( $< 30^\circ$ ) | ☐ None

Notes/Description:

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

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	100%	0	0	0	0	Y
Below OHWM	96%	0	0	2	2	Y

Notes/Description:

little change in soil between banks & bed.

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

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	5	0	10	85%
Below OHWM	0	0	3%	97%

lots of leaf litter

Notes/Description:

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

some sediment sorting  
defined bed & bank  
change in vegetation

Project: Huxter SubdivisionDate: 4/10/19Location: St. HelenaInvestigator(s): AES, LAB

## Project Description:

See report

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

the feature is overgrown w/ Himalayan  
blackberry - no other disturbances observed.

Off-site Information

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

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

## List and describe any other supporting information received/acquired:

NA

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

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



**Break in Slope at OHWM:** ☐ Sharp ( $> 60^\circ$ ) | ☐ Moderate ( $30-60^\circ$ ) | ☐ Gentle ( $< 30^\circ$ ) | ☒ None

Notes/Description:

gentle slope, but no defined bed/bank/OHWM

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

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

Notes/Description:

no sediment sorting observed.

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

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	0	90	5	5
Below OHWM	0	100	0	0

Notes/Description:

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

no indicators of OHWM present.

**APPENDIX D**  
*Aquatic Resources Spreadsheet*





Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude
Seasonal Wetland 1	CALIFORNIA	PEM	DEPRESS	Area	0.048	ACRE	EXCLDB4V	38.51158100	#####
Seasonal Wetland 2	CALIFORNIA	PEM	DEPRESS	Area	0.002	ACRE	EXCLDB4V	38.51141900	#####
Seasonal Wetland 3	CALIFORNIA	PEM	DEPRESS	Area	0.017	ACRE	EXCLDB4V	38.51137400	#####
Seasonal Wetland 4	CALIFORNIA	PEM	DEPRESS	Area	0.004	ACRE	EXCLDB4V	38.51069000	#####
Ditch 1	CALIFORNIA	R6	RIVERINE	Linear	300	FOOT	EXCLDB3I	38.51262600	#####
Ditch 2	CALIFORNIA	R6	RIVERINE	Linear	570	FOOT	EXCLDB3I	38.51198800	#####



DEPARTMENT OF THE ARMY  
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS  
1455 MARKET STREET  
SAN FRANCISCO, CALIFORNIA 94103-1398

JUL 18 2008

Regulatory Division

SUBJECT: File Number 400151N

Ms. Erin Gottschalk  
North Fork Associates  
110 Maple Street, Suite 100  
Auburn, California 95603

RECEIVED

JUL 23 2008

NFA

Dear Ms. Gottschalk:

This letter is written in response to your submittal requesting confirmation of the extent of Corps of Engineers jurisdiction at a 16-acre property known as the, "Hunter-St. Helena Project Site. The property is located west of Pope Street between State Highway 29 and the Silverado Trail in St. Helena, Napa County, California, (APN 009-030-020).

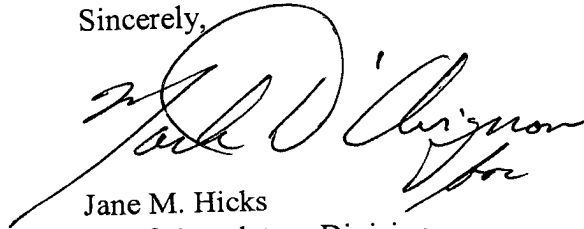
Enclosed is a map showing the extent and location of Corps of Engineers jurisdiction. We have based this jurisdictional delineation on the current conditions on the site as verified during a site visit performed by our staff on January 29, 2008. A change in those conditions may also change the extent of our jurisdiction. This jurisdictional delineation will expire in five years from the date of this letter. However, if there has been a change in circumstances that affects the extent of Corps jurisdiction, a revision may be completed before that date. Since your delineation information was received before June 5, 2007, the effective date of the official interagency guidance interpreting the Supreme Court decision, Rapanos v. United States, 126 S. Ct. 2208 (2006), the Corps did not apply this guidance to the delineation in rendering this jurisdictional determination.

All proposed discharges of dredged or fill material into waters of the United States must be authorized by the Corps of Engineers pursuant to Section 404 of the Clean Water Act (CWA) (33 U.S.C. Section 1344). Waters of the United States generally include tidal waters, lakes, ponds, rivers, streams (including intermittent streams), and wetlands..

You are advised that the Corps has established an Administrative Appeal Process, as described in 33 C.F.R. Part 331 (65 Fed. Reg. 16,486; March 28, 2000), and outlined in the enclosed flowchart and "Notification of Administrative Appeal Options, Process, and Request for Appeal" form (NAO-RFA). If you do not intend to accept the approved jurisdictional determination, you may elect to provide new information to the District Engineer for reconsideration or submit a completed NAO-RFA form to the Division Engineer to initiate the appeal process. You will relinquish all rights to appeal, unless the Corps receives new information or a completed NAO-RFA form within sixty (60) days of the date of the NAO-RFA.

Should you have any questions regarding this matter, please call David Wickens of our Regulatory Division at (415) 503-6787. Please address all correspondence to the Regulatory Division and refer to the File Number at the head of this letter. If you would like to provide comments on our permit review process, please complete the Customer Survey Form available online at <http://per2.nwp.usace.army.mil/survey.html>.

Sincerely,

A handwritten signature in black ink, appearing to read "Jane M. Hicks", written over a large, loopy circular flourish.

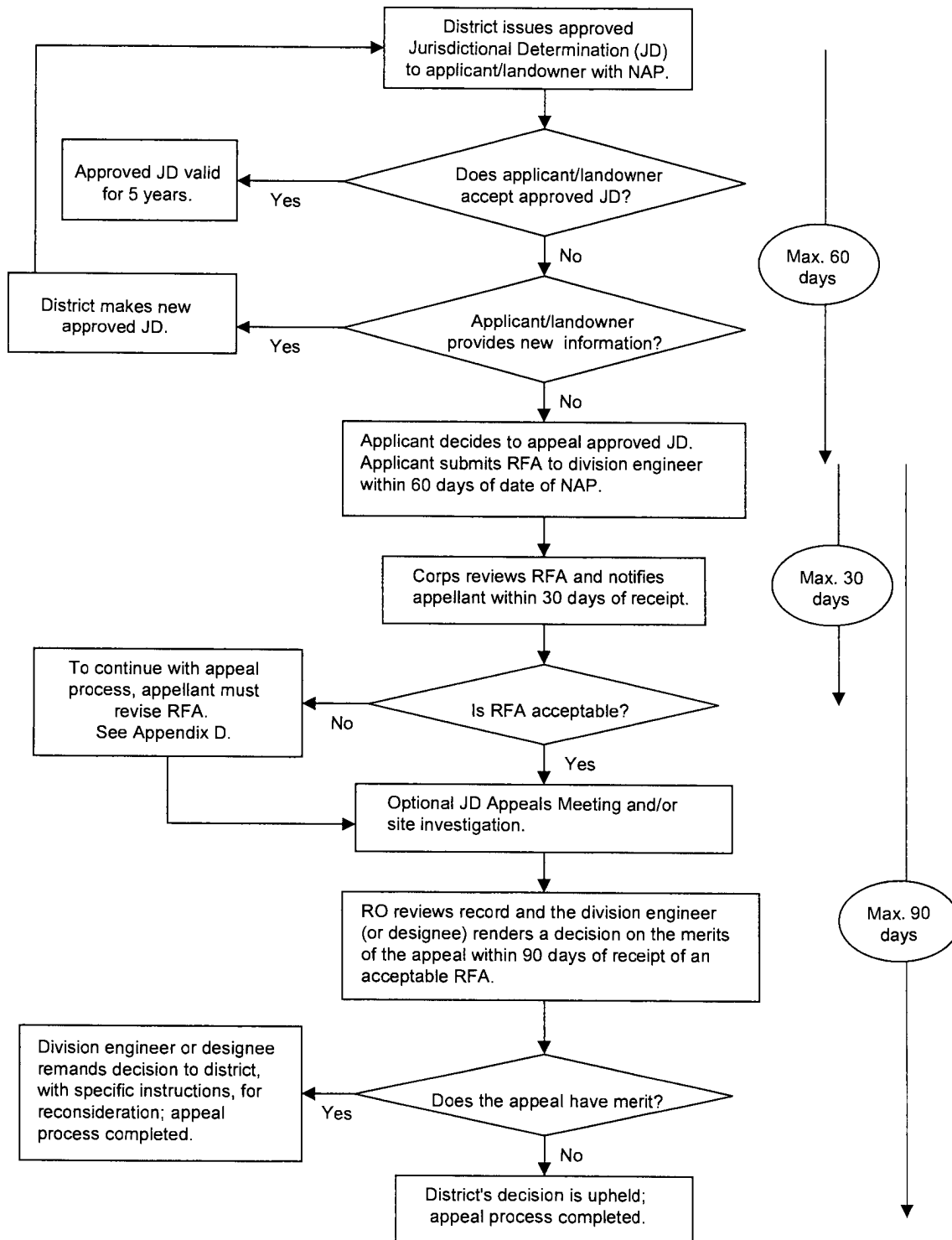
Jane M. Hicks  
Chief, Regulatory Division

Enclosures

Copy Furnished

CA RWQCB, Santa Rosa, CA  
Dennis R. Hunter

## Administrative Appeal Process for Approved Jurisdictional Determinations



## NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Dennis R. Hunter		File Number: 400151N	Date: July 18, 2008
Attached is:			See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A	
	FINAL PROFFERED PERMIT (Standard Permit or Letter of permission)	B	
	PERMIT DENIAL	C	
X	APPROVED JURISDICTIONAL DETERMINATION	D	
	PRELIMINARY JURISDICTIONAL DETERMINATION	E	

**SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://usace.army.mil/inet/functions/cw/cecwo/reg> or Corps Regulations at 33 CFR Part 331.**

**A: INITIAL PROFFERED PERMIT:** You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the DISTRICT Engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the initial proffered permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this Notice and return the Notice to the DISTRICT Engineer. Your objections must be received by the DISTRICT Engineer within 60 days of the date of this Notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your Notice, the DISTRICT Engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the DISTRICT Engineer will send you a final proffered permit for your reconsideration, as indicated in Section B below.

