

BIOLOGICAL ASSESSMENT

**1496 BELL HILL ROAD [APN 017-002-02]
LAKE COUNTY, CALIFORNIA**

SUBMITTED TO:

Lake County Planning Consultants
1496 Bell Hill Road
Lakeport, California 95451

PREPARED BY:

Pinecrest Environmental Consulting Inc.
5627 Telegraph Avenue, Suite 420
Oakland, California 94609
(510) 881-3039

PROJECT № LAK017



JULY 3, 2020

TABLE OF CONTENTS

1.0 INTRODUCTION.....	1
1.1 PURPOSE.....	1
1.2 LOCATION.....	1
1.2.1 <i>Site Overview</i>	1
1.2.2 <i>Critical Habitat</i>	1
1.2.3 <i>Special-Status Species Occurrences</i>	2
1.2.4 <i>Landforms & Hydrology</i>	3
1.2.5 <i>Existing Structures</i>	3
1.2.6 <i>Regional Land Uses</i>	3
1.3 METHODS.....	4
1.3.1 <i>Records Search & Literature Review</i>	4
1.3.2 <i>Field Surveys</i>	4
2.0 RESULTS.....	5
2.1 NATURAL COMMUNITIES IN THE EVALUATION AREA.....	5
2.2 NATURAL COMMUNITIES WITHIN THE PROJECT SITE.....	5
2.2.1 <i>Developed Vineyard</i>	5
2.2.2 <i>Riparian Corridor</i>	6
2.3 WILDLIFE.....	6
2.4 WATERCOURSES.....	6
2.5 POTENTIAL WETLANDS.....	7
2.6 SOILS & GEOMORPHOLOGY.....	7
3.0 SUMMARY & CONCLUSIONS.....	8
4.0 REGULATORY FRAMEWORK.....	9
4.1 FEDERAL ENDANGERED SPECIES ACT.....	9
4.2 CALIFORNIA ENDANGERED SPECIES ACT.....	9
4.3 CALIFORNIA ENVIRONMENTAL QUALITY ACT.....	9
4.4 CLEAN WATER ACT.....	10
4.5 CALIFORNIA WATER QUALITY REGULATORY PROGRAMS.....	10
5.0 REFERENCES.....	11

FIGURE 1: REGIONAL LOCATION.....	12
FIGURE 2: 40 FOOT CONTOURS	13
FIGURE 3: WATERCOURSES	14
FIGURE 4: PHOTOGRAPH OF ACCESS GATE	15
FIGURE 5: PHOTOGRAPH OF ACCESS ROAD.....	16
FIGURE 6: PHOTOGRAPH OF RESERVOIR	17
FIGURE 7: PHOTOGRAPH OF PUMP & ELECTRICAL PANEL.....	18
FIGURE 8: PHOTOGRAPH OF VINEYARD & RIPARIAN CORRIDOR	19
FIGURE 9: PHOTOGRAPH OF WESTERN FENCELINE.....	20
FIGURE 10: PHOTOGRAPH OF ABANDONED RESIDENCE	21
APPENDIX A: SPECIAL-STATUS SPECIES CONSIDERED	22
APPENDIX B: SPECIES ENCOUNTERED	38
APPENDIX C: CNDDDB OCCURRENCES MAP	40
APPENDIX D: FEDERAL CRITICAL HABITAT MAP	41
APPENDIX E: REGIONAL NSO OCCURRENCES MAP	42
APPENDIX F: CANNABIS CULTIVATION BEST MANAGEMENT PRACTICES	43
F.1 CANNABIS CULTIVATION.....	43
F.2 EROSION & SEDIMENT CONTROL.....	45
F.3 WATER USE & POLLUTION	47
F.4 ROAD MAINTENANCE & GENERAL CONSTRUCTION.....	49
F.5 SWALE & VEGETATION MANAGEMENT	50
F.6 IRRIGATION & CULTIVATION MANAGEMENT	52
F.7 SPECIAL-STATUS SPECIES AVOIDANCE MEASURES.....	54
APPENDIX G: STREAM CLASSIFICATION CRITERIA	56

1.0 INTRODUCTION

1.1 PURPOSE

The purpose of this reconnaissance-level Biological Assessment (BA) is to evaluate the existence of special-status species (SSS) and/or habitats, as well as assess the potential for SSS listed in Appendix A to occur on or near the site of commercial cultivation activities, pursuant to applicable regulations from County of Lake and the State of California. This BA also analyzes the potential for jurisdictional wetlands and other waters of the U.S. to exist onsite, and classifies landforms that may potentially convey sediment to waters of the U.S. including dry creeks, washes, swales, gullies, and other erosional features. Also included in Appendix F is a set of recommended Best Management Practices (BMPs) that are adapted from a variety of sources, some of which are enforceable conditions under State Water Resources Control Board *Cannabis* General Order No. WQ 2019-0001-DWQ.

