EXHIBIT B-1

Biological Resources Reconnaissance Survey Report
Ovid Winery
255 LONG RANCH ROAD, SAINT HELENA
(APNs: 032-030-065 and 030-030-066)
NAPA COUNTY, CALIFORNIA

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1.0 INTRODUCTION

On March 16, April 11, and June 15, 2017, and March 12, and June 6, 2018, WRA, Inc. (WRA) performed an assessment of biological resources at Ovid Winery, located at 255 Long Ranch Road (APNs: 032-030-065 and 030-030-066; hereafter Study Area), in unincorporated Napa County, California (Figure 1, Appendix A). The purpose of these studies was to gather the information necessary to complete a review of biological resources under the California Environmental Quality Act (CEQA). The proposed project consists of the installation of seven vineyard blocks and associated cleared areas (Project Areas) within the Study Area totaling approximately 38 gross acres.

This report describes the results of the site visits, which assessed the Project Areas for: (1) the presence and potential to support special-status species; and (2) the presence of other sensitive biological resources protected by local, state, and federal laws and regulations. If special-status species were observed during the site visit, they were recorded. This report also contains an evaluation of potential impacts to special-status species and sensitive biological resources that may occur as a result of the proposed project and potential avoidance or mitigation measures to compensate for those impacts. This assessment is based on information available at the time of the study and on site conditions that were observed on the date of the site visits.

Figures are included in Appendix A. A list of plant and wildlife species observed during the site visits is included as Appendix B. An assessment of all of the special-status species documented from the general vicinity and their potential to occur in the Project Areas is included as Appendix C. Representative photographs of the Project Areas are included as Appendix D. The qualifications of the biologists who prepared this report are included as Appendix E.

For clarity, “Study Area” refers to the entirety of the legal parcels, while “Project Areas” includes only the proposed vineyard Blocks.

2.0 REGULATORY BACKGROUND

The following sections explain the regulatory context of the biological assessment, including applicable laws and regulations that were applied to the field investigations and analysis of potential project impacts.

2.1 Sensitive Biological Communities

Sensitive biological communities include habitats that fulfill special functions or have special values, such as wetlands, streams, or riparian habitat. These habitats are protected under federal regulations such as the Clean Water Act (CWA); state regulations such as the Porter-Cologne Act, the California Department of Fish and Wildlife (CDFW) Streambed Alteration Program, and CEQA; or local ordinances or policies such as city or county tree ordinances, Special Habitat Management Areas, and General Plan Elements.

Waters of the United States

The United States Army Corps of Engineers (Corps) regulates "Waters of the United States" under Section 404 of the CWA. Waters of the United States are defined in the Code of Federal Regulations (CFR) as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the Corps Wetlands Delineation Manual (Environmental Laboratory 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated at a sufficient depth and for a sufficient duration to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as "other waters" and are often characterized by an ordinary high water mark (OHWM). Other waters, for example, generally include lakes, rivers, and streams. The placement of fill material into Waters of the United States generally requires an individual or nationwide permit from the Corps under Section 404 of the CWA.

Waters of the State

The term "Waters of the State" is defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The Regional Water Quality Control Board (RWQCB) protects all waters in its regulatory scope and has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. RWQCB jurisdiction includes "isolated" wetlands and waters that may not be regulated by the Corps under Section 404. Waters of the State are regulated by the RWQCB under the State Water Quality Certification Program which regulates discharges of fill and dredged material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact Waters of the State, are required to comply with the terms of the Water Quality Certification determination. If a proposed project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to Waters of the State, the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements.

Streams, Lakes, and Riparian Habitat

Streams and lakes, as habitat for fish and wildlife species, are subject to jurisdiction by CDFW under Sections 1600-1616 of California Fish and Game Code (CFGC). Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term "stream", which includes creeks and rivers, is defined in the California Code of Regulations (CCR) 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 [including] watercourses having a surface or subsurface flow that supports or has supported riparian vegetation" (14 CCR 1.72). In addition, the term "stream" can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFG 1994). "Riparian" is defined as "on, or pertaining to, the banks of a stream." Riparian vegetation is defined as "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself" (CDFG 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFW.

Other Sensitive Biological Communities

Other sensitive biological communities not discussed above include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by CDFW. CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in its California Natural Diversity Database (CNDDB; CDFW 2017). Sensitive plant communities are also identified by CDFW (2010). CNDDB vegetation alliances are ranked 1 through 5 based on NatureServe's (2017) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by CDFW or U.S. Fish and Wildlife Service (USFWS) must be considered and evaluated under CEQA (CCR Title 14, Div. 6, Chap. 3, Appendix G). Specific sensitive biotic communities are identified in the Napa County Baseline Data Report (Napa County 2005).

2.2 Relevant Local and Regional Policies

Napa County General Plan

Natural resource use in Napa County is regulated by the Napa County General Plan (Napa County 2008). Below are relevant policies from the General Plan pertaining to wetlands and biological resources which may be applicable to the proposed project.

Natural Resource Goals and Policies

Policy CON-9: The County shall pursue a variety of techniques and practices to achieve the County's Open Space Conservation policies, including:

a) Exclusive agriculture zoning of Transfer of Development Rights.
b) Acquisition through purchase, gift, grant, bequest, devise, lease, or otherwise, the deed or any lesser interest or right in real property.
c) Williamson Act or other incentives to maintain land in agriculture production or other open space uses.
d) Requirements for mitigation of development impacts, either on-site or at locations in the County or through the payment of in-lieu fees in limited circumstances when impacts cannot be avoided.

Policy CON-13: The County shall require that all discretionary residential, commercial, industrial, recreation, agricultural, and water development projects consider and address impacts to wildlife habitat and avoid impacts to fisheries and habitat supporting special-status species to the extent feasible. Where impacts to wildlife and special-status species cannot be avoided, projects shall include effective mitigation measures and management plans including provisions to:

a) Maintain the following essentials for fish and wildlife resources:
    a. Adequate amounts of feeding, escaping, and nesting habitat.
    b. Proper temperature through maintenance and enhancement of streamside vegetation volume flows, and velocity of water.
b) Employ supplemental planting and maintenance of grasses, shrubs and trees of like quality and quantity to provide adequate vegetation cover to enhance water quality, minimize sedimentation and soil transport, and provide adequate shelter and food for wildlife and special-status species and maintain the watersheds, especially streams side areas, in good condition.

c) Provide protection for habitat supporting special-status species through buffering or other means.
d) Provide replacement habitat of like quantity and quality on- or off-site for special-status species to mitigate impacts to special-status species.
e) Enhance existing habitat values, particularly for special-status species, through restoration and replanting of native plant species as part of discretionary permit review and approval.
f) Require temporary or permanent buffers of adequate size (based on the requirements of the special-status species) to avoid nest abandonment of birds and raptors associated with construction and site development activities.

Policy CON-17: Preserve and protect native grasslands, serpentine grasslands, mixed serpentine chaparral, and other sensitive biotic communities and habitats of limited distribution. The County, in its discretion, shall require mitigation that results in the following standards:

a) Prevent removal or disturbance of sensitive natural plant communities that contain special-status plant species or provide critical habitat for special-status animal species;
b) In other areas, avoid disturbance to or removal of sensitive natural plant communities and mitigate potentially significant impacts where avoidance is infeasible;
c) Promote protection from overgrazing and other destructive activities;
d) Encourage scientific study and require monitoring and active management where biotic communities and habitats of limited distribution or sensitive natural plant communities are threatened by the spread of invasive non-native species;
e) Require no net loss of sensitive biotic communities and habitats of limited distribution through avoidance, restoration, or replacement where feasible. Where avoidance, restoration or replacement is not feasible, preserve like habitat at a 2:1 ratio or greater within Napa County to avoid significant cumulative loss of valuable habitats.

Policy CON-18: To reduce impacts on habitat conservation and connectivity:

a) In sensitive domestic water supply drainages where new development is required to retain between 40 and 60 percent of the existing (as of June 16, 1993) vegetation onsite, the vegetation selected for retention should be in areas designed to maximize habitat value and connectivity.
b) Outside of sensitive domestic water supply drainages, streamlined permitting procedures should be instituted for new vineyard projects that voluntarily retain valuable habitat and connectivity, including generous setbacks from streams an buffers around ecologically sensitive areas.
c) Preservation of habitat and connectivity of adequate size, quality and configuration to support special-status species should be required within the project area. The size of habitat and connectivity to be preserved shall be determined based on the specific needs of the species.
d) The County shall require discretionary projects to retain movement corridors of adequate size and habitat quality to allow for continued wildlife use based on the needs of the species occupying the habitat.
e) The County shall require new vineyard development to be designed to minimize the reduction of wildlife movement to the maximum extent feasible. In the event the County concludes that such development will have a significant impact on wildlife movement, the County may require the applicant to relocated or removed existing perimeter fencing installed on or after February 16, 2007 to offset the impact cause by the new vineyard development.

Policy CON-24: Maintain and improve oak woodland habitat to provide for slope stabilization, soil protection, species diversity, and wildlife habitat through appropriate measures including one or more of the following:

a) Preserve, to the extent feasible, oak trees and other significant vegetation that occur near the heads of drainages or depressions to maintain diversity of vegetation type and wildlife habitat as part of agriculture projects.
b) Comply with the Oak Woodlands Preservation Act regarding oak woodland preservation to conserve the integrity and diversity of oak woodlands, and retain, to the maximum extent feasible, existing oak woodland and chaparral communities and other significant vegetation as part of the residential, commercial, and industrial approvals.
c) Provide replacement of lost oak woodlands or preservation of like habitat at a 2:1 ratio when retention of existing vegetation is found to be infeasible. Removal of oak species limited in distribution shall be avoided to the maximum extent feasible.
d) Support hardwood cutting criteria that require retention of adequate stands of oak trees sufficient for wildlife, slope stabilization, soil production be left standing.
e) Maintain, the extent feasible, a mixture of oak species which is needed to ensure acorn production. Black, canyon, live, and brewer oaks as well as blue, white, scrub and live oaks are common associations.

Napa County Code

General provisions – Intermittent/perennial streams

Napa County Code 18.108.025 requires stream setbacks for new land clearings for agricultural purposes. “Stream” is defined by Napa County (18.108.030) as: (1) a watercourse designated by a solid line or dash and three dots symbol on the largest scale of the United State Geological Survey (USGS) maps most recently published, or any replacement to that symbol (i.e., USGS “blue-line”); (2) any watercourse which has a well-defined channel with a depth greater than four feet and banks steeper than 3:1 and contains hydrophilic vegetation, riparian vegetation or woody-vegetation including tree species greater than ten feet in height; or (3) those watercourses listed in Resolution No. 94-19. No clearing of land for new agricultural uses as defined by Section 18.08.040 shall take place within the following setbacks from streams:

Table 1. Napa County Stream Setbacks

Slope (Percent)	Required Setback
< 1	35 feet
1--5	45 feet
5--15	55 feet
15--30	65 feet
30--40	85 feet
40--50	105 feet
50--60	125 feet
60--70	150 feet

Vegetation Preservation and Replacement

Napa County Code 18.108.100 requires the following conditions when granting a discretionary permit for activities within an erosion hazard area (slopes greater than 5 percent):

Existing vegetation shall be preserved to the maximum extent consistent with the project. Vegetation shall not be removed if it is identified as being necessary for erosion control in the approved erosion control plan or if necessary for the preservation of threatened or endangered plant or animal habitats as designated by state or federal agencies with jurisdiction and identified on the County's environmental sensitivity maps.

Existing trees six inches in diameter or larger, measured at diameter breast height (DBH), or tree stands of trees six inches DBH or larger located on a site for which either an administrative or discretionary permit is required shall not be removed until the required permits have been approved by the decision-making body and tree removal has been specifically authorized.

- Trees to be retained or designated for retention shall be protected through the use of barricades or other appropriated methods to be placed and maintained at their outboard drip line during the construction phase. Where appropriate, the director may require an applicant to install and maintain construction fencing around the trees to ensure their protection during earthmoving activities. Where removal of vegetation is necessitated or authorized, the director or designee may require the planting of replacement vegetation of an equivalent kind, quality and quantity.

Sensitive Domestic Water Supply Drainages

Napa County Code 18.108.027 regulates vegetation in the following areas designated as "Sensitive Domestic Water Supply Drainage":

- Kimball Reservoir drainage
- Rector Reservoir drainage
- Milliken Reservoir drainage
- Bell Canyon Reservoir drainage
- Lake Hennessey drainage (including Friesen Lakes)
- Lake Curry drainage
- Lake Madigan drainage

A minimum of sixty percent of the tree canopy cover on the parcel existing on June 16, 1993 (aerial photograph) along with any understory vegetation must be preserved, or when vegetation consists of shrub and brush without tree canopy, a minimum of forty percent of the shrub, brush and associated annual and perennial herbaceous vegetation shall be maintained as part of any use involving earth-disturbing activity.

All earth-disturbing activities shall be limited to the period of April 1 through September 1 of each year except earth-disturbing activities that comply with the National Pollutant Discharge Elimination System (NPDES) program administered by the department of public works shall be limited to the period of April 1 through October 1 of each year.

2.3 Special-status Species

Plant and Wildlife Species

Special-status species include those plants and wildlife species that have been listed as endangered or threatened, or are formal candidates for such listing, under the federal Endangered Species Act (ESA) and/or California Endangered Species Act (CESA). The federal Bald and Golden Eagle Protection Act provides relatively broad protections to both of North America's eagle species (bald [*Haliaeetus leucocephalus*] and golden eagle [*Aquila chrysaetos*)] that in some regards are similar to those provided by ESA. Plant species on the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (Inventory) with California Rare Plant Ranks (Rank) of 1, 2, and 3 are also considered special-status plant species and must be considered under CEQA. While Rank 4 species are typically afforded little or no protection under CEQA, some of these species are given consideration by Napa County and thus are included in the present analysis. A description of the CNPS Ranks is provided below in Table 2. Additionally, any plant species listed as sensitive within the Napa County General Plan (Napa County 2008) or by Napa County (2005) are considered sensitive.

Table 2. CNPS Ranks and Threat Codes

California Rare Plant Ranks (formerly known as CNPS Lists)	
Rank 1A	Presumed extirpated in California and either rare or extinct elsewhere
Rank 1B	Rare, threatened, or endangered in California and elsewhere
Rank 2A	Presumed extirpated in California, but more common elsewhere
Rank 2B	Rare, threatened, or endangered in California, but more common elsewhere
Rank 3	Plants about which more information is needed - A review list
Rank 4	Plants of limited distribution - A watch list
Threat Ranks	
0.1	Seriously threatened in California
0.2	Moderately threatened in California
0.3	Not very threatened in California

CDFW designates some species as Fully Protected (CFP), which indicates that take of that species cannot be authorized through a state permit. In addition, CDFW Species of Special Concern (species that face extirpation in California if current population and habitat trends continue) and USFWS Birds of Conservation Concern are considered special-status species. Although these species generally have no special legal status, they are typically given special consideration under CEQA. In addition to regulations for special-status species, most native birds in the United States, including non-status species, are covered by the Migratory Bird Treaty Act of 1918 and CFGC, i.e., sections 3503, 3503.5 and 3513. Under these laws/codes, deliberately destroying or collecting active nests, eggs, and young is illegal. For bat species, the Western Bat Working Group (WBWG) designates conservation status for species of bats, and those with a high or medium priority are typically given special consideration under CEQA.

Critical Habitat

Critical habitat is a term defined in the ESA as a specific and formally-designated geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The ESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. In consultation for those species with critical habitat, federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species' recovery. In many cases, this level of protection is similar to that already provided to species by the ESA jeopardy standard. However, designated critical habitat areas that are currently unoccupied by the species but which are needed for the species' recovery are protected by the prohibition against adverse modification.

3.0 STUDY AREA AND PROJECT AREA SETTING

3.1 Topography and Soils

The overall topography of the Study Area is varied with a general southwest slope in elevations ranging from approximately 1,090 feet to 1,322 feet above sea level. Slopes within the Project Areas are primarily low-gradient slopes of 15 percent or less.

The *Soil Survey of Napa County* (USDA 1978) indicates that the Study Area is composed of one mapping unit: Rock outcrop-Hambright complex, 50 to 75 percent slopes. The Hambright soil series and Rock outcrop is described below.

Hambright series: This series consists of shallow, very stony loam soils formed from weathered basic igneous rock on plateaus, basalt flows, and hillslopes at elevations ranging from 400 to 2,500 feet elevation. These soils are not considered hydric, and are well drained with moderate permeability and medium to rapid runoff. Native vegetation on this series typically includes annual grasses and forbs with a few blue oaks and shrubs (USDA 1978).

Rock outcrop: Rock outcrop consists of ridges of igneous bedrock and of outcrops of sandstone and shale. These areas are more than 90 percent rock with soil less than 6 inches deep. Runoff is very rapid. Native vegetation typically includes small shrubs and few stunted trees in cracks. (USDA 1978).

3.2 Climate and Hydrology

The Study Area is located outside of the coastal fog belt of the Bay Area, but annual rainfall is substantial in winter with cool temperatures and summers are dry and hot. Average annual precipitation for Pacific Union College in Angwin (CA7643), the closest reporting weather station to the Study Area located approximately ten miles northwest, is 41.18 inches, with the majority falling as rain in the winter months (November through March) (NOAA 2017). The mean daily low and high temperatures in degrees Fahrenheit range from 37.8 in December to 86.4 in July, however, temperatures frequently exceed 90 degrees (NOAA 2017).

The primary hydrologic sources for the Study Area are precipitation and localized surface runoff from immediately adjacent lands. Since the Study Area experiences large winter/spring rainfall

events, evidence of surface ponding, perched water table, and/or saturated substrates for extended periods (14 days or greater) is present.

