
Biological Resources Assessment

SCHELLINGER BURBANK AVENUE DEVELOPMENT PROJECT SANTA ROSA, SONOMA COUNTY, CALIFORNIA

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LIST OF ACRONYMS AND ABBREVIATIONS

BMPs	Best Management Practices
BRA	Biological Resources Assessment
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Corps	U.S. Army Corps of Engineers
CTS	California tiger salamander
ESA	Federal Endangered Species Act
Inventory	CNPS Inventory of Rare and Endangered Plants
MSL	Mean Sea Level
MBTA	Migratory Bird Treaty Act
OWHM	Ordinary High Water Mark
PBO	Programmatic Biological Opinion
Rank	California Rare Plant Rank
RWQCB	Regional Water Quality Control Board
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group
WRA	WRA, Inc.

1.0 INTRODUCTION

WRA, Inc. (WRA) prepared this biological resources assessment (BRA) report on behalf of Schellinger Homes, Inc. for the proposed Burbank Avenue Development Project (Project). The proposed Project involves the development of an approximately 14.83-acre property located at 1450, 1400, 1690, and 1780 Burbank Avenue (APNs #125-331-005, -003, 125-361-006, -007, and -003), in the southwest quadrant of the City of Santa Rosa, Sonoma County, California (Study Area; Figure 1). The purpose of the assessment was to gather information necessary to complete a review of biological resources under the California Environmental Quality Act (CEQA).

This report describes the results of the site visits, which assessed the Study Area for: (1) the potential to support special-status species, (2) the potential presence of sensitive biological communities such as wetlands or riparian habitats, and (3) the potential presence of other sensitive biological resources protected by local, state, and federal laws and regulations. Specific findings on the habitat suitability or the presence of special-status species or sensitive habitats may require that protocol-level surveys be conducted.

A BRA provides general information on the potential presence of sensitive species and habitats. The BRA in itself is not an official protocol-level survey for listed species that may be required for project approval by local, state, or federal agencies. However, WRA conducted a routine jurisdictional wetland delineation and two consecutive years of protocol-level rare plant surveys within the Study Area concurrent with this assessment. The results of the wetland delineation are included in a separate wetland delineation report (WRA 2018), and are summarized in this report. The results of the protocol-level rare plant surveys are included in this report. **This report was updated in December 2019. All changes in this report since the initial June 2019 version are shown in bold lettering, including this sentence noting changes.**

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 visit.

2.0 REGULATORY BACKGROUND

The following sections explain the regulatory context of the BRA, 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; state regulations such as the Porter-Cologne Act, the California Fish and Game Code (CFGC), and the 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 U.S. Army Corps of Engineers (Corps) regulates “Waters of the United States” under Section 404 of the Clean Water Act. Waters of the U.S. 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).

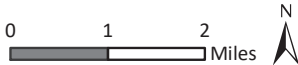
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Sources: National Geographic, WRA | Prepared By: smortensen, 11/21/2017

Figure 1. Study Area Location

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Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the *Corps of Engineers 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” or “non-wetland waters” and are often characterized by an ordinary high water mark (OHWM).

Other waters or non-wetland waters, for example, generally include lakes, rivers, and streams. The placement of fill material into Waters of the U.S generally requires an individual or nationwide permit from the Corps under Section 404 of the Clean Water Act.

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 Clean Water Act 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.

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 the California Department of Fish and Wildlife (CDFW, formerly the California Department of Fish and Game [CDFG]). The CDFW ranks sensitive communities and keeps records of their occurrences in its California Natural Diversity Database (CNDDDB; CDFW 2017). In the CNDDDB, vegetation alliances are ranked 1 through 5 based on NatureServe's (2016) 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 the CDFW or U.S. Fish and Wildlife Service (USFWS) must be considered and evaluated under CEQA (California Code of Regulations [CCR] Title 14, Div. 6, Chap. 3, Appendix G). Specific habitats may also be identified as sensitive in city or county general plans or ordinances.

2.2 Special-Status Species

Special-status species include those plants and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the Federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). These acts afford protection to both listed species and those that are formal candidates for listing. In addition, CDFW Species of Special Concern (species that face extirpation in California if current population and habitat trends continue), CDFW California Fully Protected species, and USFWS Birds of

Conservation Concern are all considered special-status species. Although generally have no special legal status, they are given special consideration under CEQA. Bat species are also evaluated for conservation status by the Western Bat Working Group (WBWG), a non-governmental entity; bats named as a “High Priority” or “Medium Priority” species for conservation by the WBWG are typically considered special-status and are considered under CEQA. Plant species on the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (Inventory) with California Rare Plant Ranks (Rank) of 1 through 4 are also considered special-status plant species and must be considered under the CEQA. A description of the CNPS Ranks is provided below in Table 1. In addition to regulations for special-status species, most birds in the United States, including non-special-status native species, are protected by the Migratory Bird Treaty Act of 1918 (MBTA) and the CFGC. Under these laws, destroying active bird nests, eggs, and/or young is illegal.

Table 1. Description of 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

Santa Rosa Plain Conservation Strategy

The Study Area is located within the Santa Rosa Plain, an ecoregion which supports habitat for many vernal pool-associated special-status species. The USFWS developed the Santa Rosa Plain Conservation Strategy (Conservation Strategy; USFWS et al. 2005) as a conservation plan for these species. The Santa Rosa Plain Conservation Strategy Area is an area established by the USFWS for the protection and continued existence of California tiger salamander (CTS, *Ambystoma californiense*) and three endangered plant species: Burke’s goldfields (*Lasthenia burkei*), Sonoma sunshine (*Blennosperma bakeri*), and Sebastopol meadowfoam (*Limnanthes vinculans*). The Conservation Strategy (USFWS 2005) outlines the specific species of concern for this area along with guidance for specific conservation measures. In 2007 the Corps consulted with the USFWS on Section 404 permitting within the Conservation Strategy area which resulted in a Programmatic Biological Opinion (PBO; USFWS 2007). This 2007 PBO outlines the mitigation requirements resulting from impacts to wetlands and associated impacts to CTS and the three listed plants, and can be appended to permits authorized by the Corps. It is the PBO that dictates the mitigation requirements for CTS and the three listed plant species.

Critical Habitat

Critical habitat is a term defined in the ESA as a specific 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, areas that are currently unoccupied by the species but which are needed for the species' recovery are protected by the prohibition against adverse modification of critical habitat.

2.3 Local Policies, Ordinances, and Regulations

Roseland Area/Sebastopol Road Specific Plan and Roseland Area Annexation EIR

The City of Santa Rosa approved an Environmental Impact Report (EIR) in August 2016 for the Roseland Area/Sebastopol Road Specific Plan and Roseland Area Projects which covers the Schellinger Burbank Avenue Development Project Study Area. The EIR analyzed impacts to biological resources associated with the proposed projects within the specific plan area pursuant to CEQA. The EIR included several mitigation measures to reduce potentially significant impacts to less-than-significant levels. Prior to project approval, the Applicant is required to demonstrate compliance with the mitigation measures outlined in the EIR. Compliance with the Roseland Area/Sebastopol Road Specific Plan and Roseland Area Annexation EIR and Mitigation Monitoring and Reporting Program (MMRP) is discussed in Section 5.0.

City of Santa Rosa Tree Ordinance

The City of Santa Rosa recognizes the aesthetic, environmental, and economic benefits mature trees provide to the citizens of the City. Chapter 17-24, "Trees" of the Santa Rosa City Code (Tree Ordinance) regulates the protection of certain trees on public and private properties within the City limits. The Tree Ordinance defines a "heritage tree" as: valley oak (*Quercus lobata*), blue oak (*Q. douglasii*), or buckeye (*Aesculus californica*) 19 inches circumference at breast height (measured at 4.5 feet above ground; or 6 inches diameter at breast height [DBH]) or greater; madrone (*Arbutus menziesii*) 38 inches circumference (12 inches DBH) or greater; coast live oak (*Q. agrifolia*), black oak (*Q. kelloggii*), Oregon oak (*Q. garryana*), canyon live oak (*Q. chrysolepis*), interior live oak (*Q. wislizenii*), red alder (*Alnus rubra* [*A. oregona*]), or white alder (*A. rhombifolia*) 57 inches circumference (18 inches DBH) or greater; or redwood (*Sequoia sempervirens*), bay (*Umbellularia californica*), Douglas fir (*Pseudotsuga menziesii*), or big-leaf maple (*Acer macrophyllum*) 75 inches circumference (24 inches DBH) or greater. A Tree Permit is generally required for the removal, alteration or relocation of any "heritage tree", "protected tree" (i.e. any tree, including a heritage tree, designated to be preserved on an approved development plan or as a condition of approval of a tentative map, a tentative parcel map, or other development approval issued by the City), or "street tree" (i.e. any tree having a single trunk circumference greater than 6.25 inches or a diameter greater than 2 inches, a height of more than six feet, and one half or more of its trunk is within a public right of way or within 5 feet of the paved portion of a City street or a public sidewalk), except as exempted in Section 17-24.030 of the Tree Ordinance.

3.0 METHODS

On November 7, 2017, March 16, April 10, and May 10, 2018, and March 26, April 18, and May 20, 2019, the Study Area was traversed on foot to determine: (1) plant communities present within the Study Area, (2) whether existing conditions provide suitable habitat for any special-status plant or wildlife species, and (3) whether sensitive habitats are present. All plant and wildlife species encountered were recorded and are summarized in Appendix A. Plant nomenclature follows Baldwin et al. (2012) and subsequent revisions by the Jepson Flora Project (2019), except where noted. For cases in which regulatory agencies, CNPS, or other entities base rarity on older taxonomic treatments, precedence was given to the treatment used by those entities.

3.1 Biological Communities

Prior to the site visits, the *Soil Survey of Sonoma County, California* [U.S. Department of Agriculture (USDA) 1972] and SoilWeb (USDA 2017) were examined to determine if any unique soil types that could support sensitive plant communities and/or aquatic features were present in the Study Area. Biological communities present in the Study Area were classified based on existing plant community descriptions described in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) or *California Vegetation Manual* (Sawyer et. al. 2009, CNPS 2019a). However, in some cases it is necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature. Biological communities were classified as sensitive or non-sensitive as defined by CEQA and other applicable laws and regulations.

3.1.1 Non-Sensitive Biological Communities

Non-sensitive biological communities are those communities that are not afforded special protection under CEQA, and other state, federal, and local laws, regulations and ordinances. These communities may, however, provide suitable habitat for some special-status plant or wildlife species and are identified or described in Section 4.1.1 below.

3.1.2 Sensitive Biological Communities

Sensitive biological communities are defined as those communities that are given special protection under CEQA and other applicable federal, state, and local laws, regulations and ordinances. Special methods used to identify sensitive biological communities are discussed below.

Wetlands and Non-Wetland Waters

The Study Area was surveyed to determine if any wetlands and waters potentially subject to jurisdiction by the Corps, RWQCB, or CDFW were present. The assessment was based primarily on the presence of wetland plant indicators, but may also include any observed indicators of wetland hydrology or wetland soils. Any potential wetland areas were identified as areas

dominated by plant species with a wetland indicator status¹ of OBL, FACW, or FAC as given on the U.S. Army Corps of Engineers National Wetlands Plant List (Lichvar et al. 2016). Evidence of wetland hydrology can include direct evidence (primary indicators), such as visible inundation or saturation, algal mats, and oxidized root channels, or indirect (secondary) indicators, such as saturation visible on aerial imagery. Some indicators of wetland soils include dark colored soils, soils with a sulfidic odor, and soils that contain redoximorphic features as defined by the Corps Manual (Environmental Laboratory 1987) and Field Indicators of Hydric Soils in the United States (NRCS 2019).

Other Sensitive Biological Communities

The Study Area was evaluated for the presence of other sensitive biological communities, including riparian areas or other sensitive plant communities recognized by CDFW. Prior to the site visit, aerial photographs, local soil maps, and *A Manual of California Vegetation, Online Edition* (CNPS 2019a) were reviewed to assess the potential for sensitive biological communities to occur in the Study Area. All alliances within the Study Area with a ranking of 1 through 3 were considered sensitive biological communities and mapped. These communities are described in Section 4.1.2 below.

3.2 Special-Status Species

3.2.1 Literature Review

Potential occurrence of special-status species in the Study Area was evaluated by first determining which special-status species occur in the vicinity of the Study Area through a literature and database search. Database searches for known occurrences of special-status species focused on the Santa Rosa 7.5-minute U.S. Geological Survey (USGS) quadrangle and the eight surrounding quadrangles: Healdsburg, Sebastopol, Two Rock, Cotati, Glen Ellen, Kenwood, Calistoga, and Mark West Springs. The following sources were reviewed to determine which special-status plant and wildlife species have been documented to occur in the vicinity of the Study Area:

- CNDDDB records (CDFW 2019)
- USFWS Information for Planning and Conservation Report (IPaC; USFWS 2019)
- CNPS Rare and Endangered Plant Inventory (CNPS 2019b)
- CDFG publication “California’s Wildlife, Volumes I-III” (Zeiner et al. 1990)
- 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)
- *A Flora of Sonoma County* (Best et al. 1996)
- *Marin Flora* (Howell et al. 2007)
- *A Field Guide to Western Reptiles and Amphibians* (Stebbins 2003)
- *Sonoma County Breeding Bird Atlas* (Madrone Audubon Society 1995)
- Santa Rosa Plain Conservation Strategy (USFWS 2005)

¹ OBL = Obligate, always found in wetlands (> 99% frequency of occurrence); FACW = Facultative wetland, usually found in wetlands (67-99% frequency of occurrence); FAC = Facultative, equal occurrence in wetland or non-wetlands (34-66% frequency of occurrence).

- Santa Rosa Plain Programmatic Biological Opinion (USFWS 2007)
- Final Recovery Plan for the Santa Rosa Plain (USFWS 2016)

3.2.2 Site Assessment

A site visit was made to the Study Area to search for suitable habitats for special-status species. Habitat conditions observed at the Project Site were used to evaluate the potential for presence of special-status species based on these searches and the professional expertise of the investigating biologists. The potential for each special-status species to occur in the Study Area was then evaluated according to 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 is observed on the site or has been recorded (i.e., CNDDDB, other reports) on the site recently.

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 in order to determine its potential to occur in the Study Area. The site visit does not constitute a protocol-level survey and is not intended to determine the actual presence or absence of a species; however, if a special-status species is observed during the site visit, its presence will be recorded and discussed.

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.

The Programmatic Biological Opinion (PBO) issued by the USFWS for U.S. Army Corps of Engineers permitted projects that may affect California tiger salamander, and/or one or more of the three endangered plant species within the Santa Rosa Plain covered by the PBO, two-consecutive years of protocol-level rare plant surveys are required for projects within the Santa Rosa Plain which would potentially impact seasonal wetland habitat, in order to avoid impacts to listed plants covered by the PBO.

If surveys conducted following USFWS protocols document listed plants on a site, or if the site had listed plants in the past, then the site is considered occupied. If surveys have been conducted according to USFWS protocols and no listed plants have been found, then the focal species will

be considered absent. However, impacts to seasonal wetlands on site would require mitigation for impacts to potential habitat for those species, regardless of presence or absence.

If a special-status species was observed during the site visit, its presence is recorded and discussed below in Section 4.2. For some species, a site assessment 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 protocol-level surveys may be necessary are described below in Section 5.0.

4.0 RESULTS

A general description of the Study Area and the results of the site assessment are provided in the following sections. A list of plant and wildlife species observed is included as Appendix A. The assessment of the potential for special-status plant and wildlife species to occur in the Study Area is provided as Appendix B. Photographs of the Study Area are provided as Appendix C.

Study Area Description

The Study Area consists of approximately 17.68-acres of predominantly vacant land dominated by non-native grassland and seasonal wetland. The Study Area also includes previously developed areas including one existing single-family residence, and two converted barn storage facilities along with associated driveways and hardscape, and a horse corral in the southernmost parcel. The Study Area is bordered by City-owned parkland and single-family residential development to the north, and single-family residential development to the south, east and west. Undeveloped portions of the Study Area are routinely and continuously disturbed by discing, plowing, and/or livestock grazing in the southernmost parcel. During the time of the site visit, the majority of the undeveloped portions of the Study Area had been recently disturbed by discing or plowing.

4.1 Topography and Soils

The topography in the Study Area is very flat, with elevations ranging from approximately 130 feet above mean sea level (amsl) in the northeast corner of the site, to approximately 123 feet amsl in the southwest corner of the site. SoilWeb (CSRL 2017) indicates that the Study Area contains three native soil types including: Wright loam, wet, 0 to 2 percent slopes; Yolo clay loam, 0 to 5 percent slopes; and Clear Lake clay, sandy substratum, drained, 0 to 2 percent slopes. Generally, observed soils within undeveloped portions of the Study Area were native with no suspected areas of imported soil. Soil series that make up the soil mapping units are described below.

Wright Series: The Wright series consists of somewhat poorly drained and moderately well drained loams that have a clay subsoil. These soils are underlain by old valley plain alluvium of mixed origin such as volcanic and marine sediment. Within Sonoma County these soils are mostly undulating, and are on low terraces, mainly on the central Santa Rosa Plain, and south of the town of Sonoma. In a typical profile, the surface layer is very dark grayish brown (10YR 3/2) loam with common medium prominent strong brown mottles (7.5YR 5/6), about 15 inches thick. This is underlain by a strongly acidic dark grayish brown (10YR 4/2) sandy clay loam. This is underlain by various clay loam to clay layers to a depth of 98 inches. Wright loam, wet, 0 to 2 percent slopes is listed as a hydric soil.