**B: FINAL PROFFERED PERMIT:** You may accept or decline/appeal the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the DISTRICT Engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the final proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this Notice and sending the form to the DIVISION (not District) Engineer (address on reverse). This Notice must be received by the DIVISION (not District) Engineer within 60 days of the date of this Notice.

**C: PERMIT DENIAL:** You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this Notice and sending the Notice to the DIVISION (not District) Engineer (address on reverse). This Notice must be received by the DIVISION (not District) Engineer within 60 days of the date of this Notice.

**D: APPROVED JURISDICTIONAL DETERMINATION (JD):** You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this Notice means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this Notice and sending the Notice to the DIVISION (not District) Engineer (address on reverse). This Notice must be received by the DIVISION Engineer within 60 days of the date of this Notice. JD appeals based on NEW information must be submitted to the DISTRICT Engineer within 60 days of the date of this Notice.

**E: PRELIMINARY JURISDICTIONAL DETERMINATION (JD):** You do not need to respond to the Corps regarding the preliminary JD. The preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps District for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

**SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT, FINAL PROFFERED PERMIT, PERMIT DENIAL, or JURISDICTIONAL DETERMINATION**

**REASONS FOR APPEAL OR OBJECTIONS:** (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this Notice to clarify where your reasons or objections are addressed in the administrative record.)

**ADDITIONAL INFORMATION:** The appeal is limited to a review of the administrative record; the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the Review Officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

**POINT OF CONTACT FOR QUESTIONS OR INFORMATION:**

If you have questions regarding this decision and/or the appeal process you may contact:

Jane Hicks, Regulatory Branch Chief  
U.S. Army Corps of Engineers, San Francisco District  
1455 Market Street, San Francisco, CA 94103-1398

Tel.: (415)503-6771 Fax: (415) 503-6690

If you only have questions regarding the appeal process you may also contact:

Douglas R. Pomeroy, Appeal Review Officer  
U.S. Army Corps of Engineers, South Pacific Division  
1455 Market Street, San Francisco, CA 94103-1399

Tel.: (415)503-6574 Fax: (415) 503-6647

**RIGHT OF ENTRY:** Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation, and will have the opportunity to participate in all site investigations.



<div data-bbox="99 170 604 212" data-label="Text"><p>Signature of Appellant or Agent</p></div>	<div data-bbox="820 100 906 138" data-label="Text"><p>Date:</p></div>	<div data-bbox="1183 100 1453 142" data-label="Text"><p>Telephone Number:</p></div>
--	---	---



September 15, 2015

Ms Carla Violet  
Urban Planning Partners, Inc.  
350 Frank H Ogawa Plaza  
Oakland, CA 94612

RE: Hunter Subdivision Project, St. Helena, CA

Dear Ms Violet:

At your request, WRA, Inc. made a site visit to the proposed Hunter Subdivision Project (Subdivision) in St. Helena (Figure 1) on March 20, 2015 for the purpose of reviewing existing conditions of the property where the Subdivision is proposed to be constructed and also to review an additional site at the intersection of Silverado Trail and Pope Street (Intersection) where new signalization is proposed in association with the Subdivision project. WRA previously prepared biological resources review of the Subdivision project in 2012, and this letter report provides updated information to augment that report. Also included in this letter is biological resources information for the area at the Intersection site that may be impacted by improvements related to changes in traffic signalization at the Intersection site.

#### **A. Updated Biological Resource Assessment Information, Hunter Subdivision Site**

A site visit was conducted on March 20, 2015 by WRA staff in order to observe existing conditions of the property where the Subdivision has been proposed and compare to the conditions existing at the time the biological resources were assessed in 2012. The Subdivision property was found to be in a similar condition in 2015 as it was in 2012, with only maintenance work (e.g., mowing) conducted in the interim to control fuel loading (vegetation). There was no construction or other soil disturbances detected and it was determined the site conditions were comparable to conditions observed in 2012. The project description for the subdivision has not been changed and, therefore, potential impacts and evaluation completed in 2012 were reviewed in order to determine if results and conclusions then had changed and needed revision in 2015.

A list of special-status plant and wildlife species with potential to be present on the property or in proximity to it in the surrounding area was prepared for the 2012 biological assessment. This list was compared with current 2015 species information in data bases including the California Natural Diversity Data Base and California Native Plant Society Plant Inventory in order to determine if the status of species had changed or if species should be added to or removed from the list since 2012. The following information provides special-status species updated information:

### A.1. Plants

A total of 30 special-status plants were included in the 2012 list that had the potential for being in the region of the Subdivision site and had basic habitat or occurrence requirements that would allow plants to potentially be present. All of the plants were rated in 2012 as being Not Present or Unlikely to be present because specific factors needed to support many of the plants were not present on the site and also because the project site had been recently graded and disturbed; therefore, the probability that any of the special-status plants would be present was very low.

In 2015 the site conditions were observed to have not changed substantially since 2012. The site had been maintained in essentially the same condition and no new habitat types had been created or lost and no soil movement was detected. A review of the most recent list of plants potentially present (May 2015, see Attachment 1) indicates that the species having the potential to be present are essentially the same as 2012, however a few changes have been reported as shown in Figure 2. Despite these changes, re-evaluation indicates that the conclusions reached in 2012 are still valid in 2015 for the Subdivision portion of the Project (see discussion for the added Intersection site of the Project below).

### A.2. Wildlife

In 2012, 28 special-status species of wildlife were identified as being potentially present in the area of the Subdivision site, including in adjacent areas and in proximity to the site such that they potentially could be impacted by development. Because wildlife have the capability of moving around, they generally are evaluated within a wider area and involving habitats that may occur in surrounding areas. A review of the recent listing of special-status species potentially present indicates that the same species still have the potential to be present and that new occurrences have been reported as shown in Figure 3. Evaluation of the species and potential impacts that could be caused by development indicates that the conclusions reached in 2012 remain the same in 2015 for the Subdivision site (see discussion for the added Intersection portion of the Project below).

### A.3. Biological Communities and Habitat

The Subdivision site has been maintained in the same condition as it was in 2012 in which much of it had been graded and managed to maintain grassland habitat in prior years. The western portion, in vineyard in 2012, was still in vineyard in 2015 and other features noted in 2012, such as drainage ditches, were also still present in 2015. The Project is separated from the Napa River and the riparian habitat along the river (both considered sensitive habitats) by a water treatment pond and a habitat restoration area adjacent to the river; therefore the river and riparian habitat along the river was considered to be at far enough distance away from the development (approximately 500 feet) to not be adversely affected by the Project in the 2012 assessment, and that conclusion is still valid in 2015.

With the addition of the Intersection site, the chaparral/mixed broadleaf forest habitat on the hillside to the east would not be considered a sensitive habitat but the Napa River/riparian habitat to the west would be. Stream and/or riparian habitat is regulated by various agencies including the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act (the Napa River at areas below the ordinary high water mark) and the California Department of

Fish and Wildlife (CDFW) under 1600 Fish and Game Code (the Napa River, its banks, and riparian vegetation).

## **B. Biological Resource Assessment Information, Silverado Trail/Pope Street Intersection Site**

Concerns that the Subdivision project may cause traffic congestion have been raised which may result in needing to install traffic lights and re-configure traffic lanes at the intersection of Silverado Trail and Pope Street (Intersection site), southeast of the Subdivision site (Figure 4). The addition of traffic light signals at the intersection will require modification of the roadway, including occupying wider areas of the existing roadway in order to maintain throughway lanes, add turn lanes, add bicycle lanes, add median strips and raised islands, and install traffic signal lights (Figure 4). As proposed, however, all of these improvements can be completed within the existing footprint of the existing roadway hardscape because of areas along the roadway that have been paved or used as pull over areas. Therefore, the Intersection work will not result in removal of any existing habitat and will only utilize existing roadway area hardscape more efficiently.

The location of the Intersection site is between the Napa River to the west and a hillside and ridge to the east, and these areas have different habitat types from what is present at the Subdivision site. These additional habitat types are stream/riparian habitat associated with the Napa River and chaparral/mixed broadleaf forest on the hillside and ridge. The special-status species that may use these habitats need to be added to the species list and evaluated for potential impacts. In order to make the list complete, the additional species have been combined into the 2012 list, and the full list containing the original 2012 list and newly added species is provided as one updated list in this report (Attachment 1). Although no habitat area will be removed in order to complete the Intersection improvement work, the potential for adverse impacts to sensitive habitat and/or special-status species was evaluated. Special-status species that were evaluated and ranked as having a Moderate or High potential for being present are presented below.