The Study Area is located within both the Vinehill Creek and Lake Hennessey Drainage, within the Rector Reservation and Lake Hennessey Planning Watershed (Napa County Map Viewer 2017). Because the Study Area is subject to some large winter/spring rainfall events and the soil is shallow and very rocky in some areas, evidence of ephemeral directional flow during high rain events are evident. An unnamed blue-line stream is mapped in the extreme northeast portion of the Study Area within USFWS National Wetlands Inventory (USFWS NWI, 2017) and on the Yountville USGS 7.5-minute topographic quadrangle. This stream as well as two additional ephemeral streams were observed during the site visits (see Section 5.1.2).

3.3 Biota and Land Use

Prior to 1993, the Study Area was undeveloped and composed of native chaparral and oak scrub communities. Historical photos dating back to 1948 indicate very little historic land use within the Study Area, while surrounding land use was rural residential and agriculture (Historical Aerials 2017). Currently, the Study Area is partially developed with existing vineyards, installed sometime between 1993 and 2002, a winery, and associated outbuildings. The surrounding parcels contain similar land use of undisturbed native habitat along with established vineyards and rural residential properties (Google Earth 2017).

4.0 ASSESSMENT METHODS

On March 16, April 11, and June 15, 2017, the Study Area was visited by WRA biologists to determine: (1) plant communities present, (2) if existing conditions provide suitable habitat for any special-status plant or wildlife species, and (3) if sensitive habitats including jurisdictional wetlands and/or non-wetland waters (streams, ponds, etc.) are present. In 2017, a portion of the Study Area was not surveyed due to lack of access. On March 12 and June 6, 2018 additional surveys were conducted within an area not accessible in 2017.

The Study Area was surveyed and mapped by both directly traversing the property and reviewing available aerial photography (Google Earth 2017). Plant and wildlife species observed were recorded and are listed in Appendix B. Plant nomenclature follows *The Jepson Manual, 2nd Edition* (Baldwin et. al. 2012) and subsequent revisions by the Jepson Flora Project (Jepson eFlora 2017), except where noted. Because of recent changes in classification for many of the taxa treated by Baldwin et. al. (2012) and the Jepson Flora Project, relevant synonyms are provided in brackets for ease of reference. For cases in which regulatory agencies, CNPS, or other credible entities base rarity on older taxonomic treatments, precedence was given to the treatment used by those entities.

4.1 Biological Communities

Prior to the site visit, the *Soil Survey for Napa County* (USDA 1978), was examined to determine if any unique soil types that could support sensitive plant communities and/or aquatic features were present in the Study Area. WRA reviewed biological communities mapped in the "Evaluation Area" and local "Napa County Defined Drainage" in accordance with *Guidelines for Preparing Biological Resources Reconnaissance Surveys* (Napa County 2016). Biological communities within the Study Area were delineated based on existing plant community descriptions provided in *A Manual of California Vegetation, Second Edition* (MCV) (Sawyer et al. 2009), then compared

to *Napa County Baseline Report* (Napa County 2005), and *A Vegetation Map of Napa County Using the Manual of California Vegetation Classification and its Comparison to Other Digital Vegetation Maps* (Thorne et. al. 2004) to cross-reference biological communities. Finally, WRA compared those biological communities from Napa County Land Cover (NCLC) map (CDFW BIOS 2017) to those observed directly on-site in the Study Area. Biological communities were mapped following the descriptions of communities described by Sawyer et al. (2009) and Napa County (2005), where applicable.

In some cases it may be necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature (e.g., Sawyer et al. 2009, Napa County 2005). If biological communities not formally defined by a recognized vegetation classification system were observed, they were described on-site and are included below. Biological communities were evaluated as either sensitive or non-sensitive as defined by CEQA and other applicable laws and regulations.

4.1.1 Non-sensitive Biological Communities

Non-sensitive biological communities are those communities that are not afforded special protection under CEQA, or other state, federal, or local laws, regulations, or ordinances. These communities may however provide suitable habitat for some special-status plant or wildlife species. Non-sensitive biological communities observed in the Study Area are described in Section 5.1.1, below.

4.1.2 Sensitive Biological Communities

Sensitive biological communities are those communities that are afforded special protection under CEQA or other applicable federal, state, or local laws, regulations or ordinances discussed above in Section 2.0. Special methods used to identify sensitive biological communities are outlined below. Descriptions of sensitive biological communities observed in the Study Area are provided in Section 5.1.2.

Wetlands and Waters

While this site assessment did not constitute a formal wetland delineation, superficial indicators of wetlands such as hydrophytic vegetation (i.e., plant communities dominated by wetland species), evidence of inundation or flowing water, saturated soils and seepage, and topographic depressions/swales were noted. In these areas WRA biologists applied rapid assessment of the site following guidelines from the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Corps 2008).

In addition to wetlands, streams and still waters potentially jurisdictional under the CWA and/or the CFGC were delineated. The OHWM was used to determine the extent of potential Section 404 jurisdiction, while the top-of-bank (TOB) was used to determine the extent of Section 1600 jurisdiction. Streams with associated woody vegetation were assessed to determine if these areas would be considered riparian habitat by CDFW following *A Field Guide to Lake and Streambed Alteration Agreements, Section 1600-1607, California Fish and Game Code* (CDFG 1994). The TOB was used to delineate the extent of the stream setbacks according to Napa Zoning Code 18.108.025.

Other Sensitive Biological Communities

The Study Area was evaluated for the presence of other sensitive biological communities, primarily sensitive plant communities (vegetation alliances) recognized by CDFW and Napa County. Prior to the site visit, aerial photographs, USDA (1978), CDFW's *List of Vegetation Alliances and Associations* (CDFG 2010), Sawyer et al. (2009), and Napa County (2005) were reviewed to assess the potential for sensitive biological communities to occur in the Study Area. All vegetation alliances within the Study Area with a ranking of 1 through 3 by CDFW or listed by Napa County as sensitive were considered sensitive biological communities. If present, sensitive biological communities identified in the Study Area is described in Section 5.1.2 below.

4.2 Special-status Species

4.2.1 Literature and Database Review

The potential for special-status plant and wildlife species to occur in the Study Area was evaluated by first determining which special-status species have been documented from within the vicinity of the Study Area through a literature and database search. Database searches for known occurrences of special-status species focused on the Yountville 7.5-minute United States Geological Survey (USGS 1968) quadrangle and the eight surrounding quadrangles. The following sources were reviewed to determine which special-status plant and wildlife species have been documented from the referenced quadrangles:

- California Natural Diversity Database (CNDDB) observation records (CDFW 2017)
- CNPS Inventory records (CNPS 2017)
- Consortium of California Herbaria (CCH 2017)
- Napa County Baseline Data Report (Napa County 2005)
- Napa County General Plan (Napa County 2008)
- CDFG publication *California Bird Species of Special Concern* (Shuford and Gardali 2008)
- CDFW and University of California Press publication *California Amphibian and Reptile Species of Special Concern* (Thomson et al. 2016)
- Napa-Solano Audubon Society publication *Breeding Birds of Napa County California* (Smith 2003)
- WBWG online species accounts (WBWG 2017)
- Google Earth aerial imagery (Google 2018)

4.2.2 Site Assessment

Following the database and literature review, site visits were made to the Study Area, focusing on the Project Areas, to identify the biological communities present and to assess their condition. Habitat conditions observed in the Study Area were used to evaluate the potential for special-status plant or wildlife species to occur there. This assessment is based on conditions observed at the site, the results of the database and literature review, and the professional expertise of the investigating qualified biologists. The potential for each special-status species to occur in the Study Area were ranked based on the following criteria:

- No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

- Unlikely. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- Present. Species was observed during the site visit and/or has been recently recorded from the site.

The site assessment is intended to identify the presence or absence of suitable habitat for each special-status species known to occur in the vicinity of the Study Area. For some wildlife species, the site visits do not constitute a protocol-level survey and are not intended to determine the actual presence or absence of a species; however, a protocol-level special-status plant survey was conducted which determined presence or absence of special-status plants. All special-status plants observed and/or with the potential to occur in the Study Area are discussed in Section 5.2.1 below and Appendix C. Methods for the protocol-level special-status plant survey performed is discussed in Section 4.2.3 below.

In cases where little information is known about species occurrences and habitat requirements, the species evaluation was based on best professional judgment of WRA biologists with experience working with the species and habitats. If necessary, recognized experts in individual species biology were contacted to obtain the most up-to-date information regarding species biology and ecology.

If a special-status species was observed during the site visit, its presence was recorded and discussed below in Section 5.2 and Appendix C. For some species, a site assessment visit(s) at the level conducted for this report may not be sufficient to determine presence or absence of a species to the specifications of regulatory agencies. In these cases, a species may be assumed to be present or further protocol-level special-status species surveys may be necessary. Special-status species for which further surveys may be necessary are described in Section 6.4.

4.2.3 Protocol-level Special-status Plant Survey

A protocol-level special status plant survey effort was conducted in the Study Area, with site visits on March 16, April 11, and June 15, 2017, as well as March 12 and June 6, 2018 to determine the presence or absence of special-status plant species. The surveys correspond to blooming periods sufficient to observe and identify special-status plant species determined to have the potential to occur in the Study Area. The field surveys were conducted by botanists familiar with the flora of Napa and surrounding counties. The surveys followed the protocol for plant surveys described by resource agency guidelines (CNPS 2001, CDFG 2009, USFWS 1996). Plants were identified using Baldwin et. al. (2012) and Jepson Flora Project (Jepson eFlora 2017), to the taxonomic level necessary to determine whether or not they were rare.

5.0 RESULTS

5.1 Biological Communities

Biological communities within the Study Area are shown in Figure 2 (Appendix A). WRA observed ten biological communities within the Study Area: developed, agriculture, annual brome grassland, broom patch, chamise chaparral, California bay forest, interior live oak chaparral, leather oak chaparral, Eastwood manzanita chaparral, and seasonal wetland. Additionally, three ephemeral streams and a pond were observed. Each of these biological communities, with the exception of seasonal wetland and pond, are located within the Project Areas. Leather oak chaparral, California bay forest, the ephemeral streams, the pond, and seasonal wetland are considered sensitive communities, while the remainder are not.

Table 3 summarizes acreages of the mapped vegetation types within the Project Areas, Study Area, the Defined Drainage (Vinehill Creek and Lake Hennessy), Napa County Evaluation Area (Eastern Mountains), and County-wide, where applicable.

All biological communities mapped by WRA have also been remotely mapped in the NCLC map within the Vinehill Creek and Lake Hennessy Drainage, Eastern Mountains Evaluation Area, and across the County, with the exception of broom patch, which is not an NCLC type. According to the NCLC map, the Study Area is mapped as: Agriculture, Chamise Alliance, Coast Live Oak Alliance, Leather Oak-California Bay-Rhamnus spp. Mesic Serpentine Not Formally Described (NFD) Alliance, Mixed Manzanita-(Interior Live Oak-California Bay-Chamise) West County NFD Alliance, Sclerophyllus Shrubland Formation (CDFW BIOS 2017). However, this mapping is inconsistent with WRA's on-site observations of the Project Areas, as no biological communities there meet the classification of Coast Live Oak Alliance and additional NCLC types are present.

Table 3. Biological Community Types and Area in the Project Areas and Environs

Study Area (WRA Observed)			BRRS[2] Evaluation Area*: Vinehill Creek and Lake Hennessy	NCBR[3] Evaluation Area: Eastern Mountains	NCBR County-wide
MVC Alliance (NCLC Alliance)	**Project Areas[1]**	**Study Area**			
Non-sensitive					
Developed/Landscaped (No MVC Alliance) (Urban or Built-up)	5.55	11.54	98	1,632	26,461
Agriculture (No MVC Alliance) (Agriculture)	3.11	20.45	1,410	4,166	64,423
Annual Brome Grassland (California Annual Grassland)	6.18	6.69	493	7,723	39,174
Broom Patch (N/A)	0.85	1.06	N/A	N/A	N/A
Chamise Chaparral (Chamise Alliance)	15.34	20.22	411	9,286	30,914
Interior Live Oak Chaparral (Scrub Interior Live Oak-Scrub Oak Mesic East County NFD Super Alliance)	0.95	2.17	57	1,364	11,037
Eastwood Manzanita Chaparral (Mixed Manzanita (Interior Live Oak-California Bay-Chamise) West County NFD Alliance)	1.66	1.71	170	4252	8,609
Sensitive					
Leather Oak Chaparral (Leather Oak-California Bay-Rhamnus spp. NFD Alliance)	0.61	1.89	42	359	4,399
California Bay Forest (Sclerophyllus Shrubland Formation)	4.68	7.66	277	4,252	8,609
Ephemeral Stream	0.00	0.05 (982 linear feet)	N/A	N/A	N/A
Seasonal Wetland	0.0	0.01	N/A	N/A	N/A
Pond	0.0	0.19	N/A	N/A	N/A

[1] All areas throughout table in acres
[2] Biological Resources Reconnaissance Surveys
[3] Napa County Baseline Report
*Includes areas within one-mile of the Study Area and the Napa County Defined Drainage

5.1.1 Non-sensitive Biological Communities

Developed/Landscaped (No MVC Alliance; Urban or Built-up NCLC type). No Rank. Developed areas are those dedicated to residential, commercial, or industrial purposes, and where significant land alterations have converted and/or disrupted natural processes in the localized landscape. Vegetation is almost entirely composed of landscaped plants, and non-native species typical of altered environments.

Within the Study Area, developed areas included a winery and associated landscape area and driveway located within the eastern portion. The landscaped portion is regularly mowed and has landscaping which is regularly maintained. The Study Area contains 11.54 acres of developed area, 5.55 of which is within the Project Areas.

Agriculture (No MVC Alliance; Agriculture NCLC type). No Rank. Agriculture areas are those dedicated to growing crops where significant land alterations have converted and/or disrupted

natural processes in the localized landscape. Vegetation is almost entirely composed of planted agricultural crops.

Within the Study Area, agriculture areas include vineyards and fruit tree orchards, and are located along the north, west, and southeastern perimeters. The Study Area contains 20.45 acres of agriculture, 3.11 which is within the Project Areas.

Annual Brome Grassland (*Bromus (diandrus, hordeaceus)-Brachypodium distachyon* Herbaceous Semi-Natural Alliance; California Annual Grasslands NCLC type). No Rank. Annual brome grassland occurs on all topographic settings in foothills, waste places, rangelands, and openings in woodlands throughout California. Herbaceous canopy cover is intermittent to continuous and dominated by brome or false brome with other non-natives (Sawyer et. al. 2009). Within Napa County, California annual grassland occurs throughout and is dominated by non-native grasses including wild oats (*Avena*), brome (*Bromus*), wild barley (*Hordeum*) and others (Napa County 2005). Annual brome grassland is not a native grassland.

Within the Study Area, annual brome grassland is located primarily in the western portion within previously disturbed areas. These areas are dominated by ripgut brome (*Bromus diandrus*) with significant cover of non-native forbs including spring vetch (*Vicia sativa*), hairy cats ear (*Hypochaeris radicata*), Mediterranean hoary mustard (*Hirschfeldia incana*), big heron bill (*Erodium botrys*), red clover (*Trifolium pratense*), cut leaved geranium (*Geranium dissectum*), and yellow star thistle (*Centaurea solstitialis*). The Study Area contains 6.69 acres of annual brome grassland, 6.18 of which is located within the Project Areas.

Broom Patch (*Cytisus scoparius* and others Shrubland Semi-Natural Alliance; No NCLC type). No Rank. Broom patches typically occur along roadsides, in disturbed places, eroding slopes, riverbanks, disturbed grasslands, shrublands, and forest openings throughout cismontane California. Scotch broom (*Cytisus scoparius*) or other broom species are dominant in the open to continuous shrub layer (Sawyer et. al. 2009).

Within the Study Area, one large broom patch is located in the western portion on a pile of excavated soil. This area is dominated by scotch broom with continuous cover. Patches between the broom contain ripgut brome and Italian thistle (*Carduus pycnocephala*). The Study Area contains 1.06 acres of broom patch, 0.85 which is within the Project Areas.

Chamise Chaparral (*Adenostoma fasciculatum* Shrubland Alliance; Chamise Alliance NCLC type). S5G5. Chamise chaparral typically occurs on varied topography where soils are shallow over colluvium or bedrock throughout cismontane California. Chamise is dominant in the intermittent to continuous canopy of the shrub layer (Sawyer et. al. 2009). In Napa County, chamise chaparral occurs throughout, on dry, rocky south to southwest facing slopes. Chamise is the dominant species with other shrubs present in small amounts (Napa County 2005).

Within the Study Area, chamise chaparral occurs throughout and is the most abundant natural biological community. In these areas, chamise was the dominant shrub species forming an open to continuous canopy with coyote bush (*Baccharis pilularis*), leather oak (*Quercus durata*), and holly-leaved ceanothus (*Ceanothus purpureus*) characteristically present. In locations where the canopy was open, non-native grasses and Sonoma salvia (*Salvia sonomensis*) were dominant understory plants. The Study Area contains 20.22 acres of chamise chaparral, 15.34 of which is within the Project Areas.

Interior Live Oak Chaparral (*Quercus wislizeni* Shrubland Alliance; Scrub Interior Live Oak-Scrub Oak Mesic East County NFD Super Alliance NCLC type). S4G4. Interior live oak chaparral

typically occurs on variable topography with steep slopes on rocky alluvial or bedrock soils throughout the California Coast Ranges. Canopy is intermittent to continuous and is dominated by interior live oak with co-dominance of other shrubs, including chamise (*Adenostoma fasciculatum*), California coffeeberry (*Frangula californica*), scrub oak *(Quercus berberidifolia*), and manzanita (*Arctostaphylos* spp.) (Sawyer et. al. 2009). In Napa County, interior live oak-scrub oak alliance is located throughout on dry, rocky, south to southwest facing slopes and is dominated by various species of shrubby oaks (Napa County 2005).

