JACOBSZOON & ASSOCIATES, INC.

natural resource planning & management

Botanical Survey and Biological Assessment for the Kateley Project area APNs: 034-370-040 & 034-030-061

Prepared for:

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PROJECT AND SITE DESCRIPTION

The landowners at APNs 034-370-040 and 034-030-061 propose to widen and improve the road, the construction of a single-family home, and develop an area for placement of fill developed from the house and driveway construction. The project area is approximately 4 acres. Vegetation removal along the driveway and homesite will involve pruning, limbing and removal of brush, grasses and other understory vegetation. A few hardwood trees are also proposed for removal.

Below is the proposed number of trees to be removed in the conversion area:

Tree species and sizes

Proposed number of trees to be removed:

Quercus agrifolia	Coast live oak		12
		Total	12

Proposed number of trees to be planted:

Quercus agrifolia	Coast live oak		36
		Total	36

A botanical survey and biological assessment and surveys for the APNs 034-370-040 and 034-030-061 project area was conducted by Alicia Ives Ringstad, Senior Wildlife Biologist and Jacob Hilliard, Botanist/Biologist for Jacobszoon and Associates, Inc. The proposed operations, such as, site preparation, grading, constructing watercourse crossings and the removal of native vegetation have the potential to impact sensitive plant and animal species. This area will be referred to as the project area in this report.

The existing habitats within the project area includes oak woodlands and open grassland areas populated with primarily non-native annual and perennial forbs. The project area drains into Dry Creek, a Class I watercourse, located in the Lower Dry Creek Watershed (2206.500501). Dry Creek flows into Napa River. According to the Napa County Resource Conservation District, stream surveys of Dry Creek, there are multiple partial barriers for multiple anadromous fish species habitat.

The project area was surveyed for special status plants, communities, and habitats for special status plants and animals. The surrounding 100 feet was also searched for nesting birds and for special status plants, communities, and habitats for special status animals. The botanical survey follows the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*, California Department of Fish and Wildlife (2018).

DESCRIPTION OF SURVEY METHODOLOGY

The biological resource reconnaissance assessment is designed to assess the potential for the presence of sensitive wildlife species and to determine whether sensitive plant species and plant communities may or may not be present. The purpose of this analysis is to assess the potential for cumulative impacts to biological resources that may occur as a result of the proposed project. The basis of the biological assessment analysis is a comparison of existing habitat conditions within the project area and surrounding area to the geographic range and habitat requirements of sensitive plant and wildlife species. This includes plant community (including development stage), soil structure, and special features such as presence of water, snags, cover, and food (fruit, seeds, insects, etc.).

The potential for occurrences of rare, threatened, endangered or plant and animal species of concern within or near the project area were evaluated by reviewing topographic maps, aerial photography, the California Native Plant Society's Rare Plant Rank (CRPR) electronic inventory (online edition, v8-03.039) and the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) Quick Viewer (online edition, v5.49.25). The County of Napa also maintains a mapped database of biological resources including special features such as wetland, vernal pool, aquatic, and riparian communities. This database was also reviewed, and no special or unique biological resources are noted within the project area. The CRPR database produces a list of sensitive plants potentially occurring at a site based on various site characteristics (location of project area with regard to the geographic range of sensitive plant species, location(s) of known populations of sensitive plant species as mapped in the CNDDB, soils of the cultivation area, elevation, presence/absence of special habitat features, and plant communities existing within the project area). While use of the CRPR inventory does not eliminate the need for an in-season botanical survey, it can, when used in conjunction with other information, provide a very good indication of the suitability of a site as habitat for sensitive plant species.

The CNDDB database consists of mapped overlays of all known populations of sensitive plants and wildlife. The database is continually updated with new sensitive species population data. Rare, threatened, and endangered plants are not necessarily limited to those species which have been "listed" by state and federal agencies but should include any species that, based on all available data, can be shown to be rare, threatened, and/or endangered under the following definitions:

> A species, subspecies, or variety of plants is **"endangered"** when the prospects of its survival and reproduction are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, or disease. A plant is **"threatened"** when it is likely to become endangered in the foreseeable future in the absence of protection measures. A plant is **"rare"** when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its habitat continues to deteriorate.

Rare natural communities are those communities that are of highly limited distribution. These communities may or may not contain rare, threatened, or endangered species. The most current version of the California Natural Diversity Database's List of California Terrestrial Natural Communities was used as a guide to the names and status of communities.

The rare plants assessed are the native, vascular and non-vascular plants of limited abundance in California, with known occurrence or distribution in Napa County, and were derived from the following lists:

- Federal listed or threatened or endangered plants or species of concern (FT, FE, FSC)
- California State listed or rare, threatened or endangered plants or species of concern (SR, ST, SE, SP, CSC)
- Board of Forestry Sensitive (BFS)
- California Department of Fish and Wildlife (CDFW) Status animals: Fully Protected, Species of Special Concern and Watch List (FP, SSC, WL)
- California Native Plant Society Rare Plant Rank (CRPR) list 1A species (plants presumed extirpated in California, and either rare or extinct elsewhere)
- California Native Plant Society Rare Plant Rank (CRPR) list 1B species (plants rare, threatened or endangered in California and elsewhere)
- California Native Plant Society Rare Plant Rank (CRPR) list 2A species (plants presumed extirpated in California but more common elsewhere)
- California Native Plant Society Rare Plant Rank (CRPR) list 2B species (plants rare, threatened, or endangered in California but more common elsewhere)
- California Native Plant Society Rare Plant Rank (CRPR) list 3 (plants which more information is needed- a review list)
- California Native Plant Society Rare Plant Rank (CRPR) list 4 (plants of limited distribution- a watch list)

For the identification of species and habitats, a scoping was performed that extended out five miles surrounding the proposed project area. The distance is chosen to account for the possible distribution of animal and plant species and habitats. A 0.7 mile scoping was completed for the identification of Northern Spotted Owl (NSO) activity centers.

To characterize existing biological conditions; identify potential impacts to sensitive habitats resulting from implementation of the project; and locate rare, threatened or endangered plant and wildlife species at the proposed project area, Jacobszoon & Associate, Inc.'s Senior Wildlife Biologist, Alicia Ives Ringstad and Botanist/Biologist, Jacob D. Hilliard conducted a biological survey and assessment of the proposed project area on 07/26/16, 3/29/17, and 5/27/17, consisting of 18 one-person hours.

POTENTIAL SENSITIVE ANIMAL SPECIES PRESENT

According to the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) Quick Viewer (online edition, v5.49.25), and the County of Napa, below are the listed sensitive wildlife species that are within five miles surrounding the project area. A discussion is provided of each species' habitat requirements, if potential suitable habitat is present within the project area, and if the species may or may not be adversely affected by the project area.

Northern Spotted Owl (*Strix occidentalis caurina*): Northern spotted owls are permanent residents in Napa County. They require mature forest patches with permanent water and suitable nesting trees and snags. Northern spotted owls use dense, old-growth forests, or mid- to late-seral stage forests, with a multi-layered canopy in mixed conifer, redwood, and Douglas-fir habitats for breeding. In March of 2017, the State of California Northern Spotted Owl Database was queried for the presence of NSO activity centers within 1.3 miles of the project area. One activity center is known within 0.7 miles of project area (NAP0015). NSO surveys were conducted within 1.3 miles of the project area in 2017 and 2018.
NSOs were detected within the vicinity of NAP0015 but not within 0.25 miles of the project area. The project area does not contain nesting/roosting habitat but does contain marginal foraging habitat. The proposed project will have no significant adverse impact on the NSO, as no potential nest/roost trees are proposed for removal. (Regulatory Status: FT, ST, BFS, SSC)

Burrowing owl (*Athene cunicularia*): Burrowing owls are yearlong residents of Napa County. They occur in open, dry grassland and desert habitats, and in grassland, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats. They use rodent or other burrows for roosting and nesting cover. Burrowing owls could utilize the grasslands and shrubs present within the proposed project area, however, no burrows or Burrowing owls were located during the site assessment. The closest recorded occurrence of this species is over 5 miles from the project area. The removal of woody vegetation during breeding season (March 1 to August 30) has the potential to impact nesting birds. To avoid this impact, if woody vegetation removal will occur between March 1 and August 30, it is recommended that that pre-construction surveys for nesting birds conducted within 7 days of the commencement of woody vegetation removal. A pre-construction survey methods outline is included in this assessment. (Regulatory Status: BFS) (Regulatory Status: BFS)

American Peregrine Falcon (*Falco peregrinus anatum)*: Peregrine falcons require protected cliffs and ledges for cover. American peregrine falcons are summer and winter residents in portions of Napa County. Suitable habitat in the form of rock outcrops or cliffs over 70' high do not exist within the project area or within the immediate area of the project area. No Peregrine falcons or nests were observed during the site assessment. The closest recorded occurrence of this species is over 5 miles from the project area. No significant adverse impacts to this species are expected as a result of the project, as no potential nest trees shall be removed. (Regulatory Status: FP, BFS)

Bald Eagle (*Haliaeetus leucocephalus*): Bald eagles require large bodies of water or free-flowing rivers with abundant fish and adjacent snags, cliffs, or perches (Zeiner et al. 1990). Perches are often high in large-limbed trees or snags, broken-topped trees, or on rocks near water. Nests are found in large, old-growth, or dominant live trees with open branches. Portions of Napa County contain habitat suitable for nesting and winter range for the Bald eagle. The habitat requirements for this species do not occur within the project area or within 100 feet of the project area. There are no cliffs nearby and Dry Creek, located south of the project area are heavily forested and not ideal for foraging. No Bald eagles or large nest structures were observed during the site assessment. The closest recorded occurrence of this species is over 5 miles from the project area. No significant adverse impacts to this species are expected as a result of the project area, as no potential nest trees shall be removed. (Regulatory Status: SE, BFS)

Osprey (*Pandion haliaetus*): Ospreys are year-round residents in Napa County. Ospreys are strictly associated with large, fish-bearing waters, primarily in ponderosa pine through mixed conifer habitat types. The birds require open, clear water for foraging, such as rivers, lakes, reservoirs, estuaries, and bays. Large trees, snags, and blown-out tree tops in open forest habitats are used for cover and nesting. Tall, open-branched "pilot trees" are required nearby for landing before approaching the nest and for practice by the young. Nests are usually next to fish-bearing water, however may be up to one mile away. The habitat requirements for this species do not occur within the project area. Dry Creek, which is located just south of the project area are heavily forested and not ideal for foraging. No Osprey or large nest structures were observed during field work. The closest recorded occurrence of this species is over 5 miles from the project area. No significant adverse impacts to this species are expected as a result of the project, as no potential nest trees shall be removed. (Regulatory Status: SSC, BFS)

White-Tailed Kite (*Elanus leucurus*): White-tailed kites are yearlong residents in coastal and valley lowlands and are rarely found away from agricultural areas. White-tailed kites inhabit herbaceous and open stages of most habitats mostly in cismontane California. No white-tailed kites or nest structures were observed within the project area during the assessment. White-tailed kite foraging and nesting habitat is present near the project area in the form of grassland and vineyards. The closest recorded occurrence of this species is approximately 2.9 miles northeast from the project area. The removal of woody vegetation during breeding season (March 1 to August 30) has the potential to impact nesting birds. To avoid this impact, if woody vegetation removal will occur between March 1 and August 30, it is recommended that that pre-construction surveys for nesting birds conducted within 7 days of the commencement of woody vegetation removal. A pre-construction survey methods outline is included in this assessment. (Regulatory Status: SSC, BFS)

Golden Eagle (*Aquila chrysaetos*): Golden eagles require open habitat for hunting, typically rolling foothills, mountain areas, sage-juniper flats, and desert. They require secluded cliffs with overhanging ledges and large trees for cover. Portions of Napa County contain habitat suitable for nesting and winter range for the golden eagle. The current canopy cover and perennial fish stream south of the project (Dry Creek) may be potentially suitable golden eagle foraging habitat. Low densities of large trees are present in the surrounding area. Golden eagles or nests have not been observed within or adjacent to the project area.

