

Habitat Assessment

3111 Santa Rosa Avenue
Santa Rosa, Sonoma County, CA

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**Habitat Assessment
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SUMMARY

The 3111 Santa Rosa Avenue proposed project is located southeast of the City of Santa Rosa, and includes 4.66-acres of graveled and paved areas used for vehicular storage.

This Habitat Assessment presents the findings of our review of scientific literature and reports detailing previous studies conducted in the area, and the California Department of Fish and Wildlife's (CDFW) Natural Diversity Data Base (CNDDDB) for reported occurrences of special-status vegetation communities, plants and animals.

As part of this Habitat Assessment, we conducted a site visit of all habitats on the site to evaluate the potential for occurrence of 25 special-status plant species, and 43 special-status wildlife species. All vegetation was assessed for potentially suitable bird and bat habitat.

Although not recognized as a formal vegetation community, one vegetation type occurs on the property: ruderal vegetation. The site is mostly either paved or in gravel. The only vegetation are weeds growing through the cracks of the pavement or soil and vegetation around the perimeter of the site. Otherwise there is no actual vegetation type for the site.

Based on the literature review, presence of habitats on site, seasonal periods of bird nesting and limitations of the surveys conducted for this assessment, the following are action items to be addressed prior to ground breaking:

- To prevent take of nesting birds, a nesting bird survey should be conducted within one week of the removal of habitat, unless removal occurs after August 15 and before March 1.
- To prevent take of roosting bats, a bat roosting habitat assessment should be conducted prior to the removal of habitat, which includes trees. The habitat assessment can be conducted at any time of the year and it is recommended that it be conducted several months in advance of tree removal. Removal of trees that provide potentially suitable bat roosting habitat must occur under direct supervision of a bat biologist and occur between March 1 and April 15, or September 1 through October 15. These time periods are when bats are active and can leave the roost.

INTRODUCTION

Mr. Will Marks contracted with Wildlife Research Associates and Jane Valerius Environmental Consulting to conduct a Habitat Assessment of the approximately 4.66-acre property, located at 3111 and 3119 Santa Rosa Avenue in the southeast portion of the City of Santa Rosa, Sonoma County, California. This habitat assessment was conducted to determine the potential for special-status vegetation communities, plant and animal species to occur within the proposed project and to identify the limitations to potential development of the project.

This Habitat Assessment is part of the preliminary analysis of both the existing environment and potential impacts from the proposed project as required under the California Environmental Quality Act (CEQA) for new projects. Federal and state agencies that have purview over biological resources include the following:

- U.S. Army Corps of Engineers (USACE) - regulates the discharge of dredged or fill material into waters of the United States,
- U.S. Fish and Wildlife Service (USFWS) - authority over federally listed plant and animal species,
- National Marine Fisheries Service (NMFS) - authority over essential fish habitat, which is habitat necessary to maintain sustainable fisheries,
- California Regional Water Quality Control Board (RWQCB) - protects all waters with special responsibility for wetlands, riparian areas, and headwaters, and the
- California Department of Fish and Wildlife (CDFW) - authority over state listed plants and animals as well as streams and lakes within the State.

Site Location

The approximately 4.66-acre parcel (APN 043-143-018 and -002) is located east of Highway 101, and west of Santa Rosa Avenue, on the south side of Bellevue Avenue. The project site is located within the Russian River watershed, and is located 2,050 feet west of the Flood Control Channel that flows south and west into the Santa Rosa Flood Control Channel (Figure 1).

Located on the west side of Santa Rosa Avenue, the site is generally flat at an elevation of approximately 118 feet with a gentle trending westerly flow. Current conditions include use of the two parcels for storage of a wide variety of vehicles including cars, boats, trucks, recreational vehicles, mobile homes and other miscellaneous equipment. The site is segregated into four separate storage areas that are fenced and reportedly leased for storage.

Historically, the project site was a former gasoline service station situated on the northeast corner of the project site from the 1920's to the 1940's when it was reportedly destroyed by fire (EBA Engineering 2017). From 1996 until 2006 the site is identified as a historic auto repair facility that reportedly occupied the eastern side of the project site along with a lumber yard, mobile homes and trailers, contractors' storage yard and trucks and trailer storage (EBA Engineering 2017). The site has been paved and graveled since the 1980's. Surrounding land uses include industrial development to the north and south.

Proposed Project

The proposed project consists of approximately 4.66 acres. A mixture of residential apartments on the east and storage on the west side of the parcel is proposed at this time. No further details are known.

METHODS

Information on special-status plant species was compiled through a review of the literature and database search. Database searches for known occurrences of special-status species focused on the Santa Rosa U.S. Geologic Service 7.5-minute topographic quadrangle, which provided a three-mile radius around the proposed project area. The following sources were reviewed to determine which special-status plant and wildlife species have been documented in the vicinity of the project site:

- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) (USFWS 2017)
- California Natural Diversity Database records (CNDDDB) (CDFW 2017)
- California Department of Fish and Wildlife's (CDFW) Special Animals List (CDFW 2017)
- State and Federally Listed Endangered and Threatened Animals of California (CDFW 2017)
- California Native Plant Society (CNPS) Electronic Inventory records (CNPS 2017)
- California Department of Fish and Game (CDFG) publication "California's Wildlife, Volumes I-III" (Zeiner, et al., 1990)

Appendix A presents the potentially occurring special-status plant species in the study area and Appendix B presents the potentially occurring special-status animal species in the study area.

Botanical nomenclature used in this report conforms to Baldwin, et al. (2012) for plants and to Sawyer, et al. (2009) for vegetation communities. Nomenclature for special-status animal species conforms to CDFW (2017).

Site Survey: Jane Valerius, botanist and wetland specialist of Jane Valerius Environmental Consulting, and Trish Tatarian, Wildlife Research Associates, conducted a site visit on September 19, 2017. The weather was warm (~70 Fahrenheit) and sunny.

As required by CDFW protocols, the entire site was walked and all plant species identifiable at the time of the site visits were recorded. A list of plant species observed is provided in Appendix C. Wildlife species observed is included in Appendix D.

The reconnaissance-level site visit was intended only as an evaluation of on-site and adjacent habitat types; no special-status wildlife species surveys were conducted as part of this effort.

We also reviewed the *Phase 1 Environmental Site Assessment, Davis Property, 3111 and 3119 Santa Rosa Avenue, Santa Rosa, California* (EBA Engineering 2017) for pertinent information.

EXISTING CONDITIONS

The project area is located within the North Coast Province (CDFW 2015). This province is located along the Pacific coast from the California-Oregon border to the San Francisco Bay watershed in the south (CDFW 2015). The eastern boundary includes the Cascade Range along the northern portion of the province and the transition to the Sacramento Valley along the southern portion. The coastal mountain ranges within the province are aligned somewhat parallel and rise from low to moderate elevation (i.e., up to about 7,500 feet) (CDFW 2015). The climate varies considerably across the province, with high precipitation levels and moderate temperatures in many coastal areas, and dry conditions with rain shadow effects and more extreme temperatures in some inland valleys. Overall, the province has a fairly wet climate and receives more rainfall than any other part of the state, feeding more than ten river systems (CDFW 2015).