1.2 LOCATION

1.2.1 Site Overview

The project site is located at 1496 Bell Hill Road in unincorporated Lake County, 3.0 miles southwest of the town of Kelseyville (Figure 1). The parcel is located in Section 20, Township 13 North, Range 10 West, on the USGS Highland Springs 7.5 minute quad (Figure 2). The approximate latitude and longitude of the centroid of the parcel is 38.96160 (N), -122.88720 (W). The parcel is designated Assessor's Parcel Number 017-002-02, is deeded 37.1 acres, is zoned Agricultural ("A"), and is under the jurisdiction of the Central Valley (Region 1) Regional Water Quality Control Board (RWQCB), and the Northern Region (District 1) of the California Department of Fish & Wildlife (CDFW). The parcel is not located in a medium- or high-priority groundwater basin as designated by the California Department of Water Resources (DWR).

1.2.2 Critical Habitat

Federal Critical Habitat (FCH) is designated by the U.S. Fish & Wildlife Service (USFWS) and provides special protections for habitats considered important for long-term population persistence of endangered or threatened species. There is no FCH onsite for any animal or plant species (Appendix D). The nearest FCH is located 6.7 miles to the southeast for Slender Orcutt grass (*Orcuttia tenuis*). There is no FCH for any other species within 10 miles of the project site.

1.2.3 Special-Status Species Occurrences

Special-status species (SSS) are those species that receive special protections under either local, State, or Federal law and include both State and Federally Endangered and Threatened species of animals and plants, as well as candidate listing species and other species or populations of special concern for which additional information is required. The California Natural Diversity Database (CNDDDB) provides information on most known SSS occurrences in the State of California. A description of the habitat requirements and likelihood of occurrence of potential SSS on the project parcel is provided in Appendix A based the CNDDDB database, published scientific literature, and the expertise of PEC staff, with all SSS known from a 5 mile radius around the project parcel highlighted. Additionally, map-based representation of all of the SSS within an approximately 2 mile radius around the project site is provided in Appendix C.

1.2.3.1 *Animals*

There are a total of 12 special-status animal species within 5 miles of the project parcel (Appendices A & C). There are no special status species whose CNDDDB polygons overlap with the project parcel. The nearest known occurrence of special-status animal species is Western pond turtle (*Emys marmorata*), and indistinct occurrence that occupies all of the USGS Kelseyville 7.5-minute quad, that comes as close as approximately 0.3 miles east of the project parcel. The next nearest known occurrence of special-status animal species is Clear Lake hitch (*Lavinia exilicauda chi*) located approximately 0.4 miles southwest of the project parcel in Adobe Creek. The next nearest known occurrence of special-status animal species is Tricolored blackbird (*Agelaius tricolor*) located approximately 0.8 miles west of the project parcel near Highland Springs Road. The next nearest known occurrence of special-status animal species is an unnamed isopod (*Calasellus californicus*) located approximately 2.3 miles northeast of the project parcel near Kelseyville. The next nearest known occurrence of special-status animal species is Red-bellied newt (*Taricha rivularis*) located approximately 2.3 miles southwest of the project parcel near Highland Creek. The next nearest known occurrence of special-status animal species is Foothill yellow-legged frog (*Rana boylei*; FYLF) located approximately 2.5 miles southeast of the project parcel near Loasa Road. The localities of the nearest occurrences of the rest of the species are listed in Appendix A and shown in Appendix C.