Within the Study Area, interior live oak chaparral is located in the southwest portion. The canopy was continuous and the trees were very close together with chamise, California coffeeberry, chaparral pea (*Pickeringia montana*), whiteleaf manzanita (*Arctostaphylos manzanita* ssp. *manzanita*), and Eastwood manzanita (A. *glandulosa* ssp. *glandulosa*) dense between the trees. The understory was very sparse. The Study Area contains 2.17 acres of interior live oak chaparral, 0.95 of which is located within the Project Areas.

Eastwood Manzanita Chaparral (*Arctostaphylos glandulosa* Shrubland Alliance); Mixed Manzanita-(Interior Live Oak-California Bay-Chamise) West County NFD Alliance NCLC type. S4G4. Eastwood Manzanita chaparral typically occurs on outcrops, ridges, south and east facing slopes on shallow, often rocky soils in the Coast Ranges. Eastwood manzanita is dominant or co-dominant in a continuous shrub layer (Sawyer et. al. 2009). In Napa County, mixed manzanita alliance occurs primarily in the eastern mountains in areas more mesic than chamise dominated areas (Napa County 2005).

Within the Study Area, Eastwood manzanita chaparral is located in the southern central portion of the Study Area. The canopy was continuous and was dominated by Eastwood manzanita with chamise and leather oak as co-dominants. The special-status shrub holly-leaf ceanothus was observed within this alliance. The Study Area contains 1.71 acres of Eastwood manzanita chaparral, 1.66 of which is located within the Project Areas.

5.1.2 Sensitive Biological Communities

Leather Oak Chaparral (*Quercus durata* Shrubland Alliance; Leather Oak-California Bay-Rhamnus spp. NFD Alliance NCLC type). S4G4. Leather oak chaparral typically occurs on varied topography where soils are shallow, rocky and derived from ultramafic substrates. Leather oak is dominant or co-dominant in the open to continuous shrub layer (Sawyer et. al. 2009). In Napa County, leather oak-California bay Alliance occurs throughout on rocky serpentine soils and is dominated by leather oak, chamise or white leaf manzanita (*Arctostaphylos viscida*) (Napa County 2005).

Within the Study Area, leather oak chaparral is located on volcanic soils in the southwest corner. In this area, leather oak is dominant with interior live oak characteristically present in the continuous canopy. Associated shrub species include chaparral pea, chamise, holly-leafed ceanothus, and poison oak. The Study Area contains 1.89 acres of leather oak chaparral, 0.61 acres of which is located in the Project Areas. This biological community is considered sensitive by Napa County (Napa County 2005).

California Bay Forest (*Umbellularia californica* Forest Alliance; Sclerophyllous Shrubland Formation NCLC type). S3G4. California bay forests typically occur on terraces, canyon bottoms, north-facing slopes, and rock outcrops underlain by shallow to deep sand to loam substrates within the inner and outer Coast Ranges, Transverse Ranges, and Sierra Nevada Foothills from Del Norte County south to San Diego County (Sawyer et al. 2009). This community best fits the Sclerophyllous Shrubland NCLC Formation as it is dominated by a sclerophyllous species, has

associated sclerophyllous species, and is located in very rocky areas with shallow soils (Napa County 2005).

Within the Study Area, California bay forest is located in the central and eastern portions. The canopy is continuous with interior live oak characteristically present. The majority of the trees were multi-trunked and averaged 25 to 30 feet in height. The understory was sparse and covered in leaf litter. The Study Area contains 7.66 acres of California bay forest, 3.03 of which is located within Project Areas. While this biological community is considered sensitive by CDFW and Napa County, that designation is typically considered for valley bottom stands composed of large individuals (Sawyer et. al. 2009) which are not present in the Study Area.

Ephemeral Streams (no vegetation alliances): Three ephemeral streams, totaling approximately 0.05 acres (982 linear feet) are located within the Study Area.

One ephemeral stream was identified between Blocks 1 and 2a. This narrow (1- to 2-foot-wide), linear feature originates from a culvert at its upstream end, west of the existing vineyard. The stream appears to convey water only during extreme periods of precipitation. This feature was mapped where marginal, and often discontinuous, indicators of flow were observed, including laid down vegetation, algal matting and scoured vegetation. At its downstream (western) end, this feature becomes indistinct and transitions to sheet flow that dissipates into non-native annual grassland. This feature is not a USGS "blue line" stream, it is highly ephemeral, shallow, poorly defined, and it lacks riparian vegetation, and thus would not be regulated as a "stream" under the definition of the Napa County Conservation Regulations (Section 2.2) and would therefore not be subject to the County's stream setbacks. However, as it is an aquatic feature, a 50-foot setback (26-foot undisturbed filter strip and a 24-foot vegetated vineyard avenue) is required by the County. This feature is likely jurisdictional under Section 401 of the CWA and Section 1600 of the CFGC.

A second ephemeral stream is located along the eastern boundary of the Study Area, outside of any Project Areas. This stream is an un-named USGS blue-line stream. The feature was mapped where marginal, continuous indicators of flow were observed, primarily scoured leaf litter and wrack lines. The stream originates outside of the Study Area and terminates into a pond. While the stream is a USGS blue-line stream, it is highly ephemeral, shallow, poorly defined and lacks riparian vegetation. As this stream fits the requirements of the Napa County definition of a stream, setbacks shall be required from the TOB. Additionally, this stream is likely jurisdictional under Section 404 and 401 of the CWA and Section 1600 of the CFGC.

A third ephemeral stream is located in the southern portion of the Study Area, outside of any Project Areas. This feature is not a USGS "blue line" stream, it is highly ephemeral, shallow, poorly defined, and it lacks riparian vegetation, and thus would not be regulated as a "stream" under the definition of the Napa County Conservation Regulations (Section 2.2) and would therefore not be subject to the County's stream setbacks. However, as it is an aquatic feature, a 50-foot setback (26-foot undisturbed filter strip and a 24-foot vegetated vineyard avenue) is required by the County. This feature is likely jurisdictional under Section 401 of the CWA and Section 1600 of the CFGC.

Seasonal Wetland. A 0.01-acre seasonal wetland is located in the northeast corner of the Study Area, outside of the Project Areas. This wetland was located within a small swale along an old dirt road within chamise chaparral. The wetland was dominated by iris-leaved rush (*Juncus xiphioides*) and Italian rye grass (*Festuca perennis*). Indicators of hydric soil and hydrology were also observed. While this wetland is likely jurisdictional under Section 401 of the CWA and

Section 1600 of the CFGC, it is located outside of the Project Areas and is not expected to be impacted by the proposed project activities. However, as it is an aquatic feature, a 50-foot setback (26-foot undisturbed filter strip and a 24-foot vegetated vineyard avenue) is required by the County.

Pond. A 0.19-acre pond (small reservoir) is located in the northeast portion of the Study Area, outside of the Project Areas. This pond was created sometime between 1968 and 1993 (Historical Aerials 2017) within chamise chaparral. The perimeter of the pond is chamise chaparral with a very abrupt and narrow vegetative transition between the chaparral and the water's edge. No perennial, emergent, hydrophytic vegetation was observed along the perimeter of the pond, and immature annuals were growing along the banks. While this pond is likely jurisdictional under Section 404 and 401 of the CWA and Section 1600 of the CFGC, it is located outside of the Project Areas and their 50-foot buffers and is not expected to be impacted.

5.2 Special-status Species

5.2.1 Special-status Plant Species

Based upon a review of the resources databases listed in Section 4.2.1, 79 special-status plant species have been documented in the vicinity of the Study Area (Appendix C). Occurrence records of these species in CNDDB within a 5-mile radius of the Study Area are depicted in Figure 3 (Appendix A). Nine special-status plant species have a moderate to high potential to occur in the Project Areas, and five of these species were observed there. The location and abundance (for most species) of the special-status species observed are shown in Figure 4 (Appendix A). The remaining species documented from the greater vicinity of the Project Areas are unlikely or have no potential due to one or more of the following reasons:

- Hydrologic conditions (e.g., vernal pools, marshes, riverine) necessary to support the special-status plant species are not present in the Project Areas;
- Edaphic (soil) conditions (e.g., serpentine) necessary to support the special-status plant species are not present in the Project Areas;
- Topographic conditions (e.g., north-facing slope, montane) necessary to support the special-status plant species are not present in the Project Areas;
- Unique pH conditions (e.g., alkali scalds) necessary to support the special-status plant species are not present in the Project Areas;
- Associated vegetation communities (e.g., coniferous forests, salt marsh) necessary to support the special-status plant species are not present in the Project Areas;
- The Project Areas are geographically isolated (e.g., below elevation, coastal environ) from the documented range of the special-status plant species.

WRA biologists conducted the protocol-level surveys during a period sufficient to accurately identify all nine of the special-status plant species with the potential to occur in the Project Areas. These species are discussed below.

Brewer's milk-vetch (*Astragalus breweri*) CRPR 4. Moderate Potential (Not Observed). Brewer's milk-vetch is an annual herb in the pea (Fabaceae) family that blooms from April through June. It typically occurs in chaparral, cismontane woodland, meadows and seeps, and valley and foothill grasslands on serpentine or volcanic soils, sometimes in open gravelly locations, at elevations ranging from 2,700 to 2,190 feet (CNPS 2017). Known associated species include white oak (*Quercus garryana*) (CCH 2017). Brewer's milk-vetch has moderate potential to occur in the Project Areas due to presence of suitable habitat and volcanic soils. This species was not

observed during the April and June surveys conducted within the appropriate bloom season of this species.

Narrow-anthered brodiaea (*Brodiaea leptandra*). CRPR 1B. Moderate Potential (Observed). Narrow-anthered brodiaea is a perennial herb in the brodiaea family (Themidaceae) that blooms from May to July. It typically occurs in broadleaf upland forest, chaparral, and lower montane coniferous forest habitat at elevations ranging from 360 to 3,000 feet (CDFW 2017, CNPS 2017). Soil survey data from documented locations suggest this species is associated with gravelly loam and clay loam substrates derived from rhyolites, metavolcanics, and serpentine (CDFW 2017). Known associated species include chamise, mountain mahogany (*Cercocarpus betuloides*), scrub oak (*Quercus berberidifolia*), white oak, Ponderosa pine (*Pinus ponderosa*), knobcone pine (*P. attenuata*), Pacific madrone (*Arbutus menziesii*), manzanitas (*Arctostaphylos* spp.), buck brush (*Ceanothus cuneatus*), harvest brodiaea (*Brodiaea elegans*), California oat grass (*Danthonia californica*), narrow leaf mules ears (*Wyethia angustifolia*), and Sonoma sage (CDFW 2017). Approximately 524 individuals within 0.44 acres were observed within the entire Study Area during the June surveys (Figure 4). Approximately 388 individuals within 0.32 acre are located within the Project Areas.

Holly-leaved ceanothus (*Ceanothus purpureus*). CRPR 1B. High Potential (Observed). Holly-leafed ceanothus is an evergreen shrub in the buckhorn family (Rhamnaceae) that blooms from February to April, but is typically identifiable by vegetative structures throughout the year. It typically occurs on rocky slopes underlain by volcanic substrate in chaparral and cismontane woodland habitat at elevations ranging from 390 to 2080 feet (CDFW 2017, CNPS 2017). Observed associated species include Stanford manzanita (*Arctostaphylos stanfordiana*), hoary manzanita (*A. canescens*), Sonoma sage, pitcher sage (*Lepechinia calycina*), wavy-leaf ceanothus (*Ceanothus foliosus*), toyon (*Heteromeles arbutifolia*), coyote brush, sticky monkey, redberry (*Rhamnus crocea*), chamise, and Fremont star lily (*Toxicoscordion fremontii*) (CDFW 2017). Holly-leaved ceanothus was observed within many of the Blocks (Figure 4). Approximately 2,316 individuals within 24.69 acres were observed within the entire Study Area during the April and/or March surveys of 2017 and 2018. Approximately 1,932 individuals within 20.16 acres are located in the Project Areas.

Two-carpellate western flax (*Hesperolinon bicarpellatum*). CRPR 1B. High Potential (Not Observed). Two-carpellate western flax is an annual herb in the flax (Linaceae) family that blooms from May through July. It typically occurs on serpentinite chaparral habitat at elevations ranging from 200 through 3,300 feet (CNPS 2017). Known associated species include chamise, leather oak, musk brush (*Ceanothus jepsonii*), manzanita, and mountain nemacladus (*Nemacladus montanus*) (CDFW 2017). This species has high potential to occur in the Project Areas due to suitable habitat and vicinity of known occurrences. This species was not observed during the June survey conducted within the appropriate bloom season of this species.

Sharsmith's western flax (*Hesperolinon sharsmithiae*). CRPR 1B. High Potential (Observed). Sharsmith's western flax is an annual herb in the flax (Linaceae) family that blooms from May through July. It typically occurs on serpentinite open chaparral habitat ranging in elevations from 884 through 1,000 feet (CNPS 2017). Known associated species includes sergeant cypress, white leaf manzanita, leather oak, brewer's jewelflower (*Streptanthus breweri*), green jewelflower (*Streptanthus hesperidis*) Jepson's Navarretia (*Navarretia jepsonii*), popcorn flower (*Cryptantha microstachys*), Napa cryptantha (*Cryptantha hispidula*), and Fringed onion (*Allium fimbriatum*) (CDFW 2017). Approximately 690 individuals within 0.11 acre were observed throughout the entire Study Area during the June survey (Figure 4). Approximately 563 individuals within 0.08 acre are located within Project Areas.

Jepson's leptosiphon (*Leptosiphon jepsonii*). CRPR 1B.2. Moderate Potential (Not Observed). Jepson's leptosiphon is an annual herb in the phlox family (Polemoniaceae) that blooms from March to May. It typically occurs in open to partially shaded areas on volcanic or serpentine substrate in chaparral and cismontane woodland habitat at elevations ranging from 325 to 1,640 feet (CDFW 2017, CNPS 2017). Known associated species include California bay, coast live oak (*Quercus agrifolia*), chamise, toyon, purple needlegrass (*Stipa pulchra*), California oat grass, and non-native annual grasses (CDFW 2017). Jepson's leptosiphon has a moderate potential to occur within the Project Areas due to the presence of some associated species, suitable habitat and soils. This species was not observed during the March or April survey conducted within the appropriate bloom season of this species.

Napa lomatium (*Lomatium repostum*). CRPR 4. High Potential (Observed). Napa lomatium is a perennial herb in the carrot (Apiaceae) family that blooms March to June. It typically occurs in rocky areas within chaparral and cismontane woodland on volcanic or serpentine soils at elevations ranging from 300 to 2720 feet (CNPS 2017). Known associated species include knobcone pine (*Pinus attenuata*), manzanita, yerba santa (*Eriodictyon californica*), California butterweed (*Senecio aronicoides*), hedge nettle (*Stachys rigida*), chamise, scrub oak, toyon, buckbrush (*Ceanothus cuneatus*), and Sonoma sage (CCH 2017). Approximately 28 individuals of this species within 0.02 acre was observed during the April and June surveys in 2017 and 2018. Approximately 18 individuals within 0.1 acre are located within Project Areas.

Green monardella (*Monardella viridis*) CRPR 4. High Potential (Observed). Green monardella is a perennial rhizomatous herb in the mint (Lamiaceae) family that blooms from June through September. It typically occurs in broadleafed upland forest, chaparral, and cismontane woodland habitat at elevations ranging from 300 to 3,100 feet (CNPS 2017). Known associated species include boxleaf silk tassel (*Garrya sp*.), ceanothus, mahogany, and Stanford's manzanita (CCH 2017). During the June 2017 and 2018 surveys, this species was observed to be abundant in suitable habitat areas within the Study Area. These occupied areas effectively overlapped entirely with the distribution of holly-leaved ceanothus, i.e., approximately 24.69 acres, of which 20.16 acres are located within Project Areas. In the context of the present analysis, due to both the abundance of this species and the size of the occupied areas, no attempt was made to estimate the number of individuals present.

Napa blue curls (*Trichostema ruygtii*). CRPR 1B. Moderate Potential (Not Observed). Napa blue curl is an annual forb in the mint family (Lamiaceae) that blooms from June through October. It typically occurs on thin clay soils, usually derived from volcanics, in mesic openings and vernal pools in chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill habitat at elevations ranging from 95 to 2,210 feet (CDFW 2017, CNPS 2017, Baldwin et al. 2012). Known associated species include Douglas fir (*Pseudotsuga menziesii*), ponderosa pine, coast live oak, California black oak, valley oak (*Quercus. lobata*), blue oak (*Q. douglasii*), common

manzanita (*Arctostaphylos manzanita*), chamise, coyote brush, and poison oak (CDFW 2017). Napa blue curls has moderate potential to occur in the Project Areas due to presence of suitable vegetation types and soil types. This species was not observed during the June survey conducted within the appropriate bloom season of this species.

5.2.2 Special-status Wildlife Species

Based upon a review of the resources and databases listed in Section 4.2.1, 32 special-status wildlife species have been documented in the vicinity of the Project Area (Appendix C). Occurrence records of these species in CNDDB within a 5-mile radius of the Study Area are depicted in Figure 5 (Appendix A). Five of these species have a moderate or high potential to occur in the Project Areas, and one of these species was observed on-site. The species determined to have no potential to occur require habitat elements which are completely absent such as perennial streams/rivers and estuaries, emergent marshes, and coniferous forests. For the species determined to be unlikely to occur, some elements of suitable habitat may be present (e.g., chaparral and scrub); however the distance from known ranges or documented occurrences, and/or lack of required habitat elements reduce the potential for these species to occur and may preclude their presence.

Special-status wildlife species with the potential to occur within the Project Areas (including the observed species) are discussed below.

Pallid bat (*Antrozous pallidus*). CDFW Species of Special Concern, WBWG High Priority. High Potential. Pallid bats are broadly distributed throughout much of western North America. This species occurs in a number of habitats ranging from rocky arid deserts to grasslands, and into higher elevation coniferous forests. Roosts are typically in rock crevices, tree hollows, mines, caves, and a variety of man-made structures, including vacant and occupied buildings. Tree roosting has been documented in large conifer snags, inside basal hollows of redwoods and giant sequoias, and within bole cavities in oak trees. Pallid bats are primarily insectivorous, feeding on large prey that is usually taken on the ground but sometimes in flight. Prey items include arthropods such as scorpions, ground crickets, and cicadas (WBWG 2017). Trees within the Study Area provide potential roosting habitat, including for maternity (breeding) roosts. There are several documented occurrences within 10 miles (CDFW 2017).

