Biological Resources Assessment

LOS ALAMOS TRUNK SEWER REPLACEMENT PHASE 1
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
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 Brelje & Race Consulting Engineers for the proposed Los Alamos Trunk Sewer Replacement Phase 1 Project (Project). The City of Santa Rosa (City) has identified portions of the Los Alamos Trunk Sewer that are undersized to serve future growth anticipated by the City's General Plan within portions of Rincon Valley and east Santa Rosa. The proposed Project involves the replacement of an existing 15-inch trunk sewer pipe with a new 24-inch pipe along the approximately 1.04-mile (5,500 feet) alignment which begins across from 4312 Streamside Drive, and ends at 100 Elaine Drive, in the northeast quadrant of the City of Santa Rosa, Sonoma County, California (Project Area; Appendix A - Figure 1). The Project will be implemented in four phases, with construction of Phase 1 of the Project anticipated to begin in summer 2018. The Project Area includes the entire 1.04-mile alignment with a 15-foot easement on either side of the proposed pipeline. The purpose of this assessment was to gather information necessary to complete a review of biological resources under the California Environmental Quality Act (CEQA). WRA conducted an arborist survey within the Project Area concurrent with this assessment in July 2017. The results of the arborist survey are included in a separate arborist report (WRA 2017), and are summarized in this report.

This report describes the results of the site visits, which assessed the Project Area for the (1) 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 is not an official protocol-level survey for listed species that may be required for project approval by local, state, or federal agencies. 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(s).

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). 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 (CNDDB; CDFW 2017). In the CNDDB, 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, which are species that face extirpation in California if current population and habitat trends continue, CDFW California Fully Protected species, USFWS Birds of Conservation Concern, and CDFW special-status invertebrates, are all considered special-status species. Although these aforementioned species 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

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

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. Several non-native species including acacia, silver maple, ailanthus, hawthorn, fruitless mulberry, privet, pyracantha, Monterey pine, Monterey cypress, and fruit and nut trees (except walnut) are exempt from the provisions of the ordinance.

Creekside Development Ordinance

Section 20-30.040 "Creekside Development", of the Santa Rosa City Code defines minimum setbacks from waterways for new structures to protect the public from the hazards of streambank failures and flooding. Under the ordinance, buildings of any type, driveways, streets, parking areas, patios, platforms, decks, fences, earth fill or other structural debris fill, and retaining walls, shall be setback a minimum of 50 feet from: (a) the top of the highest bank for streams with defined channels and banks with slopes gentler than 2.5:1; (b) the intersection of 2.5:1 slope from toe of bank with top-of-bank where the natural bank is steeper than 2.5:1; or (c) the 100-year storm freeboard level for streams where there is no defined top-of-bank. Bridges for motor vehicles, pedestrians, and/or bicycles, and/or public utility infrastructure may cross through a waterway setback area and over or under its channel, provided that the installation has received all required approvals from the City.

3.0 METHODS

WRA biologists conducted site visits on May 9, July 7, and July 10, 2017. The Project Area was traversed on foot to determine (1) plant communities present within the Project Area, (2) whether

existing conditions provide suitable habitat for any special-status plant or wildlife species, and (3) whether sensitive habitats are present. Project figures are provided in Appendix A. All plant and wildlife species encountered were recorded and are summarized in Appendix B. Plant nomenclature follows Baldwin et al. (2012) and subsequent revisions by the Jepson Flora Project (2017), 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. Special-status species with a potential for occurrence, determined based on field visits and habitat availability, are described in Appendix C. Representative photographs of the Project Area taken during field visits are included in Appendix D.

3.1 Biological Communities

Prior to the site visit, the *Soil Survey of Sonoma County*, California [U.S. Department of Agriculture (USDA) 1972] and SoilWeb (CSRL 2017) were examined to determine if any unique soil types that could support sensitive plant communities and/or aquatic features were present in the Project Area. Biological communities present in the Project Area were classified based on existing plant community descriptions described in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) or *A Manual of California Vegetation, Online Edition* (CNPS 2017a). 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.

<u>Wetlands and Non-Wetland Waters</u>

Wetlands and non-wetland waters potentially subject to jurisdiction by the Corps, RWQCB, and/or CDFW were mapped following standard methods from the Corps (Environmental Laboratory 1987, Corps 2008a, b). Identification of wetlands focused on the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) indicators of wetland hydrology. Identification of non-wetland waters focused on the presence of an OHWM.

<u>Other Sensitive Biological Communities</u>

The Project 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 2017a) were reviewed to assess the potential for sensitive biological communities

to occur in the Project Area. All alliances within the Project 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 Project Area was evaluated by first determining which special-status species occur in the vicinity of the Project 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 Project Area:

- CNDDB records (CDFW 2017)
- USFWS Information for Planning and Conservation Report (IPaC; USFWS 2017a)
- National Wetlands Inventory (USFWS 2017b)
- CNPS Rare and Endangered Plant Inventory (CNPS 2017b)
- 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)
- California Herps: A Guide to the Amphibians and Reptiles of California (CalHerp 2017)
- *Sonoma County Breeding Bird Atlas* (Madrone Audubon Society 1995)
- *A Flora of Sonoma County* (Best et al. 1996)

3.2.2 Site Assessment

A site visit was made to the Project 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 Project 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., CNDDB, 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 Project 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.

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

Project Area Description

The Project Area consists of approximately 3.58 acres of predominantly developed/landscaped land in the northeastern quadrant of the City of Santa Rosa, Sonoma County, California. The Project Area includes the approximately 1.02 mile alignment of the proposed new trunk sewer line, and a 15-foot wide easement on either side of the pipe for a total of a 30-feet wide work area. The Project Area begins at Streamside Drive and extends to the northwest for approximately 1.02 miles across city park property (Santa Rosa Creekside Trail), commercial, and residential properties. The proposed alignment roughly parallels Santa Rosa Creek, a perennial United States Geological Survey (USGS) “blue-line” stream to the south of the Project Area. While the majority of the Project Area is developed, consisting of City roads, and commercial and residential lots, portions of the Project Area consist of natural vegetation communities including coast live oak woodland, willow riparian thicket, and ruderal herbaceous grassland. The Project Area is bordered by the Santa Rosa Creek corridor to the south, and commercial and residential development to the west, north, and east. Evidence of previous and ongoing human disturbance within the undeveloped portions of the Project Area observed during the site visits and review of

recent aerial photography (Google Earth 2017) include walking paths and pedestrian use, and mowing and/or discing.

Topography and Soils

The topography in the Project Area is relatively flat with elevations ranging from approximately 230 feet above mean sea level (amsl) at the western end of the Project Area to approximately 260 feet amsl at the eastern terminus. SoilWeb (CSRL 2017) indicates that the Project Area contains three soil mapping units comprised of one soil series, and one non-soil mapping unit. The soil mapping units within the Project Area include: Yolo clay loam, 0 to 5 percent slopes; Yolo gravelly loam, 0 to 8 percent slopes; and Riverwash. Although the majority of the Project Area is developed and paved over, the remaining undeveloped, open areas, likely contain mostly native soil types, although some evidence of grading and previous soil disturbance was observed in these areas. The Riverwash mapping unit appears to be coarsely mapped within the Project Area, and no areas of alluvial riverwash deposits were observed in the Project Area. The soil series that makes up the mapping units within the Project Area are described below.

Yolo Series: This series consists of deep fine-silty soils formed in alluvium from igneous, metamorphic and sedimentary rock sources situated on alluvial fans in river valleys at elevations ranging from 0 to 2,400 feet (USDA 1972, CSRL 2017). Yolo gravelly loam, 0 to 8 percent slopes is considered a hydric soil, while Yolo clay loam, 0 to 5 percent slopes is not considered hydric (CSRL 2017). The series is well-drained, with slow to medium runoff, and moderate permeability; however pans have developed where tilling is prevalent thereby reducing permeability (USDA 1972). Native and naturalized vegetation include annual grasses and forbs with scattered oaks (*Quercus* spp.), while predominant land uses include row and field crops, and orchards (USDA 1972).

Riverwash Mapping Unit: Riverwash consists of gravel, sand, and silt alluvium deposited along rivers and streams situated most frequently as gravel and sand bars. Because of episodic deposition and dislocation soil horizonization is primitive or totally absent (USDA 1972). These formations are excessively well drained, but are considered hydric (USDA 2017). Native and naturalized vegetation include disturbance adapted hydrophytes, willows (*Salix* spp.), Fremont's cottonwood (*Populus fremontii*), box elder (*Acer negundo*), and northern black walnut (*Juglans hindsii*), while land uses are primarily open space, recreation (river/stream access), and gravel mining for construction and road base (USDA 1972).

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 Project Area include direct precipitation and surface runoff from adjacent slopes to the east.

4.1 Biological Communities

Table 2 summarizes the area of each biological community type observed in the Project Area. The Project Area is predominantly composed of developed/landscaped areas and ruderal/disturbed areas, with small inclusions of natural vegetation communities. Non-sensitive biological communities include developed/landscaped, ruderal/disturbed, and coast live oak

woodland. One sensitive biological community, riparian red willow thicket, is also present within the Project Area. Descriptions for each biological community are contained in the following sections and depicted in Appendix A - Figure 2.

Table 2. Summary of Biological Communities in the Project Area

Community Type	**Area (acres)**
Non-sensitive	
Developed/landscaped	2.90
Ruderal herbaceous grassland	0.56
Coast live oak woodland	0.05
Sensitive	
Riparian red willow thicket	0.07
Total	**3.58**

4.1.1 Non-Sensitive Biological Communities

Developed/landscaped. No Rank. The Project Area contains approximately 2.9 acres of developed and landscaped areas. Developed and landscaped areas within the Project Area include paved areas including existing roads, and parking lots, with planted and landscaped vegetation, gravel roads and driveways, and ruderal backyards of existing residences. These areas are of low habitat value. Vegetative cover is dominated by planted and maintained ornamental tree species including red maple (*Acer rubrum*), Deodar cedar (*Cedrus deodara*) Chinese pistache (*Pistacia chinensis*), with occasional native trees including coast live oak (*Quercus agrifolia*), and valley oak (*Quercus lobata*). Ornamental shrubs including oleander (*Nerium oleander*), and rosemary (*Rosmarinus officinalis*) and non-native, invasive shrub species, including French broom (*Genista monspessulana*) are also present. The herbaceous layer, where present consists of ornamental forbs and grasses such as African iris (*Dietes iriodes*), and fountain grass (*Pennisetum* sp.) and non-native annual grasses including slim oat (*Avena barbata*), and annual dogtail grass (*Cynosorus echinatus*). Developed/landscaped areas are not considered sensitive. However, this community does contain heritage and street trees considered protected per the City of Santa Rosa Tree Ordinance.

Ruderal herbaceous grassland. No Rank. The Project Area contains approximately 0.56 acre of ruderal/disturbed areas. Ruderal/disturbed areas within the Project Area include open grassy fields which are routinely mowed and/or disced. Vegetative cover within these areas is typically dominated by common non-native invasive grasses and forbs including slim oat, ripgut brome (*Bromus diandrus*), Harding grass (*Phalaris aquatica*), rose clover (*Trifolium hirtum*), chicory (*Cichorium intybus*), fennel (*Foeniculum vulgare*), wild radish (*Raphanus sativus*), field bindweed (*Convolvulus arvensis*), and hairy cat's ear (*Hypochaeris radicata*), with occasional disturbance tolerant native forbs including Spanish lotus (*Acmispon americanus*), and California poppy (*Eschscholzia californica*). Scattered individual coyote brush (*Baccharis pilularis* ssp. *consanguinea*) shrubs, small-diameter, non-heritage trees including coast live oak, are also present within this community. Ruderal/disturbed areas provide limited habitat for special-status species, and this community is not considered sensitive.

Coast live oak woodland (*Quercus agrifolia* Woodland Alliance). G5, S4. The Project Area contains approximately 0.2 acre of coast live oak woodland. Coast live oak woodland is known from the outer and inner Coast Ranges, Transverse Ranges, and southern coast from northern Mendocino County south to San Diego County. This vegetation community is typically located on terraces, canyon bottoms, slopes, and flats underlain by deep, well-drained sandy or loam substrates with high organic content (CNPS 2017a).

Coast live oak woodland occurs in a small peripheral patch in an upland setting in the western portion of the Project Area. The overstory is dominated by coast live oak with occasional California bay. Within the Project Area, this community is relatively disturbed as it is traversed by the existing concrete trail. The understory is relatively open, and edges along the concrete trail appear to be routinely mowed or weed-wacked. Common understory shrub species include Himalayan blackberry, and poison oak (*Toxicodendron diversilobum*). The herbaceous layer is dominated by non-native annual grasses and forbs including ripgut brome, slim oat, Smilo grass (*Stipa miliacea*), and English ivy (*Hedera helix*). Coast live oak woodland has a sensitivity ranking of G5, S4 indicating that it is globally secure and apparently secure in California, and is thus not considered a sensitive community. However, this community contains mature trees large enough to be considered heritage trees per the City of Santa Rosa

4.1.2 Sensitive Biological Communities

Riparian red willow thicket (*Salix laevigata* Woodland Alliance), G3, S3, CDFW Jurisdiction. The Project Area contains approximately 0.07 acre of riparian red willow (*Salix laevigata*) thicket. Red willow thickets are known throughout California from the Central California Coast and Coast Ranges, Great Valley, Mojave Desert, Northern California Coast, Northern California Interior Coast Ranges, Sierra Nevada, Sierra Nevada Foothills, Southern Great Basin, Southern California Coast, and Southern California Mountains and Valleys, from Shasta to San Diego County. This vegetation alliance is typically situated in ditches, floodplains, lake edges, and low-gradient depositions along streams (CNPS 2017a).