Clear Lake Series: The Clear Lake series consists of clays that formed under poorly drained conditions. These soils are underlain by alluvium from basic and sedimentary rock. They are on plains and flat basin areas. In a typical profile, the surface layer is black (N 4/0) or very dark gray (10YR 3/1) clay, about 39 inches thick. This is underlain by a dark-gray moderately alkaline clay that has light gray mottles, black (10YR 2/1) when moist. At a depth of about 46 inches, it is gray and light brownish-gray, moderately alkaline clay. At a depth of about 60 inches, it is light gray to white, mildly alkaline sandy clay loam. Clear Lake clay, sandy substratum, drained, 0 to 2 percent slopes is not listed as a hydric soil.

Yolo Series: The Yolo series consists of well drained loams underlain by recent alluvium from sandstone and shale. In a typical profile, the surface layer is neutral very dark grayish brown (10YR 3/2) to dark brown (10YR 3/3) silt loam, about 26 inches thick. This is underlain by various mildly alkaline silt loam or silty clay loam layers to a depth of 65 inches. Yolo clay loam, 0 to 5 percent slopes is not listed as a hydric soil.

Climate and Hydrology

Average annual precipitation for Santa Rosa is 25 inches, with the majority falling as rain in the winter months (December through March). The mean daily high temperatures in degrees Fahrenheit range from 56 in December to 81 in September. The mean daily low temperatures in degrees Fahrenheit range from 42 in December to 53 in September (WRCC 2017). Sources of hydrology within the Study Area include direct precipitation and surface runoff from adjacent lands.

4.2 Biological Communities

Table 2 summarizes the area of each biological community type observed in the Study Area. Biological communities observed in the Study Area include: developed/landscaped areas, non-native grassland, seasonal wetland, seasonal wetland ditch. Descriptions for each biological community are contained in the following sections and depicted in Figure 2.

Table 2. Summary of Biological Communities in the Study Area

Community Type	Area (acres)
Non-native grassland	12.60
Seasonal wetland	0.16
Seasonal wetland ditch	0.09
Developed/landscaped	1.98
Total	14.83

4.2.1 Non-Sensitive Biological Communities

Non-Native Grassland

Approximately 12.6 acres of non-native grassland is present within the Study Area. Holland (1986) describes non-native grassland as a dense to sparse cover of annual grasses, often associated with numerous species of showy-flowered, native and non-native annual forbs. Non-

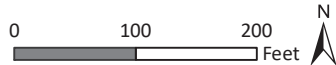


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Sources: Esri Streaming - NAIP 2016, WRA | Prepared By: smortensen, 6/5/2019

Figure 2. Biological Communities within the Study Area

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native grasslands within the Study Area were heavily disturbed by repeated discing and/or plowing, and contained relatively low floristic diversity. Non-native grasslands in the Study Area are dominated by a mix of non-native grasses, predominantly Italian ryegrass (*Festuca perennis*), and Harding grass (*Phalaris aquatica*), and Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), with inclusions of Bermuda grass (*Cynodon dactylon*), soft chess (*Bromus hordeaceus*), and beardless wildrye (*Elymus triticoides*). The dominant forb in the herbaceous layer was non-native field bindweed (*Convolvulus arvensis*), which was often co-dominant with grasses, and appeared to respond vigorously to recent disturbance from discing or plowing. Other forbs observed in non-native annual grassland included mostly ruderal non-native species including bristly ox-tongue (*Helminthotheca echioides*), and sharp point fluellin (*Kickxia elatine*), or native disturbance tolerant species such as California poppy (*Eschscholzia californica*).

Individual mature valley oak trees (*Quercus lobata*), and small patches of Himalayan blackberry (*Rubus armeniacus*) are also included within this community. Non-native grassland is not considered a sensitive community. However, several individual native trees within this community, such as the mature valley oak trees are likely large enough to be considered heritage trees per the Santa Rosa Tree Ordinance.

Developed/landscaped

Approximately 1.98 acres of developed/landscaped areas were mapped within the Study Area. The Developed/landscaped portions of the Study Area include a previously developed single-family residence, two converted barn storage facilities. Developed/landscaped areas include the buildings, driveways, backyards and associated landscaping. Dominant vegetation within the developed/disturbed areas consists of a mixture of planted trees and shrubs including Coast redwood (*Sequoia sempervirens*), and oleander (*Nerium oleander*). Herbaceous species within this community are predominantly ruderal non-native forbs including whitestem filaree (*Erodium moschatum*), and common purslane (*Portulaca oleracea*). This community contains several native tree species likely large enough to be considered heritage trees per the Santa Rosa Tree Ordinance.

4.2.2 Sensitive Biological Communities

Seasonal Wetland

Approximately 0.16 acre of potentially jurisdictional seasonal wetlands were mapped identified within the Study Area during the jurisdictional wetland delineation (WRA 2018). Seasonal wetland depressions vary from slight to somewhat deep depressions within surrounding, disced non-native grassland. Potential seasonal wetland features within the Study Area are likely the result of heavy clay, to clay loam soils through which water moves slowly and creates wetland characteristics, including a prevalence of hydrophytic plants, hydric soils, and wetland hydrology. Seasonal wetland depressions within the Study Area were delineated based on observed hydrophytic vegetation, hydric soils, hydrology indicators, and distinct to somewhat indistinct topographic changes. Seasonal wetlands within the Study Area appeared to be annually disced or plowed. Seasonal wetland features appear to drain into drainage ditches on or offsite, eventually flowing offsite to the south along Burbank Avenue. It is assumed that runoff eventually joins navigable waters of the U.S. which would make potential wetlands jurisdictional under Section 404 of the Clean Water Act.

Seasonal wetlands within the Study Area were dominated by facultative to obligate wetland species including annual semaphore grass (*Pleuropogon californicus*), and Italian ryegrass. Soils

in areas identified as seasonal wetlands generally met the hydric soil indicator F6 (Redox Dark Surface). These soils generally had a very dark brown (10YR 2/2) matrix color with prominent redox concentrations in the matrix and along pore linings. Hydrology indicators included direct observation of saturation, as well as biotic crusts, and drift deposits. Areas mapped as seasonal wetland contain a prevalence or dominance of hydrophytic vegetation, hydric soils, and wetland hydrology sufficient to meet the requirements as jurisdictional features under Section 404 of the Clean Water Act.

Seasonal Wetland Ditch

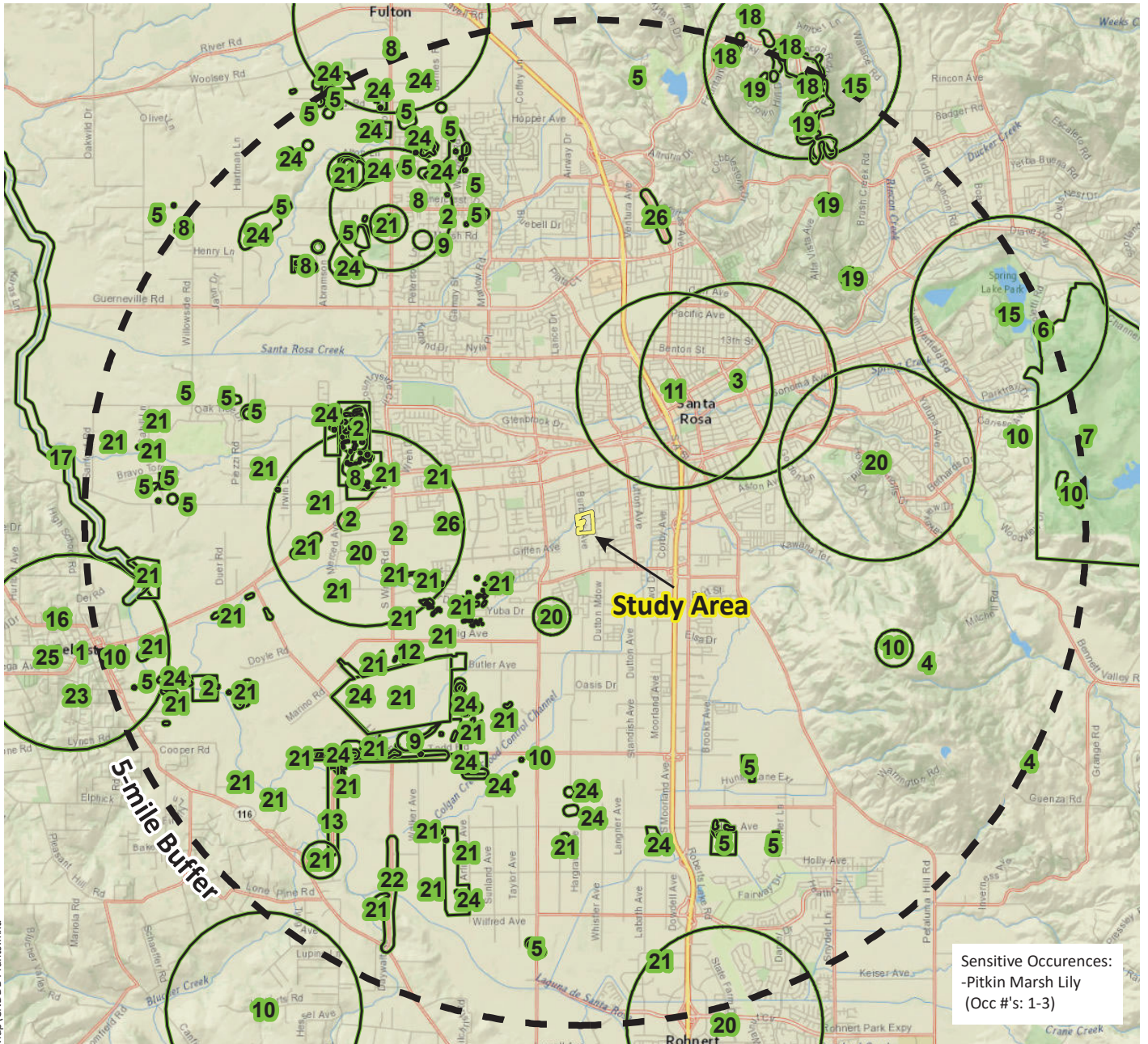
Approximately 0.09 acre of potential seasonal wetland ditches were mapped within the Study Area. Seasonal wetland ditches within the Study Area are man-made drainage ditches that have developed seasonal wetland conditions. The main seasonal wetland ditch originates in the northcentral portion of the Study Area, where it likely drains the surrounding non-native grasslands and a nearby seasonal wetland. The ditch then flows to the southwest through several culverted crossings within the Study Area, eventually draining off-site into a roadside ditch along Burbank Avenue. Seasonal wetland ditches within the Study Area are typically dominated by Italian ryegrass (FAC), and tall cyperus (*Cyperus eragrostis*, FACW). Other hydrophytic grasses and forbs observed in seasonal wetland ditches included bristly ox-tongue (FAC), and hyssop loosestrife (*Lythrum hyssopifolia*, OBL). Some areas within the seasonal wetland ditch were predominantly unvegetated and may have been mowed, while other areas contained high vegetative cover. Area mapped as seasonal wetland drainage ditches contain a prevalence or dominance of hydrophytic vegetation, hydric soils, and wetland hydrology sufficient to meet the requirements as jurisdictional features under Section 404 of the Clean Water Act.

4.3 Special-Status Species

4.3.1 Special-Status Plants

Based upon a review of the resources and databases listed in Section 3.2.1 for the Santa Rosa, Healdsburg, Sebastopol, Two Rock, Cotati, Glen Ellen, Kenwood, Calistoga, and Mark West Springs 7.5-minute USGS quadrangles, it was determined that 103 special-status plant species have been documented from the vicinity of the Study Area; special-status plant species documented from within 5 miles of the site are shown on Figure 3. Of the 103 special-status species known from the region, four were determined to have a moderate potential to occur within the Study Area (Appendix B). The remaining species documented to occur in the vicinity of the Study Area are unlikely or have no potential to occur due to one or more of the following factors:

- The species has a very limited range of endemism and has never been observed in the vicinity of the Study Area;
- Vegetation communities commonly associated with the special-status species (e.g. vernal pools, chaparral, marshes and swamps) are absent from the Study Area;
- Specific edaphic characteristics, such as soil derived from serpentine or volcanics, are absent from the Study Area;
- Specific hydrologic characteristics, such as perennial saline, are absent from the Study Area;
- Very unique pH characteristics, such as alkali scalds or acidic bogs and fens, are absent from the Study Area;
- The disturbance regime (i.e. previous and continued plowing or discing) likely precludes the species from persisting in the Study Area;



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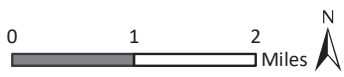
Sensitive Occurrences:
-Pitkin Marsh Lily
(Occ #'s: 1-3)

- | | | | |
|-----------------------------|---------------------------------------|------------------------------|-------------------------|
| 1. Baker's goldfields | 8. congested-headed hayfield tarplant | 15. narrow-anthered brodiaea | 22. Sonoma alopecurus |
| 2. Baker's navaretia | 9. dwarf downingia | 16. oval-leaved viburnum | 23. Sonoma spineflower |
| 3. bent-flowered fiddleneck | 10. fragrant fritillary | 17. Peruvian dodder | 24. Sonoma sunshine |
| 4. big-scale balsamroot | 11. Jepson's leptosiphon | 18. Rincon Ridge ceanothus | 25. thin-lobed horkelia |
| 5. Burke's goldfields | 12. legenera | 19. Rincon Ridge manzanita | 26. two-fork clover |
| 6. coastal triquetrella | 13. marsh microseris | 20. saline clover | |
| 7. Colusa layia | 14. Napa false indigo | 21. Sebastopol meadowfoam | |

Sources: National Geographic, CNDDDB November 2017, WRA | Prepared By: smortensen, 11/21/2017

Figure 3. Special-Status Plant Species Documented within 5-miles of the Study Area

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- The species was not encountered during the site visit which was conducted during the documented bloom period of the species.

All listed plant species covered by the Santa Rosa Plain Conservation strategy, Burke’s goldfields, Sonoma sunshine, and Sebastopol were assessed as having a moderate potential to occur within the Study Area due to the presence of seasonal wetland habitat, although the annual discing of the site likely limits the potential for the site to support special-status plant species.

Two consecutive years of protocol-level rare plant surveys were conducted in the Study Area on March 16, April 10, and May 10, 2018, and March 26, April 18, and May 20, 2019. The surveys followed the protocol for rare plant surveys described by the USFWS, CNPS and CDFW. Reference sites were visited where feasible to ensure that the surveys were conducted within a period sufficient to identify the potentially occurring rare plant species. Reference sites for target species visited prior to each survey are shown in Table 3 below.

Table 3. Special-Status Plant Reference Sites Visited Prior to Surveys

Reference Site Location	Date of Site Visit	Species Observed and Phenology
2018 Surveys		
Sonoma Valley Regional Park, Glen Ellen	March 11, 2018	Sonoma sunshine (<i>Blennosperma bakeri</i>); 200 individuals observed, 75 percent in flower, 25 percent in bud.
CDFW Alden Lane Preserve	May 10, 2018	Sebastopol meadowfoam (<i>Limnanthes vinculans</i>); 100 to 200 observed, past peak bloom
CDFW Alden Lane Preserve	May 10, 2018	Burke’s goldfields (<i>Lasthenia burkei</i>); 100s observed in peak bloom.
2019 Surveys		
Sonoma Valley Regional Park, Glen Ellen	March 10, 2019	Sonoma sunshine (<i>Blennosperma bakeri</i>); 50-100 individuals observed in flower, 10 percent in flower, 90 percent in bud.
CDFW Preserve, Tedeschi Drive, Santa Rosa	March 24, 2019	Sonoma sunshine (<i>Blennosperma bakeri</i>); 100+ individuals observed in flower.
Terra Bagnata Mitigation Site, Santa Rosa	April 9, 2019	Sebastopol meadowfoam (<i>Limnanthes vinculans</i>); 100s observed 80 percent in bud, 20 percent in bloom.
Starr Road Windsor	May 19, 2019	Burke’s goldfields (<i>Lasthenia burkei</i>); dozens observed in man-made vernal pool. Peak bloom.

The plant surveys were floristic in nature with all observed species recorded and included as a species list provided in Appendix A. No special-status plants were observed within the Study Area, and special-status plant species are presumed absent. All special-status plant species initially assessed as having a moderate or high potential to occur in the Study Area are described in detail below.

Sonoma sunshine (*Blennosperma bakeri*) Federal Endangered, State Endangered, CRPR 1B. Presumed Absent (initially assessed: Moderate Potential). Sonoma sunshine is an annual herb in the sunflower family (Asteraceae) that blooms from March to May. It typically occurs on heavy clay soils in vernal wet areas in vernal pool, and valley and foothill grassland habitat (CDFW 2019, CNPS 2019b). This species is an obligate (OBL) wetland plant (Lichvar 2016), and is restricted to vernal pool habitat (VPI) (Keeler-Wolf et al. 1998). Observed associated species include semaphore grass (*Pleuropogon californicus*), bractless hedge hyssop

(*Gratiola ebracteata*), Douglas' mesamint (*Pogogyne douglasii*), calico flowers (*Downingia* spp.), stipitata popcornflower (*Plagiobothrys stipitatus*), goldfields (*Lasthenia bakeri*, *L. glaberrima*), seep monkeyflower (*Mimulus guttatus*), lady's-thumb (*Polygonum persicaria*), tidy tips (*Layia platyglossa*), wild hyacinth (*Triteleia hyacinthina*), meadowfoams (*Limnanthes douglasii*, *L. vinculans*), and non-native annual grasses (CDFW 2019).