The North Coast Province vegetation consists predominantly of conifer and mixed-conifer forests dissected by chaparral stands, riparian forests, and wetlands (CDFW 2015). Valley and foothill grassland and woodland communities emerge along the central and southern eastern border of the province, while coastal wetlands and marshes appear along the coastline (CDFW 2015). Specifically, Douglas-fir, mixed-evergreen, western hardwoods, and chaparral-mountain shrub dominate the province (CDFW 2015).

The proposed project site is located within the central portion of the Santa Rosa topographic quadrangle, in the unsectioned portion of the Llano de Santa Rosa. Topographically, the 4.66-acre parcel is located on a gently west-trending slope with elevations ranging between ~118 feet in the east and ~114 feet in the west.

Vegetation Communities

No vegetation types that are recognized by Sawyer, et al. (2009) occur within the property boundary. The site is mostly either paved or in gravel. The only vegetation are weeds growing through the cracks of the pavement or soil and vegetation around the perimeter of the site and is considered ruderal vegetation (Fig. 2). There are small areas with non-native grasses on and around the perimeter of the site. Outside the fenced areas there are valley oak (*Quercus lobata*) and redwood (*Sequoia semperivens*) trees, as well as some *Eucalyptus* trees adjacent to Highway 101. A seedling size valley oak was observed within the project area and one larger tree occurs at the northeast corner of the site associated with a ditch near Santa Rosa Avenue.

Ruderal vegetation observed includes weedy grasses such as annual bluegrass (*Poa annua*), ripgut brome (*Bromus diandrus*), rattail fescue (*Festuca myuros*) and crabgrass (*Digitaria ischaemum*). Weedy forbs are dominant and include amaranthus (*Amaranthus* spp.), prickly lettuce (*Lactuca seriola*), bristly ox-tongue (*Helminthotheca echinoides*), horseweed (*Erigeron bonariensis*), mallow (*Malva parviflora*), fluellin (*Kickxia elantine*), English plantain (*Plantago lanceolata*), vetch (*Vicia* sp.), and rough cat's-ear (*Hypochaeris radicata*). In a few areas there were some wetland plants showing up through the cracks in the pavement or soil but these areas would not qualify as wetlands as defined by the U.S. Army Corps of Engineers or by the State.

Drainages

A formal delineation of waters of the U.S. and state, including wetlands, was not conducted as part of this habitat assessment. A small ditch occurs at the northeast corner on Bellevue Avenue, adjacent to Santa Rosa Avenue. This ditch is associated with a corrugated metal culvert and water goes underground along Bellevue Avenue towards Hwy 101. No wetland vegetation occurs in the ditch and it is unknown whether the ditch is part of the property or part of Bellevue Avenue right-of-way. Vegetation in the ditch is typical of non-native grassland and no wetland indicator plant species were present. A single valley oak (*Quercus lobata*) occurs in this small area (Fig. 3).

Wildlife Habitats

The value of a site to wildlife is influenced by a combination of the physical and biological features of the immediate environment. Species diversity is a function of diversity of abiotic and biotic conditions and is greatly affected by human use of the land. The wildlife habitat quality of an area, therefore, is ultimately determined by the type, size, and diversity of vegetation communities present and their degree of disturbance. Wildlife habitats are typically distinguished by vegetation type, with varying combinations of plant species providing different resources for use by wildlife. The following is a discussion of the wildlife species supported by the on-site habitats, as described by *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988).

Individual Trees. Several of the eucalyptus trees along Highway 101 (Fig. 4) were of a diameter large enough to support roosting bat species, and several trees were observed to contain suitable cavities or crevices for colonial species, such as long-eared myotis (*Myotis evotis*), long-legged myotis (*Myotis volans*), Yuma myotis (*Myotis yumanensis*), California myotis (*Myotis californicus*), big brown bat (*Eptesicus fuscus*), silver-haired bat (*Lasionycteris noctivagans*) and pallid bat (*Antrozous pallidus*), a California Special Concern (CSC) species. Bats that use trees fall into three categories; 1) solitary, obligate tree-roosting bats that roost in the foliage or bark such as Western red-bat (*Lasiurus blossevillei*), a California Species of Special Concern (SSC) species, or hoary bat (*Lasiurus cinereus*); 2) frequent tree-roosting bats that form colonies of varying size in tree cavities, such as silver-haired bats (*Lasionycteris noctivagens*), and 3) more versatile bat species that will use a wide variety of roosts from buildings to bridges to trees, such as various *Myotis* species, pallid bat (*Antrozous pallidus*), another SSC species, and others. Solitary-roosting bats consist either of single males or females either alone or with young. Colonial-roosting bats form maternity colonies in tree cavities or crevices, whereas with man-made structures, young are left behind while females forage, then return to nurse their young. Greater impacts can occur as a result of removal of trees that support cavity-roosting bat species than those that provide habitat for solitary foliage-roosting species.

Much of the site is graveled or paved. The gravel is compacted into the soil and no pocket gophers (*Thomomys bottae*) were occur in any portion of the parcel. Three feral cats (*Felis catus*) were observed along the southern boundary.

Movement Corridors

Wildlife movement includes migration (i.e., usually one way per season), inter-population movement (i.e., long-term genetic flow) and small travel pathways (i.e., daily movement corridors within an animal's territory). While small travel pathways usually facilitate movement for daily home range activities such as foraging or escape from predators, they also provide connection between outlying populations and the main corridor, permitting an increase in gene flow among populations.

These linkages among habitat types can extend for miles between primary habitat areas and occur on a large scale throughout California. Habitat linkages facilitate movement among populations located in discrete areas and populations located within larger habitat areas. The mosaic of habitats found within a large-scale landscape results in wildlife populations that consist of discrete sub-populations comprising a large single population, which is often referred to as a meta-population. Even where patches of pristine habitat are fragmented, such as occurs with coastal scrub, the movement between wildlife populations is facilitated through habitat linkages, migration corridors and movement corridors. Depending on the condition of the corridor, genetic flow between populations may be high in frequency, thus allowing high genetic diversity within the population, or may be low in frequency. Potentially low frequency genetic flow may lead to complete isolation, and if pressures are strong, potential extinction (McCullough 1996; Whittaker 1998).

The project location is within the North Coast Ecoregion of the California Essential Habitat Connectivity Project (Spencer, et al. 2010). No Natural Landscape Blocks (i.e., large, relatively natural habitat blocks that support native biodiversity), or Essential Connectivity Areas (i.e., areas essential for ecological connectivity between Natural Landscape Blocks) are identified in this portion of Sonoma County (Spencer, et al. 2010).

There is no wildlife connectivity provided on this parcel. There is potential that urban inured mammals, such as raccoons (*Procyon lotor*), opossum (*Didelphis virginianus*) and striped skunk (*Mephitis mephitis*) use the vegetative strip along Highway 101 to move north and south. Based on the six lanes of traffic and the center k-rail, Highway 101 is considered a barrier to movement between the east side of the highway and the west side. There are no culverts under the freeway near this location. Based on the four lanes of traffic and a central turn lane, Santa Rosa Avenue is considered a barrier to movement between the west side of the avenue and the east side

SPECIAL-STATUS BIOLOGICAL RESOURCES

Certain vegetation communities, and plant and animal species are designated as having special-status based on their overall rarity, endangerment, restricted distribution, and/or unique habitat requirements. In general, special-status is a combination of these factors that leads to the designation of a species as sensitive. The Federal Endangered Species Act (FESA) outlines the procedures whereby species are listed as endangered or threatened and established a program for the conservation of such species and the habitats in which they occur. The California Endangered Species Act (CESA) amends the California Fish and Wildlife Code to protect species deemed to be locally endangered and essentially expands the number of species protected under the FESA.