The closest recorded occurrence of this species is over 5 miles from the project area. The removal of woody vegetation during breeding season (March 1 to August 30) has the potential to impact nesting birds. To avoid this impact, if woody vegetation removal will occur between March 1 and August 30, it is recommended that that pre-construction surveys for nesting birds conducted within 7 days of the commencement of woody vegetation removal. A pre-construction survey methods outline is included in this assessment.

Merlin (*Falco columbarius*): Merlins are winter residents of Napa County. They are seldom found in heavily wooded areas or open deserts. They frequent coastlines, savannahs, woodlands, lakes, wetlands, edges, and early succession stages close to water. The Merlin ranges from annual grasslands to ponderosa pine and montane hardwood-conifer habitats. Suitable habitat does not occur within the project area but is available within the surrounding area. The closest recorded occurrence of this species is over 5 miles from the project area. The removal of woody vegetation during breeding season (March 1 to August 30) has the potential to impact nesting birds. To avoid this impact, if woody vegetation removal will occur between March 1 and August 30, it is recommended that that pre-construction surveys for nesting birds conducted within 7 days of the commencement of woody vegetation removal. A pre-construction survey methods outline is included in this assessment. (Regulatory Status: BFS)

Ferruginous hawk (*Buteo regalis*): Ferruginous hawk are winter residents of Napa County. They frequent open grassland, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats. They roost in open areas, usually in a lone tree or utility pole. These habitats are marginal within the project area but is available within the surrounding area. The closest recorded occurrence of this species is over 5 miles from the project area. The removal of woody vegetation during breeding season (March 1 to August 30) has the potential to impact nesting birds. To avoid this impact, if woody vegetation removal will occur between March 1 and August 30, it is recommended that that pre-construction surveys for nesting birds conducted within 7 days of the commencement of woody vegetation removal. A pre-construction survey methods outline is included in this assessment. (Regulatory Status: SSC, BFS)

Cooper's hawk (*Accipiter cooperii*): Cooper's hawks are yearlong residents of Napa County. They frequent landscapes where wooded areas occur in patches and groves and near open water or riparian vegetation. They often use patchy woodlands and edges with snags for perching. Dense stands with moderate crown-depths are used for nesting. These habitats do not exist within the project area but is available within the surrounding area. The closest recorded occurrence of this species is over 5 miles from the project area. The removal of woody vegetation during breeding season (March 1 to August 30) has the potential to impact nesting birds. To avoid this impact, if woody vegetation removal will occur between March 1 and August 30, it is recommended that that pre-construction surveys for nesting birds conducted within 7 days of the commencement of woody vegetation removal. A pre-construction survey methods outline is included in this assessment. (Regulatory Status: BFS)

Swainson's hawk (*Buteo swainsoni*): Swainson's hawk breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. They forage in adjacent grassland or in suitable grain or alfalfa fields, or livestock pastures. Grassland does exist within the project area and is available within the surrounding area. The closest recorded occurrence of this species is approximately 3.8 miles northeast from the project area. The removal of woody vegetation during breeding season (March 1 to August 30) has the potential to impact nesting birds. To avoid this impact, if woody vegetation removal will occur between March 1 and August 30, it is recommended that that pre-construction surveys for nesting birds conducted within 7 days of the commencement of woody vegetation removal. A pre-construction survey methods outline is included in this assessment. (Regulatory Status: SSC)

Sharp-shinned hawk (*Accipiter striatus*): Sharp-shinned hawks are found in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Sharp-shinned hawks roost in intermediate to high-canopy forest. They nest in dense, pole/small-tree stands of conifers, which are cool, moist, well shaded and usually within 275 feet of water. They forage in openings at the edges of woodlands. North-facing slopes with plucking perches are critical requirements for this species. The sharp-shinned hawk is a year-round resident of portions of Napa County. The required habitat does exist along Dry Creek, south of the project area. No Sharp-shinned hawks or nests were observed on the project area during the assessment. The closest recorded occurrence of this species is over 5 miles from the project area. The removal of woody vegetation during breeding season (March 1 to August 30) has the potential to impact nesting birds. To avoid this impact, if woody vegetation removal will occur between March 1 and August 30, it is recommended that that pre-construction surveys for nesting birds conducted within 7 days of the commencement of woody vegetation removal. A pre-construction survey methods outline is included in this assessment. (Regulatory Status: SSC)

Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*): The Saltmarsh common yellowthroat inhabits emergent wetlands. They are also found in other moist habitats with low, dense cover. The habitat is not found within the project area or within 100 feet of the project area. The closest recorded occurrence of this species is over 5 miles from the project area. No significant adverse impacts to this species are expected as a result of the project**,** as no potential nest trees shall be removed. (Regulatory Status: SSC)

Tricolored blackbird (*Agelaius tricolor*): Tricolored blackbirds are common throughout the Central Valley and in coastal districts from Mendocino County south. They breed near freshwater, preferably in emergent wetlands with tall, dense cattails or tules, but also in thickets of willow, blackberry, and wild rose. The habitat is not found within the project area or within 100 feet of the project area. The closest recorded occurrence of this species is over 5 miles from the project area. No significant adverse impacts to this species are expected as a result of the project, as no potential nest trees shall be removed. (Regulatory Status: SSC)

Purple martin (*Progne subis*): Purple martins often nest in tall old-growth trees or snags in coniferous forests with multilayered canopy. They are second cavity nesters, using old woodpecker cavities. Old growth trees or snags do not exist within the project area or within 100 feet of the project area. Purple martins or nests were not observed during the assessment. The closest recorded occurrence of this species is over 5 miles from the project area.

No significant adverse impacts to the Purple martin or its habitat are expected as a result of the project, as no potential nest trees shall be removed. (Regulatory Status: SSC)

Bank swallow (*Riparia riparia*): Bank swallows are summer residents of Napa County. They are found primarily in riparian and other lowland habitats. They forage predominantly over open riparian areas, but also over brushland, grassland, wetlands, water, and cropland. Grassland does exist within the project area and is available within the surrounding area. The closest recorded occurrence of this species is approximately 4.7 miles south from the project area. The removal of woody vegetation during breeding season (March 1 to August 30) has the potential to impact nesting birds. To avoid this impact, if woody vegetation removal will occur between March 1 and August 30, it is recommended that that pre-construction surveys for nesting birds conducted within 7 days of the commencement of woody vegetation removal. A pre-construction survey methods outline is included in this assessment. (Regulatory Status: SSC)

Yellow Warbler (*Dendroica petechia*): Yellow warblers are summer residents of Napa County breeding mainly in riparian deciduous habitats of willows, alders, cottonwoods, and sometimes in brushy mixed conifer habitats. These habitats do not exist within the project area or within 100 feet of the project area. The closest recorded occurrence of this species is over 5 miles from the project area. No significant adverse impacts to the Yellow Warbler or its habitat are expected as a result of the project, as no potential nest trees shall be removed. (Regulatory Status: SSC)

Yellow-Breasted Chat (*Icteria virens*): This species is a summer resident of Napa County. Yellow-breasted chats require riparian thickets of willows or alders with a thick understory near watercourses. These habitats do not exist within the project area or within 100 feet of the project area. The closest recorded occurrence of this species is over 5 miles from the project area. No significant adverse impacts to the Yellow-breasted chat or its habitat are expected as a result of the project, as no potential nest trees shall be removed. (Regulatory Status: SSC)

Western yellow-billed cuckoo (*Coccyzus americanus*): Western yellow-billed cuckoos inhabit extensive deciduous riparian thickets or forests with dense, low-level or understory foliage near slow-moving watercourses or seeps. Densely foliaged, deciduous trees and shrubs, especially willows, are required for roosting sites. These habitats do not exist within the project area or within 100 feet of the project area. The closest recorded occurrence of this species is over 5 miles from the project area. No significant impacts to this species are expected as a result of the project. (Regulatory Status: FSC, SE, BFS)

San Pablo song sparrow (*Melospiza melodia samuelis*): The San Pablo song sparrow is a subspecies of song sparrow that inhabits emergent wetlands. The habitat is not found within the project area or within 100 feet of the project area. The closest recorded occurrence of this species is over 5 miles from the project area. No significant adverse impacts to this species are expected as a result of the project, as no potential nest trees shall be removed. (Regulatory Status: SSC)

Grasshopper sparrow (*Ammodramus savannarum*): An uncommon and local, summer resident in foothills and lowlands west of the Cascade- Sierra Nevada crest from Mendocino and Trinity Counties south to San Diego County. Occurs in dry, dense grasslands, especially those with a variety of grasses and tall forbs and scattered shrubs for singing perches. The project area does contain suitable habitat for the Grasshopper sparrow. The species or nest sites were not located within or adjacent to the project area during the assessment. The closest recorded occurrence of this species is over 5 miles from the project area. The removal of woody vegetation during breeding season (March 1 to August 30) has the potential to impact nesting birds. To avoid this impact, if woody vegetation removal will occur between March 1 and August 30, it is recommended that that pre-construction surveys for nesting birds conducted within 7 days of the commencement of woody vegetation removal. A pre-construction survey methods outline is included in this assessment. (Regulatory Status: SSC)

Black swift (*Cypseloides niger*): Black swifts nest in moist crevices or caves on sea cliffs above the surf, or on cliffs behind, or adjacent to, waterfalls in deep canyons. They forage over a wide variety of habitats. This habitat does not exist within the project area orwithin 100 feet of the project area. The closest recorded occurrence of this species is approximately 0.9 miles southwest from the project area on Dry Creek. No significant adverse impacts on the Black swift and its habitat are expected as a result of the project. (Regulatory Status: SSC)