### **B.1. Special-status Species of Plants Potentially Present at Intersection Site**

The stream/riparian and chaparral/mixed broadleaf forest habitats at the Intersection site have the potential for a number of plant species to be present that differ from the species at the Subdivision site. Therefore, the updated list of plant species includes the additions with a total number of plants now at 63 (see Attachment 1). Many of these additional potential species were determined to be Not Present or Unlikely to be present based on factors such as elevation range, soil type, or no known occurrences within several miles. Still, one plant was ranked as having High Potential for presence and three plants were ranked as having a Moderate Potential for presence, and these species are summarized below.

Napa false indigo (*Amorpha californica* var. *napensis*), High Potential. CNPS Rank 1B.2. – Often found in broadleaved upland forest, chaparral, cismontane woodland and in openings in forest or woodland or in chaparral. Its elevation range is below 800 m and it blooms in May through July. In addition to its habitat type being present adjacent to the Intersection site area, known occurrences have been reported within a mile of the Project.

Clara Hunt's milk-vetch (*Astragalus claranus*), Moderate Potential. Federal Endangered, State Threatened, CNPS Rank 1B.1. – This plant can be found in chaparral (openings), cismontane

woodland, valley and foothill grassland on serpentine or volcanic, rocky, clay soil. Elevation ranges of this plant are from 250 to 900 feet (75 to 275 meters), and it blooms March through May. There are occurrences of this plant reported in the area.

Narrow anthered brodiaea (*Brodiaea leptandra*), Moderate Potential. CNPS Rank 1B.2. This plant is found in broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and in valley and foothill grassland at elevation ranges from 360 to 3000 feet (110 to 915 meters). It blooms in May through July. Suitable habitat is present, however elevation range of plant is generally higher than project area. The closest known occurrence is approximately 0.75 mile to east of Intersection site.

Greene's narrow-leaved daisy (*Erigeron greenei*), Moderate Potential. CNPS Rank 1B.2. Chaparral, and especially on serpentine or volcanic soil, is the preferred habitat for this species. Its elevation range is from 260 to 3300 feet (80 to 1005 meters) and it blooms May through September. Although no serpentine soil is present, nearby occurrence is the main factor this plant warrants a Moderate rating for being present in areas adjacent to the site.

Because no exiting habitat will be removed in order to complete the Intersection improvements, no adverse impact to special-status plants is expected. No additional surveys or mitigation measures are needed or recommended.

## B.2. Special-status Species of Wildlife Potentially Present at Intersection Site

A review of the special-status wildlife species indicates that the same species described for the Subdivision site have the potential to be at the Intersection site. This is because of proximity to the Subdivision site and the fact that wildlife are not stationary and have the ability to move between habitat types (e.g., from nesting habitat to foraging habitat, etc.). However, the proximity of the Intersection site to the stream/riparian habitat and the chaparral/mixed broadleaf habitat causes the rating for presence of some of the wildlife species previously given in the 2012 assessment to change to higher probability, and these are summarized below:

Silver-haired Bat (*Lasionycteris noctivagans*), WBWG Medium Priority. Moderate Potential. Primarily a forest dweller, feeding over streams, ponds, and open brushy areas. It roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark. Previously rated as Unlikely to be present at the Subdivision site, the proximity of the riparian and chaparral/mixed broadleaf forest habitat to the Intersection site may provide roost habitat for this species and the rating is raised to Moderate.

Fringed Myotis (*Myotis thysanodes*), WBWG High Priority. Moderate Potential. A bat associated with a wide variety of habitats including mixed coniferous-deciduous forest and redwood/sequoia groves. Buildings, mines and large snags are important day and night roosts. Previously rated as Unlikely for presence at the Subdivision site, the riparian and chaparral mixed broadleaf forest habitat in proximity to the Intersection site causes the rating for this species to be raised to Moderate.

Purple Martin (*Progne subis*), State Species of Special Concern. High Potential. A bird that inhabits woodlands and low elevation coniferous forests. It nests in old woodpecker cavities and human-made structures, and the nest is often located in a tall isolated tree or snag. Previously considered to be Not Present at the Subdivision site, the forest habitat and recent reported occurrences in the area gives cause to raise the rating for presence to High.

Foothill Yellow-legged Frog (*Rana boylei*), State Species of Special Concern. Moderate Potential Found in or near rocky streams in a variety of habitats and prefers partly-shaded, shallow streams and riffles with a rocky substrate; requires at least some cobble-sized substrate for egg-laying. Previously rated as Not Present at the Subdivision site, the possibility that it could be present in the Napa River adjacent to the Intersection site raises the potential for occurrence to Moderate. It is not rated High because the nearest occurrence is approximately two miles west with the urban area of St. Helena in between. Therefore, there is no direct corridor that would allow migration between the Project location and the known occurrences.

Western Pond Turtle (*Actinemys marmorata*), State Species of Special Concern. Moderate Potential. A thoroughly aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. It requires basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying. Previously rated as Unlikely to be present at the Subdivision site, this species may be present in the Napa River for use as a migration corridor, and the rating for potential presence is changed to Moderate.

Steelhead, Central California Coast ESU (*Oncorhynchus mykiss*), Federal Threatened. High Potential. Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean. High rating is for the Napa River. This species is known to occur in upstream tributaries and likely migrates between those tributaries and downstream habitats, including the Pacific Ocean.

Other wildlife species evaluated but not rated as Moderate or High for potential presence are listed in Attachment 1.

The work to improve the intersection with traffic light signals, lane changes, and median strips and islands will be conducted within the existing footprint of roadway hardscape and no habitat will be removed. Although the construction work and eventual increased traffic may create activity and noise, this is not likely to cause an adverse impact to wildlife because a relatively high level of activity and noise is an existing condition at the intersection. This intersection was observed to be a busy intersection during the site visit conducted on an average afternoon in March 2015. Numerous vehicles were observed either traveling through the intersection on Silverado Trail and/or coming from or turning onto Pope Street and Howell Mountain Road; often there were vehicles backed up waiting to make turns. While additional construction work and traffic may result from the Subdivision project and may cause noise and traffic congestion at the Intersection, wildlife that is present in proximity to the intersection is already acclimated to activity, noise, and traffic as the normal condition. Any increase in activity, noise, or traffic that may be caused by the Subdivision project is not likely to affect wildlife adversely in any significant way because they are acclimated. Therefore, there are no recommendations needed to mitigate for an increase in construction activity, noise, and traffic.

### B.3. Sensitive Habitat Community Evaluation

With the addition of stream/riparian and chaparral/mixed broadleaf forest habitats, only the stream/riparian habitat would be considered a sensitive habitat. No work will be conducted in the Napa River and work will only involve roadway areas that are existing hardscape that are 100 to 120 feet away from the river. No habitat or vegetation will be removed, therefore, no

impacts to sensitive habitat is expected as a result of work that will be conducted for improvements made at the Intersection site. No permits would be expected to be needed from the Corps or CDFW. Toxic liquids, such as paint, fuel, lubricants, and un-cured concrete, used during Intersection improvement work could adversely affect sensitive Napa River and riparian habitat if spilled or leaked in these habitats. However, measures to avoid or reduce the possibility of spillage or leaks will be included in a Storm Water Pollution Prevention Plan (SWPPP) that will be required to be prepared for the Project. This was addressed in the Project draft EIR in Section I. Hydrology and Water Quality, such as recommending fueling and maintenance offsite as much as possible and, if onsite, no closer than 50 feet to drain inlets, drainage courses, and receiving waters. Because the project is more than 100 feet away from the Napa River, no adverse impacts would be expected and no additional mitigation measures are recommended.

This concludes the review and evaluation of biological resources. If you have questions or require additional information, please contact us.

Sincerely,

A handwritten signature in black ink, appearing to read "Douglas Spicher", written in a cursive style.

Douglas Spicher

Encl.