Bell's sparrow (*Amphispiza belli*). USFWS Bird of Conservation Concern. Moderate Potential. Bell's sparrow is a characteristic chaparral and coastal sage scrub bird found most commonly in drier, more inland areas of the Coast Ranges and southern California. It is closely associated with chamise (*Adenostoma fasciculatum*) (Chase & Carlson 2002). This species seeks cover in dense chaparral and forages for seeds and insects on the ground and in low foliage. The chaparral portions of the Project Areas and immediately adjacent areas provide year-round habitat, including for nesting, and this species is known from the general vicinity (Smith 2003).

Oak titmouse (*Baeolophus inornatus*). USFWS Bird of Conservation Concern. High Potential. This relatively common species is year-round resident throughout much of California including most of the coastal slope, the Central Valley and the western Sierra Nevada foothills. In addition, the species may also occur in residential settings where mature trees are present. Its primary habitat is woodland dominated by oaks. The oak titmouse nests in tree cavities, usually natural cavities or those excavated by woodpeckers, though they may partially excavate their own (Cicero 2000). Seeds and arboreal invertebrates make up the birds' diet. Larger oaks and other trees within the Project Areas provide suitable year-round habitat for this species, including for nesting.

White-tailed kite (*Elanus leucurus*). CDFW Fully Protected Species. Present. The white-tailed kite is resident in open to semi-open habitats throughout the lower elevations of California, including grasslands, savannahs, woodlands, agricultural areas and wetlands. Vegetative structure and prey availability seem to be more important habitat elements than associations with specific plants or vegetative communities (Dunk 1995). Nests are constructed mostly of twigs and placed in trees, often at habitat edges. Nest trees are highly variable in size, structure, and immediate surroundings, ranging from shrubs to trees greater than 150 feet tall (Dunk 1995). This species preys upon a variety of small mammals, as well as other vertebrates and invertebrates.

A kite was observed foraging over the southwestern portion of the Study Area during the site visit, and there are documented nesting occurrences within 3.0 miles (CDFW 2017). The Project Areas and adjacent areas provide suitable habitat, including for nesting.

Nuttall's woodpecker (*Picoides nuttallii*). USFWS Bird of Conservation Concern. Moderate Potential. Nuttall's Woodpecker is a year-round resident throughout most of California west of the Sierra Nevada. Typical habitat is oak or mixed woodland, and riparian areas (Lowther 2000). Nesting occurs in tree cavities, principally those of oaks and larger riparian trees. Nuttall's woodpecker also occurs in older residential settings and orchards where trees provide suitable foraging and nesting habitat. This species is common throughout much of Napa County; areas of woodland and more open forest with oaks and/or riparian trees provide suitable year-round habitat.

6.0 PROJECT DESCRIPTION AND RECOMMENDATIONS

6.1 Project Description

The project proposes to install seven vineyard blocks within the Study Area. The vineyard installation will necessarily remove or otherwise impact chaparral and non-native grassland communities, and may also involve tree removal. The following actions are recommended to avoid or mitigate for potential impacts to sensitive natural resources.

6.2 Sensitive Biological Communities

Each of the aquatic features will be given the appropriate setbacks and are not expected to be impacted through development of the vineyard blocks. Therefore, no further recommendations for these features.

Approximately 4.68 acres of California bay forests are located within the Project Areas. While this biological community is considered sensitive by CDFW and Napa County, that designation is typically considered for valley bottom stands composed of large individuals (Sawyer et. al. 2009) which are not present in the Study Area. It is expected no mitigation for impacts will be required; however that is at the discretion of the County.

Approximately 0.61 acre of leather oak chaparral is located in the Project Areas. While this biological community is not considered sensitive by CDFW, it is considered sensitive by Napa County per the Napa County Baseline Report (Napa County 2005). The Baseline Report notes that this community only occurs on serpentine soils; however, it can occur on rhyolite and other metavolcanic soils, as it does within the Study Area. Avoidance or preservation at a 2:1 ratio of leather oak chaparral will presumably be required, such that there will be two acres preserved per one acre converted to vineyard.

6.3 Relevant Local and Regional Policies

The Project Areas contain habitat through which common wildlife species may move and disperse (corridor), but fish habitat is absent. The retention of natural vegetation communities between the proposed Blocks, where relevant, should provide continued movement areas for most terrestrial wildlife, and impacts to wildlife movement resulting from project implementation are anticipated to be relatively minimal.

Earth-moving activities should be restricted to the non-rainy season, which is April 1 through October 15 for the vineyard blocks in the Vinehill Creek watershed. For the blocks located in the Lake Hennessey watershed, a "Sensitive Domestic Water Supply Drainage" per Napa County, earth-moving activities should be limited to the period of April 1 through September 15.

6.4 Special-status Species

6.4.1 Special-status Plant Species

Results of a protocol-level plant survey effort determined that five special-status plants are present in the Project Areas: narrow-anthered brodiaea, holly-leaved ceanothus, Sharsmith's western flax, Napa lomatium, and green monardella. The total area occupied by each species within the Study Area and the Project Areas is shown in Table 4. Three of these species are CRPR 1B and thus will be considered under CEQA. Two additional species are CRPR 4 which are not typically considered under CEQA, but impacts to these species may be considered by Napa County. Mitigation at the County's discretion will presumably be required for impacts to special-status plant species, and will likely involve a combination of avoidance, preservation, or restoration at a 1:1 to 3:1 ratio.

In general, avoidance is most strongly recommended in areas where multiple special-status plant species have overlapping distribution. For impacts to areas where avoidance is not feasible, a Habitat Monitoring and Mitigation Plan (HMMP) is recommended to direct mitigation efforts and facilitate successful results.

Table 4. Summary of Acres occupied by Special-Status Plant Species in the Study Area and Project Areas

Special-Status Species Occurring in Study Area	CRPR	Total Acres (individuals) of Special-Status Plants in the Study Area	Total Acres of Special-Status Plants in Project Areas
Narrow-anthered brodiaea	1B	0.44 acre (524 individuals)	0.32 acre
Holly-leaved ceanothus	1B	24.21 acres (2,316 individuals)	20.16 acres
Sharsmith's western flax	1B	0.11 acre (690 individuals)	0.08 acre
Napa lomatium	4	0.02 acre (28 individuals)	0.01 acre
Green monardella	4	24.69 acres (11,007 individuals)	20.16 acres

6.4.2 Special-status Wildlife Species

Four special-status wildlife species have the potential to occur within the Study Area (including the Project Areas) and one special-status species is present there. Recommendations to avoid impacts to special-status wildlife species are described below.

Pallid Bat

Pallid bat was determined to have the potential to roost in trees within the Project Areas. As such, tree removal has the potential to impact these species, including resulting in the injury or mortality of young during the maternity roosting season. Therefore it is recommended that tree removal occurs from October 1 to March 31, during the non-maternity roosting season. If tree removal during this period is not feasible, a bat roost habitat assessment and pre-construction survey by a qualified biologist should be conducted to determine if bat maternity roost sites are present in the trees. If the subject trees are determined to not host active maternity roosts, no further protective activities are recommended, and the trees may be removed. Conversely, should bats be roosting in these trees, it is recommended that removal of trees be delayed until the non-maternity roosting season (October 1 to March 31), or until an exclusion plan developed in conjunction with CDFW is implemented. Irrespective of time of year, all felled trees should remain on the ground for at least 24 hours prior to chipping, off-site removal, or other processing to allow any bats present to escape.

Bird Species

Bell's sparrow, oak titmouse, white-tailed kite, and Nuttall's woodpecker were determined to have the potential to nest within the Project Areas. Additionally, a variety of native bird species with baseline protections under the MBTA and CFGC may use vegetation within the Project Areas for nesting. Therefore, it is recommended that tree and vegetation removal occurs from September 1 to January 31, outside of the general bird nesting season. If tree/vegetation removal during this time is not feasible, a pre-construction nesting bird survey conducted by a qualified biologist no more than 14 days prior to the initiation of tree removal or ground disturbance is recommended. If active bird nests are found during the survey, an appropriate no-disturbance buffer should be established by the qualified biologist. Once it is determined that the young have fledged (let the nest) or the nest otherwise becomes inactive (e.g., due to predation), the buffer may be lifted and work may be initiated within the buffer.

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Appendix A

Figures

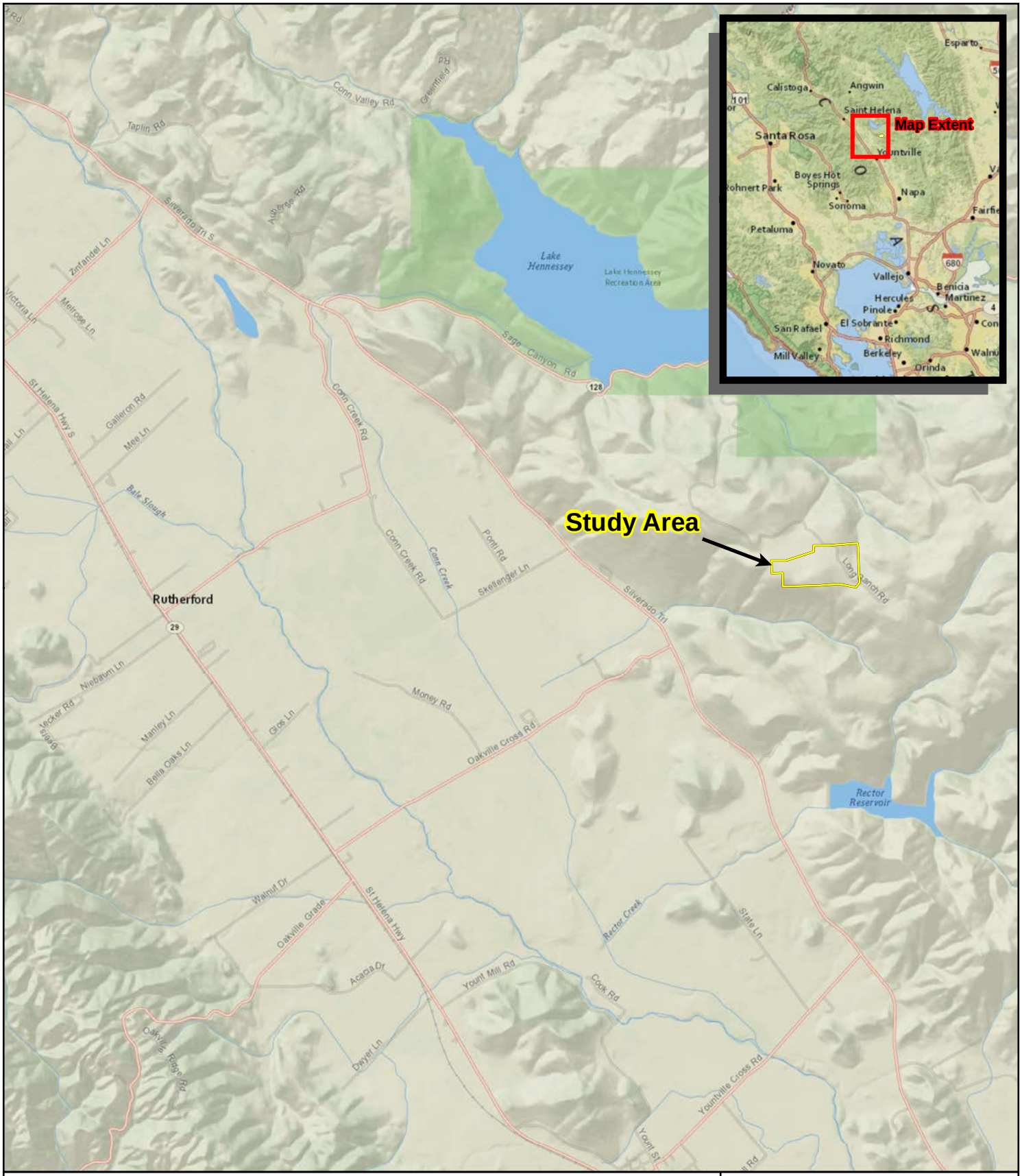

Figure 1. Study Area Location Map

N
W E
S

Ovid Winery
Napa County, California

0 0.5 1 2 Miles

ENVIRONMENTAL CONSULTANTS

Map Prepared Date: 10/9/2017
Map Prepared By: mrochelle
Base Source: Esri Streaming - National Geographic
Data Source(s): WRA

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Study Area (73.62 ac.)

Existing Vineyard Block

Proposed Block Boundaries

Proposed Clearing Limits

Sensitive Domestic Water Supply Drainage

65' County Setback

26' Undisturbed Filter Strip

Sensitive Communities

California Bay Forest (7.66 ac.)

Ephemeral Stream (0.05 ac. & 982 linear ft.)

Pond (0.19 ac.)

Seasonal Wetland (0.01 ac.)

Leather Oak Chaparral (1.89 ac.)

Non-sensitive Communities

Agriculture (20.45 ac.)

Annual Brome Grassland (6.69 ac.)

Broom Patch (1.06 ac.)

Chamise Chaparral (20.22 ac.)

Developed/ Landscaped (11.54 ac.)

Eastwood Manzanita Chaparral (1.71 ac.)

Interior Live Oak Chaparral (2.17 ac.)

Block 1

Block 2A

Block 2B

Block 2C

Block 3

Block 4

Block 5

wra
ENVIRONMENTAL CONSULTANTS

Ovid Winery

Napa County, California

Figure 2.

Biological Communities and Napa County Constriants

N
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S

0 200 400
Feet

Map Prepared Date: 6/13/2018
Map Prepared By: mrochelle
Base Source: Esri Streaming - NAIP 2014
Data Source(s): WRA

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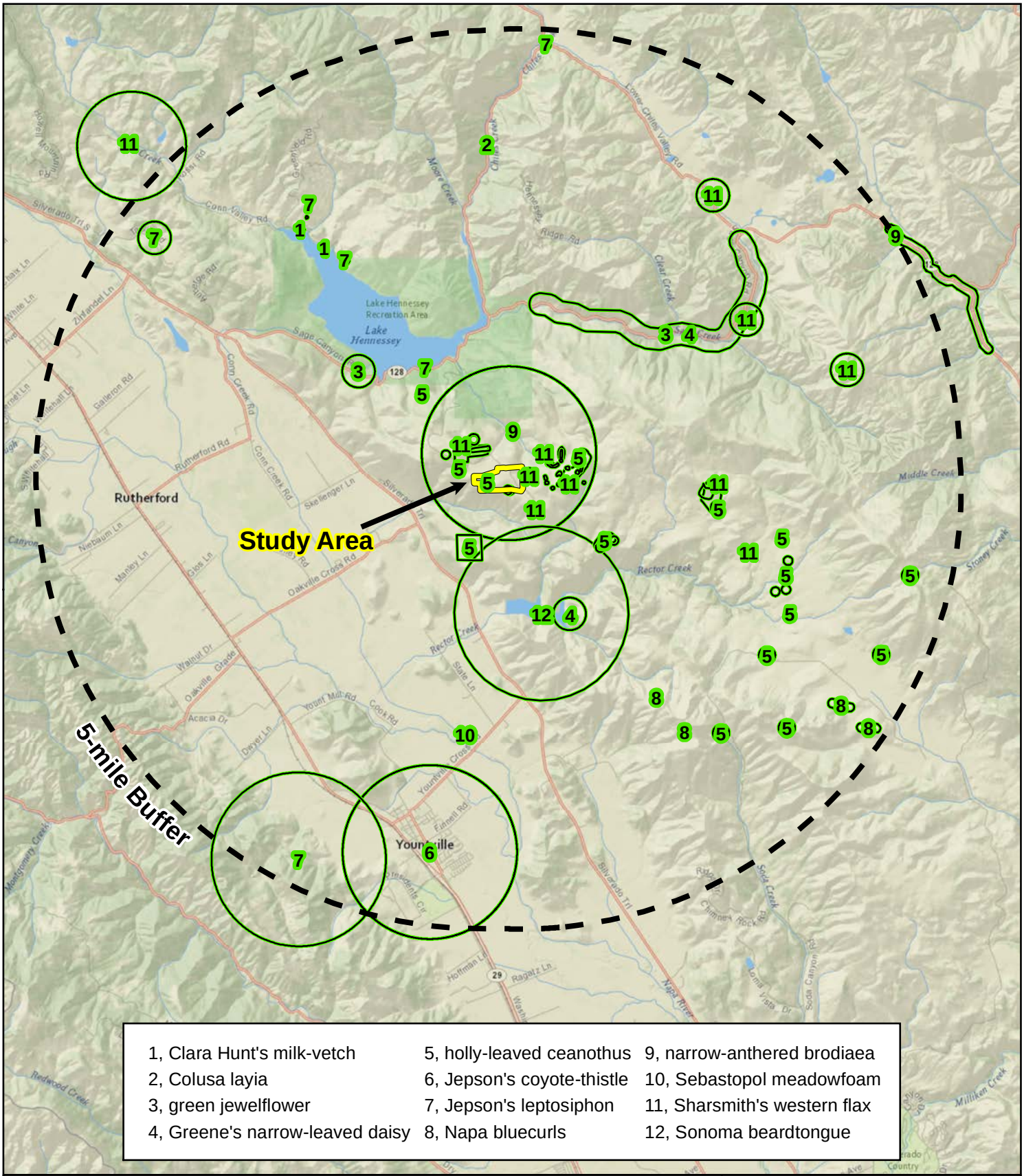

Figure 3. Special-status Plants Documented within 5 Miles of the Study Area

Ovid Winery
Napa County, California

N
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0 0.5 1 2
Miles

wra
ENVIRONMENTAL CONSULTANTS

Map Prepared Date: 10/9/2017
Map Prepared By: mrochelle
Base Source: National Geographic
Data Source(s): CNDDB June 2017