Red willow thicket in the Project Area is mapped according to CNPS (2017a) as having red willow greater than 50 percent cover in the tree canopy. This community is mapped in one small peripheral patch outside of the high top-of-bank of the Santa Rosa Creek stream corridor. The bases of the trees that make up this community are located below the top-of-bank, to the south of the Project Area, and are predominantly growing prostrate along the bank, over the top-of-bank into the Project Area, with some larger trees simply overhanging the Project Area. Within the Project Area, this community is relatively disturbed, and appears to be routinely trimmed back, and mowed to maintain clearance from the existing concrete path. Riparian red willow thicket within the Project Area is dominated by red willow in the tree canopy, with occasional non-native, invasive cherry plum (*Prunus cerasifera*), and an understory dominated by non-native, invasive Himalayan blackberry (*Rubus armeniacus*), and non-native grasses and forbs including ripgut brome (*Bromus diandrus*), slim oat (*Avena barbata*), and moth mullein (*Verbascum blattaria*).

Red willow thickets are reported by the CDFW with a rarity ranking of G3, S3 (CNPS 2017a), indicating that it is considered vulnerable globally and in California. This community is also considered riparian vegetation which would be a sensitive community under Section 1602 of the CFGC.

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 90 special-status plant species have been documented from the vicinity of the Project Area; special-status plant species documented from within 5 miles of the site are shown in Appendix A - Figure 3. Of the 90 special-status species known from the region, one was determined to have a moderate potential to occur within the Project Area (Appendix C). The remaining species documented to occur in the vicinity of the Project 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 Project Area;
- Vegetation communities commonly associated with the special-status species (e.g. vernal pools, chaparral, marshes and swamps) are absent from the Project Area;
- Specific edaphic characteristics, such as soil derived from serpentine, are absent from the Project Area;
- Specific hydrologic characteristics, such as riverine, or perennial saline, are absent from the Project Area;
- Very unique pH characteristics, such as alkali scalds or acidic bogs and fens, are absent from the Project Area;
- The disturbance regime (i.e. previous and continued mowing), and/or competition from non-native invasive species likely precludes the species from persisting in the Project Area;
- The species was not encountered during protocol-level rare plant surveys which were conducted during the documented bloom period of the species.

Special-status plant species with a moderate or high potential to occur are discussed below:

Congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*). CNPS Rank 1B. Not Observed (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 2017, CNPS 2017b). Known associated species include coast live oak, white hyacinth (*Triteleia hyacinthina*), Italian rye grass, little rattlesnake grass (*Briza minor*), pennyroyal, and spiny buttercup (CDFW 2017).

Congested-headed hayfield tarplant is known from 23 USGS 7.5-minute quadrangles in Marin, Mendocino, San Francisco, San Mateo, and Sonoma counties (CNPS 2017b). There are 16 CNDDB (CDFW 2017) records in the greater vicinity of the Project Area, 80 CCH (2017) records from Marin County, and 58 CCH (2017) records from Sonoma County. The nearest documented occurrence is from 1994 and is approximately 4.5 miles west of the Project Area. The most recent documented within the vicinity of the Project Area is occurrence is from 2008, and is approximately 4.7 miles north of the Project Area (CDFW 2017). Congested-headed tarplant was initially assessed as having a moderate potential to occur in the grassland areas of the Project Area due to the presence of associated species, suitable substrate, and multiple documented occurrences in relatively close proximity to the Project Area. However, this species was not observed in the

Project Area during the site visits which were conducted during the documented bloom period of the species.

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 40 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 C summarizes the potential for each of these species to occur in the Project Area. Special-status wildlife species that have been documented in CNDDB within a 2-mile radius of the Project Area are depicted in Appendix A - Figure 4.

Twenty-nine (29) special-status wildlife species listed in Appendix C were determined to have no potential or are unlikely to occur within the Project Area. The species with no potential to occur within the Project Area require habitat elements completely absent from the site, including streams, ponds, rivers, woodland, riparian, and serpentine habitats. For the species unlikely to occur within the Project Area, some elements of suitable habitat may be present (e.g., grassland or trees potentially suitable for nesting); however, the high disturbance levels near potential nest sites, urbanized nature of the site and surrounding areas, and/or the lack of ground squirrels (and their burrows) reduce the potential for these species to occur and may preclude their presence. The Project Area is also located outside the Santa Rosa Plain Conservation Strategy Project Area (CDFW 2007). As such, California tiger salamander (*Ambystoma californiense*) do not have legal protection beyond the baseline state and federal listing within the Project Area. Additionally, the nearest documented occurrence is over 5 miles from the Project Area and is separated by Highway 101, a permanent dispersal barrier (CDFW 2017).

Eleven (11) special-status wildlife species were either observed on the July 7 site visit or were determined to have a moderate or high potential to occur within the Project Area. These species are discussed below.

<u>Species Present within the Project Area</u>

Nuttall's woodpecker (*Picoides nuttallii*). USFWS Bird of Conservation Concern. Present. Nuttall's Woodpecker is a year-round resident throughout most of California west of the Sierra Nevada. Typical habitat is oak or mixed woodland, and riparian areas (Lowther 2000). Nesting occurs in tree cavities, principally those of oaks and larger riparian trees. Nuttall's woodpecker also occurs in older residential settings and orchards where trees provide suitable foraging and nesting habitat. This species forages on a variety of arboreal invertebrates. The Project Area includes suitable trees for foraging and nesting habitat and was observed on the July 7, 2017 site visit.

<u>Species with Moderate Potential to Occur in the Project Area</u>

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. Substrates used as summer day roosts include abandoned buildings, cracks in the ground, cliff crevices, exfoliating tree bark and hollows within snags.. 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-bodies insects (WBWG 2017).

The Project Area contains trees with cavities of sufficient size to potentially provide roosting structure for this species during foraging trips, especially in areas of more dense canopy cover. In addition, Santa Rosa Creek provides an adequate water source for long-legged myotis. Therefore, this species has a moderate potential to occur within the Project Area.

Hoary bat (*Lasiurus cinereus*), WBWG Medium Priority. Moderate Potential. Hoary bats are highly associated with forested habitats in the western United States, particularly in the Pacific Northwest. They are a solitary species and roost primarily in foliage of both coniferous and deciduous trees, near the ends of branches, usually at the edge of a clearing. Roosts are typically 10 to 30 feet above the ground. They have also been documented roosting in caves, beneath rock ledges, in woodpecker holes, in grey squirrel nests, under driftwood, and clinging to the side of buildings, though this behavior is not typical. Hoary bats are thought to be highly migratory, however, wintering sites and migratory routes have not been well documented. This species tolerates a wide range of temperatures and has been captured at air temperatures between 0 and 22 degrees Celsius. Hoary bats probably mate in the fall, with delayed implantation leading to birth in May through July. They usually emerge late in the evening to forage, typically from just over one hour after sunset to after midnight. This species reportedly has a strong preference for moths, but is also known to eat beetles, flies, grasshoppers, termites, dragonflies, and wasps (WBWG 2017). The Project Area contains trees with cavities of sufficient size to potentially provide roosting structure for this species, especially in areas of more dense canopy cover. In addition, Santa Rosa Creek provides an adequate water source for hoary bat. Therefore, this species has a moderate potential to occur within the Project 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 2017). The Project Area contains trees with cavities of sufficient size to potentially provide roosting structure for this species, especially in areas of more dense canopy cover. In addition, Santa Rosa Creek provides an adequate water source for pallid bat. Therefore, this species has a moderate potential to occur within the Project Area.

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 Project Area provides trees of suitable size for nesting as well as nearby

foraging habitat. However, no raptor nests were observed on the July 7 site visit. This species has a moderate potential to occur within the Project Area.

Vaux's swift (*Chaetura vauxi*), CDFW Species of Special Concern. Moderate Potential. The Vaux's swift is a summer resident in California, breeding on the coast from central California northward and in the Cascades and Sierra Nevada. Nesting occurs in large, accessible, chimney-like tree cavities that allow birds to fly within the cavity directly to secluded nest sites. Such cavities usually occur in conifers, especially old-growth redwoods (Shuford and Gardali 2008). Chimneys and similar manmade substrates are also used for nesting. This species is highly aerial and forages widely for insects in areas of open airspace. During migration, nocturnal roosting occurs communally and favored sites may host thousands of individuals. The Project Area is adjacent to creek habitat typically used by this species. The Project Area contains trees with cavities of sufficient size to support nesting by this species and there are documented occurrences of this species nearby, including nesting (eBird 2017, Madrone Audubon Society 1995). This species has a moderate potential to occur within the Project Area.

Yellow warbler (*Setophaga petechia*), CDFW Species of Special Concern, USFWS Bird of Conservation Concern. Moderate Potential. The yellow warbler is a neotropical migrant bird that is widespread in North America, but has declined throughout much of its California breeding range. The Brewster's (*brewsteri*) subspecies is a summer resident and represents the vast majority of yellow warblers that breed in California. West of the Central Valley, typical yellow warbler breeding habitat consists of dense riparian vegetation along watercourses, including wet meadows, with willow growth especially being favored (Shuford and Gardali 2008). Insects comprise the majority of the diet. The Project Area contains a small amount of riparian willow habitat that may provide nesting habitat for this species. This species has been documented nearby and nesting within the vicinity of the Project Area (eBird 2017, Madrone Audubon Society 1995). Therefore this species has a moderate potential to occur within the Project Area.

Yellow-breasted chat (*Icteria virens*), CDFW Species of Special Concern. The yellow-breasted chat is a generally uncommon summer resident that occurs throughout California. It is an aberrantly large member of the wood-warbler family (*Parulidae*). Breeding habitat consists of early successional-type riparian habitats where a dense understory of thickets and tangles forms below an open canopy. Plant species typically used for nesting include blackberry, wild grape, and willows (Shuford and Gardali 2008). Though males often sing from exposed perches in trees, this species is generally secretive and difficult to observe. The Project Area contains trees with blackberry habitat below that is sufficient for this species' nesting habitat requirements. This species has been documented nearby and nesting within the vicinity of the Project Area (eBird 2017, Madrone Audubon Society 1995). Therefore yellow-breasted chat has a moderate potential to occur within the Project Area.

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. 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. Suitable oak trees and riparian habitat for nesting and foraging are present within the Project Area. However, few records exist for this species in the vicinity of the Project Area (eBird 2017, Madrone Audubon Society 1995). Therefore, this species has a moderate potential to occur within the Project Area.

Western pond turtle (*Actinemys marmorata*), CDFW Species of Special Concern. Moderate Potential. The western pond turtle is the only native freshwater turtle in California. This turtle is uncommon to common in suitable aquatic habitat throughout California, west of the Sierra-Cascade crest and Transverse Ranges. Western pond turtles inhabit perennial aquatic habitats, such as lakes, ponds, rivers, streams, and canals that provide submerged cover and suitable basking structures, such as rocks and logs (Zeiner et. al. 1990). Western pond turtles prefer to nest on unshaded upland slopes close to their aquatic habitat, and hatchlings require shallow water with relatively dense emergent and submergent vegetation for foraging for aquatic invertebrates (Thomson et al. 2016). Though primarily aquatic, western pond turtle may disperse through the Project via the adjacent Santa Rosa Creek. Therefore, this species has a moderate potential to occur within the Project Area.

Species with High Potential to Occur in the Project Area

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. Trees present within the Project Area provide potential nesting habitat and flowering species within the Project Area provide foraging habitat for Allen's hummingbird. This species has also been documented and observed nesting near the Project Area in the past (CDFW 2017, Madrone Audubon Society 1995). Therefore, this species has a high potential to occur within the Project Area.

5.0 POTENTIAL IMPACTS, AVOIDANCE, AND MINIMIZATION MEASURES

One sensitive biological community, red willow riparian thicket, was identified within the Project Area. No special-status plant species and one special-status wildlife species, Nuttall's woodpecker, were observed within Project Area during the site visits. One special-status plant species, and 11 special-status wildlife species have a moderate or high potential to occur. The following sections present recommendations for future studies and/or measures to avoid or reduce impacts to these species and sensitive habitats, if present. Potential impacts to sensitive biological communities and special-status species within the Project Area were evaluated based on the project description and site plans (Brelje & Race 2017). Potential impacts were analyzed using the framework provided in Appendix G of the CEQA Guidelines. Based on this framework, the Project is determined to have a potentially significant impact to biological resources if it may:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS;

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or,

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The following sections provide an analysis of potential impacts using the framework outlined above, as well as recommended avoidance and minimization measures to reduce potential impacts and mitigation measures for unavoidable impacts. With the implementation of the recommended avoidance and minimization measures outlined below, all potential impacts are considered less-than-significant.