1.2.3.2 *Plants*

There are a total of 15 special-status animal species within 5 miles of the project parcel (Appendices A & C). Most of the species on this list are specialists on serpentine soils or vernal pools, both soil types that do not exist onsite. The nearest known special-status plant species to the project parcel are Marsh checkerbloom (*Sidalcea oregana* ssp. *hydrophila*) and Napa bluecurls (*Trichostema ruygtii*) located approximately 0.3 miles east of the project parcel near Bell Hill Road. The next nearest known occurrences of special-status plant species are Glandular Western flax (*Hesperolinon adenophyllum*), Colusa layia (*Layia septentrionalis*), and Konocti manzanita (*Arctostaphylos manzanita* ssp. *elegans*) located approximately 1.4 miles southwest of the project parcel near Highland Springs Reservoir. The next nearest known occurrence of special-status plant species is Brandegee's eriastrum (*Eriastrum brandegeae*) located approximately 1.5 miles east of the project parcel near Wilson Road. The next nearest known occurrences of special-status plant species are Bent-flowered fiddleneck (*Amsinckia lunaris*) and Bogg's Lake hedge-hyssop (*Gratiola heterosepala*) located approximately 2.0 miles

northeast of the project parcel near Kelseyville. The localities of the nearest occurrences of the rest of the species with 5 miles of the project parcel are listed in Appendix A and shown in Appendix C.

1.2.4 Landforms & Hydrology

The parcel encompasses approximately 37 acres entirely planted to active vineyards, with a reservoir and abandoned house in the center of the parcel. Offsite to the east is a Class I reach of Adobe Creek (Figure 3). The maximum elevation of the parcel is 1,414 feet above sea level at the southeast corner of the parcel, and the minimum elevation is 1,401 feet above sea level at the northwest corner of the parcel. All of the parcel is flat with a measured slope of 2%, as measured by Suunto PM5 handheld clinometer.

There is one artificial pond used as a reservoir for irrigation purposes in the center of the parcel (Figure 6) that is fed by an electric pump (Figure 7). The site is not drained by any classifiable watercourses and all water arriving onsite as precipitation appears to infiltrate locally in the well-drained soils. The Class I reach of Adobe Creek is located offsite and not on the project parcel, however the very edge of the riparian corridor does overhang the project parcel (Figure 9). There are also no potential wetlands identified at the time of the survey. There are no culverts or other watercourse crossings onsite.

Water drains towards Adobe Creek and then flows north for 4 miles before entering Clear Lake. From the spillway of the Cache Creek Dam, Cache Creek flows east through the inner Coast Ranges for 51 miles before emerging into the Central Valley near Esparto. From there Cache Creek continues east for 28 miles before entering the Yolo Bypass west of the City of Sacramento. From there water flows south into the Sacramento River which flows south for approximately 40 miles before emptying into Suisun Bay and the Pacific Ocean.

1.2.5 Existing Structures

The entire parcel is occupied by actively irrigated vineyard blocks (Figure 9). The parcel is accessed via locking manual entry metal gate (Figure 4) and onsite roads are packed earth and in good condition (Figure 5). Access to the parcel is provided to the west off of Hendricks Road, via improved dirt driveway (Figure 7). There are no existing *Cannabis* cultivation facilities onsite. Existing structures are limited to an abandoned residence and several garages (Figure 10).

1.2.6 Regional Land Uses

Land uses in the vicinity of the project parcel are private property, most of which is planted to active vineyards or orchards. The remainder of the land in the vicinity of the parcel are rural residences and light industrial developments and packing houses. Farther to the west and south is Highland Springs Reservoir and the Mayacamas Mountains. To the north and east is agricultural land and the city of Lakeport and Clear Lake.

1.3 METHODS

1.3.1 Records Search & Literature Review

Based on a review of the literature and all relevant databases, we compiled a list of special-status plant and animal species that are known to occur within 5 miles of the project site, or that occupy habitats that are known to be present on or near the project site (Appendix A). Sources of information referenced include the California Natural Diversity Database (CNDDDB 2020), U.S. Fish and Wildlife Service Environmental Conservation Online System (USFWS 2020), the California Native Plants Society Inventory of Rare and Endangered Vascular Plants of California (CNPS 2020), and the knowledge of PEC staff familiar with the species and habitats of Lake County. Additional information on sensitive habitats including wetlands was obtained from the USFWS National Wetlands Inventory (NWI 2020), and County of Lake Geographic Information System Portal (Lake Co. 2020). Plant species included here are State or Federally Endangered or Threatened, and/or considered Rare by CDFW, and/or are recognized as special-status species by the CNPS or CDFW. Animal species included here are designated as State or Federally Endangered or Threatened, and/or California Species of Special Concern, and/or Fully Protected species by the CDFW. In addition, nests of most native bird species, regardless of their regulatory status, are protected from take or harassment under the Migratory Bird Treaty Act (MBTA) and California Fish and Wildlife Code.