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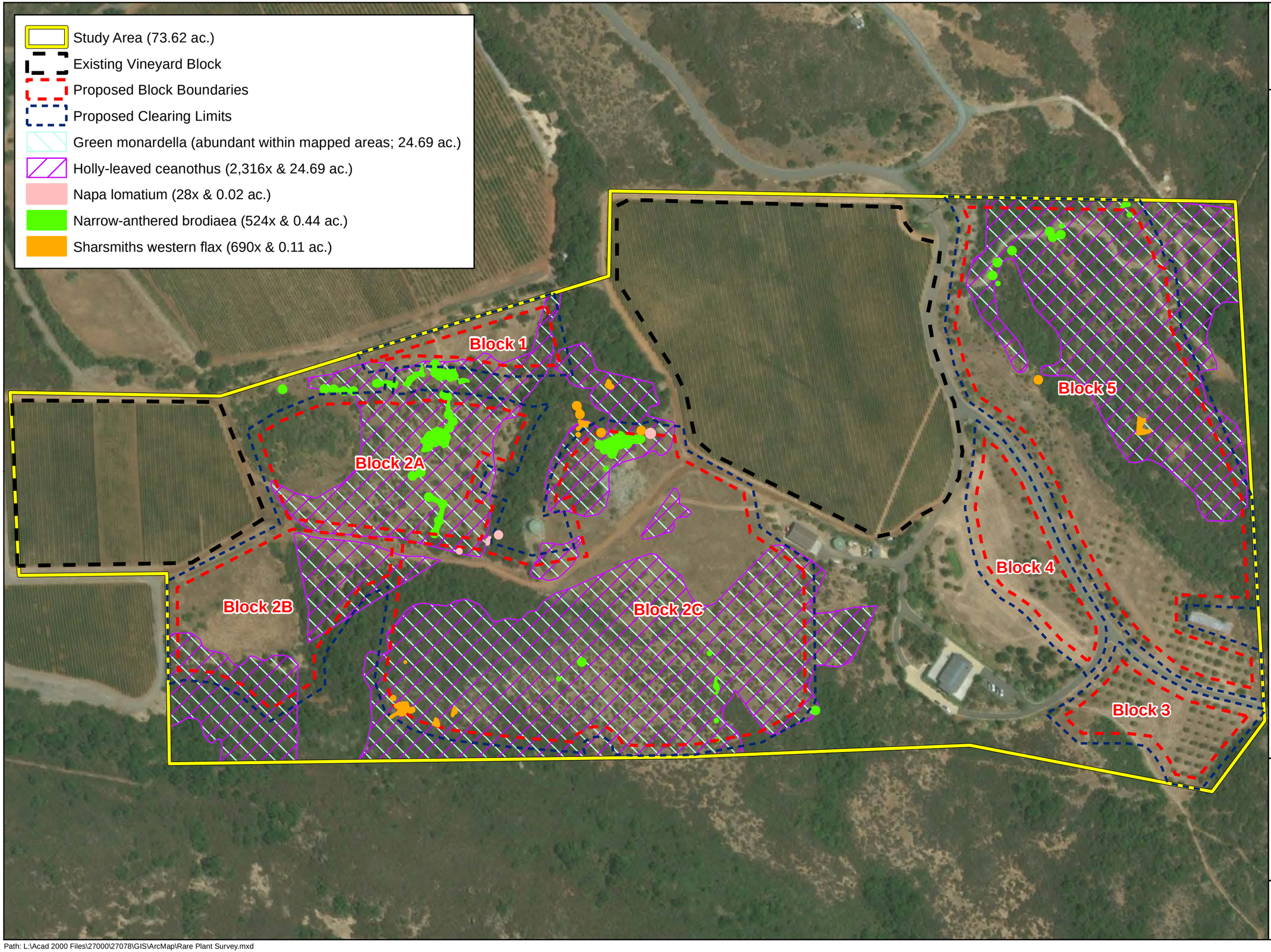

wra
ENVIRONMENTAL CONSULTANTS

Ovid Winery

Napa County, California

Figure 4.

Rare Plant Survey Results

N
W E
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0 200 400
Feet

Map Prepared Date: 6/20/2018
Map Prepared By: mrochelle
Base Source: Esri Streaming - NAIP 2014
Data Source(s): WRA

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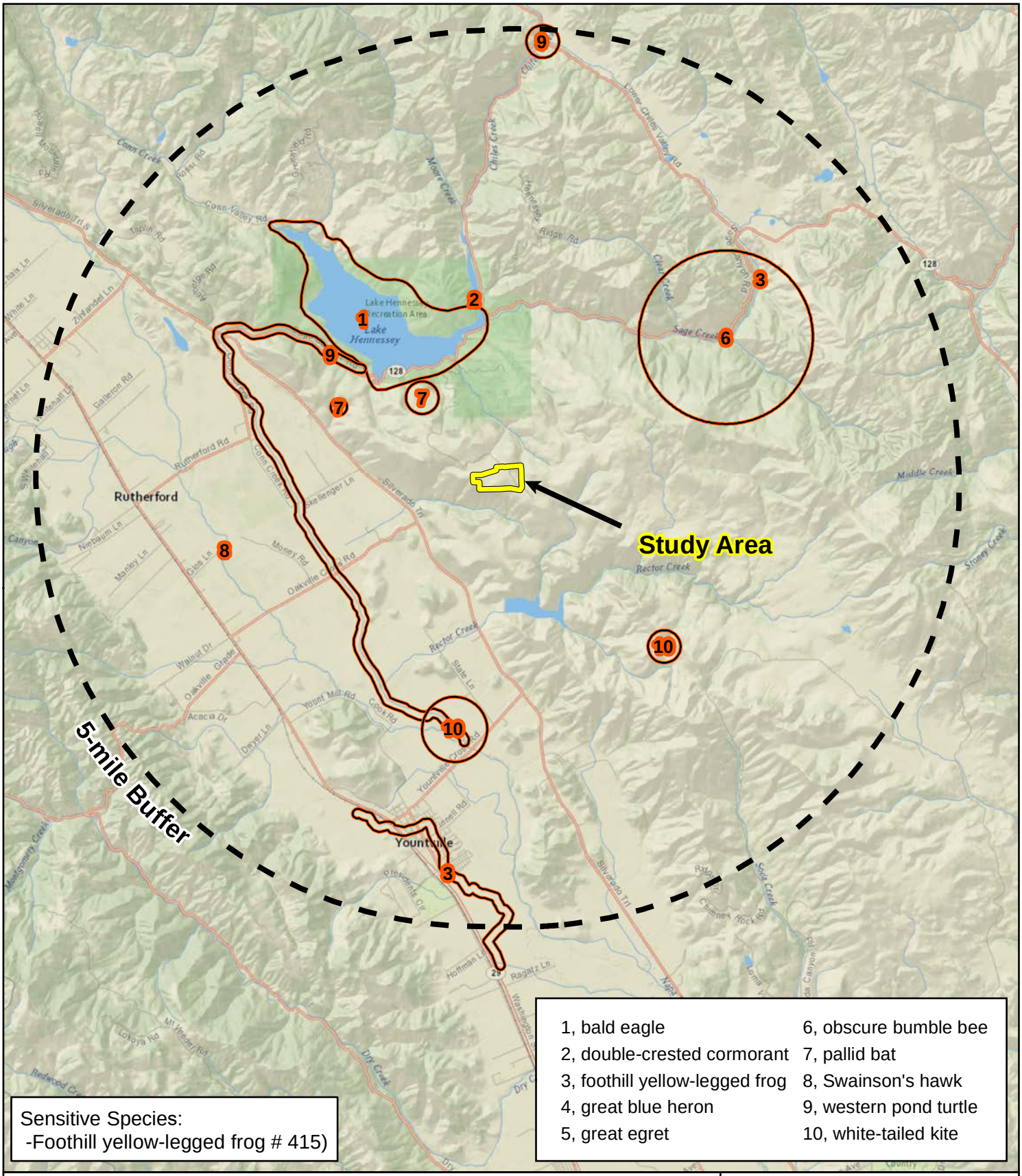

Figure 5. Special-status Wildlife Documented within 5 Miles of the Study Area

Ovid Winery
Napa Valley, California

0 0.5 1 2
Miles

ENVIRONMENTAL CONSULTANTS

Map Prepared Date: 10/9/2017
Map Prepared By: mrochelle
Base Source: National Geographic
Data Source(s): CNDDB June 2017

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Appendix B

Species Observed Within the Study Area

Appendix B-1. Plant species observed within the Study Area during the 2017 and 2018 site visits.

Scientific Name	Common Name	Origin	Form	Rarity	CAL-IPC Status	Wetland Status
Acmispon americanus var. americanus	Spanish lotus	native	annual herb	-	-	UPL
Acmispon glaber	Deerweed, california broom	native	perennial herb	-	-	-
Adenostoma fasciculatum var. fasciculatum	Chamise	native	tree, shrub	-	-	-
Aira caryophyllea	Silvery hairgrass	non-native (invasive)	annual grass	-	-	FACU
Aphanes occidentalis	Ladie's mantle	native	annual, perennial herb	-	-	-
Arctostaphylos glandulosa ssp. glandulosa	Eastwood manzanita	native	shrub	-	-	-
Arctostaphylos manzanita ssp. manzanita	Common manzanita	native	shrub	-	-	-
Aristolochia californica	California pipevine	native	vine, shrub	-	-	-
Avena barbata	Slim oat	non-native (invasive)	annual, perennial grass	-	Moderate	-
Baccharis pilularis	Coyote brush	native	shrub	-	-	-
Brassica nigra	Black mustard	non-native (invasive)	annual herb	-	Moderate	-
Briza maxima	Rattlesnake grass	non-native (invasive)	annual grass	-	Limited	-
Briza minor	Little rattlesnake grass	non-native	annual grass	-	-	FAC
Brodiaea elegans ssp. elegans	Harvest brodiaea	native	perennial herb	-	-	FACU
Brodiaea leptandra	Narrow-flowered california brodiaea	native	perennial herb	Rank 1B.2	-	-
Bromus diandrus	Ripgut brome	non-native (invasive)	annual grass	-	Moderate	-
Bromus madritensis ssp. madritensis	Foxtail chess	non-native	annual grass	-	-	UPL
Calochortus luteus	Yellow mariposa	native	perennial herb	-	-	-
Calochortus vestae	Yellow mariposa	native	perennial herb	-	-	-
Calystegia collina ssp. collina	Hillside morning glory	native	perennial herb	-	-	-
Cardamine hirsuta	Hairy bitter cress	non-native	annual herb	-	-	FACU
Carduus pycnocephalus ssp. pycnocephalus	Italian thistle	non-native (invasive)	annual herb	-	Moderate	-
Castilleja ambigua ssp. ambigua	Johnny nip	native	annual herb	-	-	FACW
Ceanothus cuneatus var. cuneatus	Buck brush	native	shrub	-	-	-

Scientific Name	Common Name	Origin	Form	Rarity	CAL-IPC Status	Wetland Status
Ceanothus foliosus	Wavy leaved ceanothus	native	shrub	-	-	-
Ceanothus purpureus	Hollyleaf ceanothus	native	shrub	Rank 1B.2	-	-
Centaurea melitensis	Tocalote	non-native (invasive)	annual herb	-	Moderate	-
Centaurea solstitialis	Yellow starthistle	non-native (invasive)	annual herb	-	High	-
Cerastium glomeratum	Large mouse ears	non-native	annual herb	-	-	UPL
Chlorogalum pomeridianum var. pomeridianum	Common soaproot	native	perennial herb	-	-	-
Cynoglossum grande	Houndstongue	native	perennial herb	-	-	-
Cytisus scoparius	Scotch broom	non-native (invasive)	shrub	-	High	-
Datisca glomerata	Durango root	native	perennial herb	-	-	FACW
Daucus carota	Carrot	non-native (invasive)	perennial herb	-	-	UPL
Dendromecon rigida	Bush poppy	native	shrub	-	-	-
Dichelostemma capitatum	Blue dicks	native	perennial herb	-	-	FACU
Eleocharis macrostachya	Spike rush	native	perennial grasslike herb	-	-	OBL
Elymus elymoides	Squirrel tail grass	native	perennial grass	-	-	FACU
Elymus glaucus	Blue wildrye	native	perennial grass	-	-	FACU
Eriophyllum lanatum var. achilleoides	Yarrow leaved woolly sunflower	native	perennial herb	-	-	-
Erodium botrys	Big heron bill	non-native (invasive)	annual herb	-	-	FACU
Erodium brachycarpum	White stemmed filaree	non-native (invasive)	annual herb	-	-	-
Erodium cicutarium	Coastal heron's bill	non-native (invasive)	annual herb	-	Limited	-
Eschscholzia californica	California poppy	native	annual, perennial herb	-	-	-
Euphorbia lathyris	Gopher plant	non-native (invasive)	annual, perennial herb	-	-	-
Eurybia radulina	Roughleaf aster	native	perennial herb	-	-	-
Festuca myuros	Rattail sixweeks grass	non-native (invasive)	annual grass	-	-	FACU
Festuca perennis	Italian rye grass	non-native	annual, perennial grass	-	-	FAC
Frangula californica ssp. californica	California coffeeberry	native	shrub	-	-	-

Scientific Name	Common Name	Origin	Form	Rarity	CAL-IPC Status	Wetland Status
Fritillaria recurva	Scarlet fritillary	native	perennial herb	-	-	-
Galium porrigens var. porrigens	Graceful bedstraw	native	vine, shrub	-	-	-
Gastridium phleoides	Nit grass	non-native	annual grass	-	-	FACU
Geranium dissectum	Wild geranium	non-native (invasive)	annual herb	-	Limited	-
Geranium molle	Crane's bill geranium	non-native (invasive)	annual, perennial herb	-	-	-
Helianthella californica	California helianthella	native	perennial herb	-	-	-
Hesperolinon sharsmithiae	Sharsmith's western flax	native	annual herb	Rank 1B.2	-	-
Heteromeles arbutifolia	Toyon	native	shrub	-	-	-
Hirschfeldia incana	Mustard	non-native (invasive)	perennial herb	-	Moderate	-
Hordeum murinum	Foxtail barley	non-native (invasive)	annual grass	-	Moderate	FACU
Hypericum concinnum	Gold wire	native	perennial herb	-	-	-
Hypochaeris radicata	Hairy cats ear	non-native (invasive)	perennial herb	-	Moderate	FACU
Iris macrosiphon	Ground iris	native	perennial herb	-	-	-
Juncus xiphioides	Iris leaved rush	native	perennial grasslike herb	-	-	OBL
Lactuca serriola	Prickly lettuce	non-native (invasive)	annual herb	-	-	FACU
Lamium amplexicaule	Henbit	non-native	annual herb	-	-	-
Linum bienne	Flax	non-native	annual herb	-	-	-
Logfia gallica	Narrowleaf cottonrose	non-native	annual herb	-	-	-
Lomatium dasycarpum ssp. dasycarpum	Woolly fruited lomatium	native	perennial herb	-	-	-
Lomatium repostum	Napa lomatium	native	perennial herb	Rank 4.3	-	-
Lotus corniculatus	Bird's foot trefoil	non-native (invasive)	perennial herb	-	-	FAC
Lysimachia arvensis	Scarlet pimpernel	non-native	annual herb	-	-	FAC
Lythrum hyssopifolia	Hyssop loosestrife	non-native	annual, perennial herb	-	-	OBL
Madia sp.	tarweed	-	-	-	-	-
Malus sp.	apple	non-native	tree	-	-	-
Medicago polymorpha	California burclover	non-native (invasive)	annual herb	-	Limited	FACU
Melica californica	California melic	native	perennial grass	-	-	-

Scientific Name	Common Name	Origin	Form	Rarity	CAL-IPC Status	Wetland Status
Mentha pulegium	Pennyroyal	non-native (invasive)	perennial herb	-	Moderate	OBL
Micropus californicus	Q tips	native	annual herb	-	-	FACU
Mimulus aurantiacus	Sticky monkeyflower	native	shrub	-	-	FACU
Monardella viridis	Green monardella	native	perennial herb	Rank 4.3	-	-
Navarretia heterodoxa	Calistoga navarretia	native	annual herb	-	-	-
Olea europaea	Olive	non-native (invasive)	tree, shrub	-	Limited	-
Pedicularis densiflora	Indian warrior	native	perennial herb	-	-	-
Pentagramma triangularis	Gold back fern	native	fern	-	-	-
Pickeringia montana	Chaparral pea	native	shrub	-	-	-
Piperia transversa	Mountain piperia	native	perennial herb	-	-	-
Plantago erecta	California plantain	native	annual herb	-	-	-
Poa secunda	Pine bluegrass	native	perennial grass	-	-	FACU
Polygala californica	Milkwort	native	perennial herb	-	-	-
Polypogon monspeliensis	Annual beard grass	non-native (invasive)	annual grass	-	Limited	FACW
Pseudognaphalium californicum	Ladies' tobacco	native	annual, perennial herb	-	-	-
Quercus agrifolia	Coast live oak	native	tree	-	-	-
Quercus berberidifolia	Inland scrub oak	native	tree	-	-	-
Quercus durata var. durata	Leather oak	native	shrub	-	-	-
Quercus kelloggii	California black oak	native	tree	-	-	-
Quercus wislizeni var. wislizeni	Interior live oak	native	tree, shrub	-	-	-
Raphanus sativus	Jointed charlock	non-native (invasive)	annual, biennial herb	-	Limited	-
Rhamnus crocea	Redberry	native	shrub	-	-	-
Rhus aromatica	Fragrant sumac	native	shrub	-	-	FACU
Salvia sonomensis	Sonoma sage	native	perennial herb	-	-	-
Schoenoplectus sp.	-	-	-	-	-	-
Senecio vulgaris	Common groundsel	non-native	annual herb	-	-	FACU
Sinapis sp.	-	-	-	-	-	-
Sonchus asper ssp. asper	Sow thistle	non-native (invasive)	annual herb	-	-	FAC
Sonchus oleraceus	Sow thistle	non-native	annual herb	-	-	UPL

Scientific Name	Common Name	Origin	Form	Rarity	CAL-IPC Status	Wetland Status
Stachys rigida var. quercetorum	Rough hedgenettle	native	perennial herb	-	-	FACW
Stipa pulchra	Purple needle grass	native	perennial grass	-	-	-
Symphoricarpos albus var. laevigatus	Snowberry	native	shrub	-	-	FACU
Thysanocarpus curvipes ssp. amplectens	Common fringe pod	native	annual herb	-	-	-
Torilis arvensis	Field hedge parsley	non-native (invasive)	annual herb	-	Moderate	-
Toxicodendron diversilobum	Poison oak	native	vine, shrub	-	-	FACU
Toxicoscordion fremontii	Fremont's star lily	native	perennial herb	-	-	-
Tragopogon porrifolius	Salsify	non-native	perennial herb	-	-	-
Trifolium dubium	Shamrock	non-native	annual herb	-	-	UPL
Trifolium hirtum	Rose clover	non-native (invasive)	annual herb	-	Limited	-
Trifolium subterraneum	Subterranean clover	non-native	annual herb	-	-	-
Umbellularia californica	California bay	native	tree	-	-	FAC
Verbascum sp.	-	-	-	-	-	-
Viola lobata ssp. lobata	Moose horn violet	native	perennial herb	-	-	-
Zeltnera muehlenbergii	Muehlenberg's centaury	native	annual herb	-	-	FAC

Appendix B-2. Wildlife species observed in the Study Area on March 16, 2017.