Lawrence's goldfinch (*Spinus lawrencei*): Lawrence's goldfinches are summer residents of Napa County. They are found in open oak woodland, adjacent to chaparral or grassland where chamise and annual herbs provide food throughout the year. They are usually located within 0.3 miles of water. The project area does contain habitat for the finches. No finches or nests were located during the assessment. The closest recorded occurrence of this species is over 5 miles from the project area. The removal of woody vegetation during breeding season (March 1 to August 30) has the potential to impact nesting birds. To avoid this impact, if woody vegetation removal will occur between March 1 and August 30, it is recommended that that pre-construction surveys for nesting birds conducted within 7 days of the commencement of woody vegetation removal. A pre-construction survey methods outline is included in this assessment. (Regulatory Status: SSC)

Oak titmouse (*Baeolophus inornatus*): A common resident in a variety of habitats but is primarily associated with oaks. Occurs in montane hardwood-conifer, montane hardwood, blue, valley and coastal oak woodlands, and montane and valley foothill riparian habitats, in cismontane California. They roost in a cavity in a tree or snag. This habitat does occur within the project area; however, no cavities were noted within the trees and no snags were located during the assessment. The closest recorded occurrence of this species is over 5 miles from the project area. The removal of woody vegetation during breeding season (March 1 to August 30) has the potential to impact nesting birds. To avoid this impact, if woody vegetation removal will occur between March 1 and August 30, it is recommended that that pre-construction surveys for nesting birds conducted within 7 days of the commencement of woody vegetation removal. A pre-construction survey methods outline is included in this assessment. (Regulatory Status: SSC)

Great egret *(Ardea alba):* This species requires groves of trees suitable for nesting and roosting, relatively isolated from human activities, near aquatic foraging areas. Prefer to forage in shallow, relatively still waters of estuaries, lakes, slow moving watercourses, salt ponds, or mud flats. Colonial nesters that build groups of platform nests in large trees or snags, usually near a feeding area. Great egrets are highly dependent upon wetland habitats and riparian areas. Great egret foraging and nesting habitat is not present within the project area or within 100 feet of the project area. No egret-rookery trees were observed during the assessment. The closest recorded occurrence of this species is over 5 miles from the project area. No significant adverse impacts on the Great egret or its habitat are expected as a result of the project. (Regulatory Status: SSC)

Great Blue Heron (*Ardea herodias*): Great blue herons are fairly common in shallow estuaries, and fresh and saline emergent wetlands. Foraging areas include river and creek banks, ponds, lakes, and watercourses in mountainous areas. They usually nest in colonies in secluded large trees or snags in secluded locations. Great blue herons are yearlong residents of Napa County. Heron foraging and nesting habitat is not present within the project area or within the project area. No heron-rookery trees were observed during the assessment. The closest recorded occurrence of this species is over 5 miles from the project area. The project will have no significant adverse impacts on the Great blue heron or its habitat. (Regulatory Status: SSC)

Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*): This species occurs primarily in grassland, saline emergent wetland, and wet meadow habitats. The require dense ground cover for nesting. Grassland does exist within the project area and is available within the surrounding area. No Bryant's savannah sparrows were observed during the assessment. The closest recorded occurrence of this species is over 5 miles from the project area. The removal of woody vegetation during breeding season (March 1 to August 30) has the potential to impact nesting birds. To avoid this impact, if woody vegetation removal will occur between March 1 and August 30, it is recommended that that pre-construction surveys for nesting birds conducted within 7 days of the commencement of woody vegetation removal. A pre-construction survey methods outline is included in this assessment. (Regulatory Status: SSC)

Rufous hummingbird (*Selasphorus rufus*): The rufous hummingbird utilizes many trees and shrubs in many habitats that provide cover, including lowland riparian, open woodlands, scrub, and chaparral, also mountain meadows extending to and above the treeline. They breed in coniferous forest in berry tangles, shrubs, and conifers. The habitat is present marginally within the project area and within 100 feet of the project area. The closest recorded occurrence of this species is over 5 miles from the project area. The removal of woody vegetation during breeding season (March 1 to August 30) has the potential to impact nesting birds. To avoid this impact, if woody vegetation removal will occur between March 1 and August 30, it is recommended that that pre-construction surveys for nesting birds conducted within 7 days of the commencement of woody vegetation removal. A pre-construction survey methods outline is included in this assessment. (Regulatory Status: SSC)

California horned lark (*Eremophila alpestris actia*): The California horned lark is a common to abundant resident in a variety of open habitats, usually where trees and large shrubs are absent. The are found in grasslands along the coast and deserts near sea level to alpine dwarf-shrub habitat above the treeline.

The habitat is present within the project area and within the 100 feet of the project area. The closest recorded occurrence of this species is over 5 miles from the project area. The removal of woody vegetation during breeding season (March 1 to August 30) has the potential to impact nesting birds. To avoid this impact, if woody vegetation removal will occur between March 1 and August 30, it is recommended that that pre-construction surveys for nesting birds conducted within 7 days of the commencement of woody vegetation removal. A pre-construction survey methods outline is included in this assessment. (Regulatory Status: SSC)

PRE-CONSTRUCTION BIRD SURVEY METHODS PROTOCOL

A preconstruction survey for the above listed birds shall be conducted prior to earthmoving activities, and work shall only occur in areas that have been surveyed by a wildlife biologist.

- If surveys are to occur during the normal breeding season (March 1 through August 15), work areas shall be surveyed by a qualified biologist within 7 days prior to initiation work and on a minimum of two separate days. All suitable habitats shall be surveyed within the anticipated construction work areas including 500 feet (where feasible) of all work areas. Surveys will be conducted prior to any construction activity and every 7 days during construction activities.
    - Surveys will consist of walking transects as well as a Sit and Scope (survey station) component that will be spaced accordingly to allow complete visual coverage of all habitats including: open fields, barren areas, manmade structures (e.g., bridges), riparian corridors, wooded areas and brush dominated ground cover within, and adjacent to, the project area that could support nesting birds. Appropriate spacing will ultimately be determined by the biologist in the field, but the following guidelines will be implemented to ensure adequate coverage of habitats:
        - 100-300 feet for open grassland
        - 25-50 feet for areas with dense brush or shrubs
        - <25 feet as needed for a dense stand of trees or very dense vegetation
    - The biologist will spend 5-10 minutes at each survey station recording all birds seen and heard, including flyovers (flyovers should be noted as such).
    - When breeding or nesting activities are suspected or observed, the surveyor will spend additional time watching the activity (with the aid of binoculars when appropriate) to determine the status of the observed activity. The following behaviors are indicators that an active nest may be present:
        1. Carrying nesting material to build nests within the survey area
        2. Copulations
        3. Carrying food or feeding young
        4. Carrying fecal sacks away from the nest
        5. Mate-feeding; repeated “bee-line” flying to likely nest site
        6. Observation of nest
        7. Observation of chicks

8. Females giving call or chip notes alerting their mate that they are off the nest
9. Auditory evidence of chicks

- When an active nest is detected or behavior of nesting is encountered, a "buffer" of 50 feet designated by the biologist shall be avoided until the nests have been vacated.
  - Buffer zones shall be flagged with temporary construction fencing with discrete material as to not alert potential predators of the nest location. Flagging shall remain in place until young have fledged.
  - If the site is left unattended for more than one-week (7 days) following the initial surveys, additional surveys shall be implemented.
- On-going construction monitoring shall occur to ensure no nesting activity is disturbed.
- If state and/or federally listed birds are found breeding within the area, activities shall be halted, and consultation with the CDFW and U.S. Fish and Wildlife Service shall occur.

- If earthmoving activities occur after August 15, impacts to nesting birds shall be avoided and surveys are not necessary.

Nesting birds will not be adversely affected by this conversion if nesting bird surveys are conducted prior to the commencement of the project or if the project is conducted after the nesting season.

Townsend's Big-Eared Bat (*Corynorhinus townsendii or COTO*): COTO inhabits southwestern British Columbia, Canada and most of the western U.S., east to the Great Plains, and south from western Texas into central Mexico. Isolated populations are central and eastern U.S. Townsend's big-eared bats are most common in mesic sites but are found in a variety of habitats including coastal conifer and broad-leaf forests, oak and conifer woodlands, arid grasslands and deserts, and high-elevation forests and meadows. Roosting, maternity and hibernacula sites in California include limestone caves, lava tubes, mine tunnels, buildings, and other man-made structures.

Roost structures that could be classified as cave analogues and function as maternity roosts or hibernacula include large trees (minimum dbh of 8 ft.; adapted from maternity roosts in large redwood trees) with large basal hollows and an internal roost area large enough for flying forays (larger than the entrance). The roost ceiling must be dome-like (allowing for multiple bats to roost in clusters) and occur at least 1 ft. above the top of the entrance (allows for better protection from predators and changing microclimates). The only light penetrating the roost area must originate from the roost entrances so that the internal roost area remains semi-dark to dark. Suitable habitat is described as basal hollows in trees 42" dbh and greater having the following characteristics:

- An opening of equal or greater than 2 square feet.
- An internal cavity extending above the entrance equal or greater than 12 inches.
- An internal cavity equal or greater than 3 feet above the ground.

The project area were searched out to 100' from the project area (where feasible) for potential maternity roosts or hibernacula, and none were located. There are no known Townsend's big-eared bat colonies and no known mine shafts, caves or large trees with basal hollows in or near the project area. The closest recorded occurrence of this species is located over 5 miles from the project area. The project will not have a significant adverse impact on this species, as no trees will be removed, potential roosting habitat will remain intact, and there is ample foraging habitat surrounding the project area. (Regulatory Status: SSC)

Pallid Bat (*Antrozous pallidus*): The Pallid bat is a yearlong resident of Napa County. Pallid bats occupy a wide variety of habitats, such as grasslands, shrublands, and forested areas of oak and pine, but prefer rocky outcrops with desert scrub. The pallid bat roosts in caves, mines, crevices, and occasionally in hollow trees or buildings. There is potential foraging habitat in the form of grassland within the project area. There are no mine shafts, caves or large trees with basal hollows in or near the project area. The closest recorded occurrence of this species is approximately 4 miles southeast from the project area. Pallid bats will not be adversely impacted by the project, as no potential roost trees shall be removed and there is ample grassland for foraging surrounding the project area. (Regulatory Status: SSC)

Long-eared myotis (*Myotis evotis*): The Long-eared myotis have been found in nearly all brush, woodland and forest habitats, but seems to prefer coniferous woodlands and forests. They roost in caves, under bark, snags, and crevices. They forage along habitat edges, in open habitats and over water. The project area does contain suitable habitat for this species. No roosts or evidence of their presence was observed within the project area during the assessment. The closest recorded occurrence of this species is located over 5 miles from the project area. The project will not have a significant adverse impact on this species, as no potential roost trees shall be removed and there is ample grassland for foraging surrounding the project area. (Regulatory Status: BFS)