Special-status Vegetation Communities

Sensitive natural communities are those that are considered rare in the region, may support special-status plant or wildlife species, or may receive regulatory protection (i.e., through Section 404 of the Clean Water Act [CWA] and/or Sections 1600 et seq. of the California Fish and Wildlife Code). In addition, sensitive natural communities include plant communities that have been identified as having highest inventory priority in the California Natural Diversity Database (CNDDDB). The second edition of *A Manual of California*

Vegetation (Sawyer, et al. 2009) also provides the rarity ranking status of these communities. No special-status vegetation types occur in the project area.

Special-status Plant Species

Special-status plant species are those species that are legally protected under the federal Endangered Species Act (ESA) and/or the California Endangered Species Act (CESA) as listed or proposed for listing as threatened or endangered, as well as species that are considered rare by the scientific community. For example, the California Native Plant Society (CNPS) has identified some species as Rank 1 or 2 species and may be considered rare or endangered pursuant to Section 15380(b) of the State CEQA Guidelines. The CDFW has compiled a list of "Special Plants" (CDFW 2016), which include California Special Concern species. These designations are given to those plant species whose vegetation communities are seriously threatened. Although these species may be abundant elsewhere they are considered to be at some risk of extinction in California. Although Special Concern species are afforded no official legal status under FESA or CESA, they may receive special consideration during the planning stages of certain development projects and adverse impacts may be deemed significant under the California Environmental Quality Act (CEQA).

A total of 25 special-status plant species have been reported occurring on the Santa Rosa topographic quadrangle (CNDDDB 2017). Please refer to Appendix A for a list of these species and their potential for occurrence.

The following set of criteria has been used to determine each species' potential for occurrence on the site in Appendix A:

- Present: Species is known to occur on the site, based on CNDDDB records, and/or was observed onsite during the field survey(s).
- High: Species is known to occur on or near the site (based on CNDDDB records within 5 miles, and/or based on professional experience) and there is suitable habitat onsite.
- Moderate/Low: Species is known to occur in the vicinity of the site, but there is only marginal habitat onsite -OR- species is not known to occur in the vicinity of the site, however, the site is within the species' range and there is suitable habitat onsite.
- None: There is no suitable habitat for the species onsite -OR- species was surveyed for during the appropriate season with negative results.

No special-status plant species are considered to have potential to occur on the site based on the developed nature of the parcels.

Special-status Animal Species

Special-status animal species include those listed by the USFWS (2017) and the CDFW (2017). The USFWS officially lists species as either Threatened or Endangered, and as candidates for listing. Additional species receive federal protection under the Bald Eagle Protection Act (*e.g.*, bald eagle, golden eagle), the Migratory Bird Treaty Act (MBTA), and state protection under CEQA Section 15380(d). In addition, many other species are considered by the CDFW to be species of special concern; these are listed in Shuford and Gardali (2008), Thomson et al. (2016) and Williams (1986). Although such species are afforded no official legal status, they may receive special consideration during the planning and CEQA review stages of certain development projects. The CDFW further classifies some species under the following categories: "fully protected", "protected fur-bearer", "protected amphibian", and "protected reptile". The designation "protected" indicates that a species may not be taken or possessed except under special permit from the CDFW; "fully protected" indicates that a species can be taken for scientific purposes by permit only.

Of the 10 special-status animal species identified as potentially occurring in the vicinity of the project area, including a 3-mile radius (CNDDDB 2017), several additional species were evaluated for their potential to occur within the study area, based on: 1) review of the CNDDDB, 2) the IPaC list (USFWS 2017) that includes those wildlife species whose breeding populations are in serious decline, and 3) the habitat present on site. See Appendix B for a list of the 43 species evaluated.

The same criteria for determining a species potential for occurrence for Appendix A was used for Appendix B.

Several of these species are prominent in today’s regulatory environment and are discussed below. This document does not address impacts to species that may occur in the region but for which no habitat occurs on site.

California Tiger Salamander (*Ambystoma californiense*) (CTS)

Status: Federally listed Endangered in Sonoma County in 2003 with Critical Habitat designated in 2011, Draft Recovery Plan in 2014 and State listed Threatened by CDFW in 2010

The *Santa Rosa Plain Conservation Strategy* (SRPCS) (Federal Register Notice 70: 74137) was created in 2005 to mitigate potential adverse effects on listed species on the Plain (USFWS 2005). The purpose of the Conservation Strategy was threefold: (1) to establish a long-term conservation program sufficient to mitigate potential adverse effects of future development on the Plain, and to conserve and contribute to the recovery of the listed species and the conservation of their sensitive habitat; (2) to accomplish the preceding in a fashion that protects stakeholders’ (both public and private) land use interests, and (3) to support issuance of an authorization for incidental take of CTS and listed plants that may occur in the course of carrying out a broad range of activities on the Plain.

General Ecology and Distribution: As adults, CTS spend most of the year underground in the burrows of California ground squirrels (*Spermophilus beecheyi*) and pocket gophers, feeding on insects (Loredo, et al. 1996; Stebbins 1985). Upland terrestrial habitat for Ambystomids is usually within 300 meters (984 feet) of aquatic breeding sites, but movements have been reported as far away as 800 meters (2,246 feet) (Trenham 2001, Madison and Farrand 1998). Following heavy winter rains (normally December-March) adults emerge briefly to lay their eggs in ponds, preferring vernal pools, alkali sinks or cattle troughs that have muddy bottoms or contain some algal growth in the water for hiding in, but are devoid of fish. Although no studies have been conducted on the water quality requirements, it has been noted that turbid water may be preferred (reduces predation), and water quality can prevent the transformation into the adult stage.

Project Area Occurrence: No surveys were conducted for this species as part of this habitat assessment. Individuals have been reported southeast of the study area (CNDDDB 2017). The table below addresses the regulatory ruling per federal and state documents, including the federal listing (USFWS 2002), the state listing (CDFW 2012), the SRPCS (USFWS 2005), the Critical Habitat (USFWS 2011) and the Draft Recovery Plan (USWFS 2014).

Table 1: Proposed Project and the Plans Pertaining to the California Tiger Salamander

	Does the Study Area Occur in the range covered by Document?
USFWS	Yes
CDFW	Yes
SRPCS	Yes, but under a No Effect designation
Critical Habitat	No
Recovery Plan	No

The Programmatic Biological Opinion (USFWS 2010) identifies this area as “no effect to California tiger salamander”. No further action is required.