Scientific Name	Common Name
Mammals	
Lepus californicus	black-tailed jackrabbit
Birds	
Aphelocoma californica	California scrub-jay
Callipepla californica	California quail
Calypte anna	Anna's hummingbird
Carduelis psaltria	lesser goldfinch
Carpodacus mexicanus	house finch
Cathartes aura	turkey vulture
Chamaea fasciata	wrentit
Colaptes auratus	northern flicker
Corvus corax	common raven
Elanus leucurus	white-tailed kite
Oreothlypis celata	orange-crowned warbler
Pipilo maculatus	spotted towhee
Polioptila caerulea	blue-gray gnatcatcher
Sayornis nigricans	black phoebe
Thryomanes bewickii	Bewick's wren
Toxostoma redivivum	California thrasher
Zenaida macroura	mourning dove
Reptiles	
Sceloporus occidentalis	western fence lizard
Amphibians	
Lithobates catesbeianus	American bullfrog (non-native)
Psuedacris regilla	Pacific chorus frog

Appendix C

Potential for Special-status Species to Occur in the Project Areas

Appendix C. Potential for Special Status Species to Occur in the Project Areas . List compiled from the California Department of Fish and Wildlife (CDFW) Natural Diversity Database (2017), U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation Database (2017), and California Native Plant Society (CNPS) Electronic Inventory (2017) searches of the Napa, Mount George, Sonoma, Rutherford, Yountville, Capell Valley, St. Helena, Chiles Valley, and Lake Berryessa USGS 7.5' quadrangles, a review of historical and current satellite imagery via Google Earth (2017) and a review of other CDFW lists and publications (Shuford and Gardali 2008, Thomson et al. 2016).