Sonoma sunshine is known from seven USGS 7.5-minute quadrangles in Sonoma County (CNPS 2019). There are 21 CNDDDB (CDFW 2019) records in the greater vicinity of the Study Area, and 30 CCH (2019) records from Sonoma County. Sonoma sunshine was initially assessed as having a moderate potential to occur in the Study Area due to the presence of seasonal wetland habitat. However, seasonal wetlands within the Study Area are highly disturbed by previous and continued discing or mowing, and thus only provide marginal habitat for special-status plants. Sonoma sunshine was not observed in the Study Area during two consecutive years of protocol-level rare plant surveys conducted during the bloom period of the species. This species is presumed absent from the Study Area.

Burke's goldfields (*Lasthenia burkei*) Federal Endangered, State Endangered, CRPR 1B. Presumed Absent (initially assessed: Moderate Potential). Burke's goldfields are annual herbs in the sunflower family (Asteraceae) that bloom from April to June. It typically occurs in mesic portions of pools and swales in meadow, seep, and vernal pool habitat at elevations ranging from 45 to 1970 feet (CDFW 2019, CNPS 2019b). This species is an obligate (OBL) wetland plant (Lichvar 2016), and is restricted to vernal pool habitat (VPI) (Keeler-Wolf et al. 1998). Observed associated species include Italian rye grass, Mediterranean barley (*Hordeum marinum*), semaphore grass, California oat grass (*Danthonia californica*), meadowfoams (*Limnanthes* spp.), goldfields (*L. glaberrima*, *L. californica*, *L. glabrata*), and rushes (*Juncus* spp.) (CDFW 2019).

Burke's goldfields are known from twelve USGS 7.5-minute quadrangles in Lake, Mendocino, Napa, and Sonoma Counties (CNPS 2019b). There are 24 CNDDDB (CDFW 2019) records in the greater vicinity of the Study Area, and 25 CCH (2019) records from Sonoma County. Burke's goldfields was initially assessed as having a moderate potential to occur in the Study Area due to the presence of seasonal wetland habitat. However, seasonal wetlands within the Study Area are highly disturbed by previous and continued discing or mowing, and thus only provide marginal habitat for special-status plants. Burke's goldfields was not observed in the Study Area during two consecutive years of protocol-level rare plant surveys conducted during the bloom period of the species. This species is presumed absent from the Study Area.

Sebastopol meadowfoam (*Limnanthes vinculans*) Federal Endangered, State Endangered, CRPR 1B. Presumed Absent (initially assessed: Moderate Potential). Sebastopol meadowfoam is an annual herb in the meadowfoam family (Limnanthaceae) that blooms from April to May. It typically occurs on poorly drained clay or sandy soils in swales, depressions, and pools of marshy areas of valley oak savanna, mesic meadow, vernal pool, and valley and foothill grassland habitat at elevations ranging from 45 to 1000 feet (CDFW 2019, CNPS 2019b). This species is an obligate (OBL) wetland plant (Lichvar 2016), and is restricted to vernal pool habitat (VPI) (Keeler-Wolf et al. 1998). Observed associated species include semaphore grass, goldfields (*Lasthenia* spp.), blennosperma species (*Blennosperma nanum* var. *nanum*, *B. bakeri*), Lobb's buttercup (*Ranunculus lobbii*), Douglas's mesamint, California oat grass, Italian rye grass, Mediterranean barley, pennyroyal, popcornflowers (*Plagiobothrys* spp.), spikerushes (*Eleocharis* spp.), and quillwort (*Lilaea scilloides*) (CDFW 2019).

Sebastopol meadowfoam is known from nine USGS 7.5-minute quadrangles in Napa and Sonoma Counties (CNPS 2017b). There are 31 CNDDDB (CDFW 2019) records in the greater vicinity of the Study Area, and 23 CCH (2017) records from Sonoma County. Sebastopol meadowfoam was initially assessed as having a moderate potential to occur in the Study Area due to the presence of seasonal wetland habitat. However, seasonal wetlands within the Study Area are highly disturbed by previous and continued discing or mowing, and thus only provide marginal habitat for special-status plants. Sebastopol meadowfoam was not observed in the Study Area during two consecutive years of protocol-level rare plant surveys conducted during the bloom period of the species. This species is presumed absent from the Study Area.

Congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*). CNPS Rank 1B. Presumed Absent (initially assessed: Moderate Potential). Congested-headed hayfield tarplant is an annual herb in the sunflower family (Asteraceae) that blooms from April to November. It typically occurs in grassy areas and fallow fields in coastal scrub, and valley and foothill grassland at elevations ranging from 65 to 1,840 feet (CDFW 2019, CNPS 2019b). Known associated species include coast live oak, white hyacinth (*Triteleia hyacinthina*), Italian rye grass, little rattlesnake grass (*Briza minor*), pennyroyal, and spiny buttercup (CDFW 2019).

Congested-headed hayfield tarplant is known from 23 USGS 7.5-minute quadrangles in Marin, Mendocino, San Francisco, San Mateo, and Sonoma counties (CNPS 2019b). There are 16 CNDDDB (CDFW 2019) records in the greater vicinity of the Study Area, 80 CCH (2019) records from Marin County, and 58 CCH (2019) records from Sonoma County. The nearest documented occurrence is from 1994 and is approximately 2.4 miles northwest of the Study Area (CDFW 2019). Congested-headed tarplant was initially assessed as having a moderate potential to occur in the grassland areas of the Study Area due to the presence of associated species, suitable substrate, and multiple documented occurrences in relatively close proximity to the Study Area.

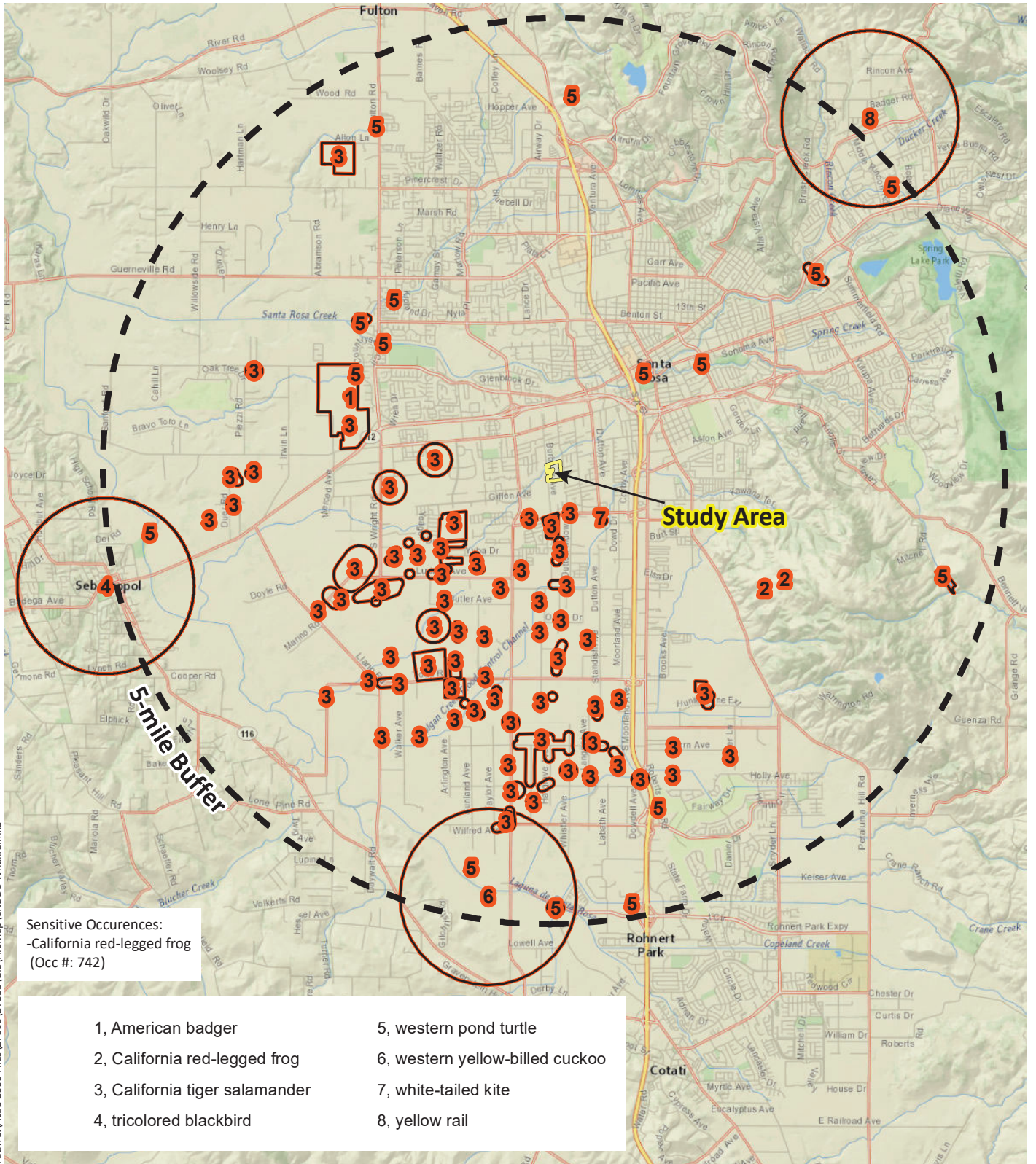
However, this species was not observed during the site visit which was conducted during two consecutive years of protocol-level special-status plant surveys, conducted during the bloom period of the species. This species is presumed absent from the Study Area.

4.3.2 Special-Status Wildlife

Based upon a review of the resources and databases listed in Section 3.2.1, it was determined that 72 special-status wildlife species have been documented from within the Cotati, Kenwood, Sebastopol, Calistoga, Glen Ellen, Healdsburg, Mark West Springs, Two Rock, and Santa Rosa USGS 7.5-minute quadrangles. Appendix B summarizes the potential for each of these species to occur in the Study Area. Special-status wildlife species that have been documented in CNDDDB within a 5-mile radius of the Study Area are depicted in Figure 4.

Sixty-four special-status wildlife species listed in Appendix B were determined to have no potential or are unlikely to occur within the Study Area. The species with no potential to occur within the Study Area require habitat elements completely absent from the site, including streams, ponds, rivers, woodland, riparian, open grassland and serpentine habitats. For the species unlikely to occur within the Study Area, some elements of suitable habitat may be present (e.g., fields or trees potentially suitable for nesting); however, high levels of disturbance, urbanized nature of the surrounding areas, and/or the lack suitable vegetation may preclude their presence. Eight special-status species have a moderate to high potential to use the Study Area for roosting or nesting. These species include; long-eared myotis, fringed myotis, long-legged myotis, pallid bat, Allen's hummingbird, Nuttall's woodpecker, white-tailed kite and oak titmouse.

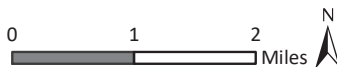
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Sources: National Geographic, CNDDB November 2017, WRA | Prepared By: smortensen, 11/21/2017

Figure 4. Special-Status Wildlife Species Documented within 5-miles of the Study Area

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Although the Study Area is within the Santa Rosa Plain, California tiger salamander (*Ambystoma californiense*; CTS) are unlikely to occur within the Study Area based upon lack of suitable breeding habitat, and barriers to upland dispersal. This region of the Santa Rosa Plain has not been documented as potential habitat for CTS (USFWS 2005, CDFG 2007, USFWS 2016). Due to the special-status listing and this species' consideration within the Santa Rosa Plain Conservation Strategy (USFWS 2005), further detail is discussed below:

Federally Listed Species Unlikely to Occur within the vicinity of the Study Area

California tiger salamander Sonoma County DPS (*Ambystoma californiense*); Federal Endangered, State Threatened. Unlikely. The California tiger salamander (CTS) is restricted to grasslands and low-elevation foothill regions in California (generally under 1500 feet) where it uses seasonal aquatic habitats for breeding. This salamander breeds in natural ephemeral pools, or ponds that mimic ephemeral pools (e.g., stock ponds that go dry), and occupy substantial areas surrounding the breeding pool as adults (Stebbins 2003). CTS spend most of their life in grasslands surrounding breeding pools, surviving hot, dry summers by living

underground in burrows such as those created by ground squirrels, gophers or other mammals (Holland et al. 1990). Individuals may also use deep cracks or holes in the ground where the soil atmosphere remains near the water saturation point of breeding pools. During wet periods, CTS may emerge from refugia and feed in the surrounding grasslands.

While surrounded on three sides by "Heavily Urbanized Areas", the Study Area and neighboring properties to the north and south are mapped within the "Core Area" for CTS by the USFWS (2016), albeit at the periphery of this area. However, several factors indicate that the species is unlikely overall to occur there. At the time of the site visit, most of the Study Area had been disked, precluding the presence of mammal burrows and thus typical subterranean refugia for CTS. While some burrows were observed in the few non-disked areas directly adjacent to/surrounding trees or existing structures, these burrow complexes were presumably degraded and small in size/volume due to the extent of disking across the site. The nearest documented CTS occurrence in CNDDDB is located approximately 0.4-mile to the south of the Study Area, south of Hearn Avenue; this occurrence involved an adult CTS that was found along the road in 2003 (CDFW 2019). The nearest documented breeding occurrence/habitat is located approximately 0.5-mile to the southwest (CDFW 2019), though this site has become isolated by urban development. The next-nearest breeding occurrence is at Southwest Community Park approximately 0.6-mile to the south of the Study Area, south of Hearn Avenue (CDFW 2019). As per Trenham and Cook (2008), Hearn Avenue and directly associated infrastructure (e.g., storm drains) provides a barrier to CTS movement. The Study Area does not provide any wetlands or seasonal aquatic features suitable for CTS breeding, and as such the persistence of a population there and on adjacent properties north of Hearn Avenue is highly unlikely. As such, CTS is considered unlikely to occur within the Study Area.

The Study Area is within designated critical habitat for CTS (the "Santa Rosa Plain Unit"; USFWS 2016), which applies regardless of habitat conditions and on-site presence/absence of the species.

Special-status Species with a High or Moderate Potential to Occur within the Study Area

Nuttall's woodpecker (*Picoides nuttallii*). USFWS Bird of Conservation Concern. Moderate Potential. Nuttall's Woodpecker, common in much of its range, 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 forages on a variety of arboreal invertebrates. The Study Area contains oak trees with cavities and large enough to support foraging and nesting of Nuttall's woodpecker.

Allen's hummingbird (*Selasphorus sasin*). **USFWS Bird of Conservation Concern. Moderate Potential.** Allen's hummingbird, common in many portions of its range, is a summer resident along the majority of California's coast and a year-round resident in portions of coastal southern California and the Channel Islands. Breeding occurs in association with the coastal fog belt, and typical habitats used include coastal scrub, riparian, woodland and forest edges, and eucalyptus and cypress groves (Mitchell 2000). It feeds on nectar, as well as insects and spiders. The Study Area contain suitable habitat for foraging. This species may nest within the oak trees within the eastern portion of the Study Area. This species has been documented to nest within the vicinity of the Study Area (Burridge 1995).

Oak titmouse (*Baeolophus inornatus*). **USFWS Bird of Conservation Concern. Moderate 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 landscaping provides foraging and nesting habitat. Its primary habitat is woodland dominated by oaks. Local populations have adapted to woodlands of pines and/or junipers in some areas (Cicero 2000). 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. The Study Area contains oak trees and riparian habitat to potentially support foraging and nesting of this species.

White-tailed kite (*Elanus leucurus*). **CDFW Fully Protected Species. Moderate Potential.** 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. The mature trees in the Study Area may provide suitable nest habitat for this species. The Study Area also contains open fields and grasslands to support foraging of this species. This species is determined to have a moderate potential to occur within the Study Area. This species has been documented to nest within 1.0 - mile of the Study Area (CDFW2019).

Fringed myotis (*Myotis thysanodes*). **WBWG High Priority. Moderate Potential.** The fringed myotis ranges through much of western North America from southern British Columbia, Canada, south to Chiapas, Mexico and from Santa Cruz Island in California, east to the Black Hills of South Dakota. This species is found in desert scrubland, grassland, sage-grass steppe, old-growth forest, and subalpine coniferous and mixed deciduous forest. Oak and pinyon-juniper woodlands are most commonly used. The fringed myotis roosts in colonies from 10 to 2,000 individuals, although large colonies are rare. Caves, buildings, underground mines, rock crevices in cliff faces, and bridges are used for maternity and night roosts, while hibernation has only been documented in buildings and underground mines. Tree-roosting has also been documented in Oregon, New Mexico, and California (WBWG 2019). The large trees in the Study Area may provide suitable roost habitat for this species as well as suitable foraging habitat.

Long-eared myotis (*Myotis evotis*). WBWG Medium Priority. Moderate Potential. The long-eared myotis is primarily associated with coniferous forest, but is also found in semiarid shrublands, sage, chaparral, and agricultural areas. This species roosts under loose tree bark, in tree hollows, caves, mines, crevices in rocky outcrops, in buildings, under bridges and occasionally on the ground. Long-eared myotis primarily consume beetles and moths, gleaning prey from foliage, trees, rocks, and from the ground (WBWG 2019). The large trees in the Study Area may provide suitable roost habitat for this species. The Study Area contains suitable habitat to support foraging of this species.