5.1 General Mitigation Measures

To reduce the potential for impacts to sensitive communities and special-status species, the following general best management practices (BMPs) are recommended for implementation. Implementation of these general BMPs, in combination with the species- and habitat-specific measures provided in the subsequent sections, will minimize adverse impacts:

- Appropriate perimeter erosion and sediment control measures (i.e. silt fencing, straw waddles) shall be installed around any stockpiles of soil or other materials which could be transported by rainfall or other flows in order to reduce the possibility of soil erosion and sediments flowing into natural habitats.

- All access, staging, and work areas shall be the minimum size necessary to conduct the work, and shall be sited in previously developed areas to the maximum extent feasible.

- All staging, maintenance, and storage of construction equipment shall be performed in a manner to preclude any direct or indirect discharge of fuel, oil, or other petroleum products into the Project Area. No other debris, rubbish, soil, silt, sand, or other construction-related materials or wastes shall be allowed to enter into or be placed where they may be washed by rainfall or runoff into wetland areas. All such debris and waste shall be picked-up daily and shall be properly disposed of at an appropriate facility. If a spill of fluid materials occurs, the area shall be cleaned and contaminated materials disposed of properly. The affected spill area shall be restored to its natural condition.

- Disturbance or removal of vegetation shall not exceed the minimum necessary to conduct the work.

5.2 Sensitive Biological Communities

The Project Area contains 0.07 acre of riparian red willow thicket which is potentially subject to CDFW jurisdiction under Section 1602 of the CFGC. Within the Project Area, this community is relatively disturbed, and appears to be routinely trimmed back, and mowed to maintain clearance from the existing concrete path. The proposed Project will potentially require additional trimming of riparian vegetation to facilitate access. The trunks of riparian trees, including red willow and boxelder are located below the top-of-bank, outside of the Project Area. Therefore riparian tree removal is not anticipated, and disturbance would likely be limited to trimming lateral branches. Routine trimming of riparian trees will be a temporary and self-mitigating impact, as trimmed willow branches will be allowed to regrow and will naturally re-vegetate the impacted area. Therefore, no CDFW permit or mitigation would be required for trimming riparian vegetation.

Impact BIO-1: Removal of Protected Trees

A comprehensive tree survey was conducted by an ISA-Certified Arborist for the Project (WRA 2017). The Project would result in the removal of approximately eight heritage trees, 17 street trees, 25 non-heritage trees, and 15 exempt trees. Heritage trees which will potentially be removed include six coast live oaks, one black oak (*Quercus kelloggii*), and one California buckeye (*Aesculus californica*), ranging in size from a single-trunk, 6.5 inch to 37.1-inch DBH. Street trees which will potentially be removed include ten red maples, 6 Chinese pistache trees, and one Crape myrtle. In addition, a total of 17 heritage trees, and 16 street trees may require pruning as they are located outside of the limit of grade of the Project Area, but have overhanging canopies and/or root zones.

The Project will obtain a tree removal permit from the City prior to the removal of any protected or heritage trees. As such, this impact would not conflict with local policies or ordinances (CEQA significance criterion E). Mitigation measures associated with the Ordinance are summarized below in Section 5.4 (see MM BIO-1). With implementation of MM BIO-1 this impact would be less than significant.

MM BIO-1: Compensatory Mitigation for Tree Removal

A tree removal permit shall be obtained from the City of Santa Rosa for any alteration, removal or relocation of any tree including heritage, protected or street tree (exempt trees notwithstanding). The City of Santa Rosa may require replacement plantings 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. Replacement trees shall be planted in accordance with the following criteria stated in the Ordinance:

- 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.

As described above, the Project will potentially remove eight heritage trees, 17 street trees, 25 non-heritage trees, and 21 exempt tree. Under the Tree Ordinance, trees, other than heritage trees, situated within City owned parks and other City-owned or controlled places do not require a tree removal permit when altered, removed, or relocated by City employees or by contractors retained by the City. Since the Project proponent is the City of Santa Rosa, and the Project is located either on City-owned property, or areas where the City will obtain an easement, it is assumed that only the eight heritage trees would require a tree removal permit.

Assuming only heritage trees will require a permit, the eight heritage trees within the Project Area limit of grade have a combined DBH of 188.7 inches. Assuming all eight heritage trees require removal, and typical mitigation ratios would apply, that would require 63 15-gallon replacement trees, or the payment of $6,300 of in-lieu fees. However, actual permit and mitigation requirements will be determined by the City.

Additional tree protection measures may be required as a condition of approval, as excerpted from Section 17-24.050 of the Tree Ordinance:

(1) Before the start of any clearing, excavation, construction or other work on the site, every protected tree shall be securely fenced off at the “protected perimeter,” which shall be either the root zone or other limit as may be established by the City. Such fences shall remain continuously in place for the duration of all work undertaken in connection with the development. The area so fenced off shall not be used as a storage area or altered or disturbed except as may be permitted under this subsection.

(2) If the proposed development, including any site work for the development, will encroach upon the protected perimeter of a protected tree, special measures shall be utilized, as approved by the Director or the Planning Commission, to allow the roots to obtain oxygen, water, and nutrients as needed. Any excavation, cutting, filling, or compaction of the existing ground surface within the protected perimeter, if authorized at all by the Director, shall be minimized and subject to such conditions as may be imposed by the Director. No significant change in existing ground level shall be made within the drip line of a protected tree. No burning or use of equipment with an open flame shall occur near or within the protected perimeter. All brush, earth and other debris shall be removed in a manner which prevents injury to the protected tree.

(3) No oil, gas, chemicals or other substances that may be harmful to trees shall be stored or dumped within the protected perimeter of any protected tree, or at any other location on the site from which such substances might enter the perimeter of a protected tree. No construction materials shall be stored within the protected perimeter of a protected tree.

(4) Underground trenching for utilities shall avoid major support and absorbing tree roots of protected trees. If avoidance is impractical, tunnels shall be made below the roots. Trenches shall be consolidated to service as many units as possible. Trenching within the drip line of protected trees shall be avoided to the greatest extent possible and shall only be done under the on-site directions of a Certified Arborist.

(5) No concrete or asphalt paving shall be placed over the root zones of protected trees. No artificial irrigation shall occur within the root zone of oaks.

(6) No compaction of the soil within the root zone of protected trees shall occur.

(7) If the trees proposed to be removed can be economically relocated, the developer shall move the trees to a suitable location on the site shown on the approved plans.

Implementation of these compensatory mitigation measures will reduce tree removal impacts to less-than-significant levels.

5.3 Special-status Plant Species

One special-status plant species, congested-headed hayfield tarplant, was determined to have a moderate potential to occur within the Project Area. Congested-headed tarplant is a CNPS Rank 1B species, meaning that it is considered rare, threatened or endangered in throughout their range in California, an must be considered under CEQA. Congested-headed tarplant was initially assessed as having a moderate potential to occur in the grassland areas of the Project Area due to the presence of associated species, suitable substrate, and multiple documented occurrences in relatively close proximity to the Project Area. However, this species was not observed in the Project Area during the site visits which were conducted during the documented bloom period of the species. No project related impacts to special-status plant species are anticipated. Consequently, no further actions are recommended for special-status plant species.

5.3 Special-Status Wildlife Species

Ten (10) special-status wildlife species were determined to have potential to occur within the Project Area and one special-status species was present on the July 7 site visit. The Project may also affect non-special-status native nesting birds which are protected by the MBTA and CFGC.

Potential Impact BIO-2: Special-Status and Nesting Bird Species

The Project may impact white-tailed kite, Vaux's swift, yellow warbler, yellow-breasted chat, oak titmouse, Allen's hummingbird, Nuttall's woodpecker, and non-special-status birds protected by MBTA and CFGC by modifying nesting habitats or by causing disturbance of a sufficient level to cause abandonment of an active nest. Impacts to these species and their habitats could occur during the removal of vegetation, trenching, or other ground-disturbing activities. These activities could result in the direct removal or destruction of active nests, as well as generate audible, vibratory and/or visual disturbances that result in nest abandonment.

The direct removal/destruction of active nests due to project activities or disturbance to breeding birds sufficient to result in the abandonment of active nests is a potentially significant impact under CEQA. A mitigation measure (MM BIO-2) for impacts to nesting birds is discussed below. With implementation of MM BIO-2 these impacts would be less than significant.

MM BIO-2: Special-Status and Non-Status Nesting Birds

WRA recommends the following measures be implemented to avoid impacts to white-tailed kite, Vaux's swift, yellow warbler, yellow-breasted chat, oak titmouse, Allen's hummingbird, Nuttall's woodpecker, and other 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 shall 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, temporary no-work buffers shall be placed around active nests to prevent adverse impacts to nesting birds. Appropriate buffer distance shall 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 shall continue in the buffer area and no adverse impact to birds will result.

The implementation of the above measures will reduce impacts to protected nesting bird species to less-than-significant levels.

Potential Impact BIO-3: Special-Status Bat Species

The Project Area contains trees with foliage and possible cavities that may provide roost habitat to special-status bat species documented in the vicinity and outlined in Appendix C: long-legged myotis, hoary bat, and pallid bat. Impacts to these species and their roost habitats could occur during the removal of trees within the Project Area. These activities could result in the direct removal or destruction of a roost and/or maternity roost. Project 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 is a potentially significant impact under CEQA. A mitigation measure (MM BIO-5) for impacts to roosting bats is discussed below. With implementation of MM BIO-5, impacts would be less than significant.

MM BIO-3: Special-Status Bat Species

WRA recommends the following measures be implemented to avoid impacts to special-status bat species:

- *Pre-construction roost assessment survey:* A qualified biologist shall conduct a roost assessment survey of trees located within the Project Area. The survey will assess use of the trees and cavities 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 shall be implemented:
    - *Work activities outside the maternity roosting season*: If evidence of bat roosting is discovered during the pre-construction roost assessment and tree removal is planned August 1 through February 28 (outside the bat maternity roosting season), a qualified biologist shall implement passive exclusion measures to prevent bats from re-entering the tree cavities. After sufficient time to allow bats to escape and

a follow-up survey to determine if bats have vacated the roost, tree removal 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 trees during the maternity roosting season (March 1 through July 31), and determines maternity roosting bats are present, removal of maternity roost trees shall be avoided during the maternity roosting season or until a qualified biologist determines the roost has been vacated.

The implementation of the above measures will reduce impacts to special-status bat species to less-than-significant levels.

Potential Impact BIO-4: Western Pond Turtle and Non-Special-Status Wildlife

The Project Area is adjacent to Santa Rosa Creek, where western pond turtle (*Actinemys marmorata*; WPT) has been documented to occur (CDFW 2017). WPT may disperse through the Project Area occasionally to search for suitable habitat, especially when conditions in Santa Rosa Creek are dry and turtles search for more suitable habitat. Project activities may impact WPT and other non-special-status wildlife via open trenches used for Project pipe placement and/or replacement.

Activities that result in injuring WPT through accidental dispersal into open trenches is a potentially significant impact under CEQA. A mitigation measure (MM BIO-4) for impacts to WPT and non-special-status wildlife is discussed below. With implementation of MM BIO-4, impacts to WPT and dispersing non-special-status wildlife would be less than significant.

MM BIO-4: Western Pond Turtle

WRA recommends the following to avoid impacts to WPT through accidental entrapment and/or injury to WPT:

- All open trenches created through Project Activities shall be covered during non-work hours.

The implementation of this measure will reduce impacts to WPT to less-than-significant levels.

6.0 REFERENCES

Baldwin, BG, DH Goldman, DJ Keil, R Patterson, TJ Rosatti, and DH Wilken (eds.). 2012. The Jepson Manual: Vascular Plants of California, second edition. University of California Press, Berkeley, CA.

Best, C, JT Howell, W Knight, I Knight, and M Wells. 1996. A Flora of Sonoma County: Manual of the Flowering Plants and Ferns of Sonoma County, California. CNPS.

[Brelje & Race] Brelje & Race Consulting Engineers. 2017. City of Santa Rosa Improvement Plans for Los Alamos Trunk Sewer Replacement Phase 1 (Streamside Drive to Elaine Drive). Preliminary, 75 percent plans. May.

City of Santa Rosa. 2016. Chapter 17-24, Trees (Tree Ordinance, Ord. 2858 § 1, 1990). Online at: http://ci.santa-rosa.ca.us/departments/cityadmin/cityclerk/Pages/CityCode.aspx

[CalHerp] California Herps. A Guide to the Amphibians and Reptiles of California. 2017. Online at: http://www.californiaherps.com. Accessed: July 2017.

[CDFW] California Department of Fish and Wildlife. 2017. California Natural Diversity Database. Wildlife and Habitat Data Analysis Branch, Sacramento, CA. Accessed: July 2017.

[CNPS] California Native Plant Society. 2017a. A Manual of California Vegetation, Online Edition. Sacramento, California. Online at: http://vegetation.cnps.org/; most recently accessed: July 2017.

[CNPS] California Native Plant Society. 2017b. Inventory of Rare and Endangered Plants (online edition, v8-02). Sacramento, California. Online at: http://rareplants.cnps.org/; most recently accessed: July 2017.

[CSRL] California Soil Resources Lab. 2017. Online Soil Survey. Available at: http://casoilresource.lawr.ucdavis.edu/drupal/ Most recently accessed: July 2017.

[CCH] Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Available at: http://ucjeps.berkeley.edu/consortium. Most recently accessed: July 2017.