Nesting Passerines: Acorn woodpecker (*Melanerpes formicivorus*), western bluebird (*Sialia mexicana*), northern flicker (*Colaptes auratus*)

Status: protected under the MBTA and Fish and Wildlife Code 3503

General Ecology and Distribution: have potential to nest within the proposed project area. Passerines (perching birds) observed potentially nesting in the trees on site include western scrub jay and northern flicker, among others. As early as February, passerines begin courtship and once paired, they begin nest building, often around the beginning of March. Nest structures vary in shapes, sizes and composition and can include stick nests, mud nests, matted reeds and cavity nests. Depending on environmental conditions, young birds may fledge from the nest as early as May and, if the prey base is large, the adults may lay a second clutch of eggs.

Project Area Occurrence: No nesting bird surveys were conducted as part of this habitat assessment. Several species were observed during the survey, and are likely nesting on the site. Please refer to the Impacts and Mitigation Measures for details on avoidance measures of these nesting bird species.

Nesting Raptors: red-shouldered hawk (*Buteo lineatus*) Cooper’s hawk (*Accipiter cooperi*)

Status: protected under the Federal Migratory Bird Treaty Act and Fish and Wildlife Code 3503.5

General Ecology and Distribution: Raptors nest in a variety of substrates including, cavities, ledges and stick nests. For example, Cooper's hawks are small bird hunters, hunting on the edges of forests in broken forest and grassland habitats where passerines forage for seeds and insects. Nests occur in heavily forested areas near a water source. Research sites on nesting Cooper's hawks rarely show the nests more than a quarter of a mile away from water, whether it is a cattle tank, stream or seep (Snyder and Snyder 1975). Trees typically used by Cooper's hawks include coast live oaks, cottonwoods, and black oaks (Call 1978), as well as second growth conifer stands or deciduous riparian areas. In general, the breeding season for raptors occurs in late March through June, depending on the climate, with young fledging by early August.

Project Area Occurrence: No nesting bird surveys were conducted as part of this habitat assessment. One nest was observed in a tree hollow and looked like a great horned owl nest, based on the feathers and pellets observed. Please refer to the Impacts and Mitigation Measures for details on avoidance measures of these nesting bird species.

Roosting Bats: including pallid bat (*Antrozous pallidus*), and western red bat (*Lasiurus blossevillei*)

Status: California Species of Concern, as well as Fish and Wildlife Code Sections 86, 2000, 2014, 3007, Title 14, Sections 15380, 15382.

General Ecology and Distribution: Bats in this region of California are not active year-round. During the maternity season, non-volant young of colonial bats remain in the roost until late summer (end of August), after which they may disperse from the natal roost or remain into or throughout the winter. Obligate tree roosting bat species, and to some extent, colonial bats, may switch tree roosts frequently, particularly after young are volant, but are sometimes faithful for longer periods (weeks). During winter months, bats typically enter torpor, rousing only occasionally to drink water or opportunistically feed on insects. The onset of torpor is dependent upon environmental conditions, primarily temperature and rainfall. To prevent direct mortality of either non-volant young or torpid bats during winter months, roosts must not be disturbed or destroyed until bats are seasonally active, and only after they have been provided a means of escape from the roost.

Pallid bats are eclectic in their roosting habitat selection, and to some extent distribution, and can be found in crevices and small cavities in rock outcrops, tree hollows, mines, caves, and a wide variety of man-made structures such as buildings, bridges and culverts, generally in lower to mid-elevation sites. This species

forms maternity colonies, composed of dozens to sometimes hundreds of females and their young, and smaller bachelor colonies composed of males and not-yet reproductive females.

Western red bats have a broad, but disjunct, distribution throughout the state, and a wide range of elevations. Reproductive females are more common in the inland portions of the state than the Bay Area, where males are more common during the summer months. This is a foliage-roosting species typically associated with large-leaf trees, such as willows, cottonwoods, and sycamores, and is often found near riparian zones. Western red bats are typically solitary, however females give birth to two to five young, which is atypical compared to other bat species.

Project Area Occurrence: All trees on the site need to be assessed for their potential to support roosting bats. Pallid bats could roost in those trees with cavities, crevices and/or exfoliating bark; these could also support non-CSC bats such as hoary bats (*Lasiurus cinereus*), an obligate tree-roosting species, and *Myotis* species. In addition, western red bats could potentially roost in the foliage of larger mature trees throughout the project site. Please refer to the Impacts and Mitigation Measures for details on avoidance measures of roosting bats in trees on this site.

IMPACTS AND MITIGATION MEASURES

This section summarizes the potential temporary biological impacts from construction activities within the study area. The analysis of these impacts is based on a single reconnaissance-level survey of the study area, a review of existing databases and literature, and personal professional experience with biological resources of the region.

CEQA Guidelines Sections 15206 and 15380 were used to determine impact significance. Impacts are generally considered less than significant if the habitats and species affected are common and widespread in the region and the state.

A species may be treated as rare or endangered even if it has not been listed under CESA or FESA. Species are designated endangered when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, disease or other factors.

For the purposes of this report, three principal components in the evaluation were considered:

- Magnitude of the impact (e.g., substantial/not substantial)
- Uniqueness of the affected resource (rarity)
- Susceptibility of the affected resource to disturbance (sensitivity)

The evaluation of significance must consider the interrelationship of these three components. For example, a relatively small-magnitude impact (e.g., disturbing a nest) to a state or federally listed species would be considered significant because the species is at low population levels and is presumed to be susceptible to disturbance. Conversely, a common habitat such as non-native grassland is not necessarily rare or sensitive to disturbance. Therefore, a much larger magnitude of impact (e.g., removal of extensive vegetation) would be required for it to be considered a significant impact.

Drainages

Potential Impact: There are no drainages on the site. There is a small ditch located at the northwest corner adjacent to Bellevue Avenue. It is unknown if this ditch is within the property boundary or would be affected by the project. The ditch is dominated by non-native grasses, does not support wetland vegetation and covers a very short distance. This ditch does not likely qualify as waters of the U.S. as there is no direct hydrologic connection to make it a jurisdictional feature. However, the State Regional Water Quality Control Board (RWQCB) may decide that the ditch qualifies as a waters of the State.

Mitigation: Consultation with the RWQCB regarding the status of the ditch is recommended. If the RWQCB determines the ditch to be jurisdictional they may require mitigation in the form of creating a similar feature at another location on-site or at a suitable off-site location. This will be determined through the permitting process.

Birds

Potential Impact: Several passerine (perching birds) species observed on site, such as western scrub jay and American robin, build stick nests in trees and shrubs. Disturbance during the nesting season (February 15-August 15) may result in the potential nest abandonment and mortality of young, which is considered a “take” of an individual.

Mitigation Measure: The following mitigation measures should be followed in order to avoid or minimize impacts to passerines that may potentially nest in the trees:

- 1) Removal of nesting trees should be conducted outside the nesting season, which occurs between approximately February 15 and August 15.
- 2) If removal between August 15 and February 15 is infeasible and removal must occur within the nesting season, a pre-construction nesting bird survey of the trees shall be performed by a qualified

biologist within 7 days of ground breaking. If no nesting birds are observed no further action is required and tree removal shall occur within one week of the survey to prevent “take” of individual birds that could begin nesting after the survey.