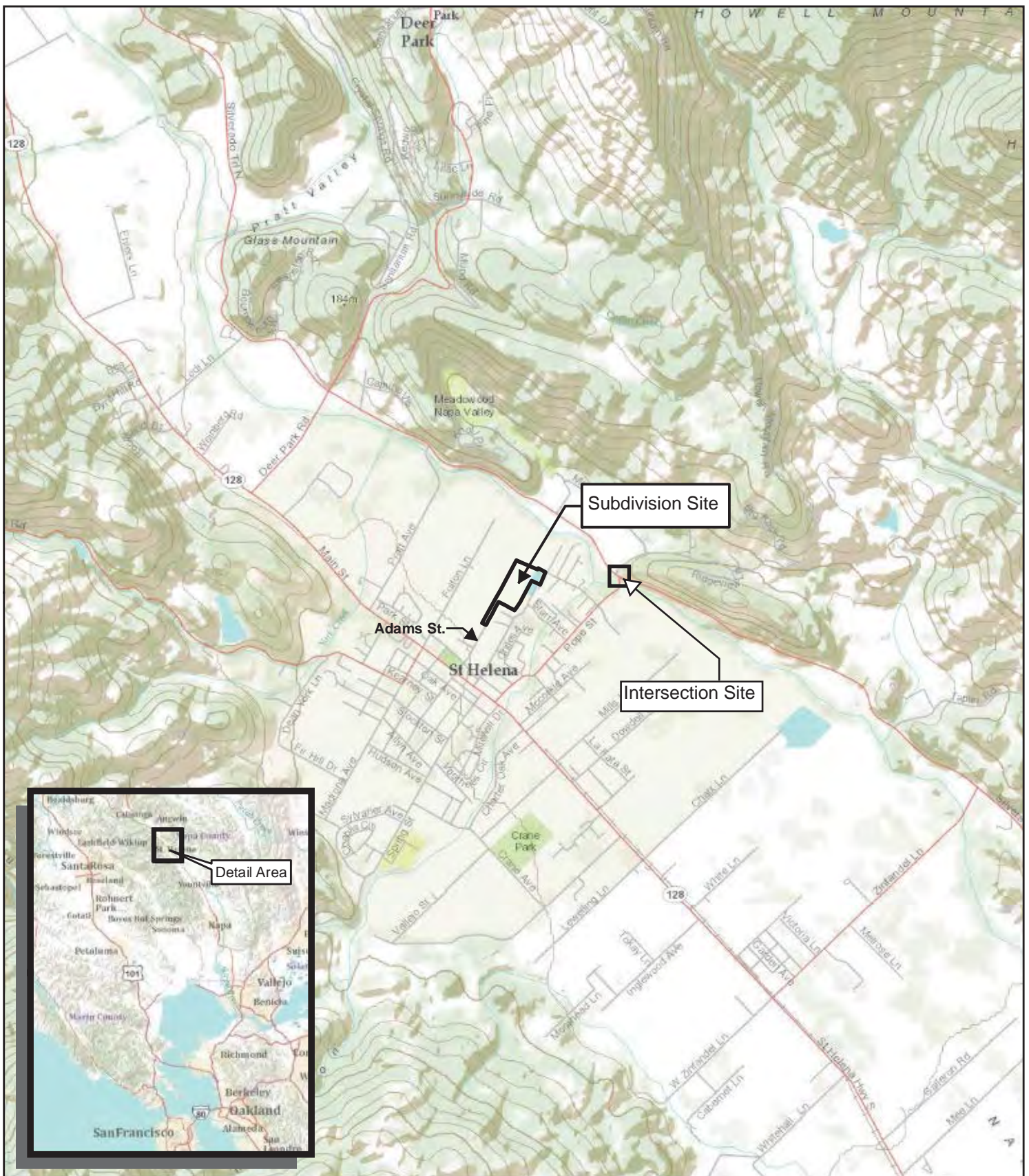
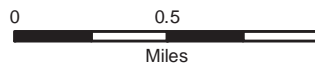


Figure 1. Project Area Location Map

Hunter BRA  
Napa County, CA



Date: December 2011  
Map By: Derek Chan  
Base Source: ESRI





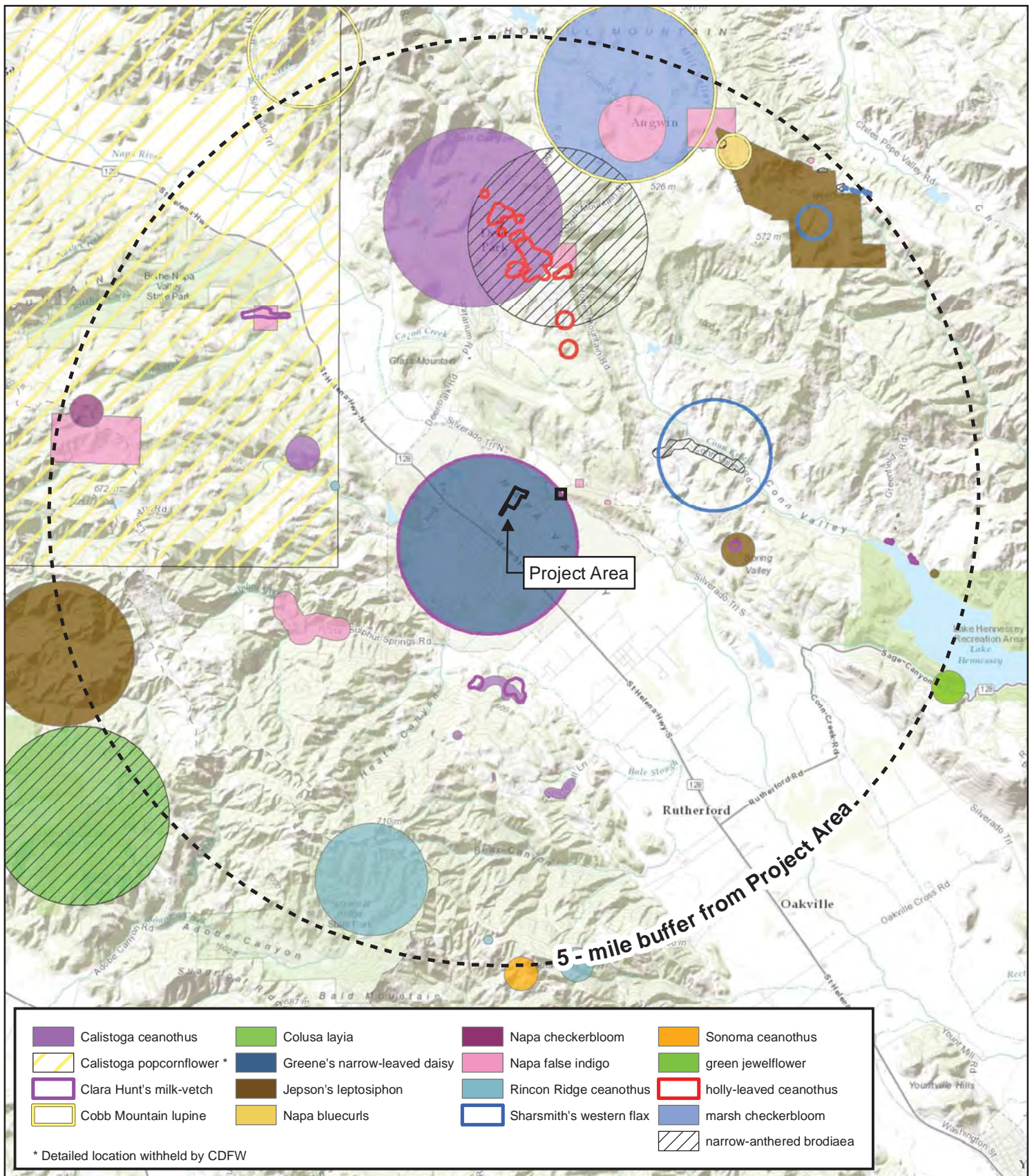


Figure 2. Special Status Plant Species within 5 miles of the Project Area

Hunter BRA  
Napa County, California



Map Prepared Date: 6/3/2015  
Map Prepared By: dchan  
Base Source:  
Data Source(s): WRA





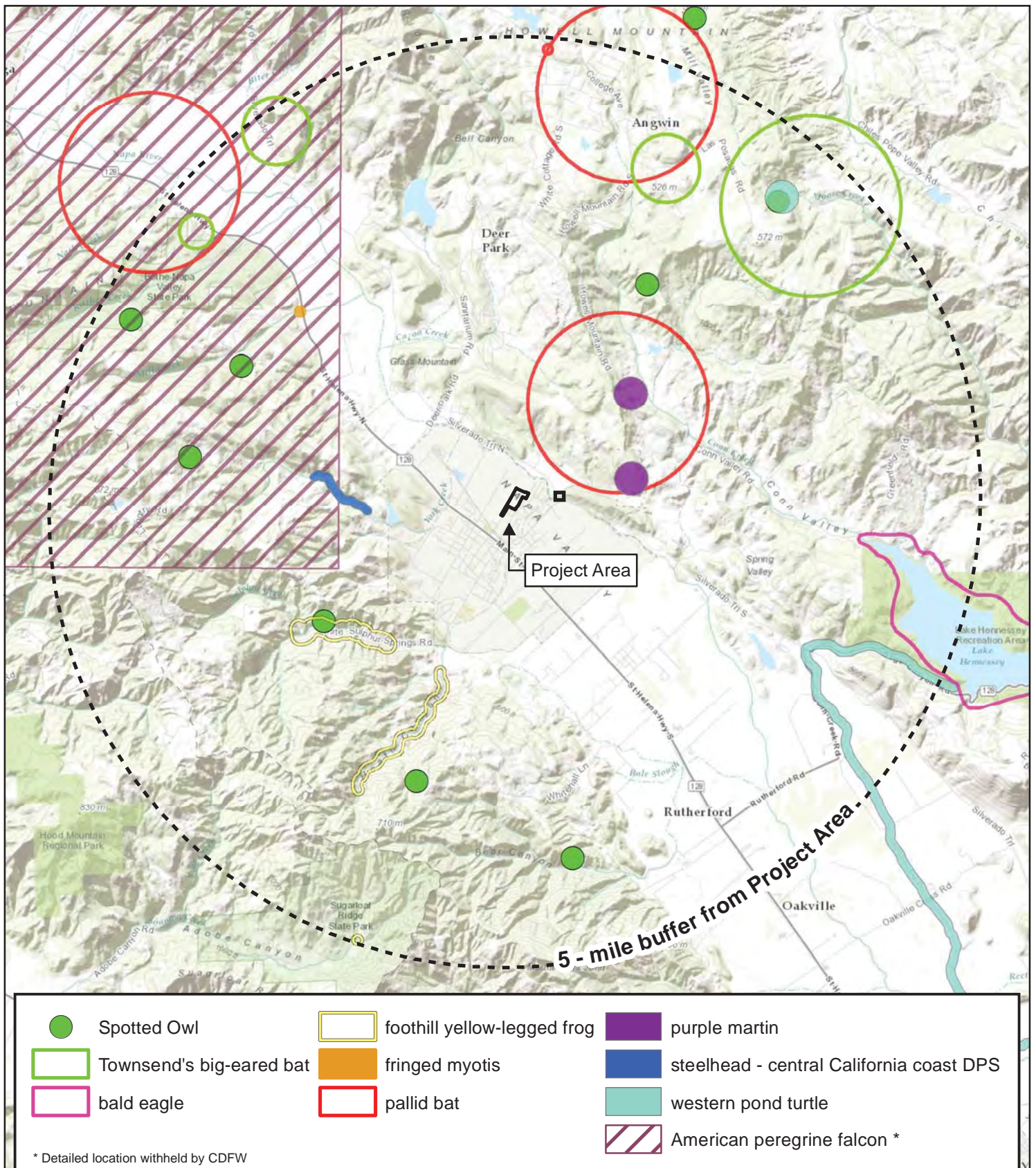


Figure 3. Special Status Wildlife Species within 5 miles of the Project Area



Hunter BRA  
Napa County, California



Map Prepared Date: 6/3/2015  
Map Prepared By: dchan  
Base Source:  
Data Source(s): WRA