[Corps] U.S. Army Corps of Engineers (Corps). 2008a. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. May 2008.

[Corps] U.S. Army Corps of Engineers (Corps). 2008b. A Field Guide to the Identification of the Ordinary High Water Mark (OWHM) in the Arid West Region of the Western United States. August 2008.

Dunk, JR. 1995. White-tailed Kite (*Elanus leucurus*), The Birds of North America Online (A Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/178.

eBird. 2017. Explore Data, eBird Records. Online at: https://ebird.org/ebird/explore. Accessed July 2017.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Department of the Army, Waterways Experiment Station, Vicksburg, Mississippi 39180-0631.

Google Earth. 2017. Aerial Imagery 1993-2016. Most recently accessed: July 2017.

Holland, RF. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Prepared for the California Department of Fish and Game, Sacramento, CA.

Howell, JT, F Almeda, W Follette, and C Best. 2007. Marin Flora: An Illustrated Manual of the Flowering Plants, Ferns, and Conifers of Marin County, California. California Academy of Sciences (CAS), and CNPS Marin Chapter.

Jepson Flora Project (eds.). 2017. Jepson eFlora. Online at: http://ucjeps.berkeley.edu/IJM.html; most recently accessed July 2017.

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X

Lowther, Peter E. 2000. Nuttall's Woodpecker (*Picoides nuttallii*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online:http://bna.birds.cornell.edu/bna/species/555. Accessed: January 2017.

Madrone Audubon Society. 1995. Sonoma County Breeding Bird Atlas. Madrone Audubon Society. Sonoma County, CA.

Mitchell, D.E. 2000. Allen's Hummingbird (*Selasphorus sasin*), The Birds of North America Online (A Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online:http://bna.birds.cornell.edu/bna/species/501. Accessed January 2017.

NatureServe. 2017. NatureServe Conservation Status. Available online at: http://explorer.natureserve.org/ranking.htm; most recently accessed July 2017.

Sawyer, JO, T Keeler-Wolf, and JM Evens. 2009. A Manual of California Vegetation, 2nd Edition. California Native Plant Society in collaboration with California Department of Fish and Game. Sacramento, CA.

Shuford, WD, and T Gardali (eds). 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, CA and CDFG, Sacramento, CA.

Thomson, R.C., Wright, A.N., Shaffer, H.B. 2016. California Amphibian and Reptile Species of Special Concern. University of California Press and California Department of Fish and Wildlife. California.

[USDA] U.S. Department of Agriculture, Soil Conservation Service. 1972. Soil Survey of Sonoma County, California. In cooperation with the University of California Agricultural Experiment Station.

[USDA] U.S. Department of Agriculture, Natural Resources Conservation Service. 2017. State Soil Data Access, Hydric Soils List. Available online at: https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1316619.html. Most recently accessed: July 2017.

[USFWS] U. S. Fish and Wildlife Service. 2017a. Information for Planning and Conservation Report (iPAC), Sacramento Fish and Wildlife Office. Online at: http://www.fws.gov/sacramento. Accessed: July 2017.

[USFWS] U. S. Fish and Wildlife Service. 2017b. National Wetlands Inventory. Available at: http://www.fws.gov/wetlands/index.html. Accessed: July 2017.

[USFWS] U. S. Fish and Wildlife Service. 2007. Programmatic Biological Opinion for U.S. Army Corps of Engineers Permitted Projects that May Affect California Tiger Salamander and Three Endangered Plant Species on the Santa Rosa Plain, California (Corps File No. 223420N).

[WBWG] Western Bat Working Group. 2017. Species Accounts. Available online at: http://wbwg.org/western-bat-species/; Accessed July 2017.

[WRA] WRA, Inc. 2017. Tree Survey Report, Los Alamos Trunk Sewer Replacement Phase 1. Prepared for Brelje & Race Consulting Engineers 475 Aviation Blvd, Suite 120 Santa Rosa, CA 95403.

[WRCC] Western Regional Climate Center. Online Climatic Data. Available online at: www.wrcc.dri.edu; most recently accessed: July 2017.

Zeiner, DC, WF Laudenslayer, Jr., KE Mayer, and M White. 1990. California's Wildlife, Volume I-III: Amphibians and Reptiles, Birds, Mammals. California Statewide Wildlife Habitat Relationships System, California Department of Fish and Game, Sacramento, CA.

APPENDIX A

PROJECT FIGURES

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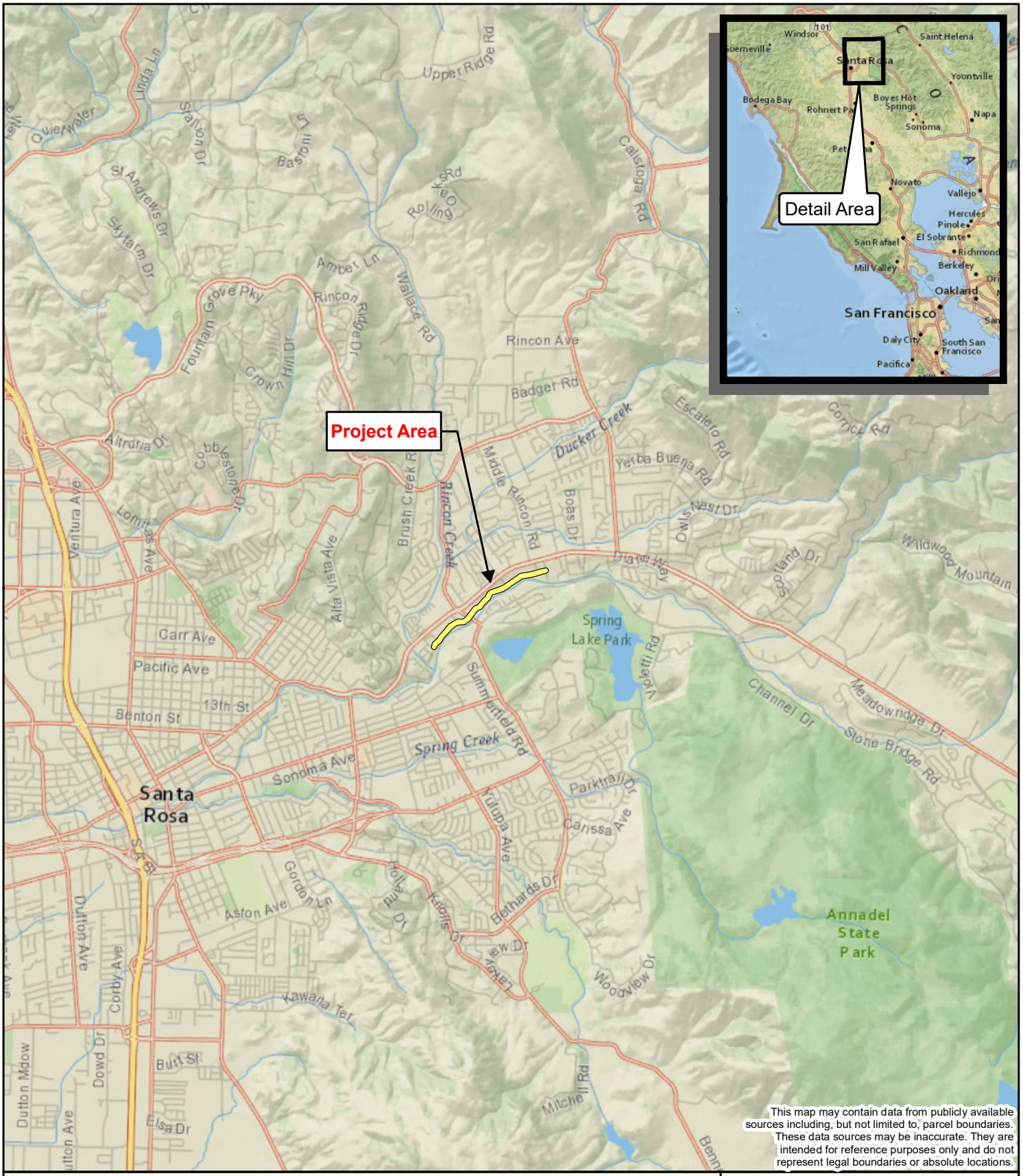

This map may contain data from publicly available sources including, but not limited to, parcel boundaries. These data sources may be inaccurate. They are intended for reference purposes only and do not represent legal boundaries or absolute locations.

Figure 1. Phase I Project Area Location Map

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Los Alamos Trunk Sewer Line Replacement
Santa Rosa, California

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ENVIRONMENTAL CONSULTANTS

Map Prepared Date: 7/14/2017
Map Prepared By: smortensen
Base Source: Esri Streaming - National Geographic
Data Source(s): WRA

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ENVIRONMENTAL CONSULTANTS

Los Alamos
Sewer Trunk Line
Replacement Project
Santa Rosa, California

Biological Communities
within the Project Area
Phase I

Biological Communities

Non-sensitive Communities

- Coast Live Oak Woodland (0.20 ac.)
- Developed/Landscaped (2.90 ac,)
- Ruderal Herbaceous Grassland (0.56 ac.)

Sensitive Community

- Riparian Red Willow Thicket (0.07 ac.)
- Top of Bank
- Santa Rosa Creek

Sewer Line

- Phase I
- Phase II, III, IV
- Project Area
- CONTOURS

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Map Prepared Date: 7/25/2017
Map Prepared By: smortensen
Base Source: Esri Streaming - NAIP 2014
Data Source(s): WRA

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ENVIRONMENTAL CONSULTANTS

Los Alamos
Sewer Trunk Line
Replacement Project
Santa Rosa, California

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ENVIRONMENTAL CONSULTANTS

Los Alamos Sewer Trunk Line Replacement Project Santa Rosa, California

Biological Communities within the Project Area Phase I

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ENVIRONMENTAL CONSULTANTS

Los Alamos Sewer Trunk Line Replacement Project Santa Rosa, California

Biological Communities within the Project Area Phase I

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- Project Area
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ENVIRONMENTAL CONSULTANTS

Los Alamos Sewer Trunk Line Replacement Project Santa Rosa, California

Biological Communities within the Project Area Phase I

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- Project Area
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ENVIRONMENTAL CONSULTANTS

Los Alamos
Sewer Trunk Line
Replacement Project
Santa Rosa, California

Biological Communities
within the Project Area
Phase I

Biological Communities

Non-sensitive Communities

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- Phase II, III, IV
- Project Area
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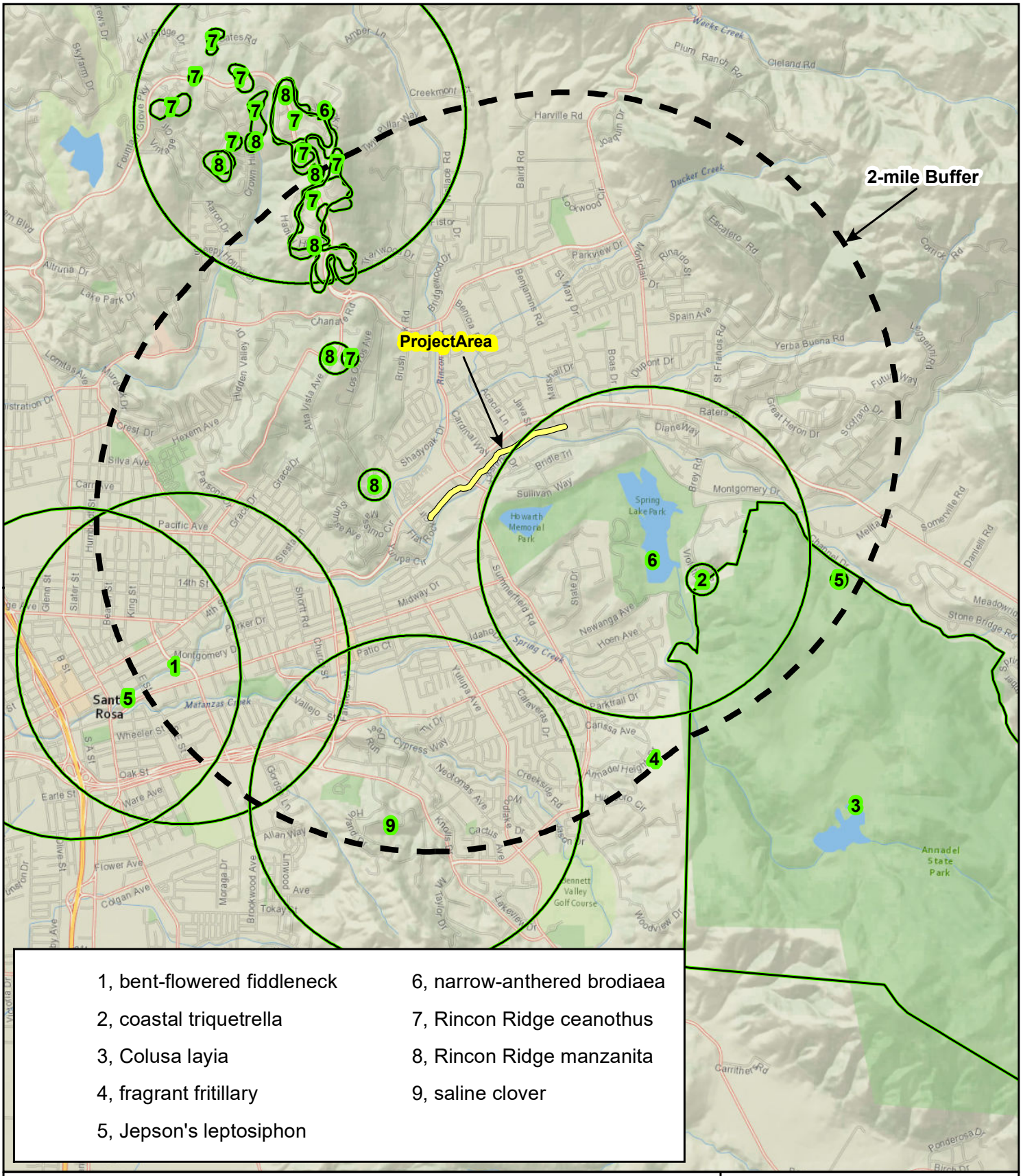