Long-legged myotis (*Myotis volans*). WBWG High Priority. Moderate Potential. The long-legged myotis ranges across western North America from southeastern Alaska to Baja California and east to the Great Plains and central Texas. This species is usually found in coniferous forests, but also occurs seasonally in riparian and desert habitats. They use abandoned buildings, cracks in the ground, cliff crevices, exfoliating tree bark and hollows within snags as summer day roosts. Caves and mines are used as hibernation roosts. Long-legged myotis forage in and around the forest canopy and feed on moths and other soft-bodied insects (WBWG 2019). The trees within and immediately adjacent to the Study Area may provide suitable roosting and foraging to support this species. Therefore, it is determined that this species may have a moderate potential to occur within the Study Area.

Pallid bat (*Antrozous pallidus*). CDFW Species of Special Concern, WBWG High Priority. Moderate Potential. Pallid bats are distributed from southern British Columbia and Montana to central Mexico, and east to Texas, Oklahoma, and Kansas. This species occurs in a number of habitats ranging from rocky arid deserts to grasslands, and into higher elevation coniferous forests. They are most abundant in the arid Sonoran life zones below 6,000 feet, but have been found up to 10,000 feet in the Sierra Nevada. Pallid bats often roost in colonies of between 20 and several hundred individuals. 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 (e.g., ponderosa pine), inside basal hollows of redwoods and giant sequoias, and within bole cavities in oak trees. They have also been reported roosting in stacks of burlap sacks and stone piles. 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 2019). The Study Area contains uninhabited storage buildings that may provide roosting habitat for this species. In addition, nearby tree stands, streams, and other habitats provide potential foraging habitat.

5.0 SUMMARY AND RECOMMENDATIONS

Two sensitive communities are present within the Study Area including seasonal wetland depression and seasonal wetland ditch. Four special-status plant species and eight special-status wildlife species have a moderate potential to occur within the Study Area. The following sections present recommended avoidance, minimization and mitigation measures to avoid or reduce impacts to these species and sensitive habitats, **as well as an analysis of consistency with the Roseland Area/Sebastopol Road Specific Plan and Roseland Area Annexation EIR and Mitigation Monitoring and Reporting Program (MMRP) (Michael Baker 2016).**

5.1 Biological Communities

The majority of the Study Area is comprised of non-native annual grassland, which is not considered a sensitive biological community. However, a jurisdictional wetland delineation was conducted in the Study Area which identified approximately 0.25 acre of wetlands (seasonal wetland depressions, and seasonal wetland ditches) which are likely to be considered jurisdictional waters of the U.S. A jurisdictional wetland delineation was conducted in the Study Area. If the Project proposes to fill wetlands within the Study Area, the following permits will be required:

- Section 404 Individual or Nationwide Permit from the Corps;
- Section 401 Water Quality Certification from the RWQCB;
- USFWS Section 7 Consultation (initiated by Corps).

A Section 404 permit would require mitigation for impacts to jurisdictional wetlands and non-wetland waters. Required mitigation may include a mitigation and monitoring plan to ensure environmental impacts are mitigated and the sensitive habitats are returned to a natural state after the project is complete.

Wetland mitigation requirements will be determined by the regulatory agencies during the permitting process. Required mitigation ratios can be met by creating wetlands on-site or off-site or purchasing wetland credits from a wetland mitigation bank. It may be possible to purchase overlapping credits for seasonal wetlands and rare plants from mitigation banks that have been entitled to offer combined credits.

The seasonal wetlands are considered suitable habitat for the three special-status plant species under the PBO. Mitigation for adverse effects to suitable habitat for listed plants is calculated by the impacted acres of seasonal wetlands.

5.2 Special-status Plant Species

Four special-status plant species were determined to have a moderate potential to occur in the Study Area. All listed plant species covered by the Santa Rosa Plain Conservation strategy, Burke's goldfields, Sonoma sunshine, and Sebastopol meadowfoam have a moderate potential to occur within the Study Area due to the presence of seasonal wetlands. However, seasonal wetlands within the Study Area are highly disturbed by previous and continued discing or mowing, and are dominated by non-native annual grasses which likely outcompete many native annual forb species.

In order to avoid impacts to listed plants within the Study Area WRA botanists, Scott Yarger, and Rhiannon Korhummel conducted two consecutive years of protocol-level rare plant surveys in the Study Area on March 16, April 10, and May 10, 2018, and March 26, April 18, and May 20, 2019. The surveys followed the protocol for rare plant surveys described by the USFWS, CNPS and CDFW. Reference sites were visited where feasible to ensure that the surveys were conducted within a period sufficient to identify the potentially occurring rare plant species. The plant surveys were floristic in nature with all observed species recorded and included as a species list provided in Appendix A. No special-status plants were observed within the Study Area, and special-status plant species are presumed absent.

Per the PBO, since two consecutive years of protocol-level surveys have been conducted according to USFWS protocols and no listed plants have been found, then the seasonal wetlands

on-site would be considered unoccupied suitable habitat, and the Conservation Strategy and PBO require mitigation for impacts to potential habitat for those species, according to Table 4, below.

5.3. Special-status Wildlife Species

Eight special-status bird and bat species were determined to have a moderate potential to occur within the Study Area. Additionally, the many non-special-status native nesting birds which are protected by the MBTA and CFGC may be present within the Study Area.

Special-Status and Nesting Bird Species:

Special-status bird species including Allen's hummingbird, Nuttall's woodpecker, oak titmouse, and white-tailed kite, and non-special-status birds protected by MBTA and CFGC have potential to occur in the Study Area. Impacts to special-status and non-special status birds could potentially occur by modifying nesting habitat, or by causing disturbance of a sufficient level to cause abandonment of an active nest. Potential impacts to these species and their habitats could occur during the removal of vegetation and structures, grading, or ground-disturbing activities. These activities could result in the direct removal or destruction of the active nests of protected bird species. These activities may also create audible, vibratory and/or visual disturbances which cause birds to abandon active nests.

Activities that result in the direct removal of active nests or disturbance to breeding birds sufficient to result in the abandonment of active nests would be potentially significant under CEQA. WRA recommends the following measures be implemented to avoid impacts to Allen's hummingbird, Nuttall's woodpecker, oak titmouse, white-tailed kite and nesting birds protected by the MBTA and CFGC.

- If ground disturbance or vegetation removal is initiated in the non-breeding season (September 1 through January 31), no pre-construction surveys for nesting birds are required and no adverse impact to birds would result.
- If ground disturbance or removal of vegetation occurs in the breeding bird season (February 1 through August 31), pre-construction surveys should be performed by a qualified biologist no more than 14 days prior to commencement of such activities to determine the presence and location of nesting bird species. If active nests are present, establishment of temporary no-work buffers around active nests will prevent adverse impacts to nesting birds. Appropriate buffer distance should be determined by a qualified biologist and is dependent on species, surrounding vegetation, and topography. Once active nests become inactive, such as when young fledge the nest or the nest is subject to predation, work may continue in the buffer area and no adverse impact to birds will result.

Special-status Bat Species:

The Study Area contains uninhabited buildings and trees that may provide roost structures to bat species documented in the vicinity and outlined in Appendix B: fringed myotis, long-eared myotis, long-legged myotis, and pallid bat. At the time of the site visit, the buildings was secured at typical points of entry. However, bats are known to use buildings' relatively small entry and egress points that the initial site visit did not assess. Any planned demolition of these trees and buildings could potentially impact bat species that may use them as a roost. Potential impacts to these species and their roost habitats could occur during the removal of structures and/or vegetation. These

activities could result in the direct removal or destruction of the maternity roost. These activities may also create audible, vibratory and/or visual disturbances which cause maternity roosting bats to abandon their roost site.

Activities that result in the direct removal of active roosts or disturbance to maternity roosting bats sufficient to result in the abandonment of the roost would be potentially significant under CEQA. WRA recommends the following measures be implemented to avoid impacts to special-status bat species:

- *Pre-construction roost assessment survey:* A qualified biologist should conduct a roost assessment survey of uninhabited structures/residences located within the Study Area. The survey will assess use of the structure for roosting as well as potential presence of bats. If the biologist finds no evidence of, or potential to support bat roosting, no further measures are recommended. If evidence of bat roosting is present, additional measures described below should be implemented:
 - *Work activities outside the maternity roosting season:* If evidence of bat roosting is discovered during the pre-construction roost assessment and demolition is planned August 1 through February 28 (outside the bat maternity roosting season), a qualified biologist should implement passive exclusion measures to prevent bats from re-entering the structures. After sufficient time to allow bats to escape and a follow-up survey to determine if bats have vacated the roost, demolition may continue and impacts to special-status bat species will be avoided.
 - *Work activities during the maternity roosting season:* If a pre-construction roost assessment discovers evidence of bat roosting in the uninhabited residences during the maternity roosting season (March 1 through July 31), and determines maternity roosting bats are present, demolition of maternity roost structures will be avoided during the maternity roosting season or until a qualified biologist determines the roost has been vacated.

California Tiger Salamander – Critical Habitat

While CTS is considered unlikely to be present within the Study Area as outlined in Section 4.3.2, the Study Area is within designated critical habitat for CTS. Therefore, all non-developed areas within the Study Area including non-native grassland, seasonal wetland depression, and seasonal wetland ditch are considered potential non-breeding habitat for CTS, and impacts to these habitats require mitigation. Based upon the PBO, the appropriate ratio for habitat mitigation within the Study Area is one (1.0) acres of mitigation for every one (1.0) acre of impact; the relevant parameter for determining this ratio is the location of nearest documented breeding habitat areas located between 2,200 feet (0.42 mile) and 1.3 miles from the Study Area or reported adult occurrences. Mitigation is generally recommended to occur within the same area where impacts are taking place or mitigation bank credits may be purchased from an approved mitigation bank. In this case, the Study Area lies within the Southwest Santa Rosa Preserve System conservation area, southeast from Wright, northeast from Llano, and directly north from Stony Point conservation areas. As stated in the Conservation Strategy, considering the developed nature of the Southwest Santa Rosa Preserve System, other conservation areas are recommended for mitigation. Therefore, the areas recommended to mitigate for habitat lost within the Study Area would be the Wright, Llano, or Stony Point Conservation Areas. Although the Conservation Strategy and PBO provide guidelines for habitat mitigation within the Santa Rosa Plain, final

habitat mitigation ratios and location of mitigation lands will be determined during Section 7 Endangered Species Act consultation with the USFWS and CDFW.

Table 4. Mitigation Requirements

Impacts	General Mitigation Requirement
Seasonal wetlands and ditches	To be determined by the regulatory agencies, but generally 1:1 functions and values replacement
Potential unoccupied suitable habitat for Burke's goldfields, Sonoma sunshine, Sebastopol meadowfoam	1:1 occupied or established created or preserved habitat with success criteria met prior to groundbreaking AND 0.5:1 established created habitat with success criteria met prior to groundbreaking
Non-breeding habitat for California tiger salamander (approx. 15.03 acres)	1:1 for projects that are greater than 2,200 square feet and within 1.3 miles of a known breeding site

Protected Trees

The Project may result in the removal of approximately 20 trees which are large enough and of qualifying species (e.g. valley oak, coast redwood) to be considered heritage trees per the Tree Ordinance. A tree removal permit is required for any alteration, removal or relocation of heritage, protected or street trees. The City of Santa Rosa City Code requires replacement plantings for mature valley oaks and other protected trees as a condition of approval in order to mitigate for the loss of functions provided by trees to be removed including shade, erosion control, groundwater replenishment, visual screening, and wildlife habitat. Prior to the issuance of a grading permit, an arborist survey will be required to determine the precise quantity of protected trees on site that will be impacted by the Project. Tree replacement shall be approved by the Department of Community Development. Mitigation for removal of mature valley oak trees are as follows:

- Each applicant for future development projects shall prepare valley oak mitigation and monitoring plan, which will demonstrate that mature valley oaks are being preserved to the extent feasible and that measures are included in construction and design of the project to ensure long-term preservation of oaks. The City must approve removal of any protected trees.
- Each applicant shall comply with the requirements of the City's Tree Ordinance concerning the replacement of any valley oaks, and other protected trees, that must be removed as a result of Project activities, or, with the agreement of the City, payment of the appropriate fee in lieu of planting the replacement trees. If planting of replacement trees is implemented to comply with the Ordinance, the trees shall either be planted on the Project site, or with the agreement of the City, on public property.
- For each 6 inches or fraction thereof of the diameter of a tree which was approved for removal, two trees of the same genus and species as the removed tree (or

another species, if approved by the City), each of a minimum 15-gallon container size, shall be planted on the project site, provided however, that an increased number of smaller size trees of the same genus and species may be planted if approved by the City, or a fewer number of such trees of a larger size if approved by the City.

- If the development site is inadequate in size to accommodate the replacement trees, the trees shall be planted on public property with the approval of the Director of the City's Recreation and Parks Department. Upon the request of the developer and the approval of the Director, the City may accept an in-lieu payment of \$100.00 per 15-gallon replacement tree on condition that all such payments shall be used for tree-related educational projects and/or planting programs of the City.
- A qualified biologist shall develop a revegetation plan for any valley oaks that must be removed, and monitor the growth and survival of the newly planted trees. Revegetation plans shall require monitoring newly transplanted trees for at least five years, and the replacement of all transplanted trees that die during the monitoring period.

The following additional requirements apply to the Project per the Scenic Road (-SR) combining district policies, in addition to those in the City of Santa Rosa Tree Ordinance:

- Existing developed parcels within 50 feet of a scenic road. A Tree Removal Permit is required prior to the removal of any tree, including an exempt tree. Prior to the approval of a Tree Removal Permit, the applicant shall demonstrate that the removal of the tree will not have a negative impact on the scenic quality of the corridor, or that the tree is a hazard and/or unhealthy as determined by the Director. If the Director cannot determine whether the tree is a hazard or the health of the tree, the applicant shall hire an arborist to make the determination.
- Tree removal for new development within 100 feet of a scenic road. Special care shall be taken to preserve the maximum number of trees possible, including exempt trees. Prior to the approval of a project the applicant shall demonstrate that each tree proposed for removal shall not have a negative impact on the scenic quality of the corridor, or that the tree is a hazard or unhealthy, as determined by a certified arborist.

Compliance with Roseland Area/Sebastopol Road Specific Plan and Roseland Area Annexation Projects EIR and MMRP

The aforementioned recommended avoidance, minimization, and mitigation measures have been analyzed for consistency with, and developed in accordance with the EIR and MMRP of the Roseland Area/Sebastopol Road Specific Plan and Roseland Area Annexation Projects (Michael Baker 2016a, 2016b). The above measures are consistent with the Biological Resources Mitigation Measures (i.e. Mitigation Measures [MM] 3.4.1[a-b], and 3.4.2 [a-b]) described within the MMRP. The implementation of the aforementioned avoidance, minimization, and mitigation measures will ensure all Project impacts to biological resources are less-than-significant.

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APPENDIX A

LIST OF OBSERVED PLANT AND WILDLIFE SPECIES

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Appendix A. Plant Species Observed in the Study Area on November 7, 2017, March 16, April 10, and May 10, 2018, and March 26, April 18, and May 20, 2019.