Fringed myotis (*Myotis thysanodes*): Optimal habitats for the Fringed myotis are pinyon-juniper, valley and foothill grassland and hardwood-conifer habitats. They roost in caves, mines, buildings, and crevices. They forage around streams, lakes, and ponds. There is potential foraging habitat in the form of grassland within the project area. There are no mine shafts, caves or large trees with basal hollows in or near the project area. No roosts or evidence of their presence was observed within the project area during the assessment. The closest recorded occurrence of this species is located over 5 miles from the project area. The project will not have a significant adverse impact on this species, as no potential roost trees shall be removed and there is ample grassland for foraging surrounding the project area. (Regulatory Status: BFS)

Long-legged myotis (*Myotis volans*): The long-legged myotis forages in chaparral, coastal scrub, Great Basin shrub habitats, and early successional stages of woodlands and forests. They roost in caves, mines, buildings, rock crevices, in snags, and under tree bark. There is potential foraging habitat in the form of grassland and shrubs within the project area. There are no mine shafts, caves or large trees with basal hollows in or near the project area. No roosts or evidence of their presence was observed within the project area during the assessment. The closest recorded occurrence of this species is located over 5 miles from the project area. The project will not have a significant adverse impact on this species, as no potential roost trees shall be removed and there is ample grassland for foraging surrounding the project area. (Regulatory Status: BFS)

Yuma Myotis (*Myotis yumanensis*): Optimal foraging habitat for the Yuma myotis are open forests and woodlands near water to forage. They roost in caves, mines, buildings, and crevices. There is potential marginal foraging habitat in the form of open oak forest within the project area. There are no mine shafts, caves or large trees with basal hollows in or near the project area. No roosts or evidence of their presence was observed within the project area during the assessment. The closest recorded occurrence of this species is located over 5 miles from the project area. The project will not have a significant adverse impact on this species, as no potential roost trees shall be removed and there is ample foraging surrounding the project area. (Regulatory Status: SSC)

American Badger (*Taxidea taxus*): A small carnivore, with a distinctive white badge-like mark on its forehead. This species is abundant in drier open stages of most shrub, forest and herbaceous habitats, with friable soils. They dig burrows in the friable soils and frequently reuse old burrows. Potential suitable habitat for the badger does occur within the project area. No burrows or individuals were observed within the project area during the assessment. The closest recorded occurrence of this species is located over 5 miles from the project area. The project will not have any significant adverse impacts on this species. (Regulatory Status: SSC)

North American porcupine (*Erethizon dorsatum*): North American porcupines range from Canada, Alaska, and into northern Mexico. They are commonly found in coniferous and mixed forested areas, but have adapted to harsh environments such as shrublands, tundra, and deserts. They make their dens in hollow trees or in rocky areas. The project area does not contain coniferous forest; however, does contain shrubland. No North American porcupines were observed during the assessment. The closest recorded occurrence of this species is over 5 miles from the project area. No significant adverse impacts to the North American porcupine and its habitat are expected as a result of the project, as potential den trees will not be removed. (Regulatory Status: SSC)

Steelhead (*Oncorhynchus mykiss)* [Northern California Evolutionarily Significant Unit]:
Migration: The Napa River System contains summer-run steelhead that enter the watershed in the early fall through spring and begin spawning in December.
Spawning: The preferred water temperatures for spawning migration are 3.9-9.4°C (39-49°F). Steelhead are capable of repeat spawning. Up to 30% of steelhead can survive to spawn a second or third time, but in large drainages where fish migrate long distances, the proportion is much lower. Clean- will-aerated gravel beds, typically in steep, rocky reaches of upper tributaries are needed for spawning.

Steelhead construct redds for egg deposition in gravels ranging in size from 0.6-10.2 cm. Development: Egg development is temperature dependent and usually takes 31 days at 10°C (50°F).

Rearing: Upon emerging from the gravel, the fry rear in edgewater habitats and move gradually into pools and riffles, as they grow larger. Juvenile steelhead spend 1 to 3 years in fresh water before migrating to the ocean. Most smolting migration takes place in the spring and early summer. Most steelhead will spend 2 years in the ocean before returning to spawn.

There is not a watercourse located within the project area. Dry Creek is approximately 0.4 miles southwest of the project area and runs into the Napa River. The Napa River watershed is known to be spawning habitat for steelhead. The closest recorded occurrence of this species is approximately 4.4 miles southwest from the project area. The project will not have a significant adverse impact upon the species, as the construction of the projects will be conducted in a manner to minimize any effects to the stream channel and any species potentially located in Dry Creek.

The proposed project may have an impact on Steelhead habitat in downstream channels if debris, soil, silt, sand, bark, slash, sawdust, rubbish, oil or petroleum products, or other deleterious material from projects activities are delivered to stream channels and downstream habitat. Project construction should be conducted in a manner so that these materials are not allowed to enter into or be placed where they may be washed by rainfall or runoff into the stream. All project materials and debris should be removed from the project area and properly disposed of off-site upon project completion. All work should be confined to dry weather conditions to minimize erosion and sediment delivery. Permanent erosion control should be incorporated so that soil potentially disturbed by the project is captured before sediment can enter drainages. (Regulatory Status: FPT, SSC)

Chinook Salmon (*Onchorhynchus tshawytscha*) [Northern California Evolutionarily Significant Unit]: Chinook salmon are known to inhabit the Napa River.
Migration: The Napa River drainage contains fall-run chinook salmon. This species leaves the ocean and enters the river in late August through late fall. Downstream migration is usually completed by late June, but some fish remain in the estuaries until fall and enter the ocean as yearlings. Chinook will remain in the ocean for 3 to 5 years before returning to fresh water to spawn.
Spawning: Spawning usually occurs from October through January when water temperatures are between 5.6-13.9°C. Chinook are riffle spawners and tend to utilize gravel substrate at the head of riffles or pool tails ranging in size from 1.3-15 cm. Chinook salmon die after spawning.
Development: Depending on water temperatures, the eggs develop for 50-60 days in the gravel before hatching. Embryo survival rates begin to decrease when the amount of substrate smaller than 6.35 mm. exceeds 20%. Young salmon emerge from the gravel after the yolk sac is absorbed 2 to 4 weeks later. Juvenile Chinook will generally begin their downstream migration soon thereafter.

There is not a watercourse located within the project area. Dry Creek is approximately 0.4 miles southwest of the project area and runs into the Napa River. The closest recorded occurrence of this species is over 5 miles from the project area. The project will not have a significant adverse impact upon the species, as the construction of the projects will be conducted in a manner to minimize any effects to the stream channel and any species potentially located in Dry Creek.

The proposed project may have an impact on Chinook habitat in downstream channels if debris, soil, silt, sand, bark, slash, sawdust, rubbish, oil or petroleum products, or other deleterious material from projects activities are delivered to stream channels and downstream habitat. Project construction should be conducted in a manner so that these materials are not allowed to enter into or be placed where they may be washed by rainfall or runoff into the stream. All project materials and debris should be removed from the project area and properly disposed of off-site upon project completion. All work should be confined to dry weather conditions to minimize erosion and sediment delivery. Permanent erosion control should be incorporated so that soil potentially disturbed by the project is captured before sediment can enter drainages. (Regulatory Status: FPT, SSC)

Longfin smelt (*Spirinchus thaleichthys*): The longfin smelt is a candidate species for listing as federally endangered. The longfin smelt is located in the San Francisco Bay-Delta region. Major habitat types include riverine and tidal wetlands, mud flat, and salt marsh, with substantial areas of diked wetland managed for hunting. The sandy substrates that longfin smelt are presumed to use for spawning are abundant in the Delta. This habitat is not present within or near the project area. The closest recorded occurrence of this species is over 5 miles from the project area. No significant adverse impacts to this species are likely to occur as a result of the project, as the habitat is not present. (Regulatory Status: ST)

Delta smelt (*Hypomesus transpacificus*): The delta smelt is endemic to the Sacramento–San Joaquin River Delta in California, where it is distributed from the Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, and Solano Counties. Major habitat types include riverine and tidal wetlands, mud flat, and salt marsh, with substantial areas of diked wetland managed for hunting. This habitat is not present within or near the project area. The closest recorded occurrence of this species is over 5 miles from the project area. No significant adverse impacts to this species are likely to occur as a result of the project, as the habitat is not present. (Regulatory Status: FT, SE)

Russian River tule perch *(Hysterocarpus traskii pomo)*: The Russian River tule perch inhabits streams and rivers, generally, in areas with beds of vegetation or overhangs. This species is one of three subspecies of tule perch and is endemic to the Russian River and the lower parts of its tributaries. There is not a watercourse located within the project area. Dry Creek is approximately 0.4 miles southwest of the project area and runs into the Napa River. The closest recorded occurrence of this species is over 5 miles from the project area. The project will not have a significant adverse impact upon the species, as the construction of the projects will be conducted in a manner to minimize any effects to the stream channel and any species potentially located in Dry Creek.

The proposed project may have an impact on Chinook habitat in downstream channels if debris, soil, silt, sand, bark, slash, sawdust, rubbish, oil or petroleum products, or other deleterious material from projects activities are delivered to stream channels and downstream habitat. Project construction should be conducted in a manner so that these materials are not allowed to enter into or be placed where they may be washed by rainfall or runoff into the stream. All project materials and debris should be removed from the project area and properly disposed of off-site upon project completion. All work should be confined to dry weather conditions to minimize erosion and sediment delivery. Permanent erosion control should be incorporated so that soil potentially disturbed by the project is captured before sediment can enter drainages. (Regulatory Status: SSC)

California freshwater shrimp (*Syncaris pacifica*): California freshwater shrimp occur only in a limited range within the northern San Francisco Bay area. They prefer streams that have water flowing year-round with predominately low gradient flows. The closest recorded occurrence of this species is over 5 miles from the project area. No significant adverse impacts to this species are likely to occur as a result of the project area. The project will not have a significant adverse impact upon the species, as the construction of the projects will be conducted in a manner to minimize any effects to the stream channel and any species potentially located in Dry Creek.

The proposed project may have an impact on Chinook habitat in downstream channels if debris, soil, silt, sand, bark, slash, sawdust, rubbish, oil or petroleum products, or other deleterious material from projects activities are delivered to stream channels and downstream habitat. Project construction should be conducted in a manner so that these materials are not allowed to enter into or be placed where they may be washed by rainfall or runoff into the stream. All project materials and debris should be removed from the project area and properly disposed of off-site upon project completion. All work should be confined to dry weather conditions to minimize erosion and sediment delivery. Permanent erosion control should be incorporated so that soil potentially disturbed by the project is captured before sediment can enter drainages. (Regulatory Status: SE, FE)

California floater (*Anodonta californiensis*): California floaters are a freshwater mussel that encompasses the west coast from Baja California to southern British Columbia. California floaters require species specific host fish (usually minnow species) during the parasitic larval stage of their life cycle. Habitat for this species is freshwater shallow muddy or sandy habitat in large rivers, reservoirs and lakes, also in low-gradient creeks and streams with steady water levels. Dry Creek may provide potential habitat for the species. The closest recorded occurrence of this species is over 5 miles from the project area. The project will not have a significant adverse impact upon the species, as the construction of the project area will be conducted in a manner to minimize any effects to the stream channel and any species potentially located in Dry Creek.