Figure 3. Phase I Special-status Plant Species Documented within 2 Miles of the Project Area

Los Alamos Trunk Sewer Line Replacement
Santa Rosa, California

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ENVIRONMENTAL CONSULTANTS

Map Prepared Date: 7/14/2017
Map Prepared By: smortensen
Base Source: Esri Streaming - National Geographic
Data Source(s): WRA

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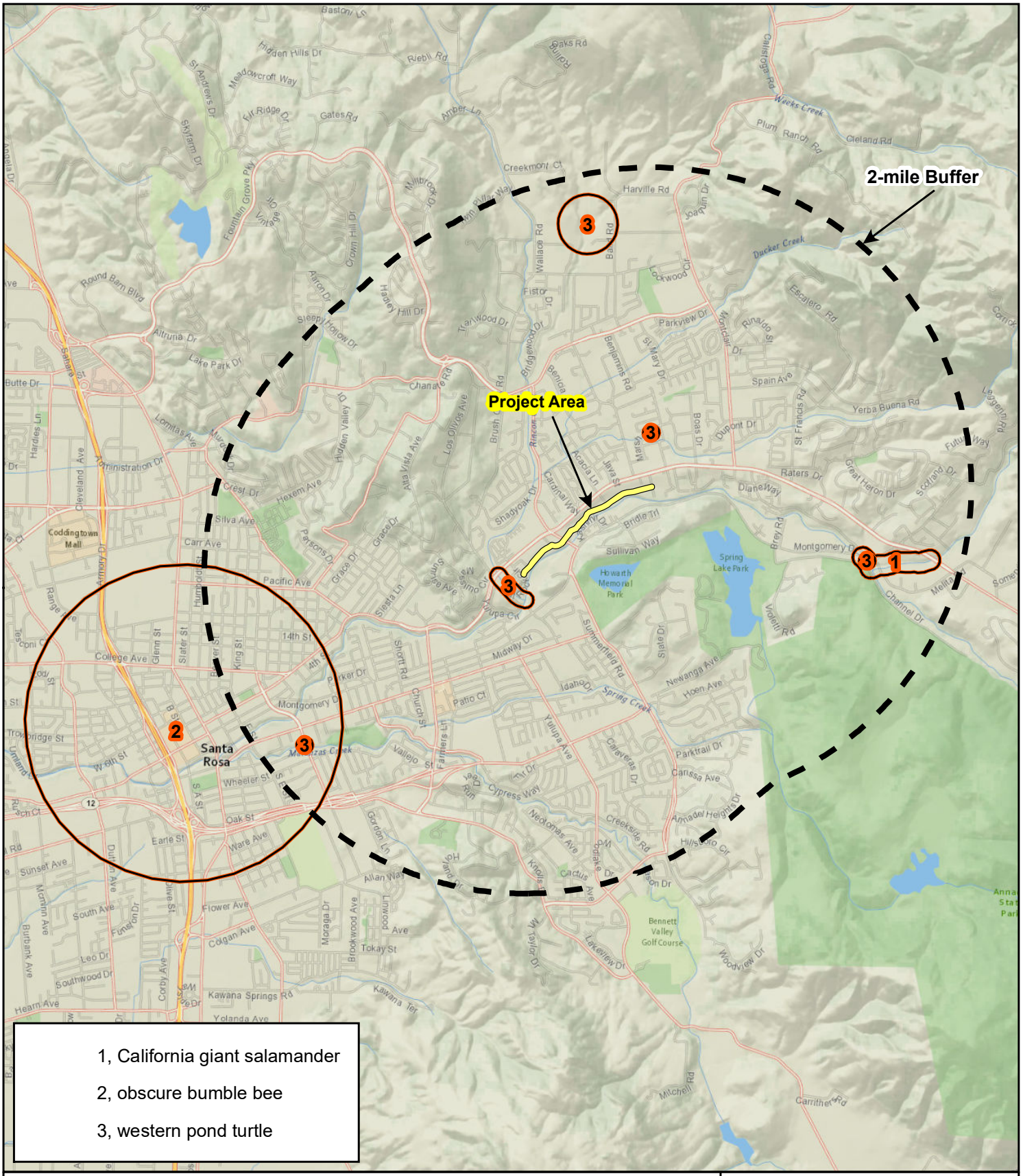

Figure 1. Phase I Special-status Wildlife Species Documented within 2 Miles of the Project Area

Los Alamos Trunk Sewer Line Replacement
Santa Rosa, California

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Miles

ENVIRONMENTAL CONSULTANTS

Map Prepared Date: 7/14/2017
Map Prepared By: smortensen
Base Source: Esri Streaming - National Geographic
Data Source(s): WRA

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APPENDIX B

LIST OF OBSERVED PLANT AND WILDLIFE SPECIES

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Appendix B-1. Plant Species Observed in the Study Area on May 9, July 7, July 10, and July 19, 2017.

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]
Aceraceae	*Acer rubrum*	Red maple	non-native	tree	-	-
Aceraceae	*Acer negundo*	Boxelder	native	tree	-	-
Araceae	*Arum italicum*	Italian lords and ladies	non-native	perennial herb	-	-
Adoxaceae	*Sambucus nigra* ssp. *caerulea*	Blue elderberry	native	shrub	-	-
Anacardiaceae	*Pistacia chinensis*	Chinese pistache	non-native	tree	-	-
Anacardiaceae	*Toxicodendron diversilobum*	Poison oak	native	vine, shrub	-	-
Apiaceae	*Foeniculum vulgare*	Fennel	non-native (invasive)	perennial herb	-	High
Apiaceae	*Torilis arvensis*	Field hedge parsley	non-native (invasive)	annual herb	-	Moderate
Apocynaceae	*Nerium oleander*	Oleander	non-native (invasive)	tree	-	-
Apocynaceae	*Vinca major*	Vinca	non-native (invasive)	perennial herb	-	Moderate
Araliaceae	*Hedera helix*	English ivy	non-native (invasive)	vine, shrub	-	-
Asteraceae	*Artemisia douglasiana*	California mugwort	native	perennial herb	-	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]
Asteraceae	*Baccharis pilularis* ssp. *consanguinea*	Coyote brush	native	shrub	-	-
Asteraceae	*Centaurea solstitialis*	Yellow starthistle	non-native (invasive)	annual herb	-	High
Asteraceae	*Cichorium intybus*	Chicory	non-native	perennial herb	-	-
Asteraceae	*Cirsium vulgare*	Bullthistle	non-native (invasive)	perennial herb	-	Moderate
Asteraceae	*Dittrichia graveolens*	Stinkwort	non-native (invasive)	annual herb	-	Moderate
Asteraceae	*Helminthotheca echioides*	Bristly ox-tongue	non-native (invasive)	annual, perennial herb	-	Limited
Asteraceae	*Hypochaeris radicata*	Hairy cats ear	non-native (invasive)	perennial herb	-	Moderate
Asteraceae	*Lactuca saligna*	Willow lettuce	non-native	annual herb	-	-
Asteraceae	*Lactuca serriola*	Prickly lettuce	non-native (invasive)	annual herb	-	-
Asteraceae	*Silybum marianum*	Milk thistle	non-native (invasive)	annual, perennial herb	-	Limited
Asteraceae	*Tragopogon porrifolius*	Salsify	non-native	perennial herb	-	-
Brassicaceae	*Hirschfeldia incana*	Mustard	non-native (invasive)	perennial herb	-	Moderate

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]
Brassicaceae	*Raphanus sativus*	Wild radish	non-native (invasive)	annual, biennial herb	-	Limited
Convolvulaceae	*Convolvulus arvensis*	Field bindweed	non-native (invasive)	perennial herb, vine	-	-
Ebenaceae	*Diospyros kaki*	Japanese persimmon	non-native	tree	-	-
Fabaceae	*Acmispon americanus* var. *americanus*	Spanish lotus	native	annual herb	-	-
Fabaceae	*Genista monspessulana*	French broom	non-native (invasive)	shrub	-	High
Fabaceae	*Trifolium hirtum*	Rose clover	non-native (invasive)	annual herb	-	Limited
Fabaceae	*Vicia sativa* ssp. *nigra*	Smaller common vetch	non-native	annual herb, vine	-	-
Fagaceae	*Quercus agrifolia*	Coast live oak	native	tree	-	-
Fagaceae	*Quercus kelloggii*	California black oak	native	tree	-	-
Fagaceae	*Quercus lobata*	Valley oak	native	tree	-	
Juglandaceae	*Juglans hindsii*	Northern California black walnut	native	tree	Rank 1B.1*	-
Lamiaceae	*Rosmarinus officinalis*	Rosemary	non-native	shrub	-	-
Lauraceae	*Umbellularia californica*	California bay	native	tree	-	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]
Laxmanniaceae	*Cordyline australis*	Cabbage tree	non-native (invasive)	tree	-	Limited
Lythraceae	*Lagerstroemia indica*	Crape myrtle	non-native	tree	-	-
Oleaceae	*Ligustrum lucidum*	Glossy privet	non-native	tree	-	Limited
Papaveraceae	*Eschscholzia californica*	California poppy	native	annual, perennial herb	-	-
Papaveraceae	*Romneya coulteri*	Coulter's matilija poppy	native	perennial herb (rhizomatous)	Rank 4.2*	-
Pinaceae	*Cedrus deodara*	Deodar cedar	non-native	tree	-	-
Pinaceae	*Picea breweriana*	Weeping spruce	native	tree	-	-
Pinaceae	*Pinus pinea*	Italian stone pine	non-native	tree	-	-
Plantaginaceae	*Kickxia elatine*	Sharp point fluellin	non-native	perennial herb	-	-
Plantaginaceae	*Plantago lanceolata*	English plantain	non-native (invasive)	perennial herb	-	Limited
Poaceae	*Arundo donax*	Giant reed	non-native (invasive)	perennial grass	-	High
Poaceae	*Avena barbata*	Slim oat	non-native (invasive)	annual, perennial grass	-	Moderate

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]
Poaceae	*Bromus catharticus*	Rescue grass	non-native	annual, perennial grass	-	-
Poaceae	*Bromus diandrus*	Ripgut brome	non-native (invasive)	annual grass	-	Moderate
Poaceae	*Bromus hordeaceus*	Soft chess	non-native (invasive)	annual grass	-	Limited
Poaceae	*Cynosurus echinatus*	Dogtail grass	non-native (invasive)	annual grass	-	Moderate
Poaceae	*Pennisetum* sp.	Fountain grass	non-native	perennial grass	-	-
Poaceae	*Phalaris aquatica*	Harding grass	non-native (invasive)	perennial grass	-	Moderate
Rosaceae	*Eriobotrya japonica*	Japanese loquat	non-native	tree	-	-
Rosaceae	*Prunus cerasifera*	Cherry plum	non-native (invasive)	tree	-	Limited
Rosaceae	*Malus* sp.	Apple	non-native	tree	-	-
Rosaceae	*Prunus persica*	Peach	non-native	tree	-	-
Rosaceae	*Pyrus communis*	Common pear	non-native	tree	-	-
Rosaceae	*Pyrus calleryana*	Callery pear	non-native	tree	-	-
Rosaceae	*Rosa* sp.	Rose (cultivar)	non-native	shrub	-	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]
Rubiaceae	*Galium aparine*	Cleavers	native	annual herb	-	-
Salicaceae	*Populus fremontii* ssp. *fremontii*	Fremont cottonwood	native	tree	-	-
Salicaceae	*Salix exigua*	Sandbar willow	native	tree, shrub	-	-
Salicaceae	*Salix laevigata*	Red willow	native	tree	-	-
Salicaceae	*Salix lasiolepis*	Arroyo willow	native	tree, shrub	-	-
Sapindaceae	*Acer negundo*	Boxelder	native	tree	-	-
Sapindaceae	*Aesculus californica*	California buckeye	native	tree	-	-
Scrophulariaceae	*Verbascum thapsus*	Woolly mullein	non-native (invasive)	perennial herb	-	Limited
Scrophulariaceae	*Verbascum virgatum*	Wand mullein	non-native	perennial herb	-	-
Ulmaceae	*Zelkova serrata*	Japanese zelkova	non-native	Tree	-	-
Vitaceae	*Vitis californica*	California wild grape	native	vine, shrub	-	-

* CNPS rarity status only applies to native occurrences which are not found in the Project Area (CNPS 2017b). Coulter's matilija poppy and Northern California black walnut have been widely planted throughout California.