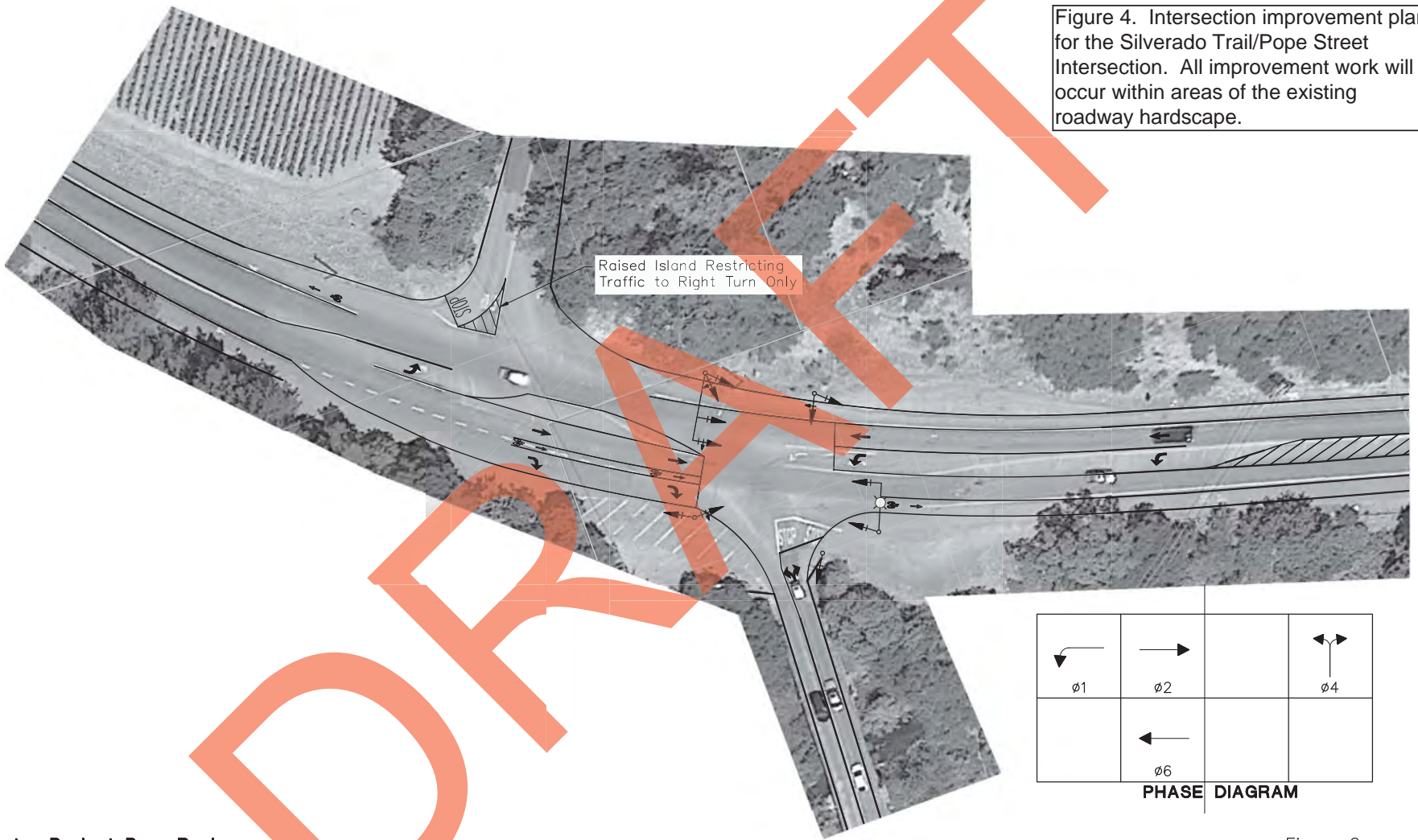


Figure 4. Intersection improvement plan for the Silverado Trail/Pope Street Intersection. All improvement work will occur within areas of the existing roadway hardscape.