The proposed project may have an impact on Chinook habitat in downstream channels if debris, soil, silt, sand, bark, slash, sawdust, rubbish, oil or petroleum products, or other deleterious material from projects activities are delivered to stream channels and downstream habitat. Project construction should be conducted in a manner so that these materials are not allowed to enter into or be placed where they may be washed by rainfall or runoff into the stream.

All project materials and debris should be removed from the project area and properly disposed of off-site upon project completion. All work should be confined to dry weather conditions to minimize erosion and sediment delivery. Permanent erosion control should be incorporated so that soil potentially disturbed by the project is captured before sediment can enter drainages. (Regulatory Status: SSC)

Oregon floater (*Anodonta oregonensis*): The Oregon floater is distributed across wester Norther America, including Oregon, Washington, California, Nevada, and British Columbia. It prefers low gradient and low elevation rivers, lakes and reservoirs, and often shares habitat with the California floater. The Coho salmon serves as a host for the immature Oregon floater. Dry Creek may provide potential habitat for the species. The closest recorded occurrence of this species is over 5 miles from the project area. The project will not have a significant adverse impact upon the species, as the construction of the project area will be conducted in a manner to minimize any effects to the stream channel and any species potentially located in Dry Creek.

The proposed project may have an impact on Chinook habitat in downstream channels if debris, soil, silt, sand, bark, slash, sawdust, rubbish, oil or petroleum products, or other deleterious material from projects activities are delivered to stream channels and downstream habitat. Project construction should be conducted in a manner so that these materials are not allowed to enter into or be placed where they may be washed by rainfall or runoff into the stream. All project materials and debris should be removed from the project area and properly disposed of off-site upon project completion. All work should be confined to dry weather conditions to minimize erosion and sediment delivery. Permanent erosion control should be incorporated so that soil potentially disturbed by the project is captured before sediment can enter drainages. (Regulatory Status: SSC)

Western ridged mussel (*Gonidea angulate*): The Western ridged mussel inhabits cold creeks and streams from low to mid elevations that are seasonally turbid and not continuously turbid water. Hardhead, pit sculpin, and Tule perch are documented fish hosts for *G. angulate* in northern California. This species needs a host fish species to reproduce and disperse. *G. angulate* is a filter feeder that consumes plankton and other suspended solids, nutrients and contaminants from the water column. The closest recorded occurrence of this species is over 5 miles from the project area. The project will not have a significant adverse impact upon the species, as the construction of the projects will be conducted in a manner to minimize any effects to the stream channel and any species potentially located in Dry Creek.

The proposed project may have an impact on Chinook habitat in downstream channels if debris, soil, silt, sand, bark, slash, sawdust, rubbish, oil or petroleum products, or other deleterious material from projects activities are delivered to stream channels and downstream habitat. Project construction should be conducted in a manner so that these materials are not allowed to enter into or be placed where they may be washed by rainfall or runoff into the stream. All project materials and debris should be removed from the project area and properly disposed of off-site upon project completion. All work should be confined to dry weather conditions to minimize erosion and sediment delivery. Permanent erosion control should be incorporated so that soil potentially disturbed by the project is captured before sediment can enter drainages. (Regulatory Status: SSC)

Western Pond Turtle *(Emmys marmorata)*: The pond turtle is associated with permanent ponds, lakes, streams, or permanent pools along intermittent streams in a wide variety of habitats. It requires basking sites and nests within 400 meters of a water source, often in grassy openings. Dry Creek is approximately 0.4 miles southwest of the project area and could potentially contain suitable habitat for this species. The grassland areas could be potential basking sites for the Western pond turtle. No Western pond turtles were identified within the project area during the assessment. The closest recorded occurrence is approximately 3.2 miles northeast and 4.9 miles southeast from the project area. The project shall not have any significant adverse impacts to the species, as work is not proposed to be conducted near or within Western pond turtle habitat. (Regulatory Status: SSC)

California red-legged frog (*Rana aurora draytonii*): California red-legged frogs inhabit permanent or nearly permanent water sources (quiet streams, marshes, and ponds). They are highly aquatic and prefer shorelines with extensive vegetation. This habitat is not present within the project area. Dry Creek is approximately 0.4 miles southwest of the project area and could potentially contain suitable habitat for this species. No red-legged frogs have been identified within the project area. The closest recorded occurrence of this species is over 5 miles from the project area. No significant adverse impacts to this species are likely to occur as a result of the project, as work is not proposed to be conducted near or within California red-legged frog habitat. (Regulatory Status: FT, SP, SSC)

Foothill Yellow-Legged Frog *(Rana boylii):* Foothill yellow-legged frogs (FYLF) are associated with lower elevation streams draining from the Pacific slope from west-central Oregon to northwestern Baja California. FYLF occupy a diverse range of ephemeral and permanent streams, rivers, and adjacent moist terrestrial habitats over the course of their complex life history. Small streams often have dense canopies that limit the light needed by algae, the food resource of tadpoles. Adults can migrate down the drainage network to channels that are broad and more sunlit. Occupied streams are often partly shaded, low gradient, and dominated by coarse, unconsolidated rocky substrates. Seasonal variation in streamflow has a strong influence on life history and movement. To avoid disturbance and optimize feeding by tadpoles, adults breed, and tadpoles develop, in slow water velocity habitats. Reproduction occurs in synchrony with the transition from winter and spring snowmelt freshets to summer drought.

Current knowledge about this species is that dispersing juvenile and adult frogs will seek refugia in Class II streams, pre and post-breeding, opposite of salmonids. Post-breeding adult females have been observed as far as 7 kilometers into upland habitats (Bourque 2018) with a distance of 2-3 kilometers being not atypical for both non-breeding adults and juvenile frogs (Kupferberg 2018). In particular, juvenile habitat is the most remote and removed from the Class I streams and can include seeps, unmapped streams, ditches, storm water drainage areas, and can overlap with Southern Torrent Salamander habitat.

The required habitat for the FYLF is not present within the project area or within 100 feet of the project area; however, is present in Dry Creek is approximately 0.4 miles southwest of the project area and FYLFs are known to inhabit Dry Creek. No FYLF were observed during the assessment.

No significant adverse impacts to this species are likely to occur as a result of the project, as work is not proposed to be conducted near or within FYLF habitat. (Regulatory Status: Candidate for State Listing of Threatened, SSC)

California Giant Salamander (*Dicamptodon ensatus*): California giant salamanders are year-round residents of north-central California. The occur up to 6500 feet primarily in humid coastal forests, especially in Douglas-fir, redwood, red fir, and montane and valley-foothill riparian habitats. They live in or near rocky streams and springs in damp forests and are common where they occur. Dry Creek is approximately 0.4 miles southwest of the project area and California giant salamanders are known to inhabit Dry Creek. No California giant salamanders were observed during the assessment. The project shall not have any significant adverse impacts to the species as no work is proposed to be conducted near or within California giant salamander. (Regulatory Status: SSC)

Red-Bellied Newt (*Taricha rivularis*): The red-bellied newt ranges within Napa, Mendocino, Sonoma, Humboldt, and Lake Counties. They migrate to streams during fall and winter rains. They spend the dry season underground within root channels. The red-bellied newt inhabits primarily redwood forest, but is also found within mixed conifer, valley-foothill woodland, montane woodland and hardwood-conifer habitats. Dry Creek is approximately 0.4 miles southwest of the project area and may provide the required habitat for this species. No Red-bellied newts were observed during the assessment. The closest recorded occurrence of this species is approximately 3.1 miles southwest from the project area.
The project shall not have any significant adverse impacts to the species as no work is proposed to be conducted near or within Red-bellied newt habitat. (Regulatory Status: SSC)

Obscure bumblebee (*Bombus caliginosus*): The obscure bumble bee is a species of bumblebee native to the west coast of the United States, where its distribution extends from Washington through to Southern California. The workers are most often seen on Fabaceae, the legume family, while queens are most often seen on Ericaceae, the heath family, and males have been noted most often on Asteraceae, the aster family. Common plants visited by the workers include ceanothus, thistles, sweet peas, lupines, rhododendrons, Rubus, willows, and clovers. The required habitat for this species does occur within the project area and surrounding area. The closest recorded occurrence of this species is approximately 0.8 southwest and 5 miles northwest from the project area. No significant adverse impacts to this species and its habitat are expected as the brush proposed for removal for the project within the project area is an insignificant amount in comparison to what exists and what will remain on the immediate, surrounding landscape. (Regulatory Status: SSC)

Western bumblebee (*Bombus caoccidentalis*): The western bumble bee was once very common in the western United States and western Canada. This bumble bee is an excellent pollinator of greenhouse tomatoes and cranberries and has been commercially reared to pollinate these crops. In the past, it has been an important pollinator of alfalfa, avocado, apples, cherries, blackberries, and blueberries. The required habitat for this species does not occur within the project area. The closest recorded occurrence of this species is over 5 miles west from the project area. No significant adverse impacts to this species are expected as a result of the project, as the habitat is not present. (Regulatory Status: SSC)

Leech's skyline diving beetle (*Hydroporus leechi)*: Leech's skyline diving beetle is associated with ponds. The preferred habitat is not located within the project area. The closest recorded occurrence of this species is over 5 miles from the project area. No significant adverse impacts to this species are expected as a result of the project, as the habitat is not present. (Regulatory Status: SSC)

Ricksecker's water scavenger beetle (*Hydrochara rickseckeri*): Ricksecker's water scavenger beetle is associated with vernal pools. The preferred habitat is not located within the project area. The closest recorded occurrence of this species is over 5 miles from the project area. No significant adverse impacts to this species are expected as a result of the project, as the habitat is not present. (Regulatory Status: SSC)

POTENTIAL SENSITIVE PLANT SPEICES PRESENT

According to the CRPR and CNDDB, below are listed plant species and plant communities that have the potential to exist within the project area. The associated habitats and potential for occurrence of these species in the project area are also represented in the list. The plant list was compiled to focus on the rare plants that have the highest probability of occurring in the project area. The habitat types found within and 100 feet surrounding the project area are valley and foothill grassland/meadows and oak woodland (broadleaved upland forest). It is noted that the project area does not have serpentine or volcanic soils present. Additional consideration for any other known species for the region was taken.