All species identified using the *Jepson Manual II: Vascular Plants of California* (Baldwin et al. 2012) and *Jepson eFlora* (Jepson Flora Project [eds.] 2017); Nomenclature follows *Jepson eFlora*.

[1]Rare Status: The CNPS Inventory of Rare and Endangered Plants (CNPS 2017b)
FE: Federal Endangered

FT:	Federal Threatened
SE:	State Endangered
ST:	State Threatened
SR:	State Rare
Rank 1A:	Plants presumed extirpated in California and either rare or extinct elsewhere
Rank 1B:	Plants rare, threatened, or endangered in California and elsewhere
Rank 2A:	Plants presumed extirpated in California, but more common elsewhere
Rank 2B:	Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3:	Plants about which we need more information – a review list
Rank 4:	Plants of limited distribution – a watch list

[2]Invasive Status: California Invasive Plant Inventory (Cal-IPC 2017)

High:	Severe ecological impacts; high rates of dispersal and establishment; most are widely distributed ecologically.
Moderate:	Substantial and apparent ecological impacts; moderate-high rates of dispersal, establishment dependent on disturbance; limited-moderate distribution ecologically
Limited:	Minor or not well documented ecological impacts; low-moderate rate of invasiveness; limited distribution ecologically
Assessed:	Assessed by Cal-IPC and determined to not be an existing current threat

Table B-2. Wildlife Species Observed within and adjacent to the Project Area on July 7, 2017

Common Name (status if applicable)	**Species**
BIRDS	
American goldfinch	*Spinus tristis*
Anna's hummingbird	*Calypte anna*
bushtit	*Psaltriparus minimus*
California scrub-jay	*Aphelocoma californica*
chestnut-backed chickadee	*Poecile rufescens*
dark-eyed junco	*Junco hyemalis*
Nuttall's woodpecker *	*Picoides nuttallii*
Red-tailed hawk	*Buteo jamaicensis*

* USFWS Birds of conservation concern (special-status species)