**Attachment 1.** Special status plant and wildlife species that may occur, or are known to occur in habitats similar to those found on the Hunter Subdivision Project Area (Subdivision) and in the added Silverado Trail/Pope Street Intersection Signalization Area (Intersection). List compiled from CNDDDB (CDFW 2015) and CNPS Electronic Inventory (CNPS 2015) for the St. Helena, Yountville, Kenwood, Rutherford, Chiles Valley, Calistoga, Walter Springs, Detert Reservoir and Aetna Springs USGS 7.5" quadrangles, and USFWS Species lists (USFWS 2015) for the Project area.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
<b>Plants</b>			
Franciscan onion <i>Allium peninsulare</i> var. <i>franciscanum</i>	Rank 1B.2	Cismontane woodland, valley and foothill grasslands of clay, volcanic, or serpentine soils. 50-300 m. Blooms: May-June	<b>Not Present.</b> The Project Area lacks suitable serpentine soils habitat for this species.
Sonoma alopecurus <i>Alopecurus aequalis</i> var. <i>sonomensis</i>	FE, Rank 1B.1	Marshes and freshwater swamps and riparian scrub. 0-400 m. Blooms: May-June	<b>Not Present.</b> The Project Area lacks suitable freshwater habitat for this species.
Napa false indigo <i>Amorpha californica</i> var. <i>napensis</i>	Rank 1B.2	Broadleafed upland forest, chaparral, cismontane woodland; in openings in forest or woodland or in chaparral. < 800 m. Blooms: May-July.	<b>High.</b> Suitable habitat is present in the area of the Intersection site. Known occurrences in area of project site.
bent-flowered fiddleneck <i>Amsinckia lunaris</i>	Rank 1B.2	Coastal bluff scrub, cismontane woodland, valley and foothill grassland. 50-500 m. Blooms: March - June	<b>Not Present.</b> The Project Area lacks suitable habitat for this species.
alkali milk-vetch <i>Astragalus tener</i> var. <i>tener</i>	RP, Rank 1B.2	Low ground, alkali flats, and flooded lands in annual grassland or in playas or vernal pools. 1-170 m. Blooms: March-June	<b>Not Present.</b> The Project Area lacks suitable wetlands habitat for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
Konocti manzanita <i>Arctostaphylos manzanita ssp. elegans</i>	Rank 1B.3	Chaparral, cismontane woodland, lower montane coniferous forest/volcanic. Elevation ranges from 1300 to 5300 feet (395 to 1615 meters). Blooms January-May (July).	<b>Not Present.</b> Elevation range of plant is too high for project areas and none were observed during a site visit which included the blooming period.
Rincon Ridge manzanita <i>Arctostaphylos stanfordiana ssp. decumbens</i>	Rank 1B.1	Chaparral (rhyolitic), cismontane woodland. Elevation ranges from 250 to 1210 feet (75 to 370 meters). Blooms February-April (May).	<b>Unlikely.</b> Suitable habitat is present at the Intersection site, however none were observed during a site visit which included the blooming period. Occurrences reported are 5 miles or greater away from project sites.
Clara Hunt's milk-vetch <i>Astragalus claranus</i>	FE, ST, Rank 1B.1	Chaparral (openings), cismontane woodland, valley and foothill grassland/serpentine or volcanic, rocky, clay. Elevation ranges from 250 to 900 feet (75 to 275 meters). Blooms March-May.	<b>Moderate to Unlikely.</b> The Subdivision area is not suitable habitat because of its recent disturbance. The Intersection area could be suitable habitat, however, there are no serpentine soils in this area to which the plant has a high affinity. In addition, this plant was not observed to be present during a site visit conducted during the blooming period.
Jepson's milk-vetch <i>Astragalus rattanii var. jepsonianus</i>	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland/often serpentine. Elevation ranges from 970 to 2300 feet (295 to 700 meters). Blooms March-June.	<b>Unlikely.</b> Elevation range of plant is too high for project areas and none were observed during a site visit which included the blooming period.
Sonoma sunshine <i>Blennosperma bakeri</i>	FE, SE, Rank 1B.1	Occurs in mesic soils of valley and foothill grasslands and vernal pools. 10 - 110 m. Blooms: March- May	<b>Not Present.</b> The Project Area lacks suitable wetlands and vernal pool habitat for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
narrow-anthered brodiaea <i>Brodiaea leptandra</i>	Rank 1B.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland/volcanic. Elevation ranges from 360 to 3000 feet (110 to 915 meters). Blooms May-July.	<b>Moderate.</b> Suitable habitat is present, however elevation range of plant is generally higher than project area. Closest known occurrence is approximately 0.75 mile to east of Intersection site.
round-leaved filaree <i>California macrophylla</i>	Rank 1B.1	Clay soils of cismontane woodland, valley and foothill grasslands. 15-1,200 m. Blooms: March-May	<b>Not Present.</b> The Project Area lacks suitable habitat for this species.
small-flowered calycadenia <i>Calycadenia micrantha</i>	Rank 1B.2	Chaparral, meadows and seeps (volcanic), valley and foothill grassland/roadside, rocky, talus, scree, sometimes serpentine, sparsely vegetated areas. Elevation ranges 390 to 1500 m. Blooms June-September.	<b>Not Present.</b> Elevation of plant is higher than project sites and no seep/serpentine soils are present.
Rincon Ridge ceanothus <i>Ceanothus confusus</i>	Rank 1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland/volcanic or serpentine. Elevation ranges from 250 to 3490 feet (75 to 1065 meters). Blooms February-June.	<b>Unlikely.</b> Habitat is present although no serpentine soils are present and no individuals were observed during a site visit conducted during the blooming period.
Calistoga ceanothus <i>Ceanothus divergens</i>	Rank 1B.2	Chaparral (serpentine or volcanic, rocky). Elevation ranges from 560 to 3120 feet (170 to 950 meters). Blooms February-April.	<b>Not Present.</b> Elevation of plant is higher than project area and no Ceanothus species were observed during site visits which included the blooming period of this plant.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
holly-leaved ceanothus <i>Ceanothus purpureus</i>	Rank 1B.2	Chaparral, cismontane woodland/volcanic, rocky. Elevation ranges from 390 to 2100 feet (120 to 640 meters). Blooms February-June.	<b>Unlikely.</b> Elevation range of plant is generally higher than project area and none were observed during a site visit that included the blooming period.
Sonoma ceanothus <i>Ceanothus sonomensis</i>	Rank 1B.2	Chaparral; on sandy, serpentine or volcanic soils. 210-800m. Blooms : February-April.	<b>Not Present.</b> The Project Area lacks suitable habitat for this species. None were observed during site visit that was within the blooming period, serpentine soils are not present, and known occurrence is nearly 5 miles away.
pappose tarplant <i>Centromadia parryi</i> ssp. <i>parryi</i>	Rank 1B.2	Chaparral, coastal prairie, meadows and seeps, marshes and swamps (coastal salt), valley and foothill grassland (vernally mesic)/often alkaline. Elevation ranges from 0 to 1380 feet (0 to 420 meters). Blooms May-November.	<b>Not Present.</b> No suitable habitat is present, particularly wetlands areas to which this plant has an affinity.
Point Reyes bird's-beak <i>Chloropyron maritimum</i> ssp. <i>palustre</i>	Rank 1B.2	Coastal salt marshes and swamps. 0 - 10 m. Blooms June-October.	<b>Not Present.</b> The Project Area contains no salt marsh habitat.
soft bird's beak <i>Chloropyron molle</i> ssp. <i>molle</i>	FE, SR, Rank 1B.2	Coastal salt marshes and swamps. 0-3 m. Blooms July- November.	<b>Not Present.</b> The Project Area contains no salt marsh habitat.
Sonoma spineflower <i>Chorizanthe valida</i>	FE, SE, Rank 1B.1	Coastal prairie (sandy). 10-305 m. Blooms June – August.	<b>Not Present.</b> The Project Area lacks suitable habitat for this species.
serpentine cryptantha <i>Cryptantha dissita</i>	Rank 1B.2	Chaparral (serpentine). Elevation ranges from 1300 to 1900 feet (395 to 580 meters). Blooms April-June.	<b>Not Present.</b> Plant has a high affinity for serpentine soil and none is present in the project areas.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
Baker's larkspur <i>Delphinium bakeri</i>	FE, SE, Rank 1B.1	Broadleafed upland forest, coastal scrub, valley and foothill grassland. Occurs in decomposed shale and often mesic soils. 80-305 m. Blooms: March-May	<b>Not Present.</b> No known occurrences nearby and none were observed during a site visit conducted during the blooming period.
golden larkspur <i>Delphinium luteum</i>	FE, SR, Rank 1B.1	Chaparral, coastal prairie, rocky coastal scrub. 0-100 m. Blooms March – May.	<b>Not Present.</b> No known occurrences nearby and none were observed during a site visit conducted during the blooming period.
dwarf downingia <i>Downingia pusilla</i>	Rank 2	In mesic areas within valley and foothill grassland and vernal pools. Elevation range: 0 – 500 m. Blooms: March-May	<b>Not Present.</b> The Project Area lacks suitable wetlands-vernal pool habitat for this species.
Greene's narrow-leaved daisy <i>Erigeron greenei</i>	Rank 1B.2	Chaparral (serpentine or volcanic). Elevation ranges from 260 to 3300 feet (80 to 1005 meters). Blooms May-September.	<b>Moderate.</b> Habitat type and elevation range is suitable for this plant at the Intersection site, however there is no serpentine soil present. A survey for this plant should be conducted to determine presence or absence.
fragrant fritillary <i>Fritillaria liliacea</i>	Rank 1B.2	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland; typically associated with clay substrate, often serpentine. 0 – 450 m. Blooms: February-April	<b>Not Present.</b> The Project Area lacks suitable habitat for this species. None were observed during a site visit conducted during the blooming period.
adobe-lily <i>Fritillaria pluriflora</i>	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland/often adobe. Elevation ranges from 200 to 2310 feet (60 to 705 meters). Blooms February-April.	<b>Not Present.</b> The Project Area lacks suitable habitat for this species. None were observed during a site visit conducted during the blooming period.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
Hall's harmonia <i>Harmonia hallii</i>	Rank 1B.2	Endemic to serpentine soils. 390 – 890 m. Blooms April – June.	<b>Not Present.</b> The Project Area lacks suitable habitat for this species because no serpentine soil is present in project areas.
sea-side tarplant <i>Hemizonia congesta ssp. congesta</i>	Rank 1B.2	Sometimes roadsides, valley and foothill grassland with affinity for serpentine soil. 20-560 m. Blooms: April- November	<b>Not Present.</b> The Project Area lacks suitable habitat for this species because no serpentine soil is present.
two-carpellate western flax <i>Hesperolinon bicarpellatum</i>	Rank 1B.2	Chaparral (serpentine). Elevation ranges from 200 to 3300 feet (60 to 1005 meters). Blooms May-July.	<b>No Present.</b> No serpentine soils are present in the project areas.
Marin western flax <i>Hesperolinon congestum</i>	FT, CT, Rank 1B.1	Chaparral, valley and foothill grassland (serpentine barrens, serpentine grassland). 30 – 365 m. Blooms: April –July	<b>Not Present.</b> The Project Area lacks suitable habitat for this species because no serpentine soil is present.
Napa western flax <i>Hesperolinon serpentinum (bicarpellatum)</i>	Rank 1B.1	A strict endemic to serpentine soils. Blooms March to July.	<b>Not Present.</b> Serpentine soils required by this plant are not present in the project areas.
Sharsmith's western flax <i>Hesperolinon sharsmithiae</i>	Rank 1B.2	Chaparral/serpentine. Elevation ranges from 890 to 980 feet (270 to 300 meters). Blooms May-July.	<b>Not Present.</b> The Project Area lacks suitable habitat for this species, plant elevation is higher than project sites, and no serpentine soils are present.
Santa Lucia dwarf rush <i>Juncus luciensis</i>	Rank 1B.2	Chaparral, great basin scrub, lower montane coniferous forest, meadows and seeps, vernal pools. Elevation ranges from 980 to 6690 feet (300 to 2040 meters). Blooms April-July.	<b>Not Present.</b> The Project Area lacks suitable wetlands habitat for this species.
Burke's goldfields <i>Lasthenia burkei</i>	FE, SE, Rank 1B.1	Vernal pools, swales, meadows and seeps. 0 – 700 m. Blooms: April-June	<b>Not Present.</b> The Project Area lacks suitable wetlands habitat for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
Contra Costa goldfields <i>Lasthenia conjugens</i>	FE, Rank 1B.1	Cismontane woodland, alkaline playas, valley and foothill grassland, vernal pools; in mesic portions of wetlands. 0 – 550 m. Blooms: March-June	<b>Not Present.</b> The Project Area lacks suitable wetlands habitat for this species.
Colusa layia <i>Layia septentrionalis</i>	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland/sandy, serpentine. Elevation ranges from 330 to 3590 feet (100 to 1095 meters). Blooms April-May.	<b>Unlikely.</b> Habitat type is present, however recent disturbance of the Subdivision site precludes its presence, the elevation range of this plant is higher than the project areas, and none were observed during a site visit during its blooming period.
legenere <i>Legenere limosa</i>	Rank 1B.1	Vernal pools. Elevation range: 3 – 2885 feet. Blooms: April – June.	<b>Not Present.</b> The Project Area lacks suitable wetlands habitat for this species.
Jepson's leptosiphon <i>Leptosiphon jepsonii</i>	List 1B	Chaparral, cismontane woodland; on open to partially shaded grassy slopes on volcanic or the periphery of serpentine substrate. 100 – 550 m. Blooms: April-May	<b>Unlikely.</b> The project area lacks suitable habitat for this species, no serpentine soil is present.
Sebastopol meadowfoam <i>Limnanthes vinculans</i>	FE, SE, Rank 1B.1	Vernal pools. 0 – 1,000 m. Blooms: April-June	<b>Not Present.</b> The Project Area lacks suitable wetlands habitat for this species.



SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
Cobb Mountain lupine <i>Lupinus sericatus</i>	Rank 1B.2	Broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 900 to 5000 feet (275 to 1525 meters). Blooms March-June.	<b>Not Present.</b> The habitat types are not suitable and elevation range of this plant is higher than the project areas.
marsh microseris <i>Microseris paludosa</i>	Rank 1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. 5 - 300 m. Blooms: April- June	<b>Not Present.</b> The Project Area lacks suitable habitat for this species.
Baker's navarretia <i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Rank 1B.1	Cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, and vernal pools. 5-1740m. Blooms April-July.	<b>Not Present.</b> The Project Area lacks suitable wetlands habitat for this species.
few-flowered navarretia <i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	FE, ST, Rank 1B.1	Vernal pools (volcanic ash flow). Elevation ranges from 1310 to 2810 feet (400 to 855 meters). Blooms May-June.	<b>Not Present.</b> The Project Area lacks suitable wetlands habitat for this species.
many-flowered navarretia <i>Navarretia leucocephala</i> ssp. <i>plieantha</i>	FE, SE, Rank 1B.2	Vernal pools (volcanic ash flow). Elevation ranges from 100 to 3120 feet (30 to 950 meters). Blooms May-June.	<b>Not Present.</b> The Project Area lacks suitable wetlands habitat for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
small pincushion navarretia <i>Navarretia myersii</i> ssp. <i>deminuta</i>	Rank 1B.1	Vernal pools (clay loam). Elevation ranges from 1160 to 1160 feet (355 to 355 meters). Blooms April-May.	<b>Not Present.</b> The Project Area lacks suitable wetlands habitat for this species.
Marin County navarretia <i>Navarretia rosulata</i>	Rank 1B.2	Closed-cone coniferous forest, chaparral/serpentine, rocky. Elevation ranges from 660 to 2080 feet (200 to 635 meters). Blooms May-July.	<b>Not Present.</b> The Project Area lacks suitable wetlands habitat for this species.
Sonoma beardtongue <i>Penstemon newberryi</i> var. <i>sonomensis</i>	Rank 1B.3	Yellow pine forest, red fir forest, lodgepole forest, subalpine forest. 360 – 3560 m. Blooms April – May.	<b>Not Present.</b> The project areas lack suitable habitat for this species and plant elevation range is higher than project area.
Petaluma popcorn-flower <i>Plagiobothrys mollis</i> var. <i>vestitus</i>	Rank 1A	Occurs in coastal salt marshes and swamps and mesic areas within valley and foothill grasslands. 15-305 m. Blooms: June-July	<b>Not Present.</b> This species is presumed extinct in California.
Calistoga popcorn-flower <i>Plagiobothrys strictus</i>	FE, ST, Rank 1B.1	Meadows and seeps, valley and foothill grassland, vernal pools/alkaline areas near thermal springs. Elevation ranges from 300 to 520 feet (90 to 160 meters). Blooms March-June.	<b>Not Present.</b> Wetland habitat is not present in the project areas
North Coast semaphore grass <i>Pleuropogon hooverianus</i>	List 1B.1, ST	Broadleaved upland forest, meadows and seeps, North Coast coniferous forest, moist open areas. 10-671 m. Blooms April – June.	<b>Not Present.</b> The Project Area lacks suitable wetland habitat for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
Napa blue grass <i>Poa napensis</i>	FE, SE, Rank 1B.1	Meadows and seeps, valley and foothill grassland/alkaline, near thermal springs. Elevation ranges from 330 to 660 feet (100 to 200 meters). Blooms May-August.	<b>Not Present.</b> The Project Area lacks suitable wetland habitat for this species.
Pt. Reyes checkerbloom <i>Sidalcea calycosa ssp. rhizomata</i>	Rank 1B.2	Freshwater marshes and swamps near coast. 3-75 m. Blooms April to September.	<b>Not Present.</b> The Project Area lacks suitable freshwater habitat for this species.
Napa checkerbloom. <i>Sidalcea hickmanii ssp napensis</i>	Rank 1B.1	Perennial herb in chamise chaparral, rocky volcanic soil Elevation 450-500 m. Blooms April-June.	<b>Unlikely.</b> Elevation range is higher for this plant than the project sites. Known from only two occurrences.
Marsh checkerbloom <i>Sidalcea oregana ssp. hydrophila</i>	Rank 1B.2	Riparian, meadows, usually in wetlands conditions. 400-2300 m. Blooms July-August.	<b>Unlikely.</b> Wetlands conditions are not present, plant habitat at higher elevation range than project sites, and no known occurrences within 5 miles of project sites.
Kenwood Marsh checkerbloom <i>Sidalcea oregana ssp. valida</i>	FE, SE, Rank 1B.1	Marshes and swamps (freshwater). Elevation ranges from 380 to 490 feet (115 to 150 meters). Blooms June-September.	<b>Unlikely.</b> Wetlands conditions are not present, plant habitat at higher elevation range than project sites, and no known occurrences within 5 miles of project sites.
Tamalpais jewel-flower <i>Streptanthus batrachopus</i>	Rank 1B.3	Closed-cone coniferous forest, chaparral/serpentine. Elevation ranges from 1000 to 2130 feet (305 to 650 meters). Blooms April-July.	<b>Not Present.</b> Elevation of plant is higher than project sites and no serpentine soils are present.
Socrates mine jewelflower <i>Streptanthus brachiatus ssp. brachiatus</i>	Rank 1B.2	Chaparral, close coned forest (serpentine). 740 to 980 m. Blooms May-June	<b>Unlikely.</b> Elevation range of plant is generally higher than project sites, no serpentine soils are present, and known occurrence is more than 5 miles away.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
green jewel-flower <i>Streptanthus hesperidis</i>	Rank 1B.2	Chaparral (openings), cismontane woodland/serpentine, rocky. Elevation ranges from 430 to 2490 feet (130 to 760 meters). Blooms May-July.	<b>Unlikely.</b> Elevation range of plant is generally higher than project sites, no serpentine soils are present, and known occurrence is more than 5 miles away.
Three Peaks jewel-flower <i>Streptanthus morrisonii</i> ssp. <i>elatus</i>	Rank 1B.2	Chaparral (serpentine). Elevation ranges from 300 to 2670 feet (90 to 815 meters). Blooms June-September.	<b>Unlikely.</b> Elevation range of plant is generally higher than project sites, no serpentine soils are present, and known occurrence is more than 5 miles away.
Early jewelflower <i>Streptanthus vernalis</i>	Rank 1B.2	Affinity for serpentine gravelly soils. 600-900 m. Blooms March – May.	<b>Unlikely.</b> Elevation range of plant is generally higher than project sites, no serpentine soils are present, and known occurrence is more than 5 miles away.
Napa bluecurls <i>Trichostema ruygtii</i>	Rank 1B.2	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland, vernal pools. Elevation ranges from 100 to 2230 feet (30 to 680 meters). Blooms June-October.	<b>Unlikely.</b> Subdivision habitat not suitable with recent disturbance. Plant is usually near habitat with vernal pools or saturated clay soils, therefore habitat at Intersection site also not suitable. Nearest occurrence nearly 5 miles away.
showy rancheria clover <i>Trifolium amoenum</i>	FE, List 1B	Valley and foothill grassland, coastal bluff scrub, swales, open sunny sites, sometimes on serpentine. 0- 450 m. Blooms: April-June.	<b>Not Present.</b> The Project Area lacks suitable habitat for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
saline clover <i>Trifolium hydrophilum</i>	Rank 1B.2	Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools. Elevation ranges from 0 to 980 feet (0 to 300 meters). Blooms April-June.	<b>Not Present.</b> The Project Area lacks suitable wetlands habitat for this species.
oval-leaved viburnum <i>Viburnum ellipticum</i>	Rank 2B.3	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 710 to 4590 feet (215 to 1400 meters). Blooms May-June.	<b>Not Present.</b> Elevation of plant is higher than project sites.
<b>Mammals</b>			
Pallid Bat <i>Antrozous pallidus</i>	SSC, WBWG High Priority	Occupies a variety of habitats at low elevation including grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting.	<b>Unlikely.</b> The Project Area lacks roost habitat for this species, though it may occasionally forage over the grassland.
Townsend's Big-eared Bat <i>Corynorhinus townsendii</i>	SSC	Lives in a wide variety of habitats; day roosts highly associated with caves and mines. Need appropriate roosting, maternity, and hibernation sites free from human disturbance.	<b>Unlikely.</b> Project Area lacks suitable rocky roost habitat for this species, though it could pass through while foraging.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
Western Red Bat <i>Lasiurus blossevillii</i>	SSC, WBWG High Priority	Typically solitary, roosting primarily in the foliage of trees or shrubs. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards or urban areas near riparian habitat.	<b>Moderate Potential.</b> The Project Area contains suitable foliage for roosting on its perimeter and the vineyards, open areas, ponds, and Napa River in the vicinity provide suitable foraging habitat.
Silver-haired Bat <i>Lasionycteris noctivagans</i>	WBWG Medium Priority	Primarily a forest dweller, feeding over streams, ponds, and open brushy areas. It roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark.	<b>Moderate Potential.</b> Project area at Intersection site has suitable forest roost habitat for this species and it could pass through while foraging.
Long-eared Myotis <i>Myotis evotis</i>	WBWG Medium Priority	Found in all brush, woodland and forest habitats from sea level to about 9000 feet. Prefers coniferous woodlands and forests. Nursery colonies in buildings, crevices, spaces under bark, and snags. Caves used primarily as night roosts.	<b>Unlikely.</b> Project Area lacks suitable coniferous forest roost habitat for this species, though it could pass through while foraging.
Fringed Myotis <i>Myotis thysanodes</i>	WBWG High Priority	Associated with a wide variety of habitats including mixed coniferous-deciduous forest and redwood/sequoia groves. Buildings, mines and large snags are important day and night roosts.	<b>Moderate.</b> Project area at Intersection site has suitable forest roost habitat for this species and it could pass through while foraging.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
<b>Birds</b>			
Golden Eagle <i>Aquila chrysaetos</i>	CFP, BCC	Rolling foothills mountain areas, sage-juniper flats, desert. Cliff-walled canyons or large trees in open areas provide nesting habitat.	<b>Unlikely.</b> Project Area lacks suitable nesting habitat, though this species may forage in the vicinity.
Bald Eagle <i>Haliaeetus leucocephalus</i>	FD, SE, CFP	Frequents ocean shores, lake margins, and rivers for both nesting and wintering. Most nests are located within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branchwork. Roosts communally in winter	<b>Unlikely.</b> Project Area lacks suitable nesting habitat, though this species may forage in the vicinity, along the Napa River.
White-tailed Kite <i>Elanus leucurus</i>	CFP	Year-long resident of coastal and valley lowlands; rarely found away from agricultural areas. Nests atop oak, willow or other trees. Preys mainly on small mammals but also birds, insects, reptiles and amphibians.	<b>Moderate Potential.</b> Suitable nesting habitat is present in oak, ash and willow trees at the perimeters of the Project Area, and foraging habitat is present in vineyards and grassland.
Prairie Falcon <i>Falco mexicanus</i>	BCC	Inhabits dry, open terrain, either level or hilly. Nesting sites typically located on cliffs. Forages far afield, even to marshlands and ocean shores.	<b>Unlikely.</b> Project Area lacks suitable nesting habitat, though the species may forage in the vicinity.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
Peregrine Falcon <i>Falco peregrinus anatum</i>	FD, SE, CFP, BCC	Nests near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds, buildings or bridges. Nest consists of a scrape on a depression or ledge in an open site.	<b>Not Present.</b> Suitable nesting habitat is not present in the vicinity of the Project Area.
Western Burrowing Owl <i>Athene cunicularia</i>	SSC, BCC	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon small mammal burrows, most often dug by California ground squirrels.	<b>Not Present.</b> Burrows were not present and this species is most likely extirpated from Sonoma County.
Northern Spotted Owl <i>Strix occidentalis caurina</i>	FT, SSC	Old-growth forests or mixed stands of old-growth and mature trees. Prefers high, multistory canopy dominated by big trees, trees with cavities or broken tops, woody debris and space under canopy.	<b>Not Present.</b> Suitable forest habitat is not present in the Project Area.
Black Swift <i>Cypseloides niger</i>	SSC, BCC	Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above surf; forages widely.	<b>Unlikely.</b> Project Area lacks suitable nesting habitat.



SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
Purple Martin <i>Progne subis</i>	SSC	Inhabits woodlands and low elevation coniferous forests. Nests in old woodpecker cavities and human-made structures. Nest is often located in tall, isolated tree or snag.	<b>High Potential.</b> The Project Area has suitable woodland habitat for this species. Known occurrence approximately 0.5 mile east of Intersection site.
Yellow Warbler <i>Dendroica petechia brewsteri</i>	SSC	Occurs primarily in riparian zones. Prefers willows, cottonwoods, aspens, sycamores and alders for nesting and foraging.	<b>Unlikely.</b> The Project area at the intersection has suitable riparian woodland habitat for this species, but there are no known occurrences within 5 miles.
Tricolored Blackbird <i>Agelaius tricolor</i>	BCC, SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey close to the colony.	<b>Not Present.</b> Project Area lacks suitable habitat to support a nesting colony.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
<b>Reptiles and Amphibians</b>			
Foothill Yellow-legged Frog <i>Rana boylei</i>	SSC	Found in or near rocky streams in a variety of habitats. Prefers partly-shaded, shallow streams and riffles with a rocky substrate; requires at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Feeds on both aquatic and terrestrial invertebrates.	<b>Moderate Potential.</b> Suitable habitat may be present at the Intersection site along the Napa River and there are known occurrences within 5 miles.
California Red-legged Frog <i>Rana draytonii</i>	FT, SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 10- 20 weeks of water for larval development. May disperse through upland habitats after rains to access aestivation habitat.	<b>Unlikely.</b> This species could potentially be present along the Napa River or in retention ponds adjoining the Project Area. However, the graded and disced fields of the Project Area would provide poor aestivation habitat for this species. There have been no known occurrences within 5 miles.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
Western Pond Turtle <i>Actinemys marmorata</i>	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying.	<b>Moderate Potential.</b> This species may be present in the Napa River as a migration corridor or in ponds adjoining the project areas. However, the graded and disced fields of the Subdivision project area would provide poor upland nesting habitat for this species. There are known occurrences within 5 miles.
<b>Fishes</b>			
Delta Smelt <i>Hypomesus transpacificus</i>	FT	Lives in the Sacramento-San Joaquin estuary in areas where salt and freshwater systems meet. Occurs seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities > 10 ppt; most often at salinities < 2 ppt.	<b>Not Present.</b> Suitable habitat is not present for this species and upper Napa River is out of its range.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
Steelhead, Central California Coast ESU <i>Oncorhynchus mykiss</i>	FT	Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	<b>High Potential.</b> High rating is for the Napa River. This species is known to occur in upstream tributaries and likely migrate between those tributaries and downstream habitats, including the Pacific Ocean.
Steelhead, Central Valley ESU <i>Oncorhynchus mykiss</i>	FT	Occurs in the Sacramento and San Joaquin Rivers and their tributaries, excluding San Francisco and San Pablo bays. Preferred spawning habitat is in perennial streams with cool to cold water temperatures, high dissolved oxygen levels and fast flowing water. Abundant riffle areas for spawning and deeper pools with sufficient riparian cover for rearing are necessary for successful breeding.	<b>Not Present.</b> The Project Area is outside the range of this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
Chinook, California Coastal <i>Oncorhynchus tshawytscha</i>	FT	California Coastal Chinook Salmon ESU includes all naturally spawned populations of Chinook salmon from rivers and streams south of the Klamath River (exclusive) to the Russian River (inclusive). Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temps >27 degrees C lethal to adults.	<b>Not Present.</b> The Project Area is outside the range of this species.
Chinook, Central Valley spring run <i>Oncorhynchus tshawytscha</i>	FT	Occurs in the Feather River and the Sacramento River and its tributaries, including Butte, Mill, Deer, Antelope and Beegum Creeks. Adults enter the Sacramento River from late March through September. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams from mid-August through early October. Juveniles migrate soon after emergence as young-of-the-year, or remain in freshwater and migrate as yearlings.	<b>Not Present.</b> The Project Area is outside the range of this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE
Chinook, Central Valley Fall/Late Fall-run ESU <i>Oncorhynchus tshawytscha</i>	FC, SSC	Populations spawn in the Sacramento and San Joaquin Rivers and their tributaries. Adults migrate upstream to spawn in cool clear, well-oxygenated streams. Juveniles remain in freshwater 1 or more years before migrating downstream to the ocean.	<b>Unlikely.</b> The Project Area is outside the range of this species.
<b>Invertebrates</b>			
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT	Occurs only in the central valley of California, in association with blue elderberry ( <i>Sambucus mexicana</i> ). Prefers to lay eggs in elderberry 2 to 8 inches in diameter.	<b>Not Present.</b> The Napa River riparian habitat could provide suitable habitat if the host plant, elderberry, was present, however elderberry is not present and there is no known occurrence within 5 miles.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE																
California freshwater shrimp <i>Syncaris pacifica</i>	FE, SE	Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low-gradient streams where riparian cover is moderate to heavy, in shallow pools away from main stream flow..	<b>Unlikely.</b> Suitable stream habitat may be present in the Napa River near the Intersection site, however the nearest known occurrence is more than 5 miles away.																
<p><u>STATUS CODES</u></p> <table> <tr> <td>FE</td><td>Federally Endangered</td> <td>SE</td><td>State Endangered</td> </tr> <tr> <td>FT</td><td>Federally Threatened</td> <td>ST</td><td>State Threatened</td> </tr> <tr> <td>FD</td><td>Federally Delisted</td> <td>CFP</td><td>California Fully Protected Species</td> </tr> <tr> <td>BCC</td><td>USFWS Bird of Conservation Concern</td> <td>SSC</td><td>California Species of Special Concern</td> </tr> </table> <p><u>California Native Plant Society (CNPS):</u></p> <p>1A      Plants Presumed Extinct in California</p> <p>1B      Plants rare, threatened, or endangered in California and elsewhere</p> <p>2        Plants rare, threatened, or endangered in California but more common elsewhere</p> <p>3        Plants about which information is needed-a review list</p> <p>.1 - seriously threatened in California (high degree/immediacy of threat)</p> <p>.2 - fairly threatened in California (moderate degree/immediacy of threat)</p> <p>.3 - not very threatened in California (low degree/immediacy of threats or no current threats known)</p>				FE	Federally Endangered	SE	State Endangered	FT	Federally Threatened	ST	State Threatened	FD	Federally Delisted	CFP	California Fully Protected Species	BCC	USFWS Bird of Conservation Concern	SSC	California Species of Special Concern
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