- 3) If active bird nests are observed during the pre-construction survey, a disturbance-free buffer zone shall be established around the nest tree(s) until the young have fledged, as determined by a qualified biologist.
- 4) The radius of the required buffer zone can vary depending on the species, (i.e., 75-100 feet for passerines), with the dimensions of any required buffer zones to be determined by a qualified biologist in consultation with CDFW.
- 5) To delineate the buffer zone around a nesting tree, orange construction fencing shall be placed at the specified radius from the base of the tree within which no machinery or workers shall intrude.
- 6) After the fencing is in place there will be no restrictions on grading or construction activities outside the prescribed buffer zones.

Roosting Bats

Potential Impacts to Trees: Removal of trees containing suitable bat roosting habitat comprised of cavities, crevices, and/or exfoliating bark, may cause direct mortality of roosting bats if removed during maternity season prior to self-sufficient volancy of pups, or in winter during torpor or hibernation. Removal of larger mature trees has the potential of causing direct mortality of solitary tree-roosting species such as western red bat or hoary bat.

Mitigation Measure: Bats in this region of California are not active year-round. During the maternity season, non-volant young of colonial bats remain in the roost until late summer (end of August), after which they may disperse from the natal roost or remain into or throughout the winter. During winter months, roosting bats typically enter torpor, rousing only occasionally to drink water or opportunistically feed on insects. The onset of torpor is dependent upon environmental conditions, primarily temperature and rainfall. To prevent direct mortality of either non-volant young or torpid bats during winter months, roosts must not be disturbed or destroyed until bats are seasonally active, and only after they have been provided a means of escape from the roost, either by humane bat eviction (e.g. from structures), or two-step removal (trees).

Humane bat eviction and/or two-step tree removal must only be conducted during seasonal periods of bat activity, which are in this region, between March 1 (or after evening temperatures rise above 45F and/or no more than 1/2" of rainfall within 24 hours occurs), and April 15, or between August 31 and October 15 (or before evening temperatures fall below 45F and/or more than 1/2" of rainfall within 24 hours occurs).

To prevent direct mortality of bats potentially roosting in cavities, crevices or exfoliating bark of trees, all of the following method should be used:

- 1) Tree removal shall be conducted using a two-stage process over two consecutive days (e.g. Tuesday and Wednesday, or Thursday and Friday). With this method, small branches and small limbs not containing cavity, crevice or exfoliating bark habitat on habitat trees as identified by a qualified bat biologist (who must be present on the site at the beginning of the first day of tree trimming or cutting) are removed first on Day 1, using chainsaws only (no dozers, backhoes, etc.). Trees containing suitable potential habitat must be trimmed on Day 1 under initial field supervision by a qualified bat expert to ensure that the tree cutters fully understand the process, and avoid incorrectly cutting potential habitat features or trees. After tree cutters have received sufficient instruction, the qualified bat expert does not need to remain on the site.
- 2) The following day (Day 2), the remainder of the tree is to be removed. The disturbance caused by chainsaw noise and vibration, coupled with the physical alteration, has the effect of causing bats to abandon the roost tree after nightly emergence for foraging. Removing the tree the next day prevents re-habituation and re-occupation of the altered tree.

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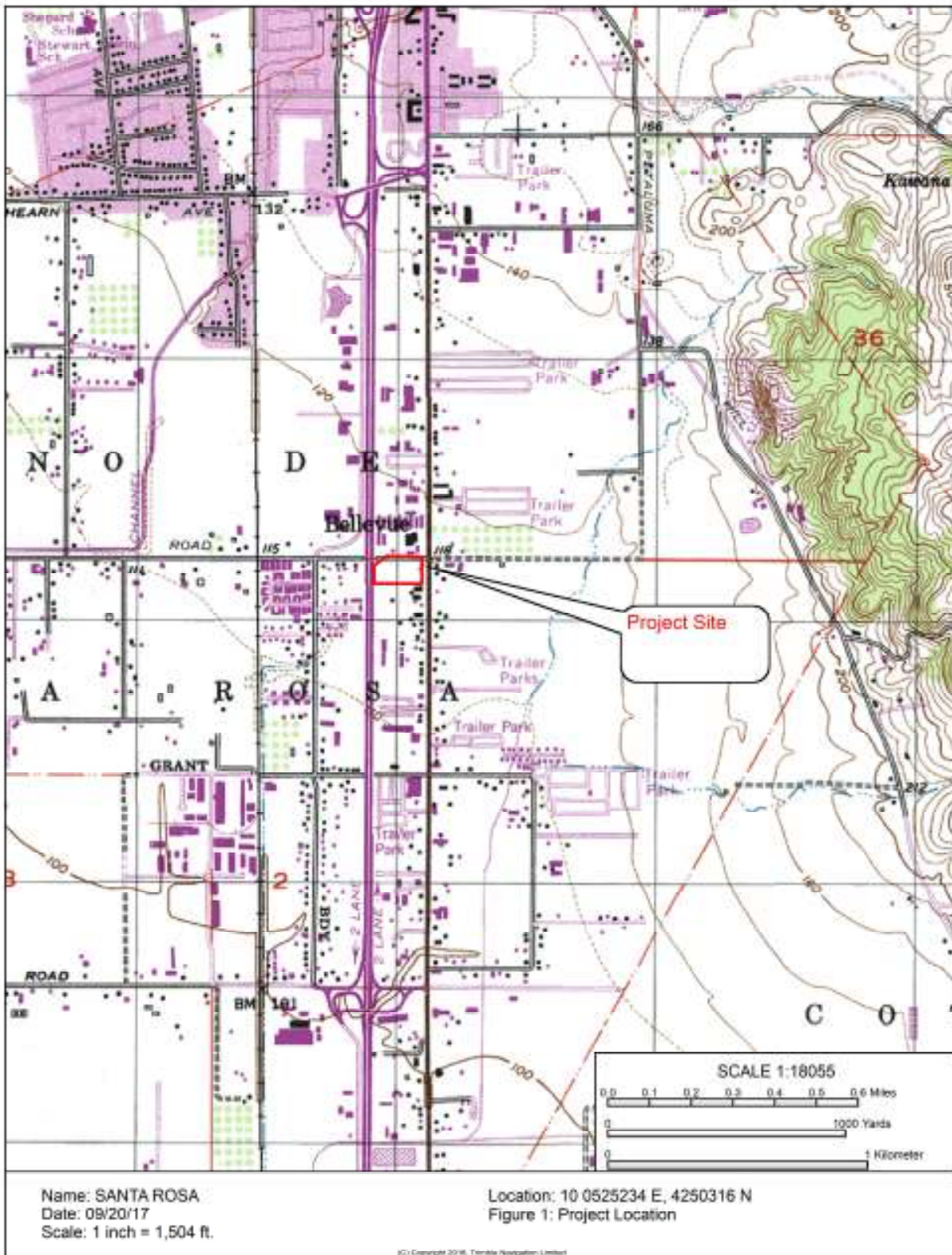


Figure 1: Project Location.



Fig. 2: Ruderal vegetation along southern boundary.



Fig. 3: Drainage ditch on Bellevue Avenue.



Fig. 4: Eucalyptus trees along western boundary.