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
PLANTS				
Agrostis hendersonii Henderson's bentgrass	Rank 3	Valley and foothill grassland, vernal pools; situated in mesic grasslands. Elevation range: 225 – 995 feet. Blooms: April – June.	**No Potential.** This species is closely associated valley grassland-seasonal wetland complexes not present in the Project Areas.	**Not Present.** No further actions are needed for this species.
Allium peninsulare var. *franciscanum* Franciscan onion	Rank 1B	Cismontane woodland, valley and foothill grassland; on clay substrate, often derived from serpentine. Elevation range 170 – 985 feet. Blooms: May – June.	**Unlikely.** Although the Project Areas contain oak woodlands, this species is known from open woodland habitat with a substantial herbaceous component rather than scrub-woodland that is present in the Project Areas.	**Not Present.** No further actions are needed for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Amorpha californica var. *napensis* Napa false indigo	Rank 1B	Openings in broadleaf upland forest, chaparral, cismontane woodland. Elevation range: 395 – 6560 feet. Blooms: April – July.	**Unlikely.** While the Project Areas contain woodland-scrub habitat, this species is typically located in "open" chaparrals and woodlands.	**Not Present.** No further actions are needed for this species.
Antirrhinum virga twig-like snapdragon	Rank 4	Chaparral, lower montane coniferous forest; located on rocky openings often derived from serpentine. Elevation range: 325 – 6550 feet. Blooms: June – July.	**Unlikely.** The Project Areas do not contain serpentine habitat.	**Not Present.** No further actions are needed for this species.
Arabis modesta modest rockcress	Rank 4	Chaparral, lower montane coniferous forest. Elevation range: 390 – 2600 feet. Blooms: March – July.	**Unlikely.** While the Project Areas contain chaparral habitat, known Napa County occurrences are located on serpentine soils, which are absent.	**Not Present.** No further actions are needed for this species.
Arctostaphylos bakeri ssp. *bakeri* Baker's manzanita	SR; Rank 1B	Broadleaf upland forest, chaparral, closed-cone coniferous forest; located on serpentine substrate. Elevation range: 240 – 975 feet. Blooms: February – April.	**Unlikely.** This species is restricted to sites in western Sonoma County. Reports from the Sonoma area may be in error.	**Not Present.** No further actions are needed for this species.
Arctostaphylos stanfordiana ssp. decumbens Rincon Ridge manzanita	Rank 1B	Chaparral, cismontane woodland; highly restricted to red rhylolitic soils. Elevation range: 245 – 1215 feet. Blooms: February – April.	**Unlikely.** While the Project Areas contain chaparral habitat, there are no rhyolitic soils present.	**Not Present.** No further actions are needed for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Astragalus breweri Brewer's milk-vetch	Rank 4	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland; located on open, gravelly serpentine or volcanic substrate. Elevation range: 290 – 2375 feet. Blooms: April – June.	**Moderate Potential.** This species is considered to have moderate potential to occur due to the presence of chaparral habitat and volcanic soils. Although not identified in previous surveys, previous surveys did not cover all existing proposed vineyard blocks.	**Not Observed.** No further actions are needed for this species.
Astragalus claranus Clara Hunt's milk-vetch	FE; ST; Rank 1B	Cismontane woodland, valley and foothill grassland, chaparral; on open grassy hillsides, especially exposed shoulders with thin, volcanic clay soils. Elevation range: 245 – 900 feet. Blooms: March – May.	**Unlikely.** Although the Project Areas contain chaparral habitat, this species is closely associated with "open" chaparral and blue oak woodlands not present in the Project Areas .	**Not Present.** No further actions are needed for this species.
Astragalus clevelandii Cleveland's milk-vetch	Rank 4	Chaparral, cismontane woodland, riparian forest; located on serpentine seeps. Elevation range: 650 – 4875 feet. Blooms: June – September.	**No Potential.** The Project Areas do not contain serpentine seeps.	**Not Present.** No further actions are needed for this species.
Astragalus tener var. *tener* alkali milk-vetch	Rank 1B	Playas, vernal pools, valley and foothill grassland; located in mesic grassy areas on alkaline substrate. Elevation range: 0 – 195 feet. Blooms: March – June.	**No Potential.** The Project Areas do not contain vernal pool and/or other seasonal wetland habitat necessary to support this species.	**Not Present.** No further actions are needed for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Balsamorhiza macrolepis big-scale balsamroot	Rank 1B	Chaparral, valley and foothill grassland, cismontane woodland; sometimes on serpentine substrate. Elevation range: 295 – 3100 feet. Blooms: March – June.	**Unlikely.** While the Project Areas contain chaparral and grassland habitat, no serpentine substrate is present.	**Not Present.** No further actions are needed for this species.
Blennosperma bakeri Sonoma sunshine	FE, SE, Rank 1B	Vernal pools, vernal swales, and mesic areas in valley grassland; highly restricted to the Santa Rosa Plain and Valley of the Moon. Elevation range: 35 – 360 feet. Blooms: March – April.	**No Potential.** The Project Areas do not contain vernal pool and/or other seasonal wetland habitat necessary to support this species.	**Not Present.** No further actions are needed for this species.
Brodiaea leptandra narrow-anthered California brodiaea	Rank 1B	Broadleaf upland forest, chaparral, lower montane coniferous forest. Elevation range: 360 – 3000 feet. Blooms: May – July.	**Moderate Potential.** This species is considered to have moderate potential to occur due to the presence of chaparral, grassland, and oak woodland habitat underlain by volcanic soils. Although not identified in previous surveys, previous surveys did not cover all existing proposed vineyard blocks.	**Present.** This species was observed within the Project Areas and Study Area. See Section 6.4.1 for recommendations.
Calamagrostis ophitidis serpentine reed grass	Rank 4	Chaparral, lower montane coniferous forest, meadows and seeps, valley and foothill grassland; located in openings, often north-facing, underlain by rocky serpentine substrate. Elevation range: 290 – 3465 feet. Blooms: April – July.	**Unlikely.** The Project Areas do not contain serpentine substrate.	**Not Present.** No further actions are needed for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Calandrinia breweri Brewer's Calandrinia	Rank 4	Chaparral, coastal scrub; located on sandy or loamy substrate in areas often recently disturbed or burned. Elevation range: 30 – 3965 feet. Blooms: March – June.	**Unlikely.** While the Project Areas contain chaparral, no recent disturbance has occurred.	**Not Present.** No further actions are needed for this species.
Calochortus pulchellus Mt. Diablo fairy-lantern	Rank 1B	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland; located on volcanic or serpentine substrates. Elevation range: 95 – 2730 feet. Blooms: April – June.	**Unlikely.** Although the Project Areas contain chaparral habitat, this species is restricted to the Mt. Diablo region of Contra Costa County. (Reports from Napa County may be in error).	**Not Present.** No further actions are needed for this species.
Calycadenia micrantha small-flowered Calycadenia	Rank 1B	Chaparral, meadows and seeps, valley and foothill grassland; located on volcanic or serpentine substrate in sparsely vegetated rocky, talus, or scree areas. Elevation range: 15 – 4875 feet. Blooms: June – September.	**Unlikely.** The Project Areas contain dense chaparral and there is only one documented occurrence from Napa County.	**Not Present.** No further actions are needed for this species.
Calystegia collina ssp. *oxyphylla* Mt. Saint Helena morning-glory	Rank 4	Chaparral; located on serpentine barrens, slopes, and hillsides. Elevation range: 815 – 3315 feet. Blooms: April – June.	**Unlikely.** The Project Areas do not contain serpentine soils.	**Not Present.** No further actions are needed for this species.
Castilleja ambigua ssp. *ambigua* johnny-nip	Rank 4	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pool margins. Elevation range: 0 – 1415 feet. Blooms: March – August.	**No Potential.** The Project Areas do not contain herbaceous dominated or coastal scrub habitat necessary to support this species.	**Not Present.** No further actions are needed for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Castilleja ambigua var. *meadii* mead's owl's-clover	Rank 1B	Meadows and seeps, vernal pools; located in mesic areas or wetlands underlain by gravelly clay soils derived from volcanics. Elevation range: 1460 – 1545 feet. Blooms: April – May.	**No Potential.** The Project Areas do not contain vernal pool and/or other seasonal wetland habitat necessary to support this species.	**Not Present.** No further actions are needed for this species.
Ceanothus confusus Rincon Ridge ceanothus	Rank 1B	Closed-cone coniferous forest, chaparral, cismontane woodland; known from volcanic and serpentine substrate; typically on dry shrubby slopes. Elevation range: 245 – 3495 feet. Blooms: February – April.	**Unlikely.** The Project Areas contain chaparral habitat that may support this species; however, there are no documented occurrences east of the Napa Valley.	**Not Present.** No further actions are needed for this species.
Ceanothus divergens Calistoga ceanothus	Rank 1B	Chaparral, cismontane woodland; on rocky, serpentine sites. Elevation range: 560 – 3115 feet. Blooms: February – March.	**Unlikely.** The Project Areas do not contain serpentine soils. Additionally, there are no documented occurrences east of the Napa Valley.	**Not Present.** No further actions are needed for this species.
Ceanothus purpureus holly-leaved ceanothus	Rank 1B	Chaparral, cismontane woodland; located on rocky, volcanic slopes. Elevation range: 395 – 3000 feet. Blooms: February – June.	**High Potential.** The Project Areas contain chaparral habitat that may support this species. Additionally, this species was observed during previous surveys.	**Present.** This species was observed within the Project Areas and Study Area. See Section 6.4.1 for recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Ceanothus sonomensis Sonoma ceanothus	Rank 1B	Chaparral; located on sandy serpentine or volcanic substrates. Elevation range: 705 – 2625 feet. Blooms: February – April.	**Unlikely.** The Project Areas do not contain sandy soils. Additionally, there are no documented occurrences east of the Napa Valley.	**Not Present.** No further actions are needed for this species.
Centromadia parryi ssp. *parryi* pappose tarplant	Rank 1B	Coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland; in vernally mesic sites, often with alkali substrate. Elevation range: 5 – 1380 feet. Blooms: May – November.	**No Potential.** The Project Areas do not contain alkali grassland, vernal pool, and/or other seasonal wetland habitat necessary to support this species.	**Not Present.** No further actions are needed for this species.
Chorizanthe valida Sonoma spineflower	FE; SE; Rank 1B	Coastal prairie; in sandy soils. Elevation range: 35 – 1000 feet. Blooms: June – August.	**No Potential.** The Project Areas do not contain coastal prairie habitat necessary to support this species.	**Not Present.** No further actions are needed for this species.
Clarkia gracilis ssp. *tracyi* Tracy's clarkia	Rank 4	Chaparral; located in openings and situated on substrates often derived from serpentine. Elevation range: 210 – 2115 feet. Blooms: April – July.	**Unlikely.** The Project Areas do not contain serpentine substrate.	**Not Present.** No further actions are needed for this species.
Collomia diversifolia serpentine collomia	Rank 4	Chaparral, cismontane woodland; situated on rocky to gravelly serpentine substrates. Elevation range: 975 – 1950 feet. Blooms: May – June.	**Unlikely.** The Project Areas do not contain serpentine substrates.	**Not Present.** No further actions are needed for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Cordylanthus tenuis ssp. *brunneus* serpentine bird's-beak	Rank 4	Closed-cone coniferous forest, chaparral, cismontane woodland; typically located serpentine substrate. Elevation range: 1540 – 2975 feet. Blooms: July – August.	**Unlikely.** The Project Areas do not contain serpentine substrates.	**Not Present.** No further actions are needed for this species.
Cryptantha dissita serpentine cryptantha	Rank 1B	Chaparral; located on serpentine outcrops. Elevation range: 1280 – 1885 feet. Blooms: April – June.	**Unlikely.** The Project Areas do not contain serpentine substrates.	**Not Present.** No further actions are needed for this species.
Delphinium uliginosum swamp larkspur	Rank 4	Chaparral, valley and foothill grassland; located in seeps and wet meadows underlain by serpentine substrate. Elevation range: 1105 – 1985 feet. Blooms: May – June.	**Unlikely.** Although the Project Areas contain chaparral, serpentine substrate is absent.	**Not Present.** No further actions are recommended for this species.
Downingia pusilla dwarf downingia	Rank 2B	Valley and foothill grassland, vernal pools; located in mesic grassy sites, pool and lake margins. Elevation range: 3 – 1450 feet. Blooms: March – May.	**No Potential.** The Project Areas do not contain vernal pool and/or other seasonal wetland habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Erigeron biolettii Streamside daisy	Rank 3	Broadleaf upland forest, cismontane woodland, North Coast coniferous forest; on rocky, mesic. Elevation range: 95 – 3610 feet. Blooms: June – October.	**Unlikely.** The Project Areas do not contain forest or open woodland habitat sufficient to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Erigeron greenei Greene's narrow-leaved daisy	Rank 1B	Chaparral; located on volcanic or serpentine substrate. Elevation range: 260 – 3270 feet. Blooms: May – September.	**Unlikely.** While the Project Areas contain chaparral habitat underlain by volcanic substrate, this species occurs on rock outcrops and in crevices of rocks. Additionally, this species was not observed during previous surveys.	**Not Present.** No further actions are recommended for this species.
Extriplex joaquiniana San Joaquin spearscale	Rank 1B	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland; located on alkaline substrate. Elevation range: 0 – 2715 feet. Blooms: April – October.	**No Potential.** The Project Areas do not contain alkali grassland, vernal pool, and/or other seasonal wetland habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Gilia capitata ssp. *tomentosa* woolly-head gilia	Rank 1B	Coastal bluff scrub; rocky outcrops on the coast. Elevation range: 15 – 155 feet. Blooms: May – July.	**No Potential.** The Project Areas do not contain coastal scrub or bluff habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Harmonia nutans nodding harmonia	Rank 4	Chaparral, cismontane woodland; located on rocky to gravelly substrates derived from volcanics. Elevation range: 240 – 3170 feet. Blooms: March – May.	**Unlikely.** While the Project Areas contain chaparral habitat, the non-native grasses likely preclude this diminutive annual species.	**Not Present.** No further actions are needed for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Hemizonia congesta ssp. *congesta* congested-headed hayfield tarplant	Rank 1B	Coastal scrub, valley and foothill grassland. Elevation range: 65 – 1840 feet. Blooms: April – October.	**No Potential.** The Project Areas do not contain grassland or coastal scrub habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Hesperolinon bicarpellatum two-carpellate western flax	Rank 1B	Chaparral; located on serpentine substrate. Elevation range: 195 – 3270 feet. Blooms: May – July.	**High Potential.** Previous surveys identified Napa dwarf flax (*H. serpentinum*) within the Study Area. This species is no longer a valid taxon and has subsequently been reassigned into *H. bicarpellatum*, *H. sharsmithiae,* or *H. tehamense*, all of which are considered rare.	**Not Observed.** No further actions are needed for this species.
Hesperolinon breweri Brewer's western flax	Rank 1B	Chaparral, cismontane woodland, valley and foothill grassland; typically located in serpentine grassland and serpentine chaparral underlain by rocky substrates. Elevation range: 95 – 2925 feet. Blooms: May – July.	**Unlikely.** While the Project Areas contain chaparral and grassland habitat, no serpentine substrate is present.	**Not Present.** No further actions are needed for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Hesperolinon sharsmithiae Sharsmith's western flax	Rank 1B	Chaparral; located on serpentine substrate. Elevation range: 875 – 975 feet. Blooms: May – July.	**High Potential.** The Project Areas contain chaparral habitat underlain by volcanic substrate. While the Project Areas lack serpentine substrate, known occurrences of this species are located on volcanic soils within Napa County. Previous surveys identified Napa dwarf flax (*H. serpentinum*) within the Study Area. This species is no longer a valid taxon and has subsequently been reassigned into *H. bicarpellatum*, *H. sharsmithiae,* or *H. tehamense*, all of which are considered rare.	**Present.** This species was observed within the Project Areas and Study Area. See Section 6.4.1 for recommendations.
Horkelia tenuiloba thin-lobed Horkelia	Rank 1B	Broadleaf upland forest, coastal scrub, valley and foothill grassland, chaparral; in mesic openings, on sandy substrate. Elevation range: 165 – 1640 feet. Blooms: May – July.	**Unlikely.** Although the Project Areas contain chaparral habitat, this species is closely associated with sandy, marine uplifted soils not present in the Project Areas.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Juglans hindsii North California black walnut	Rank 1B	Riparian forest, riparian woodland. Elevation range: 0 – 1430 feet. Blooms: April – May.	**No Potential.** The Project Areas do not contain streams of a hydrologic potential to support this species.	**Not Present.** No further actions are recommended for this species.
Lasthenia conjugens Contra Costa goldfields	FE; Rank 1B	Valley and foothill grassland, vernal pools, cismontane woodland; located in pools, swales, and depressions in mesic grassy sites underlain by alkaline substrate. Elevation range: 0 – 1530 feet. Blooms: March – June.	**No Potential.** The Project Areas do not contain vernal pool and/or other seasonal wetland habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Lathyrus jepsonii var. *jepsonii* Delta tule pea	Rank 1B	Freshwater and brackish marshes; typically located near or on slough margins, closely associated with cattail, tules, bulrushes, Baltic rush, California rose, and Suisun Marsh aster; known widely throughout Suisun Bay and Delta regions. Elevation range: 0 – 15 feet. Blooms: May – July, sometimes September.	**No Potential.** The Project Areas do not contain tidal marsh habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Layia septentrionalis Colusa layia	Rank 1B	Chaparral, cismontane woodland, valley and foothill grassland; on sandy, serpentine substrate; typically in fields and grassy slopes. Elevation range: 330 – 3595 feet. Blooms: April – May.	**Unlikely.** The Project Areas do not contain serpentine substrate.	**Not Present.** No further actions are needed for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Leptosiphon acicularis bristly leptosiphon	Rank 4	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland; often located on shallow, rocky substrate in foothill positions. Elevation range: 175 – 4875 feet. Blooms: April – July.	**Unlikely.** While the Project Areas contain chaparral and grassland habitat, the dominance of non-native grasses likely precludes this diminutive annual species.	**Not Present.** No further actions are needed for this species.
Leptosiphon jepsonii Jepson's leptosiphon	Rank 1B	Chaparral, cismontane woodland; on open to partially shaded grassy slopes on volcanic or the periphery of serpentine substrate. Elevation range: 330 – 1640 feet. Blooms: April – May.	**Moderate Potential.** This species is considered to have moderate potential to occur due to the presence of chaparral, and woodland habitat underlain by volcanic soils. Although not identified in previous surveys, previous surveys did not cover all existing proposed vineyard blocks.	**Not Observed.** No further actions are needed for this species.
Leptosiphon latisectus broad-lobed leptosiphon	Rank 4	Broadleaf upland forest, cismontane woodland. Elevation range: 550 – 4875 feet. Blooms: April – June.	**Unlikely.** The Project Areas do not contain woodland or forest habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Lilaeopsis masonii Mason's Lilaeopsis	SR, Rank 1B	Freshwater and brackish coastal marshes, riparian scrub; located on channel banks in the splash zone on bare mud substrate. Elevation range: 0 – 35 feet. Blooms: April – November.	**No Potential.** The Project Areas do not contain tidal marsh habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Lilium rubescens redwood lily	Rank 4	Broadleaf upland forest, chaparral, lower montane coniferous forest, upper montane coniferous forest, North Coast coniferous forest; often located on serpentine substrates, and along roadcuts. Elevation range: 95 – 6210 feet. Blooms: April – September.	**Unlikely.** While the Project Areas contain chaparral habitat, there is no serpentine substrate or forest habitat.	**Not Present.** No further actions are recommended for this species.
Limnanthes vinculans Sebastopol meadowfoam	FE, SE, Rank 1B	Mesic meadows, valley and foothill grassland, vernal pools; located in swales, wet meadows, depressions, and pools in the oak savanna of the Santa Rosa Plain on heavy adobe clay substrate. Elevation range: 3 – 2885 feet. Blooms: April – June.	**No Potential.** The Project Areas do not contain vernal pool and/or other seasonal wetland habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Lomatium repostum Napa Lomatium	Rank 4	Chaparral, cismontane woodland; located on serpentine substrate. Elevation range: 290 – 2700 feet. Blooms: March – June.	**High Potential.** The Project Areas contain chaparral habitat that may support this species. While the Project Areas do not contain serpentine soils, there are known occurrences within Napa County on volcanic soils.	**Present.** This species was observed within the Project Areas and Study Area. See Section 6.4.1 for recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Lupinus sericatus Cobb Mountain lupine	Rank 1B	Broadleaf upland forest, chaparral, cismontane woodland, lower montane coniferous forest; typically located in stands of knobcone pine-oak woodland, on open wooded slopes in gravelly substrate, sometimes serpentine. Elevation range: 890 – 4960 feet. Blooms: March – June.	**Unlikely.** Although the Project Areas contain chaparral, this species is closely associated with pine woodlands with relatively low shrub cover.	**Not Present.** No further actions are recommended for this species.
Malacothamnus helleri Heller's bush-mallow	Rank 4	Chaparral; situated on soils derived from sandstone. Elevation range: 3220 – 2065 feet. Blooms: June – August.	**Unlikely.** Although the Project Areas contain chaparral habitat, this species is closely associated with sandstone substrates that are absent from the Project Areas .	**Not Present.** No further actions are recommended for this species.
Micropus amphibolus Mt. Diablo cottonweed	Rank 3	Broadleaf upland forest, chaparral, cismontane woodland, valley and foothill grassland; typically on thin, rocky soils. Elevation range: 145 – 2710 feet. Blooms: March – May.	**Unlikely.** The Project Areas contain chaparral and grassland habitat, however the dominance of non-native grasses likely precludes this diminutive annual species.	**Not Present.** No further actions are recommended for this species.
Monardella viridis green monardella	Rank 4	Broadleaf upland forest, chaparral, cismontane woodland. Elevation range: 325 – 3285 feet. Blooms: June – September.	**High Potential.** The Project Areas contain chaparral habitat that may support this species.	**Present.** This species was observed within the Project Areas and Study Area. See Section 6.4.1 for recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Navarretia cotulifolia cotula navarretia	Rank 4	Chaparral, cismontane woodland, valley and foothill grassland; located on adobe substrate. Elevation range: 10 – 5950 feet. Blooms: May – June.	**Unlikely.** Although the Project Areas contain chaparral, the substrate is not adobe clay.	**Not Present.** No further actions are recommended for this species.
Navarretia heterandra Tehama navarretia	Rank 4	Valley and foothill grasslands, vernal pools; situated in pools and mesic grasslands. Elevation range: 95 – 3285 feet. Blooms: April – June.	**No Potential.** The Project Areas do not contain vernal pool and/or other seasonal wetland habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Navarretia leucocephala ssp. *bakeri* Baker's navarretia	Rank 1B	Wet, mesic sites underlain by adobe and/or alkaline substrate in cismontane woodland, meadows, seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest. Elevation range: 15 – 5710 feet. Blooms: April – July.	**No Potential.** The Project Areas do not contain vernal pool and/or other seasonal wetland habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Navarretia leucocephala ssp. *pauciflora* few-flowered navarretia	FE; ST; Rank 1B	Vernal pools; located on volcanic ash flow and volcanic substrate pools. Elevation range: 1300 – 2780 feet. Blooms: May – June.	**No Potential.** The Project Areas do not contain vernal pool and/or other seasonal wetland habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Navarretia rosulata Marin County navarretia	Rank 1B	Closed-cone coniferous forest, chaparral; located on dry, rocky sites often formed from serpentine. Elevation range: 650 – 2065 feet. Blooms: May – July.	**Unlikely.** The Project Areas do not contain serpentine soils.	**Not Present.** No further actions are needed for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Penstemon newberryi var. *sonomensis* Sonoma beardtongue	Rank 1B	Chaparral; crevices in rock outcrops and talus slopes. Elevation range: 2295 – 4495 feet. Blooms: April – August.	**Unlikely.** The Project Areas do not contain rock outcrops or talus slopes necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Ranunculus lobbii Lobb's buttercup	Rank 4	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools; located in mesic, vernally wet areas. Elevation range: 45 – 1530 feet. Blooms: February – May.	**No Potential.** The Project Areas do not contain vernal pool and/or other seasonal wetland habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Rhynchospora californica California beaked-rush	Rank 1B	Bogs and fens, lower montane coniferous forest, meadows and seeps, freshwater marshes and swamps. Elevation range: 145 – 3315 feet. Blooms: May – July.	**No Potential.** The Project Areas do not contain perennial wetland habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Senecio clevelandii var. *clevelandii* Cleveland's ragwort	Rank 4	Chaparral; situated on serpentine seeps. Elevation range: 1185 – 2925 feet. Blooms: June – July.	**Unlikely.** The Project Areas do not contain serpentine seeps.	**Not Present.** No further actions are needed for this species.
Sidalcea hickmanii ssp. *napensis* Napa checkerbloom	Rank 1B	Chaparral; located on rhyolitic substrates. Elevation range: 1345 – 1985 feet. Blooms: April – June.	**Unlikely.** The Project Areas do not contain rhyolitic substrate.	**Not Present.** No further actions are recommended for this species.
Sidalcea hickmanii ssp. *viridis* Marin checkerbloom	Rank 1B	Chaparral; located on serpentine or volcanic substrate, often located in burns. Elevation range: 160 – 1400 feet. Blooms: May – June.	**Unlikely.** The Project Areas contain chaparral underlain by volcanic substrate that may support this species, however no recent burns have occurred.	**Not Present.** No further actions are needed for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Sidalcea keckii Keck's checkerbloom	FE; Rank 1B	Cismontane woodland, valley and foothill grassland; located in grassy areas in blue oak woodland underlain by serpentine substrate. Elevation range: 240 – 2115 feet. Blooms: April – June.	**No Potential.** The Project Areas do not contain oak woodland or grassland habitat on serpentine necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Sidalcea oregana ssp. *hydrophila* marsh checkerbloom	Rank 1B	Meadows and seeps, riparian forest; located on wet soils along streambanks and meadows. Elevation range: 3575 – 7475 feet. Blooms: July – August.	**No Potential.** The Project Areas do not contain meadow or riparian forest habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Streptanthus hesperidis green jewelflower	Rank 1B	Chaparral, cismontane woodland; located in openings in brushy/wooded sites on rocky serpentine substrate. Elevation range: 420 – 2470 feet. Blooms: May – July.	**Unlikely.** The Project Areas do not contain serpentine substrate.	**Not Present.** No further actions are needed for this species.
Symphyotrichum lentum Suisun Marsh aster	Rank 1B	Freshwater and brackish marshes and swamps; typically located on slough margins and edges, closely associated with cattail, tules, bulrushes, California rose, and Delta Tule pea. Elevation range: 0 – 10 feet. Blooms: May – November.	**No Potential.** The Project Areas do not contain tidal marsh habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Toxicoscordion fontanum marsh zigzag	Rank 4	Chaparral, cismontane woodland, lower montane coniferous forest, meadows and seeps, marshes and swamps; located in vernally mesic sites, often underlain by serpentine. Elevation range: 45 – 3250 feet. Blooms: April – July.	**Unlikely.** Although the Project Areas contain chaparral habitat, this species is known from strongly seasonal or perennial wetlands not situated within the Project Areas .	**Not Present.** No further actions are recommended for this species.
Trichostema ruygtii Napa bluecurls	Rank 1B	Cismontane woodland, chaparral, valley and foothill grassland, vernal pools, lower montane coniferous forest; located in open, sunny locations, and dried vernal pools. Elevation range: 95 – 2210 feet. Blooms: June – October.	**Moderate Potential.** This species is considered to have moderate potential to occur due to the presence of chaparral, grassland, and oak woodland habitat underlain by volcanic soils. Although not identified in previous surveys, previous surveys did not cover all existing proposed vineyard blocks.	**Not Observed.** No further actions are recommended for this species.
Trifolium amoenum showy rancheria clover	FE, Rank 1B	Valley and foothill grassland, coastal bluff scrub, swales, open sunny sites, sometimes on serpentine. Elevation range: 15 – 1365 feet. Blooms: April – June.	**Unlikely.** This species is closely associated with open, herbaceous dominated habitats not present in the Project Areas .	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Trifolium hydrophilum saline clover	Rank 1B	Marshes and swamps, mesic portions of alkali vernal pools; mesic, alkali valley and foothill grassland. Elevation range: 0 – 985 feet. Blooms: April – June.	**No Potential.** The Project Areas do not contain vernal pool and/or other seasonal wetland habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Triteleia lugens dark-mouthed triteleia	Rank 4	Broadleaf upland forest, chaparral, lower montane coniferous forest, coastal scrub. Elevation range: 325 – 3250 feet. Blooms: April – June.	**Unlikely.** While the Project Areas contain chaparral habitat that may support this species, this species was not observed during previous surveys.	**Not Present.** No further actions are needed for this species.
Viburnum ellipticum oval-leaved viburnum	Rank 2B	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation range: 705 – 4595 feet. Blooms: May – June.	**Unlikely.** Although the Project Areas contain chaparral habitat, this species is known primarily from tall-canopied woodlands and forests with a scrub component.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Mammals				
Antrozous pallidus pallid bat	SSC, WBWG	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, forages along river channels. Roost sites include crevices in rocky outcrops and cliffs, caves, mines, trees and various human structures such as bridges, barns, and buildings (including occupied buildings). Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**High Potential.** The Project Areas and adjacent areas provide suitable open foraging habitat for this species, and trees likely provide suitable roosting habitat.	Tree removal outside of maternity roosting season, or conduct pre-construction roost habitat assessment.
Bassariscus astutus ringtail (ring-tailed cat)	CFP	Widely distributed throughout most of California, absent from some portions of the Central Valley and northeastern California. Found in a variety of habitats throughout the western US including riparian areas, semi-arid country, deserts, chaparral, oak woodlands, pinyon pine woodlands, juniper woodlands and montane conifer forests usually under 1400m in elevation. Typically uses cliffs or large trees for shelter.	**Unlikely.** While the Project Areas contain chaparral and scrub, the area is generally disturbed and potential dens are limited.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Corynorhinus townsendii Townsend's big-eared bat	SC, SSC, WBWG	This species is associated with a wide variety of habitats from deserts to mid-elevation mixed coniferous-deciduous forest. Females form maternity colonies in buildings, caves and mines and males roost singly or in small groups. Foraging occurs in open forest habitats where they glean moths from vegetation.	**Unlikely.** The Project Areas does not contain the mixed coniferous forest typically associated with this species, and does not contain caves or other similar structures to support roosting.	No further actions are recommended for this species.
Lasiurus blossevillii western red bat	SSC, WBWG	This species is highly migratory and is typically solitary, roosting primarily in the foliage of trees or shrubs. It is associated with broad-leaved tree species including cottonwoods, sycamores, alders, and maples. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas.	**Unlikely.** The Project Areas does not contain the broad-leaved tree species typically associated with this species.	No further actions are recommended for this species.
Myotis evotis long-eared myotis	WBWG	Occurs in semiarid shrublands, sage, chaparral, and agricultural areas, but is usually associated with coniferous forests from sea level to 9000 feet. Individuals roost under exfoliating tree bark, and in hollow trees, caves, mines, cliff crevices, and rocky outcrops on the ground. They also sometimes roost in buildings and under bridges.	**Unlikely.** The Project Areas does not contain the coniferous forest habitat typically associated with this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Taxidea taxus American badger	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Requires friable soils and open, uncultivated ground. Preys on burrowing rodents.	**Unlikely.** While the Project Areas contains some undeveloped grassland habitat, the vicinity of the Project Areas is primarily composed of vineyards and dense scrub habitats which do not provide suitable habitat for this species. The nearest documented occurrence in CNDDB is located greater than 10.0 miles south of the Project Areas.	No further actions are recommended for this species.
Birds				
Agelaius tricolor tricolored blackbird	BCC, SSC	Nearly endemic to California, where it is most numerous in the Central Valley and vicinity. Highly colonial, nesting in dense aggregations over or near freshwater in emergent growth or riparian thickets. Also uses flooded agricultural fields. Abundant insect prey near breeding areas essential.	**Unlikely.** The on-site pond near the Project Areas has limited vegetative substrates to support nesting.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Ammodramus savannarum grasshopper sparrow	SSC	Summer resident. Breeds in open grasslands, generally with low- to moderate-height grasses and scattered shrubs. Well-hidden nests are placed on the ground.	**Unlikely.** Open grasslands within the Project Areas are disturbed and limited in area.	No further actions are recommended for this species.
Amphispiza belli Bell's sparrow	BCC, DFG:WL	Year-round resident, though shows seasonal movements. Prefers dense chaparral and scrub habitats for breeding; strongly associated with chamise. Also occurs in more open habitats during winter.	**Moderate Potential.** The chaparral portions of the Project Areas and immediately adjacent areas provide year-round habitat, including for nesting, and this species is known from the general vicinity (Smith 2003).	Tree/shrub removal should occur outside of nesting season, or conduct pre-construction surveys and avoid any active nests found.
Aquila chrysaetos golden eagle	CFP, BCC	Occurs year-round in rolling foothills, mountain areas, sage-juniper flats, and deserts. Cliff-walled canyons provide nesting habitat in most parts of range; also nests in large trees, usually within otherwise open areas.	**Unlikely.** As per Smith (2003), the current nesting and general occupancy range by this species is restricted to the eastern portion of Napa County. May occasionally forage in the vicinity of the Project Areas.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Asio otus long-eared owl	SSC	Occurs year-round in California. Nests in trees in a variety of woodland habitats, including oak and riparian, as well as tree groves. Requires adjacent open land with rodents for foraging, and the presence of old nests of larger birds (hawks, crows, magpies) for breeding.	**Unlikely.** As per Smith (2003), documented nesting is restricted to the vicinity of Lake Berryessa.	No further actions are recommended for this species.
Athene cunicularia burrowing owl	SSC, BCC	Year-round resident and winter visitor. Occurs in open, dry grasslands and scrub habitats with low-growing vegetation, perches and abundant mammal burrows. Preys upon insects and small vertebrates. Nests and roosts in old mammal burrows, most commonly those of ground squirrels.	**Unlikely.** The Project Area contains some open areas, but the presence of bands of oaks and existing vineyard development reduces habitat quality. The nearest documented occurrences potentially involving nesting are in the immediate vicinity of Lake Berryessa (Smith 2003, CDFW 2017).	No further actions are recommended for this species.
Baeolophus inornatus oak titmouse	BCC	Occurs year-round in woodland and savannah habitats where oaks are present, as well as riparian areas. Nests in tree cavities.	**High Potential.** Oaks and other trees within the Project Area provide suitable year-round habitat for this species.	Tree removal should occur outside of nesting season, or conduct pre-construction surveys and avoid any active nests found.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Buteo swainsoni Swainson's hawk	ST, BCC	Summer resident in California's Central Valley. Nests in tree groves and isolated trees in riparian and agricultural areas, including near buildings. Forages in grasslands and scrub habitats as well as agricultural fields, especially alfalfa. Preys on arthropods year-round as well as smaller vertebrates during the breeding season.	**No Potential.** The Project Area does not provide the open, low-elevation habitat strongly favored by this species. The Napa County breeding population is very small and restricted, with the nearest documented nesting site on the Napa Valley floor (CDFW 2017).	No further actions are recommended for this species.
Circus cyaneus northern harrier	SSC	Year-round resident and winter visitor. Found in open habitats including grasslands, prairies, marshes and agricultural areas. Nests on the ground in dense vegetation, typically near water or otherwise moist areas. Preys on small vertebrates.	**Unlikely.** The Project Area does not provide undisturbed, open mesic (moist) areas that are suitable for nesting.	No further actions are recommended for this species.
Contopus cooperi olive-sided flycatcher	SSC, BCC	Summer resident. Typical breeding habitat is montane coniferous forests. At lower elevations, also occurs in wooded canyons and mixed forests and woodlands. Often associated with forest edges. Arboreal nest sites located well off the ground.	**Unlikely.** The Project Areas are not forested, and trees there do not provide the typical elevated nesting sites and foraging perches favored by this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Cypseloides niger black swift	SSC, BCC	Summer resident with a fragmented breeding distribution; most occupied areas in California either montane or coastal. Breeds in small colonies on cliffs behind or adjacent to waterfalls, in deep canyons, and sea-bluffs above surf. Forages aerially over wide areas.	**No Potential.** The Project Area does not contain cliffs or cuts with fine-textured soils or any other potentially suitable nesting substrate. Not known to nest in Napa County as per Smith (2003).	No further actions are recommended for this species.
Elanus leucurus white-tailed kite	CFP	Year-round resident in coastal and valley lowlands with scattered trees and large shrubs, including grasslands, marshes and agricultural areas. Nests in trees, of which the type and setting are highly variable. Preys on small mammals and other vertebrates.	**Present.** The Project Areas provides open foraging habitat for this species and large trees and shrubs there provide nesting habitat. One kite was observed foraging over the western portion of the site during a March 2017 site visit.	Tree removal should occur outside of nesting season, or conduct pre-construction surveys and avoid any active nests found.
Falco peregrinus anatum American peregrine falcon	FD, SD, CFP, BCC	Year-round resident and winter visitor. Occurs in a wide variety of habitats, though often associated with coasts, bays, marshes and other bodies of water. Nests on protected cliffs and also on man-made structures including buildings and bridges. Preys on birds, especially waterbirds. Forages widely.	**Unlikely.** The Project Area does not contain waterbodies (typical foraging habitat) or cliffs or tall manmade structures for nesting. May occasionally pass through or forage aerially in the area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Geothlypis trichas sinuosa San Francisco common yellowthroat	SSC, BCC	Resident of the San Francisco Bay region, in fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	**Unlikely.** Emergent vegetation and riparian habitat within and near the Project Areas is too limited in extent and density to support nesting by this species.	No further actions are recommended for this species.
Haliaeetus leucocephalus bald eagle	SE, CFP, BCC	Occurs year-round in California, but primarily a winter visitor. Nests in large trees in the vicinity of larger lakes, reservoirs and rivers. Wintering habitat somewhat more variable but usually features large concentrations of waterfowl or fish.	**Unlikely.** Although wintering bald eagles have been observed near Lake Hennessey (CDFW 2017), the Project Areas do not provide any typical nesting habitat. The nearest documented nesting occurrences are in association with Lake Berryessa (CDFW 2017).	No further actions are recommended.
Icteria virens yellow-breasted chat	SSC	Summer resident, occurring in riparian areas with an open canopy, very dense understory, and trees for song perches. Nests in thickets of willow, blackberry, and wild grape.	**Unlikely**. Riparian habitat within and near the Project Areas is too limited in extent and density to support nesting by this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Lanius ludovicianus loggerhead shrike	BCC, SSC	Year-round resident in open woodland, grassland, savannah and scrub. Prefers areas with sparse shrubs, trees, posts, and other suitable perches for foraging. Preys upon large insects and small vertebrates. Nests are well-concealed in densely-foliaged shrubs or trees.	**Unlikely.** The Project Area provides open grassland areas of moderate quality. However, there are no recent known occurrences of this species in the vicinity (Smith 2003, eBird 2017).	No further actions are recommended.
Picoides nuttallii Nuttall's woodpecker	BCC	Year-round resident in lowland woodlands throughout much of California west of the Sierra Nevada. Typical habitat is dominated by oaks; also occurs in riparian woodland. Nests in tree cavities.	**Moderate Potential.** Oaks and other trees within and adjacent to the Project Areas provide suitable year-round habitat for this species.	Tree removal should occur outside of nesting season, or conduct pre-construction surveys and avoid any active nests found.
Progne subis purple martin	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.	**Unlikely.** Oaks within the Project Area do not provide elevated snags and cavities of the type favored by this species. The nearest documented nesting occurrence in CNDDB is located approximately 6.3 miles to the northwest, in a forested area (CDFW 2017).	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Riparia riparia bank swallow	ST	Summer resident in riparian and other lowland habitats near rivers, lakes and the ocean in northern California. Nests colonially in excavated burrows on vertical cliffs and bank cuts (natural and manmade) with fine-textured soils. Historical nesting range in southern and central areas of California has been eliminated by habitat loss. Currently known to breed in Siskiyou, Shasta, and Lassen Cos., portions of the north coast, and along Sacramento River from Shasta Co. south to Yolo Co.	**No Potential.** The Project Area does not contain cliffs or cuts with fine-textured soils or any other potentially suitable nesting substrate. Not known to nest in Napa County as per Smith (2003).	No further actions are recommended.
Selasphorus sasin Allen's hummingbird	BCC	Summer resident along the California coast, breeding in a variety of woodland and forest habitats, including parks and gardens with abundant nectar sources. Nest in shrubs and trees with dense vegetation.	**Unlikely.** The Project Areas are arid overall and unlikely to support nesting by this species.	No further actions are recommended for this species.
Setophaga (Dendroica) petechia brewsteri yellow warbler	SSC, BCC	Summer resident throughout much of California. Breeds in riparian vegetation close to water, including streams and wet meadows. Microhabitat used for nesting variable, but dense willow growth is typical. Occurs widely on migration.	**Unlikely.** Riparian habitat within and near the Project Areas is too limited in extent and density to support nesting by this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Spinus (Carduelis) lawrencei Lawrence's goldfinch	BCC	Summer resident; generally uncommon and local. Typically found in arid open woodlands, including oak savannah. Breeding distribution is erratic from year to year.	**Unlikely.** The Project Areas does not contain the open woodland or savannah habitats this species prefers.	No further actions are recommended for this species.
Strix occidentalis caurina northern spotted owl	FT, SC, SSC	Year-round resident in dense, structurally complex forests, primarily those with old-growth conifers. . Nests on platform-like substrates in the forest canopy, including in tree cavities. Preys on mammals.	**No Potential.** The Project Areas does not contain dense and extensive forest required by this species.	No further actions are recommended for this species.
Reptiles and Amphibians				
Actinemys marmorata western pond turtle	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.	**Unlikely.** The Project Areas do not contain any suitable aquatic habitat. The nearby pond provides ostensibly suitable habitat, but no turtles were observed during site visits. The nearest occurrence of this species in CNDDB is located approximately 2.0 west of the Project Areas, in association with a perennial stream (CDFW 2017).	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Rana boylii foothill yellow-legged frog	SC, 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.	**Unlikely.** Non-perennial streams within and near the Project Areas lack sufficient hydrology (duration, depth, etc.) and substrate characteristics to support breeding by this species. The nearest documented occurrence in CNDDB is located approximately 3.6 miles to the northeast (CDFW 2017).	No further actions are recommended.
Rana draytonii California red-legged frog	FT, SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11 to 20 weeks of permanent water for larval development. Associated with quiet perennial to intermittent ponds, stream pools and wetlands. Prefers shorelines with extensive vegetation. Disperses through upland habitats after rains.	**Unlikely.** The Project Areas are arid and do not provide any suitable aquatic habitat. The on-site pond lacks extensive riparian and emergent vegetation and hosts non-native predators/competitors. The nearest documented occurrence in CNDDB is located approximately 7.5 miles to the southwest (CDFW 2017).	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Fishes				
Lampetra ayresi river lamprey	SSC	Lower Sacramento River, San Joaquin River and Russian River. May occur in coastal streams north of San Francisco Bay. Adults need clean, gravelly riffles, Ammocoetes need sandy backwaters or stream edges, good water quality and temps < 25 degrees C.	**No Potential.** The Project Areas does not contain perennial aquatic habitat necessary to support this species.	No further actions are recommended for this species.
Oncorhynchus mykiss irideus steelhead - central CA coast DPS	FT, NMFS	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.	**No Potential.** The Project Areas does not contain perennial aquatic habitat necessary to support this species.	No further actions are recommended for this species.
Spirinchus thaleichthys longfin smelt	FC, ST, SSC	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15 to 30 ppt, but can be found in completely freshwater to almost pure seawater.	**No Potential.** The Project Areas is outside of this species' documented range in the brackish San Francisco Bay Estuary and does not contain aquatic habitat to support this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RESULTS
Invertebrates				
Desmocerus californicus dimorphus valley elderberry longhorn beetle	FT, SSI, RP	Occurs only in the central valley of California, in association with blue elderberry (*Sambucus mexicana*). Prefers to lay eggs in elderberrry 2 to 8 inches in diameter; some preference shown for "stressed" elderberry.	**No Potential.** The Project Areas is located west of this species' documented range in the Central Valley (CDFW 2017).	No further actions are recommended for this species.
Syncaris pacifica California freshwater shrimp	FE, SE, SSI	Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy. Shallow pools away from main stream flow. Winter: undercut banks with exposed roots. Summer: leafy branches touching water.	**No Potential.** The Project Areas does not contain the perennial streams this species requires, and has only been found in a few locations in Napa County (CDFW 2017).	No further actions are recommended for this species.