Table 1. Rare Plants with Known Regional Occurrences or Distribution

Common Name ***Scientific Name***	**Status**	**Associated Habitat**	**Blooming Season**	**Habitat in The proposed project area and within 100 feet surrounding**
Franciscan onion *Allium peninsulare var. franciscanum*	CRPR; 1B	cismontane woodland, valley and foothill grassland (clay, often serpentinite)	May-June	No
Sonoma alopecurus *Alopecurus aequalis var. sonomensis*	CRPR; 1B FED; FE	freshwater marshes and swamps, riparian scrub	May-July	No
Napa false indigo *Amorpha californica var. mapensis*	CRPR; 1B	openings in broadleaved upland forest, cismontane woodland, chaparral	April-June	Yes 0.3mi sw, 0.4mi se, 0.8 mi s, 3.2 mi sw, 2.5 mi nw, 4.9 mi w
Bent-flowered fiddleneck *Amsinckia lunaris*	CRPR; 1B	coastal bluff scrub, cismontane woodland, valley and foothill grassland	March-June	Yes
Twig-like snapdragon *Antirrhinum virga*	CRPR; 4	chaparral, lower montane coniferous forest	June-July	Yes
Baker's manzanita *Arctostaphylos bakeri ssp. bakeri*	CRPR; 1B CA; SR	Often serpentinite broadleaved upland forest, chaparral	February-April	No

Common Name *Scientific Name*	Status	Associated Habitat	Blooming Season	Habitat in The proposed project area and within 100 feet surrounding
Konocti manzanita *Arctostaphylos manzanita sp. elegans*	CRPR;1B	volcanic chaparral, cismontane woodland, lower montane conifer forest	March-May	No
Rincon Ridge manzanita *Arctostaphylos stanfordiana ssp. decumbens*	CRPR; 1B	rhyolitic chaparral, cismontane woodland	February-May	No 0.9mi nw
Serpentine milkweed *Asclepias solanoana*	CRPR; 4	serpentinite chaparral, cismontane woodland, lower montane coniferous forest	May-August	No
Suisun Marsh aster *Symphyotrichum lentum*	CRPR; 1B	brackish and freshwater marshes and swamps	May-November	No
Brewer's milk-vetch *Astragalus breweri*	CRPR; 4	chaparral, cismontane woodland, seeps, meadows, valley and foothill grassland	April-June	Yes
Clara Hunt's milk-vetch *Astragalus claranus*	CRPR; 1B CA; ST FED; FE	chaparral, cismontane woodland, serpentinite or volcanic, rocky, clay valley and foothill grassland	March-May	Yes
Cleveland's milk-vetch *Astragalus clevelandii*	CRPR; 4	serpentinite seeps in riparian forest, chaparral, cismontane woodland	June-September	No
Jepson's milk-vetch *Astragulus rattanii var. jepsonianus*	CRPR; 1B	often serpentinite chaparral, valley and foothill grassland, cismontane woodland	March-June	No
Alkali milk-vetch *Astragalus tener var. tener*	CRPR; 1B	Alkaline playas, valley and foothill grassland, vernal pools	March-June	No
Big-scale balsamroot *Balsamorhiza macrolepis*	CRPR; 1B	chaparral, cismontane woodland, valley and foothill woodland	March-June	Yes
Sonoma sunshine *Blennosperma bakeri*	CRPR; 1B CA; SE FED; FE	vernal pools, mesic valley and foothill grassland	March-May	No 5 mi sw
Narrow-anthered brodiaea *Brodiaea leptandra*	CRPR; 1B	broadleaved upland forest, lower montane coniferous forest, chaparral	May-July	Yes 2.05 mi sw, 3.9 mi sw, 4.1mi sw, 4.9 mi ne
Serpentine reed grass *Calamagrostis ophitidis*	CRPR; 4	serpentinite, rocky chaparral, lower montane coniferous forest, meadows, seeps, valley and foothill grassland	April-July	No
Brewer's calandrinia *Calandrinia breweri*	CRPR; 4	sandy or loamy, disturbed sites and burns in chaparral, coastal scrub	January-June	No
Round-leaved filaree *California macrophylla*	CRPR; 1B	cismontane woodland, clay valley and foothill grassland	March-May	No
Pink star-tulip *Calochortus uniflorus*	CRPR; 4	coastal prairie, coastal scrub, seeps, meadows, North Coast coniferous forest	April-June	No
Small-flowered calycadenia *Calycadenia micrantha*	CRPR; 1B	chaparral, meadows, seeps, valley and foothill grassland	June-September	Yes
Mt. Saint Helena morning-glory *Calystegia collina ssp. oxyphylla*	CRPR; 4	chaparral, lower montane coniferous forest, valley and foothill grassland	April-June	Yes

Common Name *Scientific Name*	Status	Associated Habitat	Blooming Season	Habitat in The proposed project area and within 100 feet surrounding
Tiburon Indian paintbrush *Castilleja affinis sp. neglecta*	CRPR; 1B FED; FE CA; ST	serpentinite valley and foothill grassland	April-June	No
Johnny-nip *Castilleja ambigua ssp. ambigua*	CRPR; 4	coastal bluff scrub, coastal prairie, coastal scrub, marshes, swamps, vernal pools, valley and foothill grassland	March-August	Yes
Mead's owl-clover *Castilleja ambigua var. meadii*	CRPR;1B	volcanic, clay meadows, seeps, vernal pools	April-May	No
Pink creamsacs *Castilleja rubicundula var. rubicundula*	CRPR; 1B	serpentinite chaparral, cismontane woodland, meadows, valley and foothill grassland, seeps	April-June	No
Rincon Ridge ceanothus *Ceanothus confusus*	CRPR; 1B	closed-cone coniferous forest, volcanic or serpentinite cismontane woodland, chaparral	February-April	No 2.8 mi nw, 3.8 mi nw, 4.7 mi nw
Calistoga ceanothus *Ceanothus divergens*	CRPR; 1B	usually serpentinite or volcanic, rocky chaparral	February-March	No 1.1 mi w, 4.8 mi nw
Glory brush *Ceanothus gloriosus var. exaltatus*	CRPR; 4	chaparral	March-August	Yes
Kern ceanothus *Ceanothus pinetorum*	CRPR; 4	lower montane coniferous forest, sub-alpine coniferous forest, upper montane coniferous forest	May-July	No
Holly-leaved ceanothus *Ceanothus purpureus*	CRPR; 1B	volcanic and/or rocky cismontane woodland, chaparral	February-June	No 3.8 mi ne
Sonoma ceanothus *Ceanothus sonomensis*	CRPR;1B	sandy, serpentinite or volcanic chaparral	February-April	No 2.4 mi sw, 0.95 mi sw, 1.5 mi sw, 2 mi sw3.9 mi sw, 4.1 mi sw, 4.7 mi s, 3.1 mi nw, 2 mi nw
Pappose tarplant *Centromadia parryi* ssp. *parryi*	CRPR; 1B	chaparral, coastal prairie, seeps, valley and foothill grassland, marshes, swamps, meadow	May-November	Yes
Sonoma spineflower *Chorizanthe valida*	CRPR; 1B CA; SE FED; FE	sandy coastal prairie	June-August	No
Brewer's clarkia *Clarkia breweri*	CRPR; 4	often serpentinite chaparral, coastal scrub, cismontane woodland	April-June	No
Tracy's clarkia *Clarkia gracilis ssp. tracyi*	CRPR; 4	chaparral	April-June	No
Serpentine collomia *Collomia diversifolia*	CRPR; 4	serpentinite, rocky or gravelly cismontane woodland, chaparral	May-June	No

Common Name *Scientific Name*	Status	Associated Habitat	Blooming Season	Habitat in The proposed project area and within 100 feet surrounding
Serpentine bird's-beak *Cordylanthus tenuis ssp. brunneus*	CRPR; 4	serpentinite closed-cone forest, cismontane woodland, chaparral	July-November	No
Serpentine cryptantha *Cryptantha clevelandii var. dissita*	CRPR: 1B	serpentinite chaparral	April-June	No
Boggs Lake dodder *Cuscuta howelliana*	CRPR; 4	volcanic vernal pools in chaparral	August-September	No
Swamp larkspur *Delphinium uliginosum*	CRPR; 4	serpentinite seeps in chaparral, valley and foothill grassland	May-June	No
Dwarf downingia *Downingia pusilla*	CRPR;2B	vernal pools, and mesic valley and foothill grassland	March-May	No
Small spikerush *Eleocharis parvula*	CRPR; 4	marshes and swamps	April-September	No
Marsh horsetail *Equisetum palustre*	CRPR; 3	marshes and swamps		No
Narrow-leaved daisy *Erigeron angustatus (greenei)*	CRPR;1B	serpentinite or volcanic chaparral	May-September	No
Streamside daisy *Erigeron biolettii*	CRPR; 3	broadleaved upland forest, North Coast coniferous forest, cismontane woodland	June-October	Yes
Greene's narrow-leaved daisy *Erigeron greenei*	CRPR; 1B	chaparral (serpentinite or volcanic)	May-September	No 4.9 mi se
Tiburon buckwheat *Eriogonum luteolum var. caninum*	CNPS; 1B	chaparral, cismontane woodland, valley and foothill grassland, coastal prairie	May-September	Yes
Snow Mountain buckwheat *Eriogonum nervulosum*	CRPR; 1B	serpentinite chaparral	June-September	No
Tripod buckwheat *Eriogonum tripodum*	CRPR; 4	often serpentinite chaparral and cismontane woodland	May-July	No
Bay buckwheat *Erigonum umbellatum* var. *bahiforme*	CRPR; 4	rocky, often serpentinite cismontane woodland, lower montane coniferous forest	July-September	No
St. Helena fawn lily *Erythronium helenae*	CRPR; 4	volcanic or serpentine chaparral, cismontane woodland, lower coniferous forest, valley and foothill grassland	March-May	No
Loch Lomond button-celery *Eryngium constancei*	CRPR; 1B	vernal pools	May-August	No
Jepson's coyote thistle *Eryngium jepsonii*	CRPS; 1B	clay vernal pools, valley and foothill grassland	April-August	No 1.7 mi e
San Joaquin spearscale *Extriplex joaquiniana*	CRPR; 1B	chenopod scrub, meadows, seeps, playas, valley and foothill grassland	April-October	No
Fragrant fritillary *Fritillaria liliacea*	CRPR; 1B	cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland	February-April	Yes
Adobe-lily *Fritillaria pluriflora*	CRPR; 1B	chaparral, cismontane woodland, valley and foothill grassland (often adobe)	February-April	Marginal
Purdy's fritillary *Fritillaria purdyi*	CRPR; 4	serpentinite chaparral, cismontane woodland, woodland, lower montane coniferous forest	March-June	No