Appendix A: Potentially Occurring Special-Status Plant Species in the Study Area

Scientific Name Common Name	Status USFWS/ CDFW/ CNPS Rank	Habitat Affinities and Blooming Period/Life Form	Potential for Occurrence
<i>Amorpha californica</i> var. <i>napensis</i> Napa false indigo	-/-/1B	Broadleafed upland forest (openings), chaparral, cismontane woodland. Blooms April-July. Elevation: 120-2000m.	None. No habitat in study area.
<i>Amsinckia lunaris</i> Bent-flowered fiddleneck	-/-/1B	Coastal bluff scrub, cismontane woodland, valley and foothill grassland. Blooms March to June. Elevation: 3-500m.	None. No habitat in study area.
<i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i> Rincon Ridge manzanita	-/-/1B	Chaparral on rhyolitic soils and cismontane woodland. Blooms February to April (sometimes May). Elevation: 75-370m.	None. No habitat in study area.
<i>Astragalus claranus</i> Clara Hunt's milk-vetch	FE/CT/1B	Openings in chaparral, cismontane woodland, valley and foothill grassland on serpentinite or volcanic, rocky or clay soils. Blooms March to May. Elevation: 75-275m.	None. No habitat in study area.
<i>Balsamorhiza macrolepis</i> Big-scale balsamroot	-/-/1B	Chaparral, cismontane woodland, valley and foothill grassland/sometimes serpentinite. Blooms March to June. Elevation 90-1555m.	None. No habitat in study area.
<i>Blennosperma bakeri</i> Sonoma sunshine	FE/CE/1B	Valley and foothill grassland (mesic), vernal pools. Blooms March to May. Elevation: 10-110m.	None. No habitat in study area.
<i>Brodiaea leptandra</i> Narrow-anthered brodiaea	-/-/1B	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland on volcanic soils. Blooms May to July. Elevation: 110-915m.	None. No habitat in study area.
<i>Calochortus uniflorus</i> Pink star-tulip	-/-/4	Coastal prairie, coastal scrub, meadows and seeps, North Coast coniferous forest. Blooms April to June. Elevation: 10-1070m.	None. No habitat in study area.
<i>Ceanothus confusus</i> Rincon Ridge ceanothus	-/-/1B	Closed-cone coniferous forest, chaparral, cismontane woodland on volcanic or serpentinite. Blooms February to June. Elevation: 75-1065m.	None. No habitat in study area.
<i>Ceanothus divergens</i> Calistoga ceanothus	-/-/1B	Chaparral on serpentinite or volcanic, rocky soils. Blooms February to April. Elevation 170-950m.	None. No habitat in study area.
<i>Ceanothus purpureus</i> Holly-leaved ceanothus	-/-/1B	Chaparral, cismontane woodland on volcanic, rocky soils. Blooms February to June. Elevation: 120-640m.	None. No habitat in study area.

Scientific Name Common Name	Status USFWS/ CDFW/ CNPS Rank	Habitat Affinities and Blooming Period/Life Form	Potential for Occurrence
<i>Ceanothus sonomensis</i> Sonoma ceanothus	-/-/1B	Chaparral on sandy, serpentinite or volcanic soils. Blooms February to April. Elevation: 215-800m.	None. No habitat in study area.
<i>Fritillaria liliacea</i> Fragrant fritillary	-/-/1B	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland often on serpentinite. Blooms February to April. Elevation: 3-410m.	None. No habitat in study area.
<i>Hemizonia congesta</i> ssp. <i>congesta</i> Congested-headed hayfield tarplant	-/-/1B	Valley and foothill grassland, sometimes roadsides. Blooms April to November. Elevation: 20-560m.	None. No habitat in study area.
<i>Lasthenia burkei</i> Burke's goldfields	FE/CE/1B	Meadows and seeps (mesic), vernal pools. Blooms April to June. Elevation: 15-600m.	None. No habitat in study area.
<i>Layia septentrionalis</i> Colusa layia	-/-/1B	Chaparral, cismontane woodland, valley and foothill grassland on sandy or serpentinite sites. Blooms April-May. Elevation: 100-1095m.	None. No habitat in study area.
<i>Leptosiphon jepsonii</i> Jepson's leptosiphon	-/-/1B	Chaparral, cismontane woodland, usually volcanic. Blooms March to May. Elevation: 100-500m.	None. No habitat in study area.
<i>Lessingia hololeuca</i> Woolly-headed lessingia	-/-/3	Broadleafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland on clay or serpentinite. Blooms June to October. Elevation: 15-305 m.	None. No habitat in study area.
<i>Limnanthes vinculans</i> Sebastopol meadowfoam	FE/CE/1B	Vernally mesic meadows and seeps, valley and foothill grassland, vernal pools. Blooms April to May. Elevation: 15-305m.	None. No habitat in study area.
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i> Baker's navarretia	-/-/1B	Cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, vernal pools/mesic. Blooms April to July. Elevation: 5-1740m.	None. No habitat in study area.
<i>Navarretia leucocephala</i> ssp. <i>pliantha</i> Many flowered navarretia	FE/-/1B	Volcanic ash flow vernal pools. Blooms May to June. Elevation: 30-950 m.	None. No habitat in study area.
<i>Ranunculus lobbii</i> Lobb's aquatic buttercup	-/-/4	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools/mesic. Blooms February to May. Elevation: 15-470m.	None. No habitat in study area.
<i>Trifolium amoenum</i> Showy Rancharia clover	FE/-/1B	Coastal bluff scrub, valley and foothill grassland, sometimes on serpentinite. Blooms April to June. Elevation: 5-415m.	None. No habitat in study area.
<i>Trifolium hydrophilum</i> Saline clover	-/-/1B	Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools. Blooms April to June. Elevation: 0-300m.	None. No habitat in study area.

Scientific Name Common Name	Status USFWS/ CDFW/ CNPS Rank	Habitat Affinities and Blooming Period/Life Form	Potential for Occurrence
<i>Triquetrella californica</i> Coastal triquetrella	-/-/1B	Coastal bluff scrub, coastal scrub/soil. Elevation: 10-100m.	None. No habitat in study area.
Special-Status Vegetation Communities			
<i>Valley Needlegrass Grassland</i>			None

NOTES:

U.S. FISH AND WILDLIFE SERVICE (USFWS)

FE = federally listed Endangered

CALIFORNIA DEPT. OF FISH AND WILDLIFE (CDFW)

CE = California listed Endangered

CR = California listed rare

CALIFORNIA NATIVE PLANT SOCIETY (CNPS)

Rank 1B: Plants rare and endangered in California and elsewhere

Rank 2B: Plants rare and endangered in California but more common elsewhere.

Rank 3: Plants about which additional data are needed – a review list.

Rank 4: Plants of limited distribution- a watch list.