FE	Federal Endangered
FT	Federal Threatened
FC	Federal Candidate
BCC	USFWS Birds of Conservation Concern
SE	State Endangered
ST	State Threatened
SSC	CDFW Species of Special Concern
SSI	CDFW Special-Status Invertebrate
CFP	CDFW Fully Protected Animal
WBWG	Western Bat Working Group High or Medium Priority species
Rank 1A	CRPR Rank 1A: Presumed extirpated in California and either rare or extinct elsewhere
Rank 1B	CRPR Rank 1B: Plants rare, threatened or endangered in California and elsewhere
Rank 2B	CRPR Rank 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3	CRPR Rank 3: Plants about which CNPS needs more information (a review list)

Potential to Occur:
No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
Unlikely. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

Results and Recommendations:
Present. Species was observed on the site or has been recorded (i.e. CNDDB, other reports) on the site recently.
Not Present. Species is assumed to not be present due to a lack of key habitat components.
Not Observed. Species was not observed during surveys.

Appendix D

Representative Photographs

Photo 1. Photo showing annual brome grassland which is located throughout the Study Area. Photo taken in Block 2, looking west.

Photo 2. Photo showing the broom patch located in Block 3.

Photo 3. Photo showing chamise chaparral which is located throughout the Study Area. Photo taken in Block 6B, looking west.

Photo 4. Photo showing California bay forest (background) which is located in Block 6B and in the central portion of the Study Area. Photo taken within Block 2, looking east.

Photo 5. Photo showing the ephemeral drainage located within Block 3.

Photo 6. Photo showing Sharsmith's western flax.

Photo 7. Photo showing extent of holly-leaved ceanothus within Block 3.

Photo 8. Photo showing narrow-anthered brodiaea.

Appendix E

Biologist Qualifications

ENVIRONMENTAL CONSULTANTS

APPENDIX E
BIOLOGIST QUALIFICATIONS

WRA

WRA, Inc. provides professional consulting services in plant, wildlife, and wetland ecology, regulatory compliance, mitigation banking, CEQA/NEPA, GIS, and landscape architecture. Formed in 1981, WRA is a certified small business (OSBCR ref. #13333) with approximately 80 professionals who have completed more than 3,000 projects for public agencies, non-profit, and private organizations. WRA has a wide range of project experience throughout California in a variety of region-specific habitats. The firm has completed award-winning projects recognized by the American Society of Civil Engineering, Association of Environmental Professionals, California Water Environment Association, and American Society of Landscape Architects.

Project Principal – Matt Richmond

Matt Richmond received a B.S. in Biology from Humboldt State University where he focused on plant and dune ecology. Matt oversees a wide diversity of projects across California with an emphasis on coastal ecology and habitat restoration and has been doing so for the past 17 years.

Matt is trained and experienced in wetland delineation procedures and permitting required under Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, and the California Coastal Act. He has conducted numerous wetland delineations and managed permit applications, including Army Corps of Engineers Nationwide Permits, Regional Water Quality Control Board Water Quality Certifications, and California Department of Fish and Wildlife Streambed Alteration Agreements. In addition, he has conducted a wide variety of Coastal Act wetland delineations in the California Coastal Zone.

Matt has extensive protocol-level rare plant survey and vegetation classification/mapping experience in a variety of California habitats including North Coast coniferous forest, coast redwood forest, pygmy forest, closed-cone coniferous forest, coastal prairie, coastal scrub, coastal dune, serpentine, grassland, oak woodland, riparian, and coastal salt marsh. Additionally, Matt is experienced in surveying and managing for numerous federally listed wildlife species.

Lead Plant and Wetland Biologist – Aaron Arthur

Aaron Arthur received an M.S. in Physical Geography from Oregon State University, and a B.A. in Geography from UC Berkeley. Aaron's technical training includes the flora of Northern California, the flora of the Pacific Northwest, agrostology, aquatic botany, plant ecology, forest ecology, and soil science. Additionally, he has attended the 40-hour U.S. Army Corps of Engineers Wetland Delineation Course.

Aaron has more than a decade's experience performing vegetation & habitat mapping, rare plant surveys, botanical assessments, vegetation change analysis, and wetland delineations. His project focus is in timber resources, habitat mitigation and monitoring plans, conservation and mitigation banking, long-term management plans, and coastal development permits (CDP). Aaron

regularly coordinates and implements vegetation mapping, protocol-level rare plant surveys, biological resource assessments, wetland delineations, and management plans. Aaron is a recognized expert in the flora and vegetation of Marin, Sonoma and Napa Counties, and is a member of the Local Ecology and Botany Advisory Group for the Sonoma County Vegetation Mapping and LiDAR Program lead by the Sonoma County Agricultural Preservation and Open Space District.

Project Manager and Lead Wildlife Biologist – Jason Yakich

Jason Yakich received an MS in Biology from San Francisco State University, and a BA in Biology from UC Santa Cruz. He has over 13 years of experience as a consulting biologist with a particular focus in wildlife resources.

At WRA, Jason is responsible for participating in and managing diverse field activities including site assessments, surveys for special-status species, nesting bird surveys, and biological monitoring. Additionally, he prepares and oversees a variety of biological assessments and technical reports, and assures permit compliance for a wide array of public and private projects. Jason has respective permit authorizations from the U.S. Fish and Wildlife Service and California Department of Fish and Game to conduct active (call-playback) surveys for California clapper rail and California black rail, and to perform aquatic surveys for listed vernal pool branchiopods and California tiger salamander.