APPENDIX C

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

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Appendix C. 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 Project 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), Information Planning and Conservation (IPaC) as well as U.S. Fish and Wildlife Service Threatened and Endangered Species Lists.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Franciscan onion *Allium peninsulare* var. *franciscanum*	Rank 1B.2	Cismontane woodland, valley and foothill grassland/clay, volcanic, often serpentine. Elevation ranges from 170 to 980 feet. Blooms (Apr), May-Jun.	**Unlikely.** Although The Project Area contains soils derived from volcanic parent material, the Project Area lacks rocky volcanic soils and serpentine substrates known to support this species.	No further recommendations for this species.
Sonoma alopecurus *Alopecurus aequalis* var. *sonomensis*	FE, Rank 1B.1	Marshes and swamps (freshwater), riparian scrub. Elevation ranges from 20 to 1200 feet. Blooms May-Jul.	**No Potential.** The Project Area lacks large, intact perennial marshes and swamps known to support this species.	No further recommendations for this species.
Napa false indigo *Amorpha californica* var. *napensis*	Rank 1B.2	Broadleafed upland forest (openings), chaparral, cismontane woodland. Elevation ranges from 390 to 6560 feet. Blooms Apr-Jul.	**Unlikely.** Despite potentially suitable woodland habitat, understories within the Project Area are highly disturbed and dominated by non-native invasive species, likely precluding this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
bent-flowered fiddleneck *Amsinckia lunaris*	Rank 1B.2	Coastal bluff scrub, cismontane woodland, valley and foothill grassland. Elevation ranges from 10 to 1640 feet. Blooms Mar-Jun.	**Unlikely.** Despite potentially suitable grassland habitat, previous and ongoing disturbance within the Project Area likely precludes this species. There is only one historic occurrence of this species within the Project Area vicinity from 1940 (CDFW 2017).	No further recommendations for this species.
slender silver moss *Anomobryum julaceum*	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 Project Area lacks suitable habitat for this species.	No further recommendations for this species.
Vine Hill manzanita *Arctostaphylos densiflora*	SE, Rank 1B.1	Chaparral (acid marine sand). Elevation ranges from 160 to 390 feet. Blooms Feb-Apr.	**No Potential.** The Project Area lacks chaparral and acidic marine sand substrate known to support this species.	No further recommendations for this species.
Rincon Ridge manzanita *Arctostaphylos stanfordiana* ssp. *decumbens*	Rank 1B.1	Chaparral (rhyolitic), cismontane woodland. Elevation ranges from 250 to 1210 feet. Blooms Feb-Apr (May).	**Unlikely.** The Project Area lacks chaparral and rhyolitic substrate known to support this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Brewer's milk-vetch *Astragalus breweri*	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 Project Area lacks open, gravelly substrates of serpentine or volcanic origin necessary to support this species.	No further recommendations for this species.
Clara Hunt's milk-vetch *Astragalus claranus*	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 vernally mesic, rocky serpentine or volcanic substrates known to support this species.	No further recommendations for this species.
big-scale balsamroot *Balsamorhiza macrolepis*	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland/sometimes serpentine. Elevation ranges from 300 to 5100 feet. Blooms Mar-Jun.	**No Potential.** The Project Area lacks chaparral, and serpentine substrates associated with this species. Woodland and grassland habitat in the Project Area are highly disturbed and dominated by non-native invasive species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Sonoma sunshine *Blennosperma bakeri*	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.	**No Potential.** The Project Area lacks vernal pools known to support this species.	No further recommendations for this species.
narrow-anthered brodiaea *Brodiaea leptandra*	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 Project Area lacks gravelly soils composed of volcanics.	No further recommendations for this species.
Bolander's reed grass *Calamagrostis bolanderi*	Rank 4.2	Bogs and fens, broadleafed 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.	**No Potential.** The Project Area lacks the biological communities associated with this species. This species is more closely associated with coastal environments (Jepson eFlora 2017).	No further recommendations for this species.
Thurber's reed grass *Calamagrostis crassiglumis*	Rank 2B.1	Coastal scrub (mesic), marshes and swamps (freshwater). Elevation ranges from 30 to 200 feet. Blooms May-Aug.	**No Potential.** The Project Area lacks coastal scrub and large intact marshes and swamps associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
serpentine reed grass *Calamagrostis ophiditis*	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 Project Area lacks serpentine substrate known to support this species.	No further recommendations for this species.
Brewer's calandrinia *Calandrinia breweri*	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 Project Area does not contain chaparral or coastal scrub habitat.	No further recommendations for this species.
pink star-tulip *Calochortus uniflorus*	Rank 4.2	Coastal prairie, coastal scrub, meadows and seeps, north coast coniferous forest. Elevation ranges from 30 to 3510 feet. Blooms Apr-Jun.	**No Potential.** The Project Area does not the biological communities associated with this species.	No further recommendations for this species.
Mt. Saint Helena morning-glory *Calystegia collina* ssp. *oxyphylla*	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 Project Area lacks serpentine substrates known to support this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
swamp harebell *Campanula californica*	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 Project Area lacks the biological communities associated with this species. This species is more closely associated with coastal environments (Jepson eFlora 2017).	No further recommendations for this species.
johnny-nip *Castilleja ambigua* ssp. *ambigua*	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.	**No Potential.** Grassy portions of the Project Area are highly disturbed by annual mowing and they are dominated by non-native annual grasses with dense thatch accumulation, likely outcompeting many annual native forbs such as this species.	No further recommendations for this species.
Pitkin Marsh paintbrush *Castilleja uliginosa*	SE, Rank 1A	Marshes and swamps (freshwater). Elevation ranges from 790 to 790 feet (240 to 240 meters). Blooms Jun-Jul.	**No Potential.** The Project 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 2017b).	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Rincon Ridge ceanothus *Ceanothus confusus*	Rank 1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland/volcanic or serpentine. Elevation ranges from 250 to 3490 feet. Blooms Feb-Jun.	**Unlikely.** Despite potentially suitable woodland habitat and volcanic-derived soils, the Project Area is highly disturbed and dominated by non-native invasive species, likely precluding this species.	No further recommendations for this species.
Calistoga ceanothus *Ceanothus divergens*	Rank 1B.2	Chaparral (serpentine or volcanic, rocky). Elevation ranges from 560 to 3120 feet. Blooms Feb-Apr.	**No Potential.** The Project Area lacks chaparral and substrates known to support this species.	No further recommendations for this species.
Vine Hill ceanothus *Ceanothus foliosus* var. *vineatus*	Rank 1B.1	Chaparral. Elevation ranges from 150 to 1000 feet. Blooms Mar-May.	**No Potential.** The project area lacks chaparral habitat.	No further recommendations for this species.
glory brush *Ceanothus gloriosus* var. *exaltatus*	Rank 4.3	Chaparral. Elevation ranges from 100 to 2000 feet. Blooms Mar-Jun (Aug).	**No Potential.** The Project Area lacks chaparral habitat.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
holly-leaved ceanothus *Ceanothus purpureus*	Rank 1B.2	Chaparral, cismontane woodland/volcanic, rocky. Elevation ranges from 390 to 2100 feet. Blooms Feb-Jun.	**No Potential.** The Project Area lacks chaparral and rocky volcanic substrates.	No further recommendations for this species.
Sonoma ceanothus *Ceanothus sonomensis*	Rank 1B.2	Chaparral (sandy, serpentine or volcanic). Elevation ranges from 710 to 2620 feet. Blooms Feb-Apr.	**No Potential.** The Project Area lacks chaparral and substrates known to support this species.	No further recommendations for this species.
pappose tarplant *Centromadia parryi* ssp. *parryi*	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.	**No Potential.** The Project Area lacks alkaline soils known to support this species.	No further recommendations for this species.
Sonoma spineflower *Chorizanthe valida*	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 Project Area lacks coastal prairie and sandy soils.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Brewer's clarkia *Clarkia breweri*	Rank 4.2	Chaparral, cismontane woodland, coastal scrub/often serpentine. Elevation ranges from 710 to 3660 feet. Blooms Apr-Jun.	**No Potential.** The Project Area lacks the vegetation communities and serpentine soils associated with this species.	No further recommendations for this species.
Vine Hill clarkia *Clarkia imbricata*	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 Project 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 2017b).	No further recommendations for this species.
serpentine bird's-beak *Cordylanthus tenuis* ssp. *brunneus*	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 Project Area lacks the associated vegetation communities and serpentine substrates.	No further recommendations for this species.
Pennell's bird's-beak *Cordylanthus tenuis* ssp. *capillaris*	FE, SR, Rank 1B.2	Closed-cone coniferous forest, chaparral/serpentine. Elevation ranges from 150 to 1000 feet. Blooms Jun-Sep.	**No Potential.** The Project Area lacks the associated vegetation communities and serpentine substrates.	No further recommendations for this species.
Peruvian dodder *Cuscuta obtusiflora* var. *glandulosa*	Rank 2B.2	Marshes and swamps (freshwater). Elevation ranges from 50 to 920 feet. Blooms Jul-Oct.	**No Potential.** The Project Area lacks marshes and swamps.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
mountain lady's-slipper *Cypripedium montanum*	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.** Potentially suitable woodland habitat within the Project Area is highly disturbed and dominated by non-native invasive species, likely precluding this species.	No further recommendations for this species.
golden larkspur *Delphinium luteum*	FE, SR, Rank 1B.1	Chaparral, coastal prairie, coastal scrub/rocky. Elevation ranges from 0 to 330 feet. Blooms Mar-May.	**No Potential.** The Project Area lacks the associated vegetation communities and rocky substrates.	No further recommendations for this species.
dwarf downingia *Downingia pusilla*	Rank 2B.2	Valley and foothill grassland (mesic), vernal pools. Elevation ranges from 0 to 1460 feet. Blooms Mar-May.	**No Potential.** The Project Area lacks vernal pools associated with this species.	No further recommendations for this species.
streamside daisy *Erigeron biolettii*	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 Project Area lacks rocky, mesic sites known to support this species.	No further recommendations for this species.
serpentine daisy *Erigeron serpentinus*	Rank 1B.3	Chaparral (serpentine, seeps). Elevation ranges from 200 to 2200 feet. Blooms May-Aug.	**No Potential.** The Project Area lacks serpentine seeps associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
slender cottongrass *Eriophorum gracile*	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 Project Area lacks acidic soils known to support this species, and is well below the documented elevation range.	No further recommendations for this species.
Loch Lomond button celery *Eryngium constancei*	FE, SE, Rank 1B.1	Vernal pools. Elevation ranges from 1380 to 2565 feet. Blooms April-June	**No Potential.** The Project Area lack vernal pools.	No further recommendations for this species.
fragrant fritillary *Fritillaria liliacea*	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.** Potentially suitable habitats within the Project Area are highly disturbed and dominated by non-native invasive species, likely precluding this species.	No further recommendations for this species.
woolly-headed gilia *Gilia capitata* ssp. *tomentosa*	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 Project Area lacks serpentine soils and rocky outcrops associated with this species.	No further recommendations for this species.
Boggs Lake hedge-hyssop *Gratiola heterosepala*	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 Project Area lacks marshes and swamps, or vernal pools associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
congested-headed hayfield tarplant *Hemizonia congesta* ssp. *congesta*	Rank 1B.2	Valley and foothill grassland/sometimes roadsides. Elevation ranges from 70 to 1840 feet. Blooms Apr-Nov.	**Moderate Potential.** This species is often seen in fallow or grazed fields within grasslands dominated by non-native species. The Project Area contains potentially suitable grassland habitat that may support this species. This species is relatively disturbance-tolerant and may not be precluded by previous and ongoing disturbance in the Project Area.	**Not Observed.** This species was not observed in the Project Area during the July site visits, conducted during the documented bloom period of the species. No further recommendations for this species.
hogwallow starfish *Hesperevax caulescens*	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 Project Area lacks vernal pools associated with this species.	No further recommendations for this species.
thin-lobed horkelia *Horkelia tenuiloba*	Rank 1B.2	Broadleafed upland forest, chaparral, valley and foothill grassland/mesic openings, sandy. Elevation ranges from 160 to 1640 feet. Blooms May-Jul (Aug).	**No Potential.** The Project Area lacks sandy soils associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
harlequin lotus *Hosackia gracilis*	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.	**No Potential.** The Project Area lacks wetland habitats necessary to support this species.	No further recommendations for this species.
coast iris *Iris longipetala*	Rank 4.2	Coastal prairie, lower montane coniferous forest, meadows and seeps/mesic. Elevation ranges from 0 to 1970 feet. Blooms Mar-May.	**No Potential.** The Project Area lacks the biological communities and hydrological conditions associated with this species.	No further recommendations for this species.
Burke's goldfields *Lasthenia burkei*	FE, SE, Rank 1B.1	Meadows and seeps (mesic), vernal pools. Elevation ranges from 50 to 1970 feet. Blooms Apr-Jun.	**No Potential.** The Project area lacks vernal pools associated with this species.	No further recommendations for this species.
Baker's goldfields *Lasthenia californica* ssp. *bakeri*	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 Project Area lacks the biological communities associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Contra Costa goldfields *Lasthenia conjugens*	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 Project Area lacks vernal pools and alkaline substrates associated with this species.	No further recommendations for this species.
Colusa layia *Layia septentrionalis*	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 Project Area lacks sandy serpentine soils associated with this species.	No further recommendations for this species.
legenere *Legenere limosa*	Rank 1B.1	Vernal pools. Elevation ranges from 0 to 2890 feet. Blooms Apr-Jun.	**No Potential.** The Project Area lacks vernal pools associated with this species.	No further recommendations for this species.
bristly leptosiphon *Leptosiphon acicularis*	Rank 4.2	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation ranges from 180 to 4920 feet. Blooms Apr-Jul.	**Unlikely.** The Project Area lacks shallow rocky soils and sparsely vegetated areas known to support this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Jepson's leptosiphon *Leptosiphon jepsonii*	Rank 1B.2	Chaparral, cismontane woodland/usually volcanic. Elevation ranges from 330 to 1640 feet. Blooms Mar-May.	**Unlikely.** Despite potentially suitable woodland habitat and volcanic-derived soils, the Project Area is highly disturbed and dominated by non-native, invasive species, likely precluding this species.	No further recommendations for this species.
woolly-headed Lessingia *Lessingia hololeuca*	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 Project Area lacks serpentine soils known to support this species.	No further recommendations for this species.
Pitkin Marsh lily *Lilium pardalinum* ssp. *pitkinense*	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 Project Area lacks marsh habitat and soils derived from uplifted marine sand necessary to support this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
redwood lily *Lilium rubescens*	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).	**Unlikely.** Despite potentially suitable woodland habitat, the Project Area is highly disturbed and dominated by non-native, invasive species, likely precluding this species.	No further recommendations for this species.
Sebastopol meadowfoam *Limnanthes vinculans*	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.	**No Potential.** The Project Area lacks vernal pools associated with this species. Seasonal wetlands within	No further recommendations for this species.
Napa Lomatium *Lomatium repostum*	Rank 4.3	Chaparral, cismontane woodland/serpentine. Elevation ranges from 300 to 2720 feet. Blooms Mar-Jun.	**No Potential.** The Project Area lacks serpentine substrate known to support this species.	No further recommendations for this species.
Cobb Mountain lupine *Lupinus sericatus*	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 Project Area lacks the associated vegetation communities and is well below the documented elevation range of the species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Mt. Diablo cottonweed *Micropus amphibolus*	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 Project Area lacks rocky substrates known to support this species.	No further recommendations for this species.
marsh microseris *Microseris paludosa*	Rank 1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. Elevation ranges from 20 to 1160 feet. Blooms Apr-Jun (Jul).	**Unlikely.** Despite potentially suitable woodland and grassland habitat, the Project Area is highly disturbed and dominated by non-native, invasive species, likely precluding this species.	No further recommendations for this species.
green monardella *Monardella viridis*	Rank 4.3	Broadleafed upland forest, chaparral, cismontane woodland. Elevation ranges from 330 to 3310 feet. Blooms Jun-Sep.	**Unlikely.** Despite potentially suitable woodland habitat, this species is closely associated with montane environments.	No further recommendations for this species.
cotula navarretia *Navarretia cotulifolia*	Rank 4.2	Chaparral, cismontane woodland, valley and foothill grassland/adobe. Elevation ranges from 10 to 6000 feet. Blooms May-Jun.	**No Potential.** Despite potentially suitable woodland and grassland habitat the Project Area lacks adobe clay soils. The Project Area is highly disturbed and dominated by non-native invasive species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Tehama navarretia *Navarretia heterandra*	Rank 4.3	Vernal pools, valley and foothill grasslands (mesic). Elevations range from 90 to 3030 feet. Blooms April-June	**No Potential.** The Project Area lacks vernal pools and wetland habitat known to support this species.	No further recommendations for this species.
Baker's navarretia *Navarretia leucocephala* ssp. *bakeri*	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 Project Area lacks vernal pools and alkaline soils associated with this species.	No further recommendations for this species.
many-flowered navarretia *Navarretia leucocephala* ssp. *plieantha*	FE, SE, Rank 1B.2	Vernal pools (volcanic ash flow). Elevation ranges from 100 to 3120 feet. Blooms May-Jun.	**No Potential.** The Project Area lacks vernal pools and volcanic ash flow substrates associated with this species.	No further recommendations for this species.
Sonoma beardtongue *Penstemon newberryi* var. *sonomensis*	Rank 1B.3	Chaparral (rocky). Elevation ranges from 2300 to 4490 feet. Blooms Apr-Aug.	**No Potential.** The Project Area lacks chaparral and is well below the documented elevation range of this species	No further recommendations for this species.
Gairdner's yampah *Perideridia gairdneri* ssp. *gairdneri*	Rank 4.2	Broadleafed upland forest, chaparral, coastal prairie, valley and foothill grassland, vernal pools/vernally mesic. Elevation ranges from 0 to 2000 feet. Blooms Jun-Oct.	**No Potential.** The Project Area lacks wetland habitat associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Calistoga popcornflower *Plagiobothrys strictus*	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 2016b)	No further recommendations for this species.
North Coast semaphore grass *Pleuropogon hooverianus*	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 Project Area lacks wetland habitat known to support this species.	No further recommendations for this species.
nodding semaphore grass *Pleuropogon refractus*	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 Project Area lacks wetland habitat known to support this species.	No further recommendations for this species.
Napa blue grass *Poa napensis*	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 areas.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Cunningham Marsh cinquefoil *Potentilla uliginosa*	Rank 1A	Marshes and swamps/freshwater, permanent oligotrophic wetlands. Elevation ranges from 100 to 130. Blooms May-Aug.	**No Potential.** The Project Area lacks permanent oligotrophic wetlands. This species is presumed extinct.	No further recommendations for this species.
California alkali grass *Puccinellia simplex*	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. Blooms Mar-May.	**No Potential.** The Project Area lacks alkaline substrates associated with this species.	No further recommendations for this species.
Lobb's aquatic buttercup *Ranunculus lobbii*	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.	**No Potential.** The Project 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 *Rhynchospora alba*	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 Project Area lacks bogs, marshes and swamps associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
California beaked-rush *Rhynchospora californica*	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 Project Area lacks bogs, marshes and swamps associated with this species.	No further recommendations for this species.
brownish beaked-rush *Rhynchospora capitellata*	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 Project Area lacks bogs, marshes and swamps associated with this species.	No further recommendations for this species.
round-headed beaked-rush *Rhynchospora globularis*	Rank 2B.1	Marshes and swamps (freshwater). Elevation ranges from 150 to 200 feet. Blooms Jul-Aug.	**No Potential.** The Project Area lacks bogs, marshes and swamps associated with this species.	No further recommendations for this species.
Napa checkerbloom *Sidalcea hickmanii* ssp. *napensis*	Rank 1B.1	Chaparral/rhyolitic. Elevation ranges from 1360 to 2000 feet. Blooms Apr-Jun.	**No Potential.** The Project area lacks chaparral and rhyolitic substrates known to support this species, and is well below the documented elevation range of this species.	No further recommendations for this species.
Kenwood Marsh checkerbloom *Sidalcea oregana* ssp. *valida*	FE, SE, Rank 1B.1	Marshes and swamps (freshwater). Elevation ranges from 380 to 490 feet. Blooms Jun-Sep.	**Unlikely.** The Project Area lacks marshes and swamps associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
long styled sand spurry *Spergularia macrotheca* var. *longistyla*	Rank 1B.2	Alkaline marshes, mud flats, meadows, hot springs. Elevation less than 660 feet. Blooms Feb-May.	**No Potential.** The Project Area lacks alkaline marshes, mud flats, and hot springs associated with this species	No further recommendations for this species.
two-fork clover *Trifolium amoenum*	FE, Rank 1B.1	Coastal bluff scrub, valley and foothill grassland (sometimes serpentine). Elevation ranges from 20 to 1360 feet. Blooms Apr-Jun.	**Unlikely.** Despite potentially suitable grassland habitat present within the Project Area, grasslands within the Project Area are highly disturbed and dominated by non-native invasive species, likely precluding this species.	No further recommendations for this species.
Santa Cruz clover *Trifolium buckwestiorum*	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 Project Area lacks gravelly substrates known to support this species.	No further recommendations for this species.
saline clover *Trifolium hydrophilum*	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 Project Area lacks alkaline marshes and swamps known to support this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
coastal triquetrella *Triquetrella californica*	Rank 1B.2	Coastal bluff scrub, coastal scrub/soil. Elevation ranges from 30 to 330 feet.	**No Potential.** The Project Area lacks coastal scrub habitats.	No further recommendations for this species.
oval-leaved viburnum *Viburnum ellipticum*	Rank 2B.3	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 600 to 4200 feet. Blooms May-June.	**No Potential.** The Project 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				
fringed myotis *Myotis thysanodes*	WBWG: High Priority	Associated with a wide variety of habitats including mixed coniferous-deciduous forest and redwood/ sequoia groves. Roosts in caves, mines, buildings, and crevices. Separate day and night roosts may be used.	**Unlikely.** The Project Area does not contain the caves, mines, buildings, or other likely roost sites. This species may occasionally forage within the Project Area.	No further recommendations for this species.
long-legged myotis *Myotis volans*	WBWG: High Priority	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 Project Area contains trees with cavities of sufficient size to potentially provide roosting structure for this species. In addition, Santa Rosa creek provides adequate water for this species.	See Section 5.4.3 for recommended measures.
hoary bat *Lasiurus cinereus*	WBWG: High Priority	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. Requires water.	**Moderate Potential.** The Project Area contains trees with cavities of sufficient size to potentially provide roosting structure for this species. In addition, Santa Rosa creek provides adequate water for this species.	See Section 5.4.3 for recommended measures.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
pallid bat *Antrozous pallidus*	SSC; WBWG: High Priority	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 Project Area contains trees with cavities of sufficient size to potentially provide roosting structure for this species. In addition, Santa Rosa creek provides adequate water for this species.	See Section 5.4.3 for recommended measures.
Townsend's big-eared bat *Corynorhinus townsendii*	SSC; WBWG: High Priority	Associated with a wide variety of habitats from deserts to mid-elevation mixed coniferous-deciduous forest. Females form maternity colonies in buildings, caves and mines and males roost singly or in small groups. Foraging occurs in open forest habitats where they glean moths from vegetation.	**Unlikely.** The Project Area does not contain the caves, mines, buildings, or other likely roost sites. This species may occasionally forage within the Project Area.	No further recommendations for this species.
western red bat *Lasiurus blossevillii*	SSC	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 Project Area may provide temporary roost habitat, but does not contain tree species and types to support maternity roosts.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Yuma myotis *Myotis yumanensis*	WBWG: Low-Medium Priority	Known for its ability to survive in urbanized environments. Also found in heavily forested settings. Day roosts in buildings, trees, mines, caves, bridges and rock crevices. Night roosts associated with man-made structures.	**Unlikely.** The Project Area does not contain the caves, mines, buildings, or other likely roost sites. This species may occasionally forage within the Project Area.	No further recommendations for this species.
American badger *Taxidea taxus*	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 Project Area is surrounded by commercial and residential development, and is not contiguous with typical open grassland inhabited by this species for dens and foraging. No potential burrows were observed and this species has no nearby occurrences documented (CDFW 2017).	No further recommendations for this species.
Birds				
ferruginous hawk *Buteo regalis*	BCC	Winter visitor to open habitats, including grasslands, sagebrush flats, scrub, and low foothills surrounding valleys. Preys on mammals. Does not breed in California.	**Unlikely.** The Project Area is outside of the breeding range of this species; however, this species may occasionally forage within the Project Area during the winter.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
golden eagle *Aquila chrysaetos*	CFP, BCC	Found in rolling foothills with open grasslands, scattered trees, and cliff-walled canyons.	**Unlikely.** This species may occasionally forage within the Project Area. Typical nesting trees and wide-open foraging grasslands are not present within the Project Area or vicinity.	No further recommendations for this species.
bald eagle *Haliaeetus leucocephalus*	FD, SE, CFP, BCC	Occurs year-round in California, but primarily a winter visitor. Nests in large trees in the vicinity of larger lakes, reservoirs and rivers. Wintering habitat somewhat more variable but usually features large concentrations of waterfowl or fish.	**Unlikely.** Trees within the Project do not have canopies or snags high enough for this species typical nesting habitat. Bald eagles may occasionally forage within the Project Area.	No further recommendations for this species.
white-tailed kite *Elanus leucurus*	CFP	Year-long resident of coastal and valley lowlands, including agricultural areas. Preys on small diurnal mammals and occasional birds, insects, reptiles, and amphibians.	**Moderate Potential.** The Project Area provides trees of suitable size for nesting as well as nearby foraging habitat. No raptor nests were observed on the July 7 site visit.	See Section 5.4.3 for recommended measures.
American peregrine falcon *Falco peregrinus anatum*	FD, SD, CFP, BCC	Winters throughout Central Valley. Requires protected cliffs and ledges for cover. Feeds on a variety of birds, and some mammals, insects, and fish.	**Unlikely.** This species may occasionally forage within the Project Area, however the Project Area lacks nesting habitat for this species. No cliff, ledge, or high-rise buildings are present.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FC, SE, BCC	Nests in riparian jungles of willow often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape. Species requires an average of 17 hectares per pair for foraging and nesting.	**Unlikely.** The Project Area does not contain contiguous habitat of sufficient size to support this species' nesting and foraging. Additionally, there are no documented occurrences within the vicinity of the Project Area (CDFW 2017).	No further recommendations for this species.
burrowing owl *Athene cunicularia*	SSC, BCC	Frequents open grasslands and shrublands with perches and burrows. Preys upon insects, small mammals, reptiles, birds, and carrion. Nests and roosts in old burrows of small mammals.	**Unlikely.** This species may occasionally forage in the Project Area, but the Project Area lacks small mammal burrows essential for nesting and common in foraging habitat. This species is extremely rare in Sonoma County (Madrone Audubon Society 1995).	No further recommendations for this species.
northern spotted owl *Strix occidentalis caurina*	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 Project Area does not contain old growth conifer forests or managed second growth forests of sufficient size that are required by this species for foraging and nesting.	No further recommendations for this species.
black swift *Cyseloides niger*	SSC, BCC	Nesting sites are associated with sheer cliffs and waterfalls, either near the coast or in the mountains. Does not winter in California.	**No Potential.** The Project Area and vicinity lack cliff or waterfall habitat that are required for this species' nesting.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Vaux's swift *Chaetura vauxi*	SSC	Forages high in the air over most terrain and habitats but prefers rivers/lakes. Requires large hollow trees for nesting.	**Moderate Potential.** The Project Area is adjacent to creek habitat typically used by this species. The Project Area only contains a few trees with cavities of sufficient size to support nesting by this species, however there are documented occurrences of this species nearby, including nesting (eBird 2017, Madrone Audubon Society 1995).	See Section 5.4.3 for recommended measures.
Allen's hummingbird *Selasphorus sasin*	BCC	Found in a wide variety of habitats that provide nectar-producing flowers. A common migrant and uncommon summer resident of California.	**High Potential**. The Project Area provides ample blooming blackberry and other species for this species' foraging. Trees within the Project Area also provide ample nesting habitat for this species. Additionally, nesting and other occurrences have previously been documented nearby (eBird 2017, Madrone Audubon Society 1995).	See Section 5.4.3 for recommended measures.
olive-sided flycatcher *Contopus cooperi*	SSC, BCC	Most often found in montane conifer forests where tall trees overlook canyons, meadows, lakes or other open terrain.	**Unlikely.** The Project Area does not contain sufficient forested or open lake/meadow habitat necessary for this species. This species prefers mountainous habitat not present within the Study Area.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
yellow warbler *Setophaga petechia*	SSC, BCC	Nests in riparian stands of willows, cottonwoods, aspens, sycamores, and alders. Also nests in montane shrubbery in open conifer forests.	**Moderate Potential.** The Project Area contains a small amount of riparian willow habitat that may provide nesting habitat for this species. This species has been documented nearby and nesting within the vicinity of the Project Area (eBird 2017, Madrone Audubon Society 1995).	See Section 5.4.3 for recommended measures.
yellow-breasted chat *Icteria virens*	SSC	Breeds in riparian thickets and woodlands, particularly those dominated by willows and cottonwoods.	**Moderate Potential.** The Project Area contains trees and other habitat sufficient for this species' nesting. This species has been documented nearby and nesting within the vicinity of the Project Area (eBird 2017, Madrone Audubon Society 1995).	See Section 5.4.3 for recommended measures.
grasshopper sparrow *Ammodramus savannarum*	SSC	Frequents dense tall, dry or well-drained grasslands, especially native grasslands with mixed grasses and forbs for foraging and nesting. Nests on ground at base of overhanging clumps of vegetation.	**Unlikely.** This species is not known to nest in the vicinity, and the Project Area does not provide well-drained grasslands typical of this species. This species is more common in the coastal hills and dry interior hills.	No further recommendations for this species.
oak titmouse *Baeolophus inornatus*	BCC	Occurs year-round in woodland and savannah habitats where oaks are present, as well as riparian areas. Nests in tree cavities.	**Moderate Potential.** Suitable oak trees and riparian habitat for nesting and foraging are present within the Project Area.	See Section 5.4.3 for recommended measures.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
tricolored blackbird *Agelaius tricolor*	SSC, BCC	Usually nests over or near freshwater in dense cattails, tules, or thickets of willow, blackberry, wild rose or other tall herbs.	**No Potential.** No suitable nesting habitat is present to support nesting by the species. There is no marsh habitat of sufficient size to support a colony for nesting or foraging within the Project Area.	No further recommendations for this species.
Lawrence's goldfinch *Carduelis lawrencei*	BCC	Inhabits oak woodlands, chaparral, pinyon-juniper associations, and weedy areas near water during the breeding season; highly erratic and localized in occurrence.	**Unlikely.** No suitable oak woodland is present to support nesting of the species within the Project Area. The species is also an extremely rare breeder in Sonoma County.	No further recommendations for this species.
bank swallow *Riparia riparia*	ST; SSC	Summer resident in riparian and other lowland habitats near rivers, lakes and the ocean in northern California. Nests colonially in excavated burrows on vertical cliffs and bank cuts (natural and manmade) with fine-textured soils. Historical nesting range in southern and central areas of California has been eliminated by habitat loss. Currently known to breed in Siskiyou, Shasta, and Lassen Cos., portions of the north coast, and along Sacramento River from Shasta Co. south to Yolo Co.	**No Potential.** The Project Area does not contain the riparian cliff habitat necessary for this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Nuttall's woodpecker *Picoides nuttalli*	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.	**Present.** This species was observed on the July 7 site visit.	See Section 5.4.3 for recommended measures.
least bittern *Ixobrychus exilis*	SSC, BCC	Summer resident in portions of the Central Valley and southern California. Typically breeds in deeper freshwater marshes with dense emergent and woody vegetation.	**No Potential.** The Project Area does not contain suitable marsh breeding or nesting habitat for this species.	No further recommendations for this species.
Reptiles and Amphibians				
Pacific (western) pond turtle *Actinemys marmorata*	SSC	Occurs in perennial ponds, lakes, rivers and streams with suitable basking habitat (mud banks, mats of floating vegetation, partially submerged logs) and shelter.	**Moderate Potential.** The Project Area does not contain the aquatic habitat necessary for this species. However, the species is documented nearby within Santa Rosa Creek (CDFW 2017) and may occasionally disperse through the Project Area.	See Section 5.4.3 for recommended measures.
California giant salamander *Dicamptodon ensatus*	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.	**Unlikely.** The Project Area does not contain the aquatic habitat necessary for this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
California tiger salamander *Ambystoma californiense*	FE, ST	Inhabits annual grassland habitat and mammal burrows. Seasonal ponds and vernal pools crucial to breeding. Federal Endangered status limited to populations in Sonoma and Santa Barbara counties.	**Unlikely.** The Project Area does not contain aquatic habitat necessary for this species. Additionally, the Project Area does not contain suitable upland aestivation habitat including burrows of sufficient size to prevent dehydration of individuals. The Project Area does not fall within the Santa Rosa Plain Conservation Strategy Study Area and nearest documented occurrence is over 5 miles from the Project Area and is separated by Highway 101, a permanent dispersal barrier (CDFW 2007; CDFW 2017).	No further recommendations for this species.
red-bellied newt *Taricha rivularis*	SSC	Inhabits coastal redwood forests and occasionally other forest types. Adults remain in breeding stream drainages in the non-breeding season. Breeding habitats are often fast-moving streams. Stagnant water sources are often avoided.	**No Potential.** The Project Area does not contain forested or aquatic habitat for this species. Additionally, this species is more common in Mendocino County (CalHerp 2017).	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
California red-legged frog *Rana draytonii*	FT, SSC	Associated with quiet perennial to intermittent ponds, stream pools and wetlands. Prefers shorelines with extensive vegetation. Documented to disperse through upland habitats after rains.	**Unlikely.** The Project Area does not contain aquatic habitat necessary for this species. Additionally, the Project Area does not contain suitable upland aestivation habitat including burrows of sufficient size to prevent dehydration of individuals. The nearest documented occurrence of this species is over 4 miles south of the Project Area and adjacent riparian habitat is not connected directly to any known inhabited watersheds (CDFW 2017).	No further recommendations for this species.
foothill yellow-legged frog *Rana boylii*	SSC	Found in or near rocky streams in a variety of habitats. Feed on both aquatic and terrestrial invertebrates.	**No Potential.** No stream habitat is present within the Project Area, and no occurrences have been documented within 5 miles of Project Area. Additionally, the Project Area is outside the mountainous/hilly riparian habitat typical for this species.	No further recommendations for this species.
Fish				
Navarro roach *Lavinia symmetricus navarroensis*	SSC	Habitat generalists. Found in warm intermittent streams as well as cold, well-aerated streams.	**No Potential.** The Project Area does not contain streams, rivers or other perennial waters to support this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
steelhead - Central California Coast ESU *Oncorhynchus mykiss irideus*	FT	From Russian River south to Soquel Creek and Pajaro River. Also San Francisco and San Pablo Bay Basins.	**No Potential.** The Project Area does not contain streams, rivers drainages to support this species.	No further recommendations for this species.
Russian River tule perch *Hysterocarpus traski pomo*	SSC	Found in clear, flowing freshwater with abundant vegetation and overhanging cover. Confined to the Russian River and tributaries.	**No Potential.** The Project Area does not contain streams, rivers or other perennial waters to support this species.	No further recommendations for this species.
Invertebrates				
western bumblebee *Bombus occidentalis*	SSI	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.** Very few small mammal burrows are present within the Project Area. This species may forage in the Project Area on occasion.	No further recommendations for this species.
California freshwater shrimp *Syncaris pacifica*	FE, SE, SSI	Endemic to Marin, Napa, and Sonoma Counties. Found in shallow pools away from streamflow in low gradient streams where riparian cover is moderate to heavy.	**No Potential.** The Project Area does not contain streams, rivers or other perennial waters to support this species.	No further recommendations for this species.