Appendix B: Potentially Occurring Special-Status Animal Species in the Study Area

Common Name Scientific Name	Status USFWS/ CDFW	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence
Invertebrates			
Vernal pool andrenid bee <i>Andrena blennospermatis</i>	-/-	Oligolectic (specialist pollinator) on vernal pool Blennosperma and nests the uplands around vernal pools.	None – no suitable habitat on site.
Obscure bumble bee <i>Bombus caliginosus</i>	-/-	Food plants include Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia. Occurs in Coastal areas from northern Washington to southern California.	None – no suitable habitat on site.
Western bumble bee <i>Bombus occidentalis</i>	-/-	Generalist foragers. They do not depend on any one flower type but they favor Melilotus, Cirsium, Trifolium, Centaurea, Chrysothamnus, Eriogonum. Historically from the Pacific coast to the Colorado Rocky Mountains; severe population decline west of the Sierra-Cascade Crest.	None – no suitable habitat on site.
San Bruno elfin butterfly <i>Callophrys mossii bayensis</i>	FE	The adult flight period is late February to mid-April, with the peak flight period occurring in March and early April. Eggs are laid in small clusters or strings on the upper or lower surface of broadleaf stonecrop (<i>Sedum spathulifolium</i>). Larvae hatch from the eggs within 5-7 days of being laid.	None – no suitable habitat on site.
California linderiella <i>Linderiella occidentalis</i>	-/-	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions.	None – no suitable habitat on site.
California freshwater shrimp <i>Syncaris pacifica</i>	FE/SE	Endemic to Napa, Sonoma and Marin Counties. Occurs in low elevation and low gradient streams with moderate to heavy riparian cover.	None – no suitable habitat on site.
Amphibians			
California tiger salamander <i>Ambystoma californiense</i>	FE (Sonoma County)/ST	Breeds in temporary or semi-permanent pools. Seeks cover in rodent burrows in grasslands and oak woodlands. Nearest reported occurrence approx. 4,000 feet to the northeast (CNDDDB 2017).	None – no suitable habitat on site.
California giant salamander <i>Dicamptodon ensatus</i>	-/-	Known from wet coastal forests near streams and seeps. Larvae found in cold, clear streams and adults known from wet forests under rocks and logs near streams and lakes.	None – no suitable habitat on site.
foothill yellow-legged frog <i>Rana boylei</i>	SC/ SSC	Inhabits permanent, flowing stream courses with a cobble substrate and a mixture of open canopy riparian vegetation.	None – no suitable habitat.
California red-legged frog <i>Rana draytonii</i>	FT/SSC	Prefers semi-permanent and permanent stream pools, ponds and creeks with emergent and/or riparian vegetation. Occupies upland habitat especially during the wet winter months.	None – no habitat on site.
Reptiles			
western pond turtle <i>Emys marmorata</i>	SC/ SSC	Prefers permanent, slow-moving creeks, streams, ponds, rivers, marshes and irrigation ditches with basking sites and a vegetated shoreline. Requires upland sites for egg-laying.	None – no suitable habitat.
Birds			
tricolored blackbird <i>Agelaius tricolor</i>	BCC/ SSC	Nests primarily in dense freshwater marshes with cattail or tules, but also known to nest in upland thistles. Forages in grasslands.	None – no suitable habitat on site.

Common Name Scientific Name	Status USFWS/ CDFW	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence
Black turnstone <i>Arenaria melanocephala</i>	BCC	Winters along high-energy rocky shorelines, on beaches near rocky coasts, and on jetties and piers	None – no suitable habitat on site.
Burrowing owl <i>Athene cunicularia hypugea</i>	SC, MB/ SSC	Nests in open, dry grasslands, deserts, prairies, farmland and scrublands with abundant active and abandoned mammal burrows. Prefers short grasses and moderate inclined hills.	None – no suitable habitat.
Oak titmouse <i>Baeolophus inornatus</i>	BCC/ -	Breeds in cavities in oak woodlands, gleaning insects from the bark. Occurs from southern Oregon to northern Mexico along the Central Valley and xeric coastal foothills.	None – no suitable habitat on site.
Red knot <i>Calidris canutus ssp. roselaari</i>	BCC/	Winters along the coast of California in intertidal mudflats.	None – no suitable habitat on site.
Lawrence's goldfinch <i>Carduelis lawrencei</i>	BCC/	Nests in open woodlands, chaparral and weedy fields in trees	Low – potential habitat in eucalyptus and shrubs along Hwy 101.
Western snowy plover <i>Charadrius alexandrinus nivosus</i>	FT/-	Nests on sandy, gravelly or friable soils on beaches, salt pond levees and shores of large alkaline lakes.	None – no suitable habitat on site.
black swift <i>Cypseloides niger</i>	BCC/SSC	Nests made of moss bound with mud or simply a cushion of grass or bare mud, are often built on small ledges with overhanging moss or grass near seashore and waterfalls.	None – no suitable habitat on site.
White-tailed kite <i>Elanus leucurus</i>	MB/CFP	Inhabits low rolling foothills and valley margins with scattered oaks and river bottom- lands or marshes adjacent to deciduous woodlands. Prefers open grasslands, meadows and marshes for foraging close to isolated, dense-topped trees for nesting and perching.	None – no suitable habitat on site.
saltmarsh common yellowthroat <i>Geothlypis trichas sinuosa</i>	BCC/SSC	Nests in fresh and salt marshes in tall grasses, tule patches and willows and forages in thick, continuous cover down to the water surface.	None – no suitable habitat on site.
Black oystercatcher <i>Haematopus bachmani</i>	BCC	Nests on the ground on rocky seacoasts and islands, less commonly on sandy beaches.	None – no suitable habitat on site.
California black rail <i>Laterallus jamaicensis coturniculus</i>	-/ST, CFP	Inhabits saltwater, brackish, and freshwater marshes. Known from the San Francisco Bay area and the delta of the Sacramento and San Joaquin rivers south along the coast to northern Baja California and in Yuba County.	None – no suitable habitat on site.
Short-billed dowitcher <i>Limnodromus griseus</i>	BCC/-	Winters on coastal mud flats and brackish lagoons. In migration prefers saltwater tidal flats, beaches, and salt marshes. Found in freshwater mud flats and flooded agricultural fields	None – no suitable habitat on site.
Marbled godwit <i>Limosa fedoa</i>	BCC	Breeds in marshes and flood plains on the ground.	None – no suitable habitat on site.