1.3.2 Field Surveys

A wildlife and botanical survey was conducted at the site on June 4, 2020. The weather was hot and clear. No rain fell in the previous month and all vegetation was either flowering or past flowering. Relative humidity was approximately 45%, and temperature was approximately 95 degF as measured by Kestrel handheld weather station. Starting with the central area nearest the reservoir, the entire project site was surveyed on foot by Dr. Christopher T. DiVittorio, recording the location and identity of all plant and animal species encountered. Plant voucher specimens were taken of any species that were not identifiable in the field, and that were not likely to be special-status. The vast majority of species were identifiable at the time of the survey, although some had to be identified based on green vegetative flowering parts. Photographs and voucher specimens were taken of any plants that were identified solely based on vegetative characters. The field survey was conducted by dividing the outdoor portions of the parcel into zones and cataloging all of the species found in each zone. Each zone was surveyed by walking in parallel lines until the whole zone was covered. Notes were also taken in each zone documenting the general site characteristics and current land uses, as well as any surface erosional features that may require remediation. Botanical specimens were taken back to the laboratory for identification if identification was not possible in the field. If species were not flowering at the time of the survey and morphological characteristics indicated that the species may be special-status, notes were made for a follow-up visit. Birds and nests were identified by call and with binoculars. Vocalizations, scat, tracks, feathers, burrows, nests, and molts were used for identification of animals present onsite. Any onsite aquatic habitats were observed for a minimum of ten minutes without movement in order to observe animals that may hide when approached.

2.0 RESULTS

2.1 NATURAL COMMUNITIES IN THE EVALUATION AREA

Using field surveys, a review of published literature, and the knowledge of PEC staff, all of the natural communities present on and around the project site were assessed. Regionally, the dominant vegetation type is agricultural fields, with mixed oak and conifer woodland and chaparral in the hills to the south and west. Outcrops of serpentine are frequent in the region towards the west, however the project site itself is in a separate non-serpentine derived soil type (see §2.6, below). Towards the south and west the terrain becomes increasingly mountainous while to the north and east is flat agricultural field and the town of Kelseyville and the shore of Clear Lake (Figure 1).

2.2 NATURAL COMMUNITIES WITHIN THE PROJECT SITE

The entirety of the parcel consists of actively irrigated vineyard and thus has a very depauperate species composition. However, there is a small patch of trees in the center of the parcel near the abandoned residence and reservoir. There is also a thin strip of overhanging riparian corridor along the western parcel line along Adobe Creek, although the creek and riparian corridor itself is offsite. The specific community descriptions below are organized based on the zones that were surveyed, and the floristic results presented in Appendix B. We used as guidance the *Manual of California Vegetation* (Sawyer et al. 2009) to guide community classification. Overall, the parcels consists of approximately 95% actively cultivated vineyard, and 5% developed land including residences, irrigation ponds, and roadways.

2.2.1 Developed Vineyard

The vineyard itself contains primarily ruderal species except for a patch of trees in the center of the parcel near the abandoned residence and reservoir. This area does contain one Valley oak (*Quercus lobata*) to 30" DBH, and one Black walnut (*Juglans hindsii*) to 36" DBH, that should not be removed since they are native and provide habitat for wildlife species. Other trees around the residence include Douglas fir (*Pseudotsuga menziesii*), English walnut (*Juglans regia*), and apple (*Malus pumila*). The location of sensitive Valley oak trees is shown in Figure 3. Other species in the vineyard portion of the site include soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), wild oats (*Avena barbata*), medusahead (*Elymus caput-medusae*), Zorro fescue (*Festuca myuros*), little rattlesnake grass (*Briza minor*), hairgrass (*Aira caryophyllea*), foxtail barley (*Hordeum murinum*), dogstail grass (*Cynosurus echinatus*), turkey mullein (*Croton setiger*), yellow star thistle (*Centaurea solstitialis*), bull thistle (*Cirsium vulgare*), woolly mullein (*Verbascum thapsus*), annual lupine (*Lupinus bicolor*), Italian thistle (*Carduus pycnocephalus*), Queen Anne's lace (*Daucus carota*), bur clover (*Medicago polymorpha*), field bindweed (*Convolvulus arvensis*), English plantain (*Plantago lanceolata*), flax-

leaved horseweed (*Erigeron bonariensis*), prickly lettuce (*Lactuca serriola*), smooth cat's ear (*Hypochaeris glabra*), crane's bill filaree (*Erodium botrys*), wild radish (*Raphanus sativa*), black mustard (*Brassica nigra*), white horehound (*Marrubium vulgare*), and chickweed (*Stellaria media*).