Family	Scientific Name	Common Name	Origin	Form	Wetland Indicator Status¹
Amaranthaceae	<i>Amaranthus albus</i>	Amaranth	non-native	annual herb	FACU
Amaranthaceae	<i>Amaranthus deflexus</i>	Large fruited amaranth	non-native	annual herb	-
Anacardiaceae	<i>Toxicodendron diversilobum</i>	Poison oak	native	vine, shrub	FACU
Apiaceae	<i>Daucus carota</i>	Carrot	non-native (invasive)	perennial herb	UPL
Apiaceae	<i>Daucus pusillus</i>	Wild carrot	native	annual herb	-
Apiaceae	<i>Foeniculum vulgare</i>	Fennel	non-native (invasive)	perennial herb	-
Apocynaceae	<i>Nerium oleander</i>	Oleander	non-native (invasive)	tree	-
Asparagaceae	<i>Asparagus officinalis</i> ssp. <i>officinalis</i>	Asparagus	non-native	perennial herb	FACU
Asteraceae	<i>Baccharis pilularis</i> ssp. <i>consanguinea</i>	Coyote brush	native	shrub	-
Asteraceae	<i>Centaurea calcitrapa</i>	Purple star thistle	non-native (invasive)	annual, perennial herb	-
Asteraceae	<i>Centaurea solstitialis</i>	Yellow starthistle	non-native (invasive)	annual herb	-
Asteraceae	<i>Cichorium intybus</i>	Chicory	non-native	perennial herb	FACU

Family	Scientific Name	Common Name	Origin	Form	Wetland Indicator Status¹
Asteraceae	<i>Erigeron canadensis</i>	Canada horseweed	native	annual herb	FACU
Asteraceae	<i>Helminthotheca echioides</i>	Bristly ox-tongue	non-native (invasive)	annual, perennial herb	FAC
Asteraceae	<i>Hypochaeris glabra</i>	Smooth cats ear	non-native (invasive)	annual herb	-
Asteraceae	<i>Lactuca serriola</i>	Prickly lettuce	non-native (invasive)	annual herb	FACU
Asteraceae	<i>Pseudognaphalium luteoalbum</i>	Jersey cudweed	non-native	annual herb	FAC
Asteraceae	<i>Sonchus asper</i> ssp. <i>asper</i>	Sow thistle	non-native (invasive)	annual herb	FAC
Asteraceae	<i>Sonchus oleraceus</i>	Sow thistle	non-native	annual herb	UPL
Asteraceae	<i>Taraxacum officinale</i>	Red seeded dandelion	non-native (invasive)	perennial herb	FACU
Asteraceae	<i>Tragopogon porrifolius</i>	Salsify	non-native	perennial herb	-
Asteraceae	<i>Xanthium spinosum</i>	Spiny cocklebur	native	annual herb	FACU
Brassicaceae	<i>Brassica nigra</i>	Black mustard	non-native (invasive)	annual herb	-
Brassicaceae	<i>Capsella bursa-pastoris</i>	Shepherd's purse	non-native	annual herb	FACU
Brassicaceae	<i>Cardamine hirsuta</i>	Hairy bitter cress	non-native	annual herb	FACU

Family	Scientific Name	Common Name	Origin	Form	Wetland Indicator Status¹
Brassicaceae	<i>Hirschfeldia incana</i>	Mustard	non-native (invasive)	perennial herb	-
Brassicaceae	<i>Lepidium latifolium</i>	Perennial pepperweed	non-native (invasive)	perennial herb	FAC
Brassicaceae	<i>Raphanus sativus</i>	Jointed charlock	non-native (invasive)	annual, biennial herb	-
Cactaceae	<i>Opuntia ficus-indica</i>	Tuna	non-native	shrub (stem succulent)	-
Caryophyllaceae	<i>Spergularia rubra</i>	Purple sand spurry	non-native	annual, perennial herb	FAC
Chenopodiaceae	<i>Atriplex prostrata</i>	Fat-hen	non-native	annual herb	FACW
Convolvulaceae	<i>Convolvulus arvensis</i>	Field bindweed	non-native (invasive)	perennial herb, vine	-
Crassulaceae	<i>Crassula connata</i>	Sand pygmy weed	native	annual herb	FAC
Cyperaceae	<i>Cyperus eragrostis</i>	Tall cyperus	native	perennial grasslike herb	FACW
Dipsacaceae	<i>Dipsacus sativus</i>	Indian teasel	non-native (invasive)	biennial herb	-
Euphorbiaceae	<i>Croton setiger</i>	Turkey-mullein	native	perennial herb	-

Family	Scientific Name	Common Name	Origin	Form	Wetland Indicator Status¹
Euphorbiaceae	<i>Euphorbia maculata</i>	Spotted spurge	non-native	annual herb	UPL
Euphorbiaceae	<i>Euphorbia</i> sp.	-	-	-	-
Fagaceae	<i>Quercus agrifolia</i>	Coast live oak	native	tree	-
Fagaceae	<i>Quercus lobata</i>	Valley oak	native	tree	FACU
Geraniaceae	<i>Erodium moschatum</i>	Whitestem filaree	non-native (invasive)	annual herb	-
Juglandaceae	<i>Juglans regia</i>	English walnut	non-native	tree	-
Juncaceae	<i>Juncus bufonius</i>	Common toad rush	native	annual grasslike herb	FACW
Juncaginaceae	<i>Triglochin maritima</i>	Seaside arrow grass	native	perennial herb (aquatic)	OBL
Lythraceae	<i>Lythrum hyssopifolia</i>	Hyssop loosestrife	non-native	annual, perennial herb	OBL
Malvaceae	<i>Malva</i> sp.	-	-	-	-
Moraceae	<i>Morus alba</i>	Mulberry	non-native	tree	FACU
Onagraceae	<i>Epilobium brachycarpum</i>	Willow herb	native	annual herb	-

Family	Scientific Name	Common Name	Origin	Form	Wetland Indicator Status¹
Onagraceae	<i>Epilobium ciliatum</i>	Slender willow herb	native	perennial herb	FACW
Papaveraceae	<i>Eschscholzia californica</i>	California poppy	native	annual, perennial herb	-
Phrymaceae	<i>Mimulus latidens</i>	Broad toothed monkeyflower	native	annual herb	OBL
Plantaginaceae	<i>Kickxia elatine</i>	Sharp point fluellin	non-native	perennial herb	UPL
Plantaginaceae	<i>Plantago lanceolata</i>	Ribwort	non-native (invasive)	perennial herb	FAC
Plantaginaceae	<i>Plantago major</i>	Common plantain	non-native	perennial herb	FAC
Poaceae	<i>Alopecurus pratensis</i>	Meadow foxtail	non-native	perennial grass	FACW
Poaceae	<i>Avena barbata</i>	Slim oat	non-native (invasive)	annual, perennial grass	-
Poaceae	<i>Briza minor</i>	Little rattlesnake grass	non-native	annual grass	FAC
Poaceae	<i>Bromus diandrus</i>	Ripgut brome	non-native (invasive)	annual grass	-
Poaceae	<i>Bromus hordeaceus</i>	Soft chess	non-native (invasive)	annual grass	FACU

Family	Scientific Name	Common Name	Origin	Form	Wetland Indicator Status¹
Poaceae	<i>Cynodon dactylon</i>	Bermuda grass	non-native (invasive)	perennial grass	FACU
Poaceae	<i>Digitaria sanguinalis</i>	Crabgrass	non-native	annual grass	FACU
Poaceae	<i>Elymus triticoides</i>	Beardless wild rye	native	perennial grass	FAC
Poaceae	<i>Festuca arundinacea</i>	Reed fescue	non-native (invasive)	perennial grass	FACU
Poaceae	<i>Festuca bromoides</i>	Brome fescue	non-native	annual grass	FACU
Poaceae	<i>Festuca perennis</i>	Italian rye grass	non-native	annual, perennial grass	FAC
Poaceae	<i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	Barley	non-native (invasive)	annual grass	FAC
Poaceae	<i>Phalaris aquatica</i>	Harding grass	non-native (invasive)	perennial grass	FACU
Poaceae	<i>Pleuropogon californicus</i> var. <i>californicus</i>	Annual semaphoregrass	native	annual grass	OBL
Poaceae	<i>Poa annua</i>	Annual blue grass	non-native	annual grass	FAC
Poaceae	<i>Polypogon monspeliensis</i>	Annual beard grass	non-native (invasive)	annual grass	FACW

Family	Scientific Name	Common Name	Origin	Form	Wetland Indicator Status¹
Polygonaceae	<i>Polygonum aviculare</i>	Prostrate knotweed	non-native	annual, perennial herb	FAC
Polygonaceae	<i>Rumex acetosella</i>	Sheep sorrel	non-native (invasive)	perennial herb	FACU
Polygonaceae	<i>Rumex californicus</i>	California dock	native	perennial herb	FACW
Polygonaceae	<i>Rumex crispus</i>	Curly dock	non-native (invasive)	perennial herb	FAC
Portulacaceae	<i>Portulaca oleracea</i>	Common purslane	non-native	annual herb	FAC
Rosaceae	<i>Prunus cerasifera</i>	Cherry plum	non-native (invasive)	tree	-
Rosaceae	<i>Prunus dulcis</i>	Almond	non-native	tree	-
Rosaceae	<i>Rubus armeniacus</i>	Himalayan blackberry	non-native (invasive)	shrub	FAC
Verbenaceae	<i>Phyla nodiflora</i>	Common lippia	native	perennial herb	FACW

All species identified using the *Jepson Manual II: Vascular Plants of California* (Baldwin et al. 2012), *Jepson eFlora* (Jepson Flora Project [eds.] 2019), and *A Flora of Sonoma County* (Best et al. 1996); Nomenclature follows *Jepson eFlora*.

¹Lichvar, R.W.,D.L., Banks, N.C. Melvin, and W.N. Kirchner. 2016. The National Wetland Plant List: 2016 Wetland Ratings. *Phytoneuron* 2016-30: 1-17

Table A-2. Wildlife Species Observed in the Study Area on November 7, 2017

Common Name (status if applicable)	Species
MAMMAL	
raccoon	<i>Procyon lotor</i>
BIRDS	
California scrub-jay	<i>Aphelocoma californica</i>
Anna's hummingbird	<i>Calypte anna</i>
turkey vulture	<i>Cathartes aura</i>
northern flicker	<i>Colaptes auratus</i>
American crow	<i>Corvus brachyrhynchos</i>
house finch	<i>Haemorhous mexicanus</i>
wild turkey	<i>Meleagris gallopavo</i>
California towhee	<i>Melospiza crissalis</i>
northern mockingbird	<i>Mimus polyglottos</i>
bushtit	<i>Psaltiriparus minimus</i>
American robin	<i>Turdus migratorius</i>
white-crowned sparrow	<i>Zonotrichia leucophrys</i>
REPTILES and AMPHIBIANS	
western skink	<i>Plestiodon skiltonianus</i>
Pacific tree frog	<i>Pseudacris regilla</i>

APPENDIX B

POTENTIAL FOR SPECIAL-STATUS PLANT AND WILDLIFE SPECIES
TO OCCUR IN THE STUDY AREA

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Appendix B. Potential Special-Status Plant and Wildlife Species Table. Special- status plant and wildlife species table with the potential to occur within the vicinity of the Study Area (Santa Rosa, Healdsburg, Sebastopol, Two Rock, Cotati, Glen Ellen, Kenwood, Calistoga, and Mark West Springs USGS 7.5' topographic quadrangles). Results include database searches of California Native Plant Society (CNPS) Rare and Endangered Plant Inventory, California Natural Diversity Database (CNDDB, CDFW) as well as U.S. Fish and Wildlife Service Threatened and Endangered Species Lists and Santa Rosa Plain Conservation Strategy (2005), Santa Rosa Plain Programmatic Biological Opinion (2007).