Common Name Scientific Name	Status USFWS/ CDFW	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence
Lewis's woodpecker <i>Melanerpes lewis</i>	BCC/SSC	Found in open forest and woodland, often logged or burned, including oak, coniferous forest, riparian woodland, orchards, less often pinyon-juniper. Closely associated with open ponderosa pine forest in western North America. Most commonly uses pre-made or natural cavities. Wintering areas must provide storage sites for grain or mast.	None – no suitable habitat on site.
Alameda song sparrow <i>Melospiza melodia pusilla</i>	/SSC	Inhabits tidal sloughs in the Salicornia marshes, nesting in Grindelia bordering slough channels.	None – no suitable habitat on site.
long-billed curlew <i>Numenius americanus</i>	BCC/SSC	Nests at high elevations in grasslands adjacent to lakes or marshes. Winters along the coast on mudflats or in interior valleys in grasslands and agricultural fields.	None – no suitable habitat on site.
Whimbrel <i>Numenius phaeopus</i>	BCC/	Winters along the coast of California.	None – no suitable habitat on site.
Ashy storm petrel <i>Oceanodroma homochroa</i>	BCC	Nests on rocky islands with abundant crevices for nest sites	None – no suitable habitat on site.
Spotted towhee <i>Pipilo maculatus clenentae</i>	BCC	Nests in shrubs and trees.	Low – suitable habitat in eucalyptus trees.
Nuttall's woodpecker <i>Picoides nuttallii</i>	BCC/-	Found primarily in oak woodlands and riparian woods. Cavity nester.	None – no suitable habitat on site.
rufous hummingbird <i>Selasphorus rufus</i>	BCC/-	Nests in chaparral, coniferous forest, scrub habitats and riparian habitats in Canada and winters in Mexico. Nests are placed on a downward drooping structure.	None – no suitable habitat on site.
Allen's hummingbird <i>Selasphorus sasin</i>	BCC/-	Nests in wooded areas, meadows, or thickets along shaded streams, on a branch low down on stem, although placement height varies between 10 inches and 90 feet.	None – no suitable habitat on site.
northern spotted owl <i>Strix occidentalis caurina</i>	FT, BCC/CT	Dense coniferous and hardwood forest, shaded, steep sided canyons.	None – no suitable habitat on site.
California spotted owl <i>Strix occidentalis occidentalis</i>	BCC/SSC	Nests in dense, multi-layered evergreen forests high in diversity, with large trees (some < 83 cm DBH), some decadent, and open areas under canopy. Most often on lower, north-facing slopes of canyons. Found in canyon live oak/California laurel, ponderosa, sugar, Coulter pines, incense cedar, mixed conifer, Douglas fir, and white fir.	None – no suitable habitat on site.
California thrasher <i>Toxostoma redivivum</i>	BCC	Nests in Lowland and coastal chaparral, and riparian woodland thickets.	None – no suitable habitat on site.
Lesser yellowlegs <i>Tringa flavipes</i>	BCC/-	Breeds in open boreal forest with shallow wetlands. Winters in wide variety of shallow fresh and saltwater habitats.	None – no suitable habitat on site.
Mammals			
pallid bat <i>Antrozous pallidus</i>	-/SSC	Day roosts in crevices and cavities in rock outcrops, mines, caves, buildings, bridges, as well as hollows and cavities in a wide variety of tree species. May roost alone, in small groups (2 to 20 bats), or in 100s in maternity roosts, with males and non-reproductive subadults in other, smaller roosts.	None – no suitable habitat on site.

Common Name Scientific Name	Status USFWS/ CDFW	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence
Townsend's big-eared bat <i>Corynorhinus townsendii townsendii</i>	-/CPT, WBWG:H	Day roosts in cave analogs; mines, buildings, bridges, sometimes large tree hollows. Particularly sensitive to roost disturbance, this species has declined throughout its range in California; very few maternity roosts are known in California. Females form maternity colonies, males roost singly, and all disperse widely after maternity season. During winter, roosts in cold, but non-freezing roosts, which may include man-made structures.	None – no suitable habitat on site.
Western red bat <i>Lasiurus blossevillii</i>	-/SSC, WBWG:H	Solitary roosting, except when females are with young (from 2 to 6 are born). Roosts almost exclusively in foliage, under overhanging leaves, in woodland borders, rivers, agricultural areas including orchards, and urban areas with mature trees. Typically found in large cottonwoods, sycamores, walnuts and willows associated with riparian habitats. Forages over mature orchards, oak woodland, low elevation conifer forests, riparian corridors, non-native trees in urban and rural residential areas, and around strong lighting.	Low – suitable habitat on site in eucalyptus trees.
Hoary bat <i>Lasiurus cinereus</i>	-/-, WBWG:M	Roosts singly except when females are with young (from 2 to 4 are born) in dense foliage of medium to large coniferous and deciduous trees. Highly migratory, occurs from sea level to tree line in Sierra Nevada. Summer records predominantly male. Forages along stream and river corridors, open water bodies, meadows, and open forest above canopy.	Low – suitable habitat on site in eucalyptus trees.
American badger <i>Taxidea taxus</i>	-/SSC	Inhabits open grasslands, savannas and mountain meadows near timberline. Requires abundant burrowing mammals, their principal food source, and loose, friable soils.	None – no suitable habitat on site.

U.S. FISH AND WILDLIFE SERVICE (USFWS)

- FE = federally listed Endangered
- FT = federally listed Threatened
- FC = federal candidate for listing
- BCC = Bird of Conservation Concern

CALIFORNIA DEPT. OF FISH AND WILDLIFE (CDFW)

- CE = California listed Endangered
- CT = California listed as Threatened
- CFP = California fully protected species
- SSC = Species of Special Concern

Appendix C: Plant Species Observed at the Santa Rosa Avenue Study Area – September 19, 2017

Scientific Name	Common Name
<i>Acmispon americanus</i>	Spanish lotus
<i>Amaranthus</i> spp.	Amaranthus*
<i>Baccharis pilularis</i>	Coyote brush
<i>Brassica nigra</i>	Black mustard*
<i>Bromus diandrus</i>	Rippgut brome*
<i>Bromus hordeaceus</i>	Soft chess*
<i>Chenopodium album</i>	Lambs quarters*
<i>Cottoneaster</i> sp.	Cottoneaster*
<i>Digitaria ischaemum</i>	Smooth crabgrass*
<i>Epilobium brachycarpum</i>	Willowherb
<i>Erigeron bonariensis</i>	Horseweed*
<i>Erodium brachycarpum</i>	Foothill filaree*
<i>Eucalyptus</i> sp.	Eucalyptus*
<i>Festuca myuros</i>	Rattail fescue*
<i>Festuca perennis</i>	Ryegrass*
<i>Gamochaeta pensylvanica</i>	Pennsylvania everlasting*
<i>Hedera helix</i>	English ivy*
<i>Helminthotheca echioides</i>	Bristly ox-tongue*
<i>Hirschfeldia incana</i>	Short-pod mustard*
<i>Hypochaeris radicata</i>	Rough cat's-ear*
<i>Juncus bufonius</i>	Toad rush
<i>Kickxia elantine</i>	Fluellin*
<i>Lactuca serriola</i>	Prickly lettuce*
<i>Lotus corniculatus</i>	Bird's-foot trefoil*
<i>Malva parviflora</i>	Cheeseweed mallow*
<i>Nerum oleander</i>	Oleander*
<i>Plantago lanceolata</i>	English plantain*
<i>Poa annua</i>	Annual bluegrass*
<i>Polygonum aviculare</i>	Knotweed*
<i>Polypogon monspeliensis</i>	Rabbitsfoot grass*
<i>Portulaca oleracea</i>	Common purslane*
<i>Quercus lobata</i>	Valley oak
<i>Rubus armeniacus</i>	Himalayan blackberry*
<i>Rumex crispus</i>	Curly dock*
<i>Salix</i> sp.	Willow
<i>Sequoia sempervirens</i>	Coast redwood
<i>Spergularia rubra</i>	Red sandspurrey*
<i>Taraxacum officinale</i>	Dandelion*
<i>Tribulus terrestris</i>	Puncture vine*
<i>Vicia</i> sp.	Vetch*
<i>Vitis vinifera</i>	Grape*

Note: * = Non-native species

Appendix D: Wildlife Species Observed at the Santa Rosa Avenue Study Area – September 19 2017.

Scientific Name	Common Name
<i>Aphelocoma californica</i>	Western scrub jay
<i>Corvus brachyrhynchos</i>	American crow
<i>Felis catus</i>	Domestic cat