2.2.2 Riparian Corridor

There is a small portion of overhanging riparian canopy in the far western edge of the parcel. While the setback required for Class I watercourses does overlap with the parcel, the actual top of bank and riparian corridor is not on the parcel. Only the overhanging tree vegetation and the shade-tolerant herbaceous species in the understory are on the project parcel. Nonetheless there are species not found in the rest of the parcel and so is treated separately here. The only tree species in this area are Valley oak (*Quercus lobata*) to 40" DBH, and Black walnut (*Juglans hindsii*) to 30" DBH. Both of these tree species provide habitat for wildlife and stability to river banks and should not be removed, even as juveniles. Other species in this section of the parcel include Yerba Santa (*Eriodictyon californicum*), poison oak (*Toxicodendron diversilobium*), coyote brush (*Baccharis pilularis*), mugwort (*Artemisia douglasiana*), farewell-to-spring (*Clarkia amoena*), blue wildrye (*Elymus glaucus*), squirreltail grass (*Elymus elymoides*), slender popcorn flower (*Plagiobothrys tenellus*), common fiddleneck (*Amsinckia intermedia*), farewell-to-spring (*Clarkia amoena*), lowland cudweed (*Gnaphalium palustre*), Western verbena (*Verbena lasiostachys*), common yarrow (*Achillea millefolium*), Western buttercup (*Ranunculus occidentalis*), Klamathweed (*Hypericum perforatum*), and field parsley (*Torilis arvensis*).

2.3 WILDLIFE

Wildlife activity was moderate for the time of year and the weather. Wildlife species were observed both directly and indirectly include California quail (*Callipepla californica*), mourning dove (*Zenaidura macroura*), acorn woodpecker (*Melanerpes formicivorus*), turkey vulture (*Cathartes aura*), crow (*Corvus brachyrhynchos*), Brewer's blackbird (*Euphagus cyanocephalus*), Western scrub jay (*Aphelocoma californica*), savannah sparrow (*Passerculus sandwichensis*), black-eyed junco (*Junco hyemalis*), Western fence lizard (*Sceloporus occidentalis*) and excavation mounds of Botta's pocket gopher (*Thomomys bottae*).

2.4 WATERCOURSES

Jurisdictional watercourses onsite were classified according to the three-tier method used by the California Department of Forestry & Fire Protection (CALFIRE 2017) and included as a reference in Appendix E. All onsite jurisdictional streamcourses in the vicinity of the project areas are mapped in Figure 3. According to these criteria, there are no classifiable watercourses onsite. The Class I reach of Adobe Creek is offsite to the west (Figure 3). There are also no culverts or other watercourse crossings onsite.

2.5 POTENTIAL WETLANDS

Potential wetlands onsite were assessed based on the likelihood to satisfy the three-tier wetland delineation criteria used by the Army Corps of Engineers *Wetland Delineation Manual* (ACOE 1987). According to these criteria, there are no locations that appear to qualify as jurisdictional wetland. Additionally, there are no vernal pools or other water or drainage features onsite.

2.6 SOILS & GEOMORPHOLOGY

Soil formations on western half of the parcel are mapped as somewhat excessively drained Talmage very gravelly sandy loam (#237), with flat slopes. This is classified as not prime farmland, and has a flood frequency classified as rare. The eastern half of the site is mapped as well-drained Still-Talmage complex (#235), 2% to 8% slopes, and is classified as not prime farmland. It also has a flood frequency classified as rare. There are no serpentine derived soil types onsite and no vernal pool or other hardpan seasonal wetlands onsite.

3.0 SUMMARY & CONCLUSIONS

No special-status plant species were observed during the surveys performed at the site in June 2020. No impacts are predicted for any of the special-status plant species discussed in Appendix A based on lack of actual sightings, and lack of suitable habitat in the proposed project areas. The majority of the special-status plant species in Appendix A are either vernal pool species or endemic to serpentine outcrops and soils. No serpentine soils are present in the project areas, and there are no vernal pools or other seasonal wetlands in the grassland portions of the site due since the vast majority of the site is actively cultivated vineyard blocks. The area near the reservoir and also some locations around the riparian corridor to the west (offsite) does contain some mature Valley oak and Black walnut trees that should not be removed since they are native and provide habitat for wildlife species.