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Franciscan onion <i>Allium peninsulare</i> var. <i>franciscanum</i>	Rank 1B.2	Cismontane woodland, valley and foothill grassland/clay, volcanic, often serpentine. Elevation ranges from 170 to 980 feet (52 to 300 meters). Blooms (Apr), May-Jun.	No Potential. The Study Area lacks suitable habitat and serpentine or volcanic soils.	No further recommendations for this species.
Sonoma alopecurus <i>Alopecurus aequalis</i> var. <i>sonomensis</i>	FE, Rank 1B.1	Marshes and swamps (freshwater), riparian scrub. Elevation ranges from 20 to 1200 feet. Blooms May-Jul.	No Potential. The Study Area lacks large, intact perennial marshes and swamps known to support this species.	No further recommendations for this species.
Napa false indigo <i>Amorpha californica</i> var. <i>napensis</i>	Rank 1B.2	Broadleafed upland forest (openings), chaparral, cismontane woodland. Elevation ranges from 390 to 6560 feet. Blooms Apr-Jul.	No Potential. The Study Area lacks suitable habitat for this species.	No further recommendations for this species.
bent-flowered fiddleneck <i>Amsinckia lunaris</i>	Rank 1B.2	Coastal bluff scrub, cismontane woodland, valley and foothill grassland. Elevation ranges from 10 to 1640 feet. Blooms Mar-Jun.	Unlikely. The disturbance regime (i.e. previous and continued plowing or discing) likely precludes the species from persisting in the Study Area.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
slender silver moss <i>Anomobryum julaceum</i>	Rank 4.2	Broadleafed upland forest, lower montane coniferous forest, north coast coniferous forest/damp rock and soil on outcrops, usually on roadcuts. Elevation ranges from 330 to 3280 feet.	No Potential. The Study Area lacks suitable habitat for this species.	No further recommendations for this species.
Vine Hill manzanita <i>Arctostaphylos densiflora</i>	SE, Rank 1B.1	Chaparral (acid marine sand). Elevation ranges from 160 to 390 feet. Blooms Feb-Apr.	Not Present. The Study Area lacks chaparral and acidic marine sand substrate known to support this species. This perennial shrub species was not observed during the site visit.	No further recommendations for this species.
Rincon Ridge manzanita <i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i>	Rank 1B.1	Chaparral (rhyolitic), cismontane woodland. Elevation ranges from 250 to 1210 feet. Blooms Feb-Apr (May).	Not Present. The Study Area lacks chaparral and rhyolitic substrate known to support this species. This perennial shrub species was not observed during the site visit.	No further recommendations for this species.
Brewer's milk-vetch <i>Astragalus breweri</i>	Rank 4.2	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland (open, often gravelly)/often serpentine, volcanic. Elevation ranges from 300 to 2400 feet. Blooms Apr-Jun.	No Potential. The Study Area lacks gravelly soils derived from serpentine or volcanic substrate known to support this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Clara Hunt's milk-vetch <i>Astragalus claranus</i>	FE, ST, Rank 1B.1	Chaparral (openings), cismontane woodland, valley and foothill grassland/serpentine or volcanic, rocky, clay. Elevation ranges from 250 to 900 feet. Blooms Mar- May.	No Potential. The Study Area lacks serpentine or volcanic substrates known to support this species	No further recommendations for this species.
big-scale balsamroot <i>Balsamorhiza macrolepis</i>	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland/sometimes serpentine. Elevation ranges from 300 to 5100 feet. Blooms Mar-Jun.	Unlikely. The Study Area lacks chaparral, cismontane woodland and serpentine substrates associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Sonoma sunshine <i>Blennosperma bakeri</i>	FE, SE, Rank 1B.1	Valley and foothill grassland (mesic), vernal pools. Elevation ranges from 30 to 360 feet (10 to 110 meters). Blooms Mar-May.	Presumed Absent (initially assessed: Moderate Potential. The Study Area lacks intact vernal pools typically associated with this species. Seasonal wetlands within the Study Area are highly disturbed by previous and continued discing or mowing, and are dominated by non-native annual grasses which likely outcompete many native annual forb species. This species was not observed during two consecutive years of protocol-level special-status plant surveys conducted during the bloom period of the species, and is presumed absent.	No further recommendations for this species.
narrow-anthered brodiaea <i>Brodiaea leptandra</i>	Rank 1B.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland/volcanic. Elevation ranges from 360 to 3000 feet. Blooms May-Jul.	No Potential. The Study Area lacks gravelly soils composed of volcanics.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Bolander's reed grass <i>Calamagrostis bolanderi</i>	Rank 4.2	Bogs and fens, broadleaved upland forest, closed-cone coniferous forest, coastal scrub, meadows and seeps (mesic), marshes and swamps (freshwater), north coast coniferous forest/mesic. Elevation ranges from 0 to 1490 feet. Blooms May-Aug.	Unlikely. The Study Area lacks the biological communities associated with this species. This species is more closely associated with coastal environments (Jepson eFlora 2019).	No further recommendations for this species.
Thurber's reed grass <i>Calamagrostis crassiglumis</i>	Rank 2B.1	Coastal scrub (mesic), marshes and swamps (freshwater). Elevation ranges from 30 to 200 feet. Blooms May-Aug.	No Potential. The Study Area lacks coastal scrub and large intact marshes and swamps associated with this species.	No further recommendations for this species.
serpentine reed grass <i>Calamagrostis ophiditis</i>	Rank 4.3	Chaparral (open, often north-facing slopes), lower montane coniferous forest, meadows and seeps, valley and foothill grassland/serpentine, rocky. Elevation ranges from 300 to 3490 feet. Blooms Apr-Jul.	No Potential. The Study Area lacks serpentine substrate known to support this species.	No further recommendations for this species.
Brewer's calandrinia <i>Calandrinia breweri</i>	Rank 4.2	Chaparral, coastal scrub on sandy or loamy soil; disturbed sites and burns. Elevation ranges from 30 to 3660 feet (10-1220 meters). Blooms January-June	No Potential. The Study Area does not contain chaparral or coastal scrub and is not recently burned.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
pink star-tulip <i>Calochortus uniflorus</i>	Rank 4.2	Coastal prairie, coastal scrub, meadows and seeps, north coast coniferous forest. Elevation ranges from 30 to 3510 feet. Blooms Apr-Jun.	Unlikely. The Study Area lacks suitable habitat for this species. The disturbance regime (i.e. previous and continued plowing or discing) likely precludes the species from persisting in the Study Area.	No further recommendations for this species.
Mt. Saint Helena morning-glory <i>Calystegia collina</i> ssp. <i>oxyphylla</i>	Rank 4.2	Chaparral, lower montane coniferous forest, valley and foothill grassland/serpentine. Elevation ranges from 920 to 3310 feet. Blooms Apr-Jun.	No Potential. The Study Area lacks serpentine substrates known to support this species.	No further recommendations for this species.
swamp harebell <i>Campanula californica</i>	Rank 1B.2	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, marshes and swamps (freshwater), north coast coniferous forest/mesic. Elevation ranges from 0 to 1330 feet. Blooms Jun-Oct.	No Potential. The Study Area lacks the biological communities associated with this species. This species is more closely associated with coastal environments (Jepson eFlora 2019).	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
johnny-nip <i>Castilleja ambigua</i> ssp. <i>ambigua</i>	Rank 4.2	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pools margins. Elevation ranges from 0 to 1430 feet. Blooms Mar-Aug.	Unlikely. The disturbance regime (i.e. previous and continued plowing or discing) likely precludes the species from persisting in the Study Area.	No further recommendations for this species.
Pitkin Marsh paintbrush <i>Castilleja uliginosa</i>	SE, Rank 1A	Marshes and swamps (freshwater). Elevation ranges from 790 to 790 feet (240 to 240 meters). Blooms Jun-Jul.	No Potential. The Study Area lacks large intact marshes and swamps known to support this species. This species was only known from Pitkin Marsh in Sebastapol, and is now presumed extinct (CNPS 2019b).	No further recommendations for this species.
Rincon Ridge ceanothus <i>Ceanothus confusus</i>	Rank 1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland/volcanic or serpentine. Elevation ranges from 250 to 3490 feet. Blooms Feb-Jun.	Not Present. The Study Area lacks the vegetation communities and substrates known to support this species. This perennial shrub species was not observed during the site visit.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Calistoga ceanothus <i>Ceanothus divergens</i>	Rank 1B.2	Chaparral (serpentine or volcanic, rocky). Elevation ranges from 560 to 3120 feet. Blooms Feb-Apr.	Not Present. The Study Area lacks the vegetation communities and substrates known to support this species. This perennial shrub species was not observed during the site visit.	No further recommendations for this species.
Vine Hill ceanothus <i>Ceanothus foliosus</i> var. <i>vineatus</i>	Rank 1B.1	Chaparral on uplifted marine sediments. Elevation ranges from 150 to 1000 feet. Blooms Mar-May.	Not Present. The Study Area lacks the vegetation communities and substrates known to support this species. This perennial shrub species was not observed during the site visit.	No further recommendations for this species.
glory brush <i>Ceanothus gloriosus</i> var. <i>exaltatus</i>	Rank 4.3	Chaparral. Elevation ranges from 100 to 2000 feet. Blooms Mar-Jun (Aug).	Not Present. The Study Area lacks chaparral habitat. This perennial shrub species was not observed during the site visit.	No further recommendations for this species.
holly-leaved ceanothus <i>Ceanothus purpureus</i>	Rank 1B.2	Chaparral, cismontane woodland/volcanic, rocky. Elevation ranges from 390 to 2100 feet. Blooms Feb-Jun.	Not Present. The Study Area lacks the vegetation communities and substrates known to support this species. This perennial shrub species was not observed during the site visit.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Sonoma ceanothus <i>Ceanothus sonomensis</i>	Rank 1B.2	Chaparral (sandy, serpentine or volcanic). Elevation ranges from 710 to 2620 feet. Blooms Feb-Apr.	Not Present. The Study Area lacks the vegetation communities and substrates known to support this species. This perennial shrub species was not observed during the site visit.	No further recommendations for this species.
pappose tarplant <i>Centromadia parryi</i> ssp. <i>parryi</i>	Rank 1B.2	Chaparral, coastal prairie, meadows and seeps, marshes and swamps (coastal salt), valley and foothill grassland (vernally mesic)/often alkaline. Elevation ranges from 0 to 1380 feet. Blooms May-Nov.	Unlikely. The Study Area lacks alkaline soils and coastal salt marshes typically associated with this species.	No further recommendations for this species.
Sonoma spineflower <i>Chorizanthe valida</i>	FE, SE, Rank 1B.1	Coastal prairie (sandy). Elevation ranges from 30 to 1000 feet (10 to 305 meters). Blooms Jun-Aug.	No Potential. The Study Area lacks coastal prairie and sandy soils.	No further recommendations for this species.
Brewer's clarkia <i>Clarkia breweri</i>	Rank 4.2	Chaparral, cismontane woodland, coastal scrub/often serpentine. Elevation ranges from 710 to 3660 feet (215 to 1115 meters). Blooms Apr-Jun.	No Potential. The Study Area lacks the vegetation communities and serpentine soils associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Vine Hill clarkia <i>Clarkia imbricata</i>	FE, SE, Rank 1B.1	Chaparral, valley and foothill grassland/acidic sandy loam. Elevation ranges from 160 to 250. Blooms Jun-Aug.	No Potential. The Study Area lacks chaparral and acidic sandy loam soils. This species is only known from two extant occurrences in the Vine Hill area north of Graton (CNPS 2019b).	No further recommendations for this species.
serpentine bird's-beak <i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>	Rank 4.3	Closed-cone coniferous forest, chaparral, cismontane woodland/usually serpentine. Elevation ranges from 1560 to 3000 feet. Blooms Jul-Aug.	No Potential. The Study Area lacks the associated vegetation communities and serpentine substrates.	No further recommendations for this species.
Pennell's bird's-beak <i>Cordylanthus tenuis</i> ssp. <i>capillaris</i>	FE, SR, Rank 1B.2	Closed-cone coniferous forest, chaparral/serpentine. Elevation ranges from 150 to 1000 feet. Blooms Jun-Sep.	No Potential. The Study Area lacks the associated vegetation communities and serpentine substrates.	No further recommendations for this species.
Peruvian dodder <i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	Rank 2B.2	Marshes and swamps (freshwater). Elevation ranges from 50 to 920 feet. Blooms Jul-Oct.	No Potential. The Study Area lacks large intact marsh habitat. There is only one occurrence in the Study Area vicinity from 1946 (CDFW 2019).	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
mountain lady's-slipper <i>Cypripedium montanum</i>	Rank 4.2	Broadleafed upland forest, cismontane woodland, lower montane coniferous forest, north coast coniferous forest. Elevation ranges from 610 to 7300 feet. Blooms Mar-Aug.	No Potential. The Study Area lacks the vegetation communities associated with this species.	No further recommendations for this species.
Baker's larkspur <i>Delphinium bakeri</i>	FE, SE, Rank 1B.1	Broadleafed upland forest, coastal scrub, valley and foothill grassland/decomposed shale, often mesic. Elevation ranges from 260 to 1000 feet. Blooms Mar-May.	No Potential. The Study Area lacks the associated vegetation communities and decomposed shale substrates.	No further recommendations for this species.
golden larkspur <i>Delphinium luteum</i>	FE, SR, Rank 1B.1	Chaparral, coastal prairie, coastal scrub/rocky. Elevation ranges from 0 to 330 feet. Blooms Mar-May.	No Potential. The Study Area lacks the associated vegetation communities and rocky substrates.	No further recommendations for this species.
dwarf downingia <i>Downingia pusilla</i>	Rank 2B.2	Valley and foothill grassland (mesic), vernal pools. Elevation ranges from 0 to 1460 feet. Blooms Mar-May.	Unlikely. The Study Area lacks vernal pools associated with this species.	No further recommendations for this species.
streamside daisy <i>Erigeron biolettii</i>	Rank 3	Broadleafed upland forest, cismontane woodland, north coast coniferous forest/rocky, mesic. Elevation ranges from 100 to 3610 feet. Blooms Jun-Oct.	No Potential. The Study Area lacks the vegetation communities associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
serpentine daisy <i>Erigeron serpentinus</i>	Rank 1B.3	Chaparral (serpentine, seeps). Elevation ranges from 200 to 2200 feet. Blooms May-Aug.	No Potential. The Study Area lacks serpentine seeps associated with this species.	No further recommendations for this species.
slender cottongrass <i>Eriophorum gracile</i>	Rank 4.3	Bogs and fens, meadows and seeps, upper montane coniferous forest/acidic. Elevation ranges from 4200 to 9510 feet Blooms May-Sep.	No Potential. The Study Area lacks acidic soils known to support this species (CDFW 2019), and is well below the documented elevation range.	No further recommendations for this species.
Loch Lomond button celery <i>Eryngium constancei</i>	Rank 1B.1, FE, CE	Vernal pools. Elevation ranges from 1380 to 2565 feet. Blooms April-June	No Potential. The Study Area lacks vernal pool habitat necessary to support this species is not present.	No further recommendations for this species.
fragrant fritillary <i>Fritillaria liliacea</i>	Rank 1B.2	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland/often serpentine. Elevation ranges from 10 to 1350 feet. Blooms Feb-Apr.	Unlikely. The disturbance regime (i.e. previous and continued plowing or discing) likely precludes the species from persisting in the Study Area.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
woolly-headed gilia <i>Gilia capitata</i> ssp. <i>tomentosa</i>	Rank 1B.1	Coastal bluff scrub, valley and foothill grassland/serpentine, rocky, outcrops. Elevation ranges from 30 to 720 feet. Blooms May-Jul.	No Potential. The Study Area lacks serpentine soils and rocky outcrops associated with this species.	No further recommendations for this species.
Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	SE, Rank 1B.2	Marshes and swamps (lake margins), vernal pools/clay. Elevation ranges from 30 to 7790 feet. Blooms Apr-Aug.	No Potential. The Study Area lacks large intact marshes and swamps, or vernal pools associated with this species.	No further recommendations for this species.
congested-headed hayfield tarplant <i>Hemizonia congesta</i> ssp. <i>congesta</i>	Rank 1B.2	Valley and foothill grassland/sometimes roadsides. Elevation ranges from 70 to 1840 feet. Blooms Apr-Nov.	Presumed Absent (initially assessed: Moderate Potential). This species is often seen in fallow or grazed fields within grasslands dominated by non-native species and is relatively disturbance tolerant. Despite potentially suitable disturbed grassland habitat, this species was not observed during two consecutive years of protocol-level rare plant surveys conducted during the bloom period of the species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
hogwallow starfish <i>Hesperevax caulescens</i>	Rank 4.2	Valley and foothill grassland (mesic, clay), vernal pools (shallow)/sometimes alkaline. Elevation ranges from 0 to 1660 feet. Blooms Mar-Jun.	No Potential. The Study Area lacks vernal pools associated with this species. This species was included in the CNPS inventory database as a checklist for the Healdsburg quadrangle. However, this species is not documented in Sonoma or Marin counties (CCH 2019, Jepson eFlora 2019, CNPS 2019b, Best et. al. 1996, Howell et. al. 2007).	No further recommendations for this species.
thin-lobed horkelia <i>Horkelia tenuiloba</i>	Rank 1B.2	Broadleafed upland forest, chaparral, valley and foothill grassland/mesic openings, sandy or gravelly. Elevation ranges from 160 to 1640 feet. Blooms May-Jul (Aug).	No Potential. The Study Area lacks sandy or gravelly soils associated with this species.	No further recommendations for this species.
harlequin lotus <i>Hosackia gracilis</i>	Rank 4.2	Broadleafed upland forest, coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal prairie, coastal scrub, meadows and seeps, marshes and swamps, north coast coniferous forest, valley and foothill grassland/wetlands, roadsides. Elevation ranges from 0 to 2300 feet. Blooms Mar-Jul.	Unlikely. The disturbance regime (i.e. previous and continued plowing or discing) likely precludes the species from persisting in the Study Area.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
coast iris <i>Iris longipetala</i>	Rank 4.2	Coastal prairie, lower montane coniferous forest, meadows and seeps/mesic. Elevation ranges from 0 to 1970 feet. Blooms Mar-May.	Unlikely. The disturbance regime (i.e. previous and continued plowing or discing) likely precludes the species from persisting in the Study Area.	No further recommendations for this species.
Burke's goldfields <i>Lasthenia burkei</i>	FE, SE, Rank 1B.1	Meadows and seeps (mesic), vernal pools. Elevation ranges from 50 to 1970 feet. Blooms Apr-Jun.	Presumed Absent (initially assessed: Moderate Potential). The Study Area lacks intact vernal pools typically associated with this species. Seasonal wetlands within the Study Area are highly disturbed by previous and continued discing or mowing, and are dominated by non-native annual grasses which likely outcompete many native annual forb species. This species was not observed during two consecutive years of protocol-level special-status plant surveys conducted during the bloom period of the species, and is presumed absent.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Baker's goldfields <i>Lasthenia californica</i> ssp. <i>bakeri</i>	Rank 1B.2	Closed-cone coniferous forest (openings), coastal scrub, meadows and seeps, marshes and swamps. Elevation ranges from 200 to 1710 feet. Blooms Apr-Oct.	No Potential. The disturbance regime (i.e. previous and continued plowing or discing) likely precludes the species from persisting in the Study Area. There is only one documented occurrence of this species in the vicinity of the Study Area from 1899 (CDFW 2016b). The majority of documented occurrences in Sonoma County are closer to the coast, and centered around the Bodega Bay area.	No further recommendations for this species.
Contra Costa goldfields <i>Lasthenia conjugens</i>	FE, Rank 1B.1	Cismontane woodland, playas (alkaline), valley and foothill grassland, vernal pools/mesic. Elevation ranges from 0 to 1540 feet Blooms Mar-Jun.	No Potential. The Study Area lacks vernal pools and alkaline substrates associated with this species.	No further recommendations for this species.
Colusa layia <i>Layia septentrionalis</i>	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland/sandy, serpentine. Elevation ranges from 330 to 3590 feet. Blooms Apr-May.	No Potential. The Study Area lacks sandy serpentine soils associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
legenere <i>Legenere limosa</i>	Rank 1B.1	Vernal pools. Elevation ranges from 0 to 2890 feet. Blooms Apr-Jun.	No Potential. The Study Area lacks vernal pools associated with this species.	No further recommendations for this species.
bristly leptosiphon <i>Leptosiphon acicularis</i>	Rank 4.2	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation ranges from 180 to 4920 feet. Blooms Apr-Jul.	Unlikely. The Study Area lacks shallow rocky soils and sparsely vegetated areas known to support this species.	No further recommendations for this species.
Jepson's leptosiphon <i>Leptosiphon jepsonii</i>	Rank 1B.2	Chaparral, cismontane woodland/usually volcanic. Elevation ranges from 330 to 1640 feet (100 to 500 meters). Blooms Mar-May.	No Potential. The Study Area lacks the vegetation communities and volcanic soils associated with this species.	No further recommendations for this species.
woolly-headed Lessingia <i>Lessingia hololeuca</i>	Rank 3	Broadleafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland/clay, serpentine. Elevation ranges from 50 to 1000 feet. Blooms Jun-Oct.	No Potential. The Study Area lacks serpentine soils known to support this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Pitkin Marsh lily <i>Lilium pardalinum</i> ssp. <i>pitkinense</i>	FE, SE, Rank 1B.1	Cismontane woodland, meadows and seeps, marshes and swamps (freshwater)/mesic, sandy. Elevation ranges from 110 to 210 feet. Blooms Jun-Jul.	No Potential. The Study Area lacks large intact marsh habitat and sandy soils associated with this species.	No further recommendations for this species.
redwood lily <i>Lilium rubescens</i>	Rank 4.2	Broadleafed upland forest, chaparral, lower montane coniferous forest, north coast coniferous forest, upper montane coniferous forest/sometimes serpentine, sometimes roadsides. Elevation ranges from 100 to 6270 feet. Blooms Apr-Aug (Sep).	No Potential. The Study Area lacks the vegetation communities associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Sebastopol meadowfoam <i>Limnanthes vinculans</i>	FE, SE, Rank 1B.1	Meadows and seeps, valley and foothill grassland, vernal pools/vernally mesic. Elevation ranges from 50 to 1000 feet. Blooms Apr-May.	Presumed Absent (initially assessed: Moderate Potential). The Study Area lacks intact vernal pools typically associated with this species. Seasonal wetlands within the Study Area are highly disturbed by previous and continued discing or mowing, and are dominated by non-native annual grasses which likely outcompete many native annual forb species. This species was not observed during two consecutive years of protocol-level special-status plant surveys conducted during the bloom period of the species, and is presumed absent.	No further recommendations for this species.
Napa Lomatium <i>Lomatium repostum</i>	Rank 4.3	Chaparral, cismontane woodland/serpentine. Elevation ranges from 300 to 2720 feet. Blooms Mar-Jun.	No Potential. The Study Area lacks the vegetation communities and serpentine substrate known to support this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Cobb Mountain lupine <i>Lupinus sericatus</i>	Rank 1B.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 900 to 5000 feet. Blooms Mar-Jun.	No Potential. The Study Area lacks the associated vegetation communities and is well below the documented elevation range of the species.	No further recommendations for this species.
Mt. Diablo cottonweed <i>Micropus amphibolus</i>	Rank 3.2	Broadleafed upland forest, chaparral, cismontane woodland, valley and foothill grassland/rocky. Elevation ranges from 150 to 2710 feet. Blooms Mar-May.	Unlikely. The Study Area lacks rocky substrates known to support this species.	No further recommendations for this species.
marsh microseris <i>Microseris paludosa</i>	Rank 1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. Elevation ranges from 20 to 1160 feet (5 to 355 meters). Blooms Apr-Jun (Jul).	Unlikely. The disturbance regime (i.e. previous and continued plowing or discing) likely precludes the species from persisting in the Study Area.	No further recommendations for this species.
green monardella <i>Monardella viridis</i>	Rank 4.3	Broadleafed upland forest, chaparral, cismontane woodland. Elevation ranges from 330 to 3310 feet. Blooms Jun-Sep.	No Potential. The Study Area lacks the vegetation communities associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
cotula navarretia <i>Navarretia cotulifolia</i>	Rank 4.2	Chaparral, cismontane woodland, valley and foothill grassland/adobe. Elevation ranges from 10 to 6000 feet. Blooms May-Jun.	Unlikely. The disturbance regime (i.e. previous and continued plowing or discing) likely precludes the species from persisting in the Study Area.	No further recommendations for this species.
Tehama navarretia <i>Navarretia heterandra</i>	Rank 4.3	Vernal pools, valley and foothill grasslands (mesic). Elevations range from 90 to 3030 feet. Blooms April-June	Unlikely. The disturbance regime (i.e. previous and continued plowing or discing) likely precludes the species from persisting in the Study Area.	No further recommendations for this species.
Baker's navarretia <i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Rank 1B.1	Cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, vernal pools/mesic. Elevation ranges from 20 to 5710 feet. Blooms Apr-Jul.	No Potential. The Study Area lacks vernal pools and alkaline soils associated with this species (CDFW 2019).	No further recommendations for this species.
many-flowered navarretia <i>Navarretia leucocephala</i> ssp. <i>pliantha</i>	FE, SE, Rank 1B.2	Vernal pools (volcanic ash flow). Elevation ranges from 100 to 3120 feet (30 to 950 meters). Blooms May-Jun.	No Potential. The Study Area lacks vernal pools and volcanic ash flow substrates associated with this species.	No further recommendations for this species.
Sonoma beardtongue <i>Penstemon newberryi</i> var. <i>sonomensis</i>	Rank 1B.3	Chaparral (rocky). Elevation ranges from 2300 to 4490 feet. Blooms Apr-Aug.	No Potential. The Study Area lacks chaparral and is well below the documented elevation range of this species	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Gairdner's yampah <i>Perideridia gairdneri</i> ssp. <i>gairdneri</i>	Rank 4.2	Broadleafed upland forest, chaparral, coastal prairie, valley and foothill grassland, vernal pools/vernally mesic. Elevation ranges from 0 to 2000 feet (0 to 610 meters). Blooms Jun-Oct.	Unlikely. The disturbance regime (i.e. previous and continued plowing or discing) likely precludes the species from persisting in the Study Area.	No further recommendations for this species.
Calistoga popcornflower <i>Plagiobothrys strictus</i>	FE, ST, Rank 1B.1	Meadows and seeps, valley and foothill grassland, vernal pools/alkaline areas near thermal springs. Elevation ranges from 300 to 520 feet. Blooms Mar-Jun.	No Potential. This species is known from only two extant occurrences near Calistoga, where it is associated with hot springs (CNPS 2019b)	No further recommendations for this species.
North Coast semaphore grass <i>Pleuropogon hooverianus</i>	ST, Rank 1B.1	Broadleafed upland forest, meadows and seeps, north coast coniferous forest/open areas, mesic. Elevation ranges from 30 to 2200 feet. Blooms Apr-Jun.	No Potential. The Study Area lacks forested habitats known to support this species.	No further recommendations for this species.
nodding semaphore grass <i>Pleuropogon refractus</i>	Rank 4.2	Lower montane coniferous forest, meadows and seeps, north coast coniferous forest, riparian forest/mesic. Elevation ranges from 0 to 5250 feet. Blooms (Mar), Apr-Aug.	No Potential. The Study Area lacks forested habitats known to support this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Napa blue grass <i>Poa napensis</i>	Rank 1B.1	Meadows and seeps, valley and foothill grasslands; alkaline, near thermal springs. Elevations range from 300 to 600 feet. Blooms May-Aug.	No Potential. This species is known only from thermal springs in the Calistoga area.	No further recommendations for this species.
Cunningham Marsh cinquefoil <i>Potentilla uliginosa</i>	Rank 1A	Marshes and swamps/freshwater, permanent oligotrophic wetlands. Elevation ranges from 100 to 130. Blooms May-Aug.	No Potential. The Study Area lacks permanent oligotrophic wetlands. This species is presumed extinct.	No further recommendations for this species.
California alkali grass <i>Puccinellia simplex</i>	Rank 1B.2	Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools/alkaline, vernally mesic; sinks, flats, and lake margins. Elevation ranges from 10 to 3050 feet (2 to 930 meters). Blooms Mar-May.	No Potential. The Study Area lacks alkaline substrates associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Lobb's aquatic buttercup <i>Ranunculus lobbii</i>	Rank 4.2	Cismontane woodland, north coast coniferous forest, valley and foothill grassland, vernal pools/mesic. Elevation ranges from 50 to 1540 feet. Blooms Feb-May.	Unlikely. The Study Area lacks large seasonally ponded areas with standing water depths of 6 inches or greater necessary to support this species.	No further recommendations for this species.
white beaked-rush <i>Rhynchospora alba</i>	Rank 2B.2	Bogs and fens, meadows and seeps, marshes and swamps (freshwater). Elevation ranges from 200 to 6690 feet. Blooms Jul-Aug.	No Potential. The Study Area lacks large intact bogs, marshes and swamps associated with this species.	No further recommendations for this species.
California beaked-rush <i>Rhynchospora californica</i>	Rank 1B.1	Bogs and fens, lower montane coniferous forest, meadows and seeps (seeps), marshes and swamps (freshwater). Elevation ranges from 150 to 3310 feet. Blooms May-Jul.	No Potential. The Study Area lacks large intact bogs, marshes and swamps associated with this species.	No further recommendations for this species.
brownish beaked-rush <i>Rhynchospora capitellata</i>	Rank 2B.2	Lower montane coniferous forest, meadows and seeps, marshes and swamps, upper montane coniferous forest/mesic. Elevation ranges from 150 to 6560 feet. Blooms Jul-Aug.	No Potential. The Study Area lacks large intact bogs, marshes and swamps associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
round-headed beaked-rush <i>Rhynchospora globularis</i>	Rank 2B.1	Marshes and swamps (freshwater). Elevation ranges from 150 to 200 feet. Blooms Jul-Aug.	No Potential. The Study Area lacks large intact bogs, marshes and swamps associated with this species.	No further recommendations for this species.
Napa checkerbloom <i>Sidalcea hickmanii</i> ssp. <i>napensis</i>	Rank 1B.1	Chaparral/rhyolitic. Elevation ranges from 1360 to 2000 feet. Blooms Apr-Jun.	No Potential. The Study Area lacks chaparral and rhyolitic substrates known to support this species.	No further recommendations for this species.
Kenwood Marsh checkerbloom <i>Sidalcea oregana</i> ssp. <i>valida</i>	FE, SE, Rank 1B.1	Marshes and swamps (freshwater). Elevation ranges from 380 to 490 feet. Blooms Jun-Sep.	No Potential. The Study Area lacks large intact marshes and swamps associated with this species.	No further recommendations for this species.
two-fork clover <i>Trifolium amoenum</i>	FE, Rank 1B.1	Coastal bluff scrub, valley and foothill grassland (sometimes serpentine). Elevation ranges from 20 to 1360 feet. Blooms Apr-Jun.	Unlikely. The disturbance regime (i.e. previous and continued plowing or discing) likely precludes the species from persisting in the Study Area.	No further recommendations for this species.
Santa Cruz clover <i>Trifolium buckwestiorum</i>	Rank 1B.1	Broadleafed upland forest, cismontane woodland, coastal prairie/gravelly margins. Elevation ranges from 340 to 2000 feet. Blooms Apr-Oct.	No Potential. The Study Area lacks gravelly substrates known to support this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
saline clover <i>Trifolium hydrophilum</i>	Rank 1B.2	Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools. Elevation ranges from 0 to 980 feet. Blooms Apr-Jun.	No Potential. The Study Area lacks alkaline marshes and swamps known to support this species.	No further recommendations for this species.
coastal triquetrella <i>Triquetrella californica</i>	Rank 1B.2	Coastal bluff scrub, coastal scrub/soil. Elevation ranges from 30 to 330 feet.	No Potential. The Study Area lacks coastal scrub habitats.	No further recommendations for this species.
oval-leaved viburnum <i>Viburnum ellipticum</i>	Rank 2B.3	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 600 to 4200 feet. Blooms May-June.	No Potential. The Study Area lacks the vegetation communities associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Mammals				