*** Key to status codes:**

FE	Federal Endangered
FT	Federal Threatened
SE	State Endangered
SD	State Delisted
ST	State Threatened
SR	State Rare
SSC	Species of Special Concern
SSI	Species of Special Interest
BCC	Bird of Conservation Concern

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. CNDDB, other reports) on the site recently.

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

Assumed Absent. Species is assumed to not be present or utilize the site due to a lack of key habitat components.

Not Observed. Species was not observed during protocol-level surveys.

APPENDIX D

SITE PHOTOGRAPHS

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Photograph 1. Photograph depicting typical developed/landscaped portions of the Project Area, dominated by non-native ornamental species including red maple (*Acer rubrum*), rosemary (*Rosmarinus officinalis*), and fountain grass (*Pennisetum* sp.).

Photograph 2. Photograph depicting coast live oak woodland within the Project Area dominated by coast live oak (*Quercus agrifolia*) and California bay (*Umbellularia californica*). Within the Project Area, this community is highly disturbed, bisected by an existing concrete trail, and the understory is dominated by non-native invasive species.

Photograph 3. Photograph depicting riparian red willow thicket dominated by red willow (*Salix laevigata*). Despite the disturbed nature, and low habitat quality of this community, riparian red willow thicket is considered sensitive under Section 1602 of the CFGC.

Photograph 4. Photograph depicting ruderal herbaceous grassland within the Project Area. This community is highly disturbed by annual discing or mowing and is dominated by non-native invasive grasses and forbs including slim oat (*Avena barbata*), and mustard (*Hirschfeldia incana*).