No special-status animal species were observed during the surveys performed at the site in June 2020. No impacts are predicted for any of the special-status animal species discussed in Appendix A due to the lack of actual observations and lack of suitable habitat in the proposed project areas. There is no suitable estivation habitat for FYLF due to the lack of cracks or small mammal burrows due to the decades-long history of cultivation onsite. Any suitable breeding habitat or high-quality estivation habitat for FYLF or any other species in Appendix A are in the setbacks of the riparian zones that are protected from development.

No discharges of sediment or fill are predicted to any watercourses or other waters of the State. There are no culverts or other watercourse crossings, and no mapped watercourses or wetlands. There is a Class I reach of Adobe Creek just offsite to the west, however as long as appropriate setbacks are observed in accordance with State Water Resources Control Board guidelines, then no discharge should occur since the habitat within the setback is entirely vegetated. If revegetation is required such as after grading or for fire erosion prevention, contractors should only use native species from local genotypes propagated from local nurseries, or sterile wheat if no suitable native species are available. A list of appropriate species and nurseries for restoration and revegetation is available from PEC on request.

4.0 REGULATORY FRAMEWORK

4.1 FEDERAL ENDANGERED SPECIES ACT

The U.S. Fish and Wildlife Service (USFWS) has jurisdiction over federally-listed threatened and endangered species under the federal Endangered Species Act (FESA). The USFWS also maintains a list of 'proposed' species and candidate species that are not legally protected under the FESA, but are often included in their review of a project as they may become listed in the near future. The FESA protects listed animal species from harm or "take" which is broadly defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Take can also include habitat modification or degradation that results in death or injury to a listed species. An activity can be defined as a "take" even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under FESA if they occur on federal lands. Pursuant to the requirements of the FESA, a federal agency reviewing a proposed project within its jurisdiction must determine whether any federally-listed threatened or endangered species (plants and animals) may be present in the project area and determine whether the proposed project may affect such species. Any activities that could result in the take of a federally-listed species will require formal consultation with the USFWS.

4.2 CALIFORNIA ENDANGERED SPECIES ACT

The California Endangered Species Act (CESA) protects any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with the CESA, the California Department of Fish and Wildlife (CDFW) has jurisdiction over state-listed species (California Fish and Wildlife Code 2070). Take of state-listed species requires a permit from CDFW, which is granted only under strictly limited circumstances. Additionally, the CDFW maintains lists of "species of special concern" that are defined as animal species that appear to be vulnerable to extinction because of declining populations, limited ranges, and/or continuing threats. Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed or proposed endangered or threatened species may be present in the project area and determine whether the proposed project may result in a significant impact on such species.

4.3 CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 15380(b) of the California Environmental Quality Act (CEQA) Guidelines provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in FESA and CESA and the section of the California Fish and Wildlife Code dealing with rare or endangered plants or animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts, if it finds that the species meets the criteria of a threatened or endangered species.

4.4 CLEAN WATER ACT

Under Section 404 of the federal Clean Water Act, the U.S. Army Corps of Engineers (Corps) is responsible for regulating the discharge of fill material into waters of the United States. Waters of the U.S. and their lateral limits are defined in 33 CFR Part 328.3 (a) and include streams that are tributary to navigable waters and their adjacent wetlands. Wetlands that are not adjacent to waters of the U.S. are termed "isolated wetlands" and, depending on the circumstances, may also be subject to Corps jurisdiction. In general, a Corps permit must be obtained before placing fill in wetlands or other waters of the U.S. The type of permit depends on the acreage involved and the purpose of the proposed fill. Minor amounts of fill are sometimes covered by Nationwide Permits, which were established to streamline the permit process for projects with "minimal" impacts on wetlands or other waters of the U.S. An Individual Permit is required for projects that result in more than a minimal impact on jurisdictional areas. The Individual Permit process requires evidence that fill of jurisdictional areas has been minimized to the extent "practicable" and provides an opportunity for public review of the project.