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
long-eared myotis <i>Myotis evotis</i>	WBWG: Medium	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. This species may roost in buildings and under bridges.	Moderate Potential. Redwood trees within the northwest portion of the Study Area provide suitable cover to support roosting of this species. Roosting may also be observed within the uninhabited buildings throughout the Study Area.	Work windows and/or pre-construction surveys.
fringed myotis <i>Myotis thysanodes</i>	WBWG: High	Associated with a wide variety of habitats including dry woodlands, desert scrub, mesic coniferous forest, grassland, and sage-grass steppes. Buildings, mines and large trees and snags are important day and night roosts.	Moderate Potential. The Study Area contains grassland habitat and trees to support foraging and/or roosting of this species.	Work windows and/or pre-construction surveys.
long-legged myotis <i>Myotis volans</i>	WBWG: High	Primarily found in coniferous forests, but also occurs seasonally in riparian and desert habitats. Large hollow trees, rock crevices and buildings are important day roosts. Other roosts include caves, mines and buildings.	Moderate Potential. The Study Area contains uninhabited buildings that may provide suitable habitat for roosting.	Work windows and/or pre-construction surveys.
silver-haired bat <i>Lasionycteris noctivagans.</i>	WBWG: Medium	Primarily a forest dweller, feeding over streams, ponds, and open brushy areas. Summer habitats include a variety of forest and woodland types, both coastal and montane. Roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark.	Unlikely. The Project Area and surrounding areas do not contain montane woodland or forest habitat. The nearest suitable habitat is 3.0 - miles east from the Study Area (CDFW 2017).	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
hoary bat <i>Lasiurus cinereus</i>	WBWG: High	Prefers open forested habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths.	Unlikely. The Study Area does not provide typical forested habitat this species requires for roosting. Additionally, the Study Area is surrounded by residential development. The nearest suitable roosting habitat is approximately 2.5 - miles east of the Study Area.	No further actions are recommended for this species.
pallid bat <i>Antrozous pallidus</i>	SSC; WBWG: High	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.	Moderate Potential. The Study Area contains uninhabited buildings that may provide suitable roosting habitat for this species.	Work windows and/or pre-construction surveys.
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	SSC; WBWG: High	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 Study Area does not contain mixed coniferous-deciduous forests and is surrounded by residential development. The nearest documented occurrence is over 12.0 - miles north of the Study Area (CDFW 2017).	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
western mastiff bat <i>Eumops perotis</i>	SSC, WBWG: High	Found in a wide variety of open, arid and semi-arid habitats. Distribution appears to be tied to large rock structures which provide suitable roosting sites, including cliff crevices and cracks in boulders.	No Potential. The Study Area does not contain large rock structures to supporting roosting for this species.	No further actions are recommended for this species.
western red bat <i>Lasiurus blossevillii</i>	SSC, WBWG: High	Highly migratory and typically solitary, roosting primarily in the foliage of trees or shrubs. Roosts are usually in broad-leaved trees 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 Study Area may provide temporary roost habitat, but does not contain broad-leaved trees to support maternity roosts.	No further actions are recommended for this species.
Sonoma tree vole <i>Arborimus pomo</i>	SSC	North coast fog belt from Oregon border to Sonoma County. Occurs In Douglas fir, redwood and montane hardwood-conifer forests. Feeds almost exclusively on Douglas fir needles. Will occasionally take needles of grand fir, hemlock or spruce.	No Potential. The Study Area does not contain Douglas fir or hardwood-conifer forest habitat this species needs for foraging and nesting. Redwood trees within the Study Area are regularly maintained and not part of a coniferous forest.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
American badger <i>Taxidea taxus</i>	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. The Study Area is surrounded by residential development, and is not contiguous with typical open grassland habitat required to support denning and foraging for this species. Burrows suitable for denning were not observed. Additionally, ground squirrels are not present within the Study Area or the immediate vicinity. The nearest suitable foraging habitat is over 2.0 - miles west of the Study Area (CDFW 2017).	No further actions are recommended for this species.
ringtail <i>Bassariscus astutus</i>	CFP	Widely distributed throughout most of California; absent from some portions of the Central Valley and northeastern California. Found in a variety of habitats including riparian areas, semi-arid country, deserts, chaparral, oak woodlands, pinyon pine woodlands, juniper woodlands and montane conifer forests usually under 4,600 ft. elevation. Typically uses cliffs or large trees for shelter.	Unlikely. The historical disturbance of the Study Area and surrounding development does not provide suitable refugia for this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
fisher, west coast DPS <i>Martes pennanti</i> (formerly <i>Martes pennant pacifica</i>)	SC (threatened), SSC	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest.	No Potential. The Study Area does not provide habitat that this species requires for cover or foraging. The Study Area does not contain large rocks, logs or riparian habitat with high percent canopy closure.	No further actions are recommended for this species.
Birds				
ferruginous hawk <i>Buteo regalis</i>	BCC	Winter visitor to open habitats, including grasslands, sagebrush flats, scrub, and low foothills surrounding valleys. Preys on mammals. Does not breed in California.	No Potential. This species may winter within the Study Area or in adjacent areas; however this species does not breed in California.	No further actions are recommended for this species.
golden eagle <i>Aquila chrysaetos</i>	CFP, BCC, EPA	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. The Study Area does not contain deep canyons with large trees suitable for nesting. This species may forage within the Study Area.	No further actions are recommended for this species.
bald eagle <i>Haliaeetus leucocephalus</i>	SE, CFP, BCC, EPA	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.	No Potential. The Study Area does not contain large trees adjacent to large water bodies of water to support foraging or nesting of this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
white-tailed kite <i>Elanus leucurus</i>	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.	Moderate Potential. The open fields immediately adjacent to and within the Study Area provides foraging habitat. Additionally, trees suitable for nesting are located within the Study Area. The nearest documented breeding occurrence is 0.7 - miles south (CDFW 2017).	Work windows and/or pre-construction surveys.
prairie falcon <i>Falco mexicanus</i>	BCC	Year-round resident and winter visitor. Inhabits dry, open terrains, including foothills and valleys. Breeding sites located on steep cliffs. Forages widely.	Unlikely. The Study Area does not contain suitable nesting or foraging habitat to support this species.	No further actions are recommended for this species.
American peregrine falcon <i>Falco peregrinus anatum</i>	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 waterbirds.	Unlikely. No cliff, ledge or anthropogenic structures suitable for nesting are present within the Study Area.	No further actions are recommended for this species.
western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	FT, SE, BCC	Summer resident, breeding in dense riparian forests and jungles, typically with early successional vegetation present. Utilizes densely-foliaged deciduous trees and shrubs. Eats mostly caterpillars. Current breeding distribution within California very restricted.	No Potential. The Study Area does not contain sufficient contiguous riparian habitat necessary for this species. Additionally, the Study Area is outside this species known range (CDFW 2017).	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
burrowing owl <i>Athene cunicularia</i>	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. Open habitat within the Study Area is extremely disturbed and does not contain burrows suitable for nesting. The nearest documented occurrence is 6.0 - miles south of the Study Area within an open field (CDFW 2017).	No further actions are recommended for this species.
northern spotted owl <i>Strix occidentalis caurina</i>	FT, ST, 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 Study Area and immediately adjacent areas lack old-growth coniferous forest habitat this species requires for nesting and foraging.	No further actions are recommended for this species.
short-eared owl <i>Asio flammeus</i>	SSC	Occurs year-round, but primarily as a winter visitor, breeding is very restricted in most of California. Found in open, treeless areas (e.g., marshes, grasslands) with elevated sites for foraging perches and dense herbaceous vegetation for roosting and nesting. Preys mostly on small mammals, particularly voles.	No Potential. The Study Area does not contain open treeless areas to provide suitable nesting or foraging habitat for this species.	No further actions are recommended for this species.
long-eared owl <i>Asio otus</i>	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. The residential development surrounding the Study Area reduce the potential of supporting this species. Suitable habitat is located over 3.0 - miles west of the Study Area along the Laguna de Santa Rosa.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
California black rail <i>Laterallus jamaicensis coturniculus</i>	ST, CFP	Year-round resident in marshes (saline to freshwater) with dense vegetation within four inches of the ground. Prefers larger, undisturbed marshes that have an extensive upper zone and are close to a major water source. Extremely secretive and cryptic.	No Potential. The Study Area does not contain brackish marsh habitat necessary to support this species. Known occurrences are in the southern portions of Sonoma County along the Petaluma River.	No further actions are recommended for this species.
black oystercatcher <i>Haematopus bachmani</i>	BCC	Year-round resident of rocky coast habitats along the Pacific coast. Also occurs on coastal and lower estuarine mud-flats. Forages primarily on intertidal invertebrates.	No Potential. The Study Area does not contain rocky coast or estuarine mud-flats to support this species.	No further actions are recommended for this species.
western snowy plover <i>Charadrius nivosus (alexandrinus) nivosus</i>	FT, SSC, BCC, RP	Federal listing applies only to the Pacific coastal population. Year-round resident and winter visitor. Occurs on sandy beaches, salt pond levees, and the shores of large alkali lakes. Nests on the ground, requiring sandy, gravelly or friable soils.	No Potential. The Study Area does not contain sandy beaches or shores along large bodies of water. Suitable habitat is over 19.0 - miles west of the Study Area along the coast.	No further actions are recommended for this species.
marbled murrelet <i>Brachyramphus marmoratus</i>	FT, SE	Predominantly coastal marine. Nests in old-growth coniferous forests up to 30 miles inland along the Pacific coast, from Eureka to the Oregon border, and in Santa Cruz/San Mateo Counties. Nests are highly cryptic, and typically located on platform-like branches of mature redwoods and Douglas firs. Forages on marine invertebrates and small fishes.	No Potential. The Study Area does not contain coastal marine habitat this species requires for foraging. Additionally the Study Area does not contain mature coniferous trees to support nesting by this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
short-tailed albatross <i>Phoebastria albatrus</i>	FE, SSC	Highly pelagic; comes to land only when breeding. Nests on remote Pacific islands. A rare non-breeding visitor to the eastern Pacific.	No Potential. Suitable nesting habitat is not present in or near the Study Area. This species is not known to breed in Sonoma County.	No further actions are recommended for this species.
long-billed curlew <i>Numenius americanus</i>	BCC	(Nesting) breeds in upland shortgrass prairies and wet meadows in northeastern California. Habitats on gravelly soils and gently rolling terrain are favored over others.	Unlikely. This species does not breed in the region, but may occasionally occur within or adjacent to the Study Area during the winter months.	No further actions are recommended for this species.
loggerhead shrike <i>Lanius ludovicianus</i>	SSC, BCC	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 Study Area does not contain open grassland habitat this species requires for nesting and foraging. Additionally, the Study Area is surrounded by residential development.	No further actions are recommended for this species.
Lewis's woodpecker <i>Melanerpes lewis</i>	BCC	Uncommon resident in California occurring on open oak savannahs, broken deciduous and coniferous habitats. Breeds primarily in ponderosa pine forests, riparian woodlands and disturbed pine forests, but is also known to nest in orchards and oak woodlands. Rare nester in the San Francisco Bay Area.	Unlikely. Sonoma County is not within this species breeding range, however this species may be observed foraging within the oak trees in the Study Area during the non-nesting season.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Nuttall's woodpecker <i>Picoides nuttallii</i>	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. The Study Area and immediately adjacent areas provide woodland habitat to support nesting and foraging of this species.	Work windows and/or pre-construction surveys.
purple martin <i>Progne subis</i>	SSC	Inhabits woodlands and low elevation coniferous forests. Nests in old woodpecker cavities and man-made structures. Nests are often located in tall, isolated trees or snags.	Unlikely. The Study Area and adjacent areas do not contain woodland or coniferous forest habitat. Although the Study Area does contain trees to support cavity nesting, suitable foraging habitat is not within 5.0 - miles of the Study Area.	No further actions are recommended for this species.
black swift <i>Cyseloides niger</i>	SSC, BCC	Summer resident with a fragmented breeding distribution; most occupied areas in California either montane or coastal forests. Breeds in small colonies on cliffs behind or adjacent to waterfalls, in deep canyons, and sea-bluffs above the surf. Forages aerially over wide areas.	Unlikely. No suitable breeding or foraging habitat consisting of coastal forests is present within the Study Area. The nearest suitable habitat is 9.0 - miles west of the Study Area.	No further actions are recommended for this species.
Vaux's swift <i>Chaetura vauxi</i>	SSC	Summer resident, breeding primarily in forested areas. Nests in tree cavities, favoring those with a large vertical extent; also uses chimneys and other man-made substrates. Forages aerially for insects.	Unlikely. The Study Area and immediately adjacent areas do not contain suitable aquatic habitat this species requires for foraging. Additionally, the Study Area lacks large tree cavities or chimneys to support nesting.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Allen's hummingbird <i>Selasphorus sasin</i>	BCC	Summer resident along the California coast, breeding in a variety of woodland and forest habitats, including parks and gardens with abundant nectar sources. Nests in shrubs and trees with dense vegetation.	Moderate Potential. The Study Area contains suitable trees to support nesting of this species. Additionally, this species has been documented to breed in the area (Burridge 1995).	Work windows and/or pre-construction surveys.
rufous hummingbird <i>Selasphorus rufus</i>	BCC	Summer resident, with breeding in California restricted to the northwest corner of the state. Favors habitats rich in nectar-producing flowers. Nests in berry tangles, shrubs, deciduous forests and conifers. Occurs widely during migration.	Unlikely. Sonoma County is not within this species breeding range. This species may be seen within the Study Area during migration.	No further actions are recommended for this species.
oak titmouse <i>Baeolophus inornatus</i>	BCC	Occurs year-round in woodland and savannah habitats where oaks are present, as well as riparian areas. Nests in tree cavities.	High Potential. This species is common throughout Sonoma County. The Study Area contains suitable trees to support foraging, and nesting of this species. Additionally, this species has been documented to nest in the area.	Work windows and/or pre-construction surveys.
olive-sided flycatcher <i>Contopus cooperi</i>	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 Study Area lacks montane woodland or forested habitat typical for nesting by this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
(Brester's) yellow warbler <i>Setophaga (= Dendroica) petechia brewsteri</i>	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. The Study Area does not contain riparian habitat to support this species. The nearest suitable habitat is 5.0 - miles west along the Laguna de Santa Rosa.	No further actions are recommended for this species.
yellow-breasted chat <i>Icteria virens</i>	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.	No Potential. The Study Area does not contain riparian habitat necessary to support this species.	No further actions are recommended for this species.
Bell's sage sparrow <i>Amphispiza belli belli</i>	BCC	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.	No Potential. Suitable chaparral habitat is not present within the Study Area or adjacent areas.	No further actions are recommended for this species.
grasshopper sparrow <i>Ammodramus savannarum</i>	SSC	Summer resident. Breeds in open grasslands in lowlands and foothills, generally with low- to moderate-height grasses and scattered shrubs. Well-hidden nests are placed on the ground.	Unlikely. Grasslands within the Study Area is regularly tilled, and therefore reduces the value of this habitat. This species may be in seen foraging within the Study Area or in immediately adjacent areas.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Samuels (San Pablo) song sparrow <i>Melospiza melodia samuelis</i>	BCC, SSC	Year-round resident of tidal marshes along the north side of San Francisco and San Pablo Bays. Typical habitat is dominated by pickleweed, with gumplant and other shrubs present in the upper zone for nesting. May forage in areas adjacent to marshes.	No Potential. The Study Area does not contain marsh habitat to support the type of vegetation that this species requires for nesting.	No further actions are recommended for this species.
San Francisco common yellowthroat <i>Geothlypis trichas sinuosa</i>	BCC, SSC	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. This species prefers willow thicket habitats and emergent vegetation, which the Study Area and immediately adjacent areas lack.	No further actions are recommended for this species.
tricolored blackbird <i>Agelaius tricolor</i>	SSC, BCC	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.	No Potential. The Study Area does not support dense marsh vegetation necessary for nesting. The nearest documented occurrence is 5.0 - miles west of the Study Area (CDFW 2017).	No further actions are recommended for this species.
Lawrence's goldfinch <i>Carduelis lawrencei</i>	BCC	Summer resident, primarily in southern California; generally uncommon and local. Also found in large open areas in Contra Costa and Alameda Counties. Typically found in arid open woodlands, including oak savannah. Breeding distribution is erratic from year to year.	Unlikely. The Study Area does not contain suitable open woodland or oak savannah to support nesting of the species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
bank swallow <i>Riparia riparia</i>	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 Study Area does not contain cliffs or banks to support nesting. This species has not recently been documented to breed within Sonoma County (Burridge 1995).	No further actions are recommended for this species.
Reptiles and Amphibians				
green sea turtle <i>Chelonia mydas</i>	FT (west coast population)	Found in fairly shallow waters inside reefs, bays and inlets with marine grass and algae. Open beaches with a sloping platform and minimal disturbance are required for nesting. This species exhibits high site fidelity.	No Potential. This species is uncommon along the California coast. The Study Area does not contain marine habitat to support this species.	No further actions are recommended for this species.
Pacific (western) pond turtle <i>Actinemys marmorata</i>	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Requires basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying.	Unlikely. The Study Area does not contain aquatic habitat such as deep ponds, creeks, or pools of sufficient depth to support this species. The wetland depressions within the Study Area cannot support this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
California giant salamander <i>Dicamptodon ensatus</i>	SSC	Occurs in the north-central Coast Ranges. Moist coniferous and mixed forests are typical habitat; also uses woodland and chaparral. Adults are terrestrial and fossorial, breeding in cold, permanent or semi-permanent streams. Larvae usually remain aquatic for over a year.	No Potential. The Study Area does not contain forested or stream habitat necessary for this species.	No further actions are recommended for this species.
California tiger salamander Sonoma County DPS <i>Ambystoma californiense</i>	FE, ST, SSC	Populations in Sonoma County currently listed as federally endangered; and threatened in the remainder of its range. Inhabits grassland, oak woodland, ruderal and seasonal pool habitats. Adults are fossorial and utilize mammal burrows and other subterranean refugia. Breeding occurs primarily in vernal pools and other seasonal water features.	Unlikely. The Study Area does not contain vernal pools or wetland features suitable to support breeding of this species. Although burrows were observed within the Study Area, regular disking of the site provides marginal upland dispersal habitat, reducing the potential for this species to survive estivation during the dry season. Additionally, the nearest documented occurrence is 0.4 – mile south of the Study Area (CDFW 2017), and is separated by anthropogenic barriers (e.g., Hearn Ave.) preventing this species from occupying the Study Area (Trenham and Cook 2008).	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
red-bellied newt <i>Taricha rivularis</i>	SSC	Inhabits coastal forests from southern Sonoma County northward, with an isolated population in Santa Clara County. Redwood forest provides typical habitat; though other forest types are used. Adults are terrestrial and fossorial. Breeding occurs in streams, usually with relatively strong flow.	Unlikely. The Study Area and immediately adjacent areas do contain stream or redwood forest habitat. Additionally, the Study Area is not within the range of this species.	No further actions are recommended for this species.
California red-legged frog <i>Rana draytonii</i>	FT, SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 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. No suitable aquatic breeding habitat is present within the Study Area. The nearest documented occurrence is 2.75 --miles west of the Study Area (CDFW 2017).	No further actions are recommended for this species.
foothill yellow-legged frog <i>Rana boylei</i>	SSC	Found in or near rocky streams in a variety of habitats. Prefers partly-shaded, shallow streams and riffles with a rocky substrate; requires at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Feeds on both aquatic and terrestrial invertebrates.	No Potential. No suitable rocky stream habitat is present within the Study Area, and no occurrences have been documented within 5-miles of Study Area (CDFW 2017).	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Fish				
Navarro roach <i>Lavinia symmetricus navarroensis</i>	SSC	This species is a habitat generalist. Found in warm intermittent streams as well as cold, well-aerated streams.	No Potential. The Study Area does not contain streams, rivers or other perennial waters to support this species.	No further actions are recommended for this species.
coho salmon - Central California Coast ESU <i>Oncorhynchus kisutch</i>	FE, SE, NMFS	Federal listing includes populations between Punta Gorda and San Lorenzo River. State listing includes populations south of San Francisco Bay only. Occurs inland and in coastal marine waters. Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen.	No Potential. The Study Area does not contain streams, rivers or other perennial waters to support this species.	No further actions are recommended for this species.
Chinook salmon - Central Valley spring-run ESU <i>Oncorhynchus tshawytscha</i>	FT,ST	Occurs in the Feather River and the Sacramento River and its tributaries, including Butte, Mill, Deer, Antelope and Beegum Creeks. Adults enter the Sacramento River from late March through September. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams from mid-August through early October. Juveniles migrate soon after emergence as young-of-the-year, or remain in freshwater and migrate as yearlings.	No Potential. The Study Area does not contain streams, rivers or other perennial waters to support this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Chinook salmon - California coastal ESU <i>Oncorhynchus tshawytscha</i>	FT, RP	California Coastal Chinook Salmon ESU includes all naturally spawned populations of Chinook salmon from rivers and streams south of the Klamath River (exclusive) to the Russian River (inclusive). Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temps >27 degrees C lethal to adults.	No Potential. The Study Area does not contain streams, rivers or other perennial waters to support this species.	No further actions are recommended for this species.
steelhead - central CA coast DPS <i>Oncorhynchus mykiss irideus</i>	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 Study Area does not contain streams, rivers or other perennial waters to support this species.	No further actions are recommended for this species.
Russian River tule perch <i>Hysterocarpus traski pomo</i>	SSC	Occurs in low elevation streams of the Russian River system. Requires clear, flowing water with abundant cover and deep (> 1 m) pools.	No Potential. The Study Area does not contain streams, rivers or other perennial waters to support this species.	No further actions are recommended for this species.
river lamprey <i>Lampetra ayresi</i>	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 Study Area does not contain streams, rivers or other perennial waters to support this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
hardhead <i>Mylopharodon conocephalus</i>	SSC	Found in low to mid-elevation streams in the Sacramento-San Joaquin drainage; also occurs in the Russian River and tributaries. Favors clear, deep pools with sand-gravel-boulder bottoms and slow water velocity. Not found where exotic Centrarchids predominate.	No Potential. The Study Area does not contain streams, rivers or other perennial waters to support this species.	No further actions are recommended for this species.
Invertebrates				
California linderiella <i>Linderiella occidentalis</i>	SSI	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools has very low alkalinity, conductivity, and TDS.	Unlikely. The Study Area does not contain vernal pool habitat with alluvial soils. Seasonal wetland depressions were present at the time of the survey, but does not sustain water long enough to support this species. The nearest documented occurrence is 0.75 - mile southwest from the Study Area (CDFW 2017).	No further actions are recommended for this species.
Behren's silverspot butterfly <i>Speyeria zerene behrensii</i>	FE, SSI	Restricted to the Pacific side of the coast ranges, from Point Arena to Cape Mendocino, Mendocino County. Inhabits coastal terrace prairie habitat. Foodplants are <i>Viola</i> species.	No Potential. The Study Area is not within the known range of this species. This species is known only from Mendocino County and coastal terrace habitats.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Myrtle's silverspot butterfly <i>Speyeria zerene myrtleae</i>	FE, RP, SSI	Restricted to the fog belt of northern Marin and southernmost Sonoma County, including the Point Reyes peninsula; extirpated from coastal San Mateo County. Occurs in coastal prairie, dunes, and grassland. Larval foodplant is typically <i>Viola adunca</i> . Adult flight season may range from late June to early September.	No Potential. The Study Area does not contain coastal dune habitat to support this species host plant; <i>Viola adunca</i> .	No further actions are recommended for this species.
San Bruno elfin butterfly <i>Callophrys mossii bayensis</i>	FE, SSI	Limited to the vicinity of San Bruno Mountain, San Mateo County. Colonies are located on rocky outcrops and cliffs in coastal scrub habitat on steep, north-facing slopes within the fog belt. Species range is tied to the distribution of the larval host plant, <i>Sedum spathulifolium</i> .	No Potential. The Study Area lacks rocky coastal outcrops and cliffs to support the larval host plant; <i>Sedum spathulifolium</i> . Additionally, the Study Area is outside the known range of this species.	No further actions are recommended for this species.
Blennosperma vernal pool andrenid bee <i>Andrena blennospermatis</i>	SSI	A solitary, ground-nesting bee found in upland areas near vernal pools. Its host plant is <i>Blennosperma</i> spp. and does not forage far from the host plant. Range is Contra Costa, El Dorado, Lake, Placer, Sacramento, San Joaquin, Solano, Sonoma, Tehama, and Yolo counties.	No Potential. The Study Area does not contain vernal pool habitat to support this species host plant; <i>Blennosperma</i> spp.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Ricksecker's water scavenger beetle <i>Hydrochara rickseckeri</i>	SSI	Small aquatic beetle known only from pond habitats scattered around the San Francisco Bay area, including Marin, Sonoma, Alameda, Lake, and Contra Costa counties. Extensive surveys from 1988 failed to locate this species. The locations of existing populations remain unknown (Hafernick 1989).	No Potential. The disturbed nature and lack of suitable habitat within the Study Area preclude presence of this species. No pond habitat is present.	No further actions are recommended for this species.
western bumblebee <i>Bombus occidentalis</i>	SSI	Formerly common throughout much of western North America; populations from southern British Columbia to central California have nearly disappeared (Xerces 2017). Occurs in a wide variety of habitat types. Nests are constructed annually in pre-existing cavities, usually on the ground (e.g. mammal burrows). Many plant species are visited and pollinated.	Unlikely. Although the Study Area contains mammal burrows that this species may use for nesting, regular tilling of the site reduces the quality to support nesting or foraging. The nearest documented occurrence is 3.0 - miles south (CDFW 2017).	No further actions are recommended for this species.
California freshwater shrimp <i>Syncaris pacifica</i>	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 Study Area does not contain streams, rivers or other perennial waters to support this species.	No further actions are recommended for this species.