Common Name *Scientific Name*	Status	Associated Habitat	Blooming Season	Habitat in The proposed project area and within 100 feet surrounding
Hall's harmonia *Harmonia hallii*	CRPR; 1B	chaparral (serpentinite)	April-June	No
Nodding harmonia *Harmonia nutans*	CRPR; 4	chaparral, rocky or gravelly, volcanic cismontane woodland	March-May	No
Serpentine sunflower *Helianthus exilis*	CRPR; 4	serpentinite seeps in chaparral and cismontane woodland	June-November	No
Congested-headed Hayfield Tarplant *Hemizonia congesta ssp. congesta*	CRPR; 1B	valley and foothill grassland	April-November	Yes
Two-carpellate western flax *Hesperolinon bicarpellatum*	CRPR;1B	serpentinite chaparral	May-July	No
Brewer's western flax *Hesperolinon breweri*	CRPR; 1B	chaparral, cismontane woodland, valley and grassland	May-July	Yes
Drymaria-like western flax *Hesperolinon drymarioides*	CRPR; 1B	serpentinite closed-cone coniferous forest, valley and foothill grassland, cismontane woodland, chaparral	May-August	No
Napa western flax *Hesperolinon serpentinum*	CRPR;1B	serpentinite chaparral	May-July	No
Sharsmith's western flax *Hesperolinon sharsmithiae*	CRPR; 1B	serpentinite chaparral	May-July	No
Thin-lobed horkelia *Horkelia tenuiloba*	CRPR; 1B	broadleaved upland forest, mesic openings and sandy valley and foothill grassland, chaparral	May-July	Yes 3.6 mi sw
Harlequin lotus *Hosackia gracilis*	CRPR; 4	broadleaved upland forest, coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal prairie, coastal scrub, seeps, meadows, North Coast coniferous forest, marshes, swamps, valley and foothill grassland	March-July	Yes
Coast iris *Iris longipetala*	CRPR; 4	mesic coastal prairie, lower montane coniferous forest, meadows, seeps	March-May	No
Northern California black walnut *Juglans hindsii*	CRPR; 1B	riparian forest, riparian woodland	April-May	No
Burke's goldfields *Lasthenia burkei*	CRPR; 1B CA; SE Fed; FE	meadows, seeps, vernal pools	April-June	No
Contra Costa goldfields *Lasthenia conjugens*	CRPR; 1B FED.; FE	mesic cismontane woodland, alkaline playas, valley and foothill grassland, vernal pools	March-June	No
Delta tule pea *Lathyrus jepsonii var. jepsonii*	CRPR; 1B	freshwater and brackish marshes and swamps	May-July	No
Colusa layia *Layia septentrionalis*	CRPR; 1B	chaparral, cismontane woodland, valley and foothill grassland	April-May	Yes
Legenere *Legenere limosa*	CRPR; 1B	vernal pools	April-June	No

Common Name *Scientific Name*	Status	Associated Habitat	Blooming Season	Habitat in The proposed project area and within 100 feet surrounding
Bristly leptosiphon *Leptosiphon acicularis*	CRPR; 4	chaparral, cismontane woodland, valley and foothill grassland, coastal prairie	April-July	Yes
Jepson's leptosiphon *Leptosiphon jepsonii*	CRPR; 1B	usually volcanic cismontane woodland, chaparral, valley and foothill grassland	April-May	No 0.18mi e, 0.19m nw
Broad-lobed leptosiphon *Leptosiphon latisectus*	CRPR; 4	broadleaved upland forest, cismontane woodland	April-June	Yes
Woolly-headed lessingia *Lessingia hololeuca*	CRPR; 3	broadleaved upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland	June-October	Yes
Mason's lilaeopsis *Lilaeopsis masonii*	CRPR; 1B CA; SR	marshes, swamps, riparian scrub	April-November	No
Redwood lily *Lilium rebescens*	CRPR; 4	broadleaved upland forest, chaparral, lower montane coniferous forest, upper montane coniferous forest	April-August	Yes
Sebastopol meadowfoam *Limnanthes vinculans*	CRPR; 1B CA; SE FED; FE	meadows, seeps, valley and foothill grassland, mesic vernal pools	April-May	Yes 3.2mi ne
Bristly linanthus *Linanthus acicularis*	CRPR; 4	grassy slopes in foothill woodlands	April-July	Marginal
Jepson's linanthus *Linanthus jepsonii*	CRPR; 1B	volcanic chaparral and cismontane woodland	March-May	No
Hoover's lomatium *Lomatium ciliolatum var. hooveri*	CRPR; 4	serpentinite or (rarely) volcanic chaparral, cismontane woodland	April-July	No
Napa lomatium *Lomatium repostum*	CRPR; 4	serpentinite chaparral, cismontane woodland	March-June	No
Cobb Mountain lupine *Lupinus sericatus*	CRPR;1B	broadleaved upland forest, lower montane coniferous forest, cismontane woodland, chaparral	March-June	Yes 3.8 mi sw, 2.3 mi nw
California loosestrife *Lythrum californicum*	Napa County R	freshwater marsh	May-October	No
Mt. Diablo cottonweed *Micropus amphibolus*	CRPR; 3	broadleaved upland forest, chaparral, valley and foothill grassland, cismontane woodland cismontane woodland	March-May	Yes
Green monardella *Monardella viridis ssp. viridis*	CRPR; 4	broadleaved upland forest, chaparral, cismontane woodland	June-September	Yes
Robust monardella *Monardella villosa sp. globosa*	CRPR; 1B	openings in northern coastal scrub, chamise chaparral, mixed evergreen forest, serpentine chaparral	June-July	No
Cotula navarretia *Navarretia cotulifolia*	CRPR; 4	chaparral, cismontane woodland, valley and foothill grassland	May-June	Yes
Tehama navarretia *Navarretia heterandra*	CRPR; 4	valley and foothill grassland, vernal pools	April-June	Yes

Common Name *Scientific Name*	Status	Associated Habitat	Blooming Season	Habitat in The proposed project area and within 100 feet surrounding
Baker's navarretia *Navarretia leucocephala ssp. bakeri*	CRPR; 1B	cismontane woodland, seeps, valley and foothill grassland, vernal pools, meadow, lower montane coniferous forest	April-July	Yes
Few-flowered navarretia *Navarretia leucocephala* ssp. *pauciflora*	CRPR; 1B CA; ST FED; FE	volcanic ash flow near vernal pools	May-June	No
Many-flowered navarretia *Navarretia leucocephala* *Sp. plieantha*	CRPR; 1B CA; SE FED; FE	volcanic ash flow near vernal pools	May-June	No
Marin County navarretia *Navarretia rosulata*	CRPR; 1B	closed-cone coniferous forest, rocky, serpentinite chaparral	May-July	No
Pinnate-leaved gilia (navarretia) *Navarretia sinistra sp. pinnatisecta*	CRPR; 1B	serpentinite or volcanic chaparral and lower montane coniferous forest	June-August	No
Sonoma beardtongue *Penstemon newberryi* *var. sonomensis*	CRPR; 1B	rocky chaparral	April-August	No 3.9 mi ne
Gairdner's yampah *Perideridia gairdneri sp. gairdneri*	CRPR; 4	broadleaved upland forest, chaparral, coastal prairie, valley and foothill grassland, vernal pools	June-October	Yes
Calistoga popcorn-flower *Plagiobothrys strictus*	CRPR; 1B CA; SE FED; FE	meadows, seeps, alkaline areas near thermal springs of vernal pools, valley and foothill grassland	March-June	Marginal
Napa blue grass *Poa napensis*	CRPR; 1B CA; SE	meadows, seeps, alkaline areas near thermal thermal springs of vernal pools	May-August	No
Small-flowered pogogyne *Pogogyne douglasii sp. parviflora*	Napa County R	serpentine swales in chaparral, valley and foothill grassland	April-July	No
Marin knotweed *Polygonum marinense*	CRPR; 3	coastal salt or brackish marshes and swamps	May-August	No
California alkali grass *Puccinellia simplex*	CRPR; 1B	alkaline, vernally mesic, sinks, flats, and lake margins chenopod scrub, meadows, valley and foothill grassland, seeps, vernal pools	March-May	No
Lobb's aquatic buttercup *Ranunculus lobbii*	CRPR; 4	cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools	February-May	Yes
California beaked-rush *Rhynchospora californica*	CRPR; 1B	fens, lower montane coniferous forest, bogs, meadows, seeps, marshes, swamps	May-July	Yes
Cleveland's ragwort *Senecio clevelandii var. clevelandii*	CRPR; 4	serpentinite seeps in chaparral	June-July	No
Napa checkerbloom *Sidalcea hickmanii ssp. napensis*	CRPR; 1B	chaparral	April-June	No
Marin checkerbloom *Sidalcea hickmanii sp. virdis*	CRPR; 1B	serpentinite chaparral	May-June	No
Marsh checkerbloom *Sidalcea oregana sp. hydrophila*	CRPR; 1B	meadows, seeps, riparian forest	July-August	No

Common Name *Scientific Name*	Status	Associated Habitat	Blooming Season	Habitat in The proposed project area and within 100 feet surrounding
Kenwood Marsh checkerbloom *Sidalcea oregana sp. valida*	CRPR; 1B CA; SE FED; FE	freshwater marshes and swamps	June-September	No
Bearded jewelflower *Streptanthus barbiger*	CRPR; 4	serpentinite chaparral	May-July	No
Socrates Mine jewel-flower *Streptanthus brachiatus ssp. brachiatus*	CRPR; 1B	closed-cone coniferous forest, usually serpentinite chaparral	May-June	No
Green jewel-flower *Streptanthus breweri var. hesperdis*	CRPR; 1B	openings in chaparral, rocky serpentinite cismontane woodland	May-July	No
Three Peaks jewel-flower *Streptanthus morrisonii sp. elatus*	CRPR; 1B	chaparral (serpentinite)	June-September	No
Kruckeberg's jewelflower *Streptanthus morrisonii sp. kruckebergii*	CRPR; 1B	serpentinite cismontane woodland	April-July	No
Suisun Marsh aster *Symphyotrichum lentum*	CRPR; 1B	brackish and freshwater marshes and swamps	May-November	No
Short-podded thelypoduim *Thelypodium brachycarpum*	CRPR; 4	serpentinite, adobe, alkaline chaparral, lower montane coniferous forest, meadows, seeps, meadows	May-August	No
Marsh zigadenus *Toxicoscordion fontanum*	CRPR; 4	serpentinite chaparral, cismontane woodland, lower montane coniferous forest, meadows, seeps, marshes, swamps	April-July	No
Hernandez bluecurls *Trichostema rubisepalum*	CRPR; 4	volcanic or serpentinite broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest, vernal pools	June-August	No
Napa bluecurls *Trichostema ruygtii*	CRPR; 1B	chaparral, cismontane woodland, lower montane coniferous forest, vernal pools, valley and foothill grassland	June-October	Yes
Showy Indian clover *Trifolium amoenum*	CRPR; 1B FED; FE	coastal bluff scrub, serpentinite valley and foothill grassland	April-June	No
Saline clover *Trifolium hydrophilum*	CRPR; 1B	marshes, swamps, vernal pools, mesic and/or alkaline valley and foothill	April-June	No
Dark-mouthed triteleia *Triteleia lugens*	CRPR; 4	broadleaved upland forest, chaparral, coastal scrub, lower montane coniferous forest	April-June	Yes
Oval-leaved viburnum *Viburnum ellipticum*	CRPR; 2	chaparral, cismontane woodland, lower montane coniferous forest	May-June	Yes
Marsh zigadenus *Zigadenus micranthus var. fontanus*	CRPR; 4	vernally mesic, often serpentinite chaparral, cismontane woodland, lower montane coniferous forest, seeps, meadows, marshes, swamps	April-July	No
Valley Needlegrass Grassland	N/A	N/A	N/A	No
Northern Vernal Pool	N/A	N/A	N/A	No
Coastal & Valley Freshwater Marsh	N/A	N/A	N/A	No