4.5 CALIFORNIA WATER QUALITY REGULATORY PROGRAMS

Pursuant to Section 401 of the federal Clean Water Act and the state's Porter-Cologne Act, projects that are regulated by the Corps must obtain water quality certification from the Regional Water Quality Control Board (RWQCB). This certification ensures that the project will uphold state water quality standards. The RWQCB sometimes asserts jurisdiction over wetlands that the Corps does not (e.g. certain isolated wetlands) and may impose mitigation requirements even if the Corps does not. The CDFW also exerts jurisdiction over the bed and banks of watercourses and water bodies according to provisions of Section 1601 to 1603 of the Fish and Wildlife Code. The Fish and Wildlife Code requires a Stream Alteration Agreement for the fill or removal of material within the bed and banks of a watercourse or water body.

5.0 REFERENCES

- Baldwin, B.G., et al. 2012. *The Jepson Manual: Vascular Plants of California*. University of California Press, Berkeley, CA. (available at <https://ucjeps.berkeley.edu/eflora/>)
- Cafferata, P. et al. 2017. *Designing Watercourse Crossings for Passage of 100-Year Flood Flows, Wood, and Sediment*. California Natural Resources Agency, Sacramento, CA. (available at <https://www.fs.fed.us/psw/publications/4351/Cafferata2004.pdf>)
- California Department of Fish & Wildlife (CDFW). 2020. *California Natural Diversity Database*. CDFW Wildlife & Habitat Data Analysis Branch, Sacramento, CA. (available at <https://www.wildlife.ca.gov/data>)
- California Department of Fish & Wildlife (CDFW). 2019. *Natural Diversity Database August 2019 Special Animals List*. CDFW Periodic publication 67p. (available at <https://wildlife.ca.gov/Conservation/SSC>)
- California Department of Forestry & Fire Protection (CALFIRE). 2017. *California Forest Practice Rules*. California Natural Resources Agency, Sacramento, CA. (available at <https://www.fire.ca.gov/programs/resource-management/forest-practice/>)
- California Native Plant Society (CNPS). 2020. *Inventory of Rare and Endangered Plants*. CNPS, Sacramento, CA. (available at <http://www.rareplants.cnps.org/>)
- Central Valley Regional Water Quality Control Board (CVRWQCB). 2015. *Waste Discharge Requirements General Order for Discharges of Waste Associated with Medicinal Cannabis Cultivation Activities*. Order No. R5-2015-0113.
- County of Lake Assessor. 2020. *Geographical Information Systems (GIS) Databases*. County of Lake, Lakeport, CA. (available at <http://gispublic.co.lake.ca.us/portal/home/>)
- Natural Resources Conservation Service (NRCS). 2020. *SoilWeb*. University of California, Agricultural and Natural Resources, Davis, CA. (available at <http://casoilresource.lawr.ucdavis.edu/gmap/>)
- North Coast Regional Water Quality Control Board (NCRWQCB). 2015. *Best Management Practices for Discharges of Waste Resulting from Cannabis Cultivation and Associated Activities or Operations with Similar Environmental Effects*. Order No. R1-2015-0023.
- Sawyer, J.O., T. Keeler-Wolf, J. Evens. 2009. *Manual of California Vegetation*. California Native Plant Society Press, Sacramento, CA. (available at <http://vegetation.cnps.org/>)
- State Water Resources Control Board (SWRCB). 2019. *Cannabis Cultivation General Order WQ 2019-0001-DWQ*. SWRCB, Sacramento, CA. (available at https://www.waterboards.ca.gov/water_issues/programs/cannabis/)
- U.S. Department of Agriculture (USDA). 1985. *Soil Survey of Lake County, California*. Soil Conservation Service, Washington D.C. (available at <https://casoilresource.lawr.ucdavis.edu/gmap/>)
- U.S. Army Corps of Engineers (ACOE). 1987. *Wetlands Delineation Manual*. Watershed Research Program Technical Report Y-87-1, Washington, D.C. (available at <https://usace.contentdm.oclc.org/digital/collection/p266001coll1/id/4530>)
- U.S. Fish and Wildlife Service (USFWS). 2020. *Environmental Conservation Online System*. USFWS, Washington, DC. (available at <https://ecos.fws.gov/ecp/>)
- U.S. Fish and Wildlife Service (USFWS). 2020. *National Wetlands Inventory*. USFWS, Washington, DC. (available at <https://www.fws.gov/wetlands/>)
- U.S. National Weather Service (NWS). 2020. *National Climatic Data Center*. USNWS, Washington, DC. (available at <https://w2.weather.gov/climate/>)
- Weaver, W.E., et al. 2015. *Handbook for Forest, Ranch and Rural Roads*. Mendocino County Resource Conservation District, Ukiah, California (available at <http://www.pacificwatershed.com/PWA-publications-library>)
- Weaver, W.E. et al. 2015. *Culvert Sizing Procedures for the 100-Year Peak Flow*. Mendocino County Resource Conservation District, Ukiah, CA. (available at <http://www.pacificwatershed.com/PWA-publications-library>)