*** Key to status codes:**

BCC	Birds of Conservation Concern (U.S. Fish and Wildlife Service)
CFP	CDFW Fully Protected Animal
EPA	Eagle Protection Act Species
FE	Federal Endangered

FT	Federal Threatened
NMFS	Species under the Jurisdiction of the NMFS
RP	Species included in a USFWS Recovery Plan or Draft Recovery Plan
SC	State Candidate
SE	State Endangered
SD	State Delisted
ST	State Threatened
SSC	CDFW Species of Special Concern
SSI	CDFW Special-Status Invertebrate
WBWG	Western Bat Working Group (High or Medium) Priority species
California Rare Plant Rank (CRPR)	
Rank 1A	CRPR 1A: Plants presumed extinct in California
Rank 1B	CRPR 1B: Plants rare, threatened or endangered in California and elsewhere
Rank 2A	CRPR 2A: Plants presumed extirpated in California, but more common elsewhere
Rank 2B	CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3	CRPR 3: Plants about which CNPS needs more information (a review list)
Rank 4	CRPR 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

****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. CNDDDB, other reports) on the site recently.

Presumed Present. Species has a high likelihood of occurring and actions to avoid/mitigate impacts are recommended; surveys not conducted.

Presumed Absent. Species was not observed during the site visit when the species would have been observable.

APPENDIX C
SITE PHOTOGRAPHS

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Photograph 1. Photograph depicting a seasonal wetland on the northern border of the Study Area.



Photograph 2. Photograph depicting non-native grassland within the Study Area, which is highly disturbed by discing or plowing.



Photograph 3. Photograph depicting a seasonal wetland within the Study Area.



Photograph 4. Photograph depicting seasonal wetland ditch within the Study Area.