Common Name *Scientific Name*	Status	Associated Habitat	Blooming Season	Habitat in The proposed project area and within 100 feet surrounding
Douglas-fir ponderosa pine forest (old growth)	N/A	N/A	N/A	No
Redwood Forest	N/A	N/A	N/A	No
Native grassland	N/A	N/A	N/A	No
Brewer willow alliance	N/A	N/A	N/A	No
Ponderosa pine alliance	N/A	N/A	N/A	No
Riverine, lacustrine, and tidal mudflats	N/A	N/A	N/A	No
Wet meadow grasses NFD super alliance	N/A	N/A	N/A	No
Serpentine bunchgrass grassland	N/A	N/A	N/A	No
Wildflower field (located within native grassland)	N/A	N/A	N/A	No
Creeping ryegrass grassland	N/A	N/A	N/A	No
Purple needlegrass grassland	N/A	N/A	N/A	No
One-sided bluegrass grassland	N/A	N/A	N/A	No
Mixed serpentine chaparral	N/A	N/A	N/A	No
McNab cypress woodland	N/A	N/A	N/A	No
Oregon white oak woodland	N/A	N/A	N/A	No
California bay forests and woodlands	N/A	N/A	N/A	No
Fremont cottonwood riparian forests	N/A	N/A	N/A	No
Arroyo willow riparian forests	N/A	N/A	N/A	No
Black willow riparian forests	N/A	N/A	N/A	No
Pacific willow riparian forests	N/A	N/A	N/A	No
Red willow riparian forests	N/A	N/A	N/A	No
Narrow-leaf willow riparian forests	N/A	N/A	N/A	No
Mixed willow riparian forest	N/A	N/A	N/A	No
Sargent cypress woodland	N/A	N/A	N/A	No
Northern Coastal Brackish Marsh	N/A	N/A	N/A	No
Coastal Brackish Marsh	N/A	N/A	N/A	No 4.6m sw

BIOLOGICAL AND BOTANICAL FIELD SURVEY RESULTS

The project area was surveyed for special status animals, communities, and their habitats. The project area and approximately 100 feet surrounding the project area was surveyed for nesting bird habitat and habitats for special status animals. No rare, threatened, endangered, or sensitive species were located during the survey and no sensitive or critical habitat was encountered during the survey.

Botanical field surveys of the proposed widening and improvement of the road, the construction of a single-family home, and develop an area for placement of fill developed from the house and driveway construction by Alicia Ives Ringstad on 07/26/16, 3/29/17, and 5/27/17, consisting of 18 one-person hours. The survey protocol was based on *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018).

An intuitively controlled, seasonally appropriate, floristic survey was performed, which was moderate in coverage density (60-80%) in the potential rare plant habitat areas. The plants encountered in the field were identified to the lowest taxonomic level (genus or species) necessary for a rare plant determination and recorded on a species list. This overall species list is listed in Appendix A and the taxonomic nomenclature used was based on *The Jepson Manual II* (Baldwin 2012). Specimens were also collected, when necessary for laboratory examination with a binocular microscope.

Each of the sensitive plant taxa potentially occurring at the site and listed in Table 1 was specifically searched for during the survey. The survey identified a total of 82 plant taxa on the project area, including native and introduced species. No rare, threatened or endangered species were found within the project site or on the edge of the site and all field indications are such that there is no reason to suspect the occurrence of any sensitive species or critical habitat.

During the field surveys, a California scrub jay (*Aphelocoma californica*), a dark-eyed junco (*Junco hyemalis*), two mourning doves (*Zenaida macroura*), an American crow (*Corvus brachyrhynchos*), and a red-tailed hawk (*Buteo jamaicensis*) were observed. Coyote (*Canis latrans*) and black-tailed deer (*Odocoileus hemionus ssp. columbianus*) scat were observed during the field surveys. There are multiple wildlife corridors throughout the project area. Nesting bird behavior was not observed within the project area.

ASSESSMENT OF POTENTIAL IMPACTS

Wildlife corridors throughout the project area were present and available to wildlife that may utilize the area. No wildlife corridors will be significantly affected by the development or use of the trails. The project will not result in “take” or significantly impact any species. Locations of sensitive or critical habitat are also listed in the California Department of Fish and Wildlife’s Natural Diversity Database. These habitats are of particular importance for their unique and limited plant associations, the wildlife they support, and as indicators of the potential for the presence of sensitive species. No critical or sensitive habitat was observed within the project area.

There are also no potentially jurisdictional wetlands or other non-wetland waters within the project area. The habitat, plant associates, topography, soils and past historical use of the site precludes the presence of any of the sensitive species known for the area. Potential impacts are not expected to occur as a result of the proposed project. It is recommended that pre-construction surveys for nesting birds are conducted within 7 days of commencement of vegetation removal if construction is to take place between March 1 and August 30. If nesting birds are detected, construction should not commence until after the breeding season.

Alternatively, a buffer of adequate size could be provided to prevent disturbance of nesting birds if construction is pursued during breeding season. The appropriate buffer size should be determined in consultation with the California Department of Wildlife.

OVERALL VASCULAR SPECIES LIST OBSERVED

FERNS AND THEIR ALLIES

DENNSTAEDTIACEAE
Western Bracken fern *Pteridium aquilinum var. pubescens*

DRYOPTERIDACEAE
Sword fern *Polystichum munitum*

POLYPODIACEAE
Licorice fern *Polypodium glycyrrhiza*

DICOTYLEDONS (TREES)

CUPRESSACEAE
Incense cedar *Calocedrus decurrens*

ERICACEAE
Madrone *Arbutus menziesii*

FAGACEAE
Blue oak *Quercus douglasii*
Interior live oak *Quercus wislizenii*

LAURACEAE
CA bay laurel *Umbellularia californica*

PINACEAE
Ponderosa pine *Pinus ponderosa*
Douglas fir *Pseudotsuga menziesii*

SAPINDACEAE
CA buckeye *Aesculus californica*

DICOTLYEDONS (SHRUBS AND WOODY VINES)

ANACARDIACEAE
Western poison oak *Toxicodendron diversilobum*

ARALIACEAE
English ivy *Hedera helix*

ASTERACEAE
Coyote brush *Baccharis pilularis*

ERICACEAE
Hairy manzanita *Arctostaphylos columbiana*
Common manzanita *Arctostaphylos manzanita*

RHAMNACEAE
Blue blossom *Ceanothus thyrsiflorus*
Buckbrush *Ceanothus cuneatus*

ROSACEAE
Chamise *Adenostoma fasciculatum*
Toyon *Heteromeles arbutifolia*
Himalayan blackberry *Rubus armeniacus*

DICOTYLEDONS (HERBACEOUS LAYER)

APIACEAE
Fennel *Foeniculum vulgare*
Common hedge parsley *Torillis arvensis*
Mountain sweet cicely *Osmorhiza berteroi*

ASTERACEAE
Common dandelion *Taraxacum officinale*
Goldenrod *Solidago sp.*
Yellow star thistle *Centaurea solstitialis*
Yarrow *Achillea millefolium*
Coast tarweed *Madia sativa*
Italian thistle *Carduus pycnocephalus*
Bull thistle *Circium vulgare*
Tansy *Tanacetum vulgare*
Horseweed *Erigeron canadensis*
Field marigold *Calendula arvensis*

BORANGINACEAE
Popcorn flower *Plagiobothrys nothifulvus*
Yerba santa *Eriodictyon californicum*

CAPRIFOLIACEAE
Pink honeysuckle *Lonicera hispidula*

CARYOPHYLLACEAE
Meadow chickweed *Cerastium arvense*

CONVOLVULACEAE
Field bindweed *Convolvulus arvensis*

FABACEAE
Red clover *Trifolium pratense,*
White Clover *Trifolium repens*
Low hop clover *Trifolium campestre*
CA burclover *Medicago polymorpha*
American vetch *Vicia americana*
Miniature lupine *Lupinus bicolor*
French Broom *Genista monspessulana*
Hill lotus *Acmispon brachycarpus*
Evergreen Lupine *Lupinus albifrons*
Hillside pea *Lathyrus vestitus var. vestitus*
Common deerweed *Acmispon glaber*

GENTIANACEAE
Centaury *Centaurium erythraea*

GERANIACEAE
Stork's bill *Erodium cicutarium*

LAMIACEAE
Common self-heal *Prunella vulgaris*
Pennyroyal *Mentha pulegium*

LINACEAE
Western blue flax *Linum lewisii*

MONTIACEAE
Miner's lettuce *Claytonia perfoliata*

ONAGRACEAE
Farewell to spring *Clarkia amoena*
Pink ribbons *Clarkia concinna*
Evening primrose *Oenothera biennis*

PAPAVARACEAE
CA poppy *Eschscholzia californica*

PHRYMACEAE
Sticky monkey flower *Diplacus aurantiacus*

PLANTAGINACEAE
English plantain *Plantago lanceolate*

PRIMULACEAE
Scarlet pimpernel *Anagallis arvensis*

RANUNCULACEAE
Meadow buttercup *Ranunculus acris*

RUBIACEAE
Cleavers *Galium aparine*
Fragrant bedstraw *Galium triflorum*

MONOCOTYLEDONS (HERBACEOUS LAYER)

ASPARAGACEAE
Wavy-leafed soap plant *Chlorogalum pomeridianum*
Ookow *Dichelostemma congestum*

IRIDACEAE
Blue-eyed grass *Sisyrinchium bellum*
Douglas iris *Iris douglasiana*

LILIACEAE
Soap plant *Chlorogalum pomeridianum* var. *pomeridianum*
Harvest brodiaea *Brodiaea elegans*
Ookow *Dichelostemma congestum*

POACEAE
Orchard grass *Dactylis glomerata*
Ryegrass *Lolium perenne, L. multiflorum*
Wild oat *Avena fatua*
Harding grass *Phalaris aquatica*
Wild barley *Hordeum* sp.
Ripgut grass *Bromus diandrus*
Soft chess *Bromus hordeaceus*
Bluegrass *Poa sp.*
Rattlesnake grass *Briza maxima*

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Alicia Ives Ringstad is qualified to conduct biological surveys and assessments, having received a B.S. in Wildlife Management and Conservation and receiving training in recognition of the local flora and fauna and in rare plant identification and survey protocol. Ms. Ives Ringstad has conducted sensitive plant surveys, biological site investigations, and wildlife surveys for over 15 years. Ms. Ives Ringstad's experience includes conducting wetland delineations that met the requirements of the US Army Corps of Engineers Technical Report (Y-87-1) and Botanical Assessments for large and small project requiring compliance with the California Environmental Quality Act (CEQA). These projects include timber harvesting, land conversion, minor and major subdivisions, and development plans/permits.

Sincerely,

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