FIGURE 1: REGIONAL LOCATION

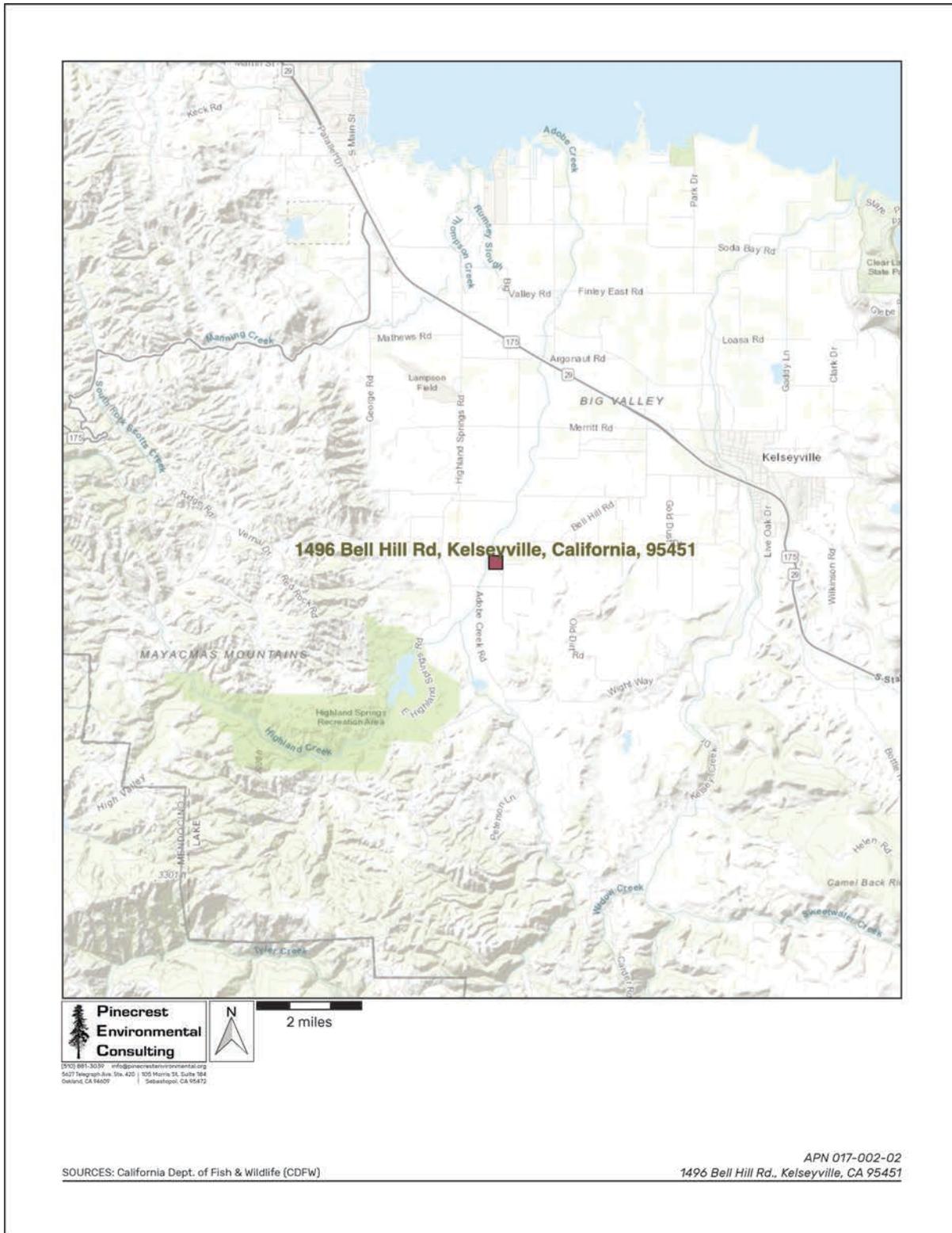


FIGURE 2: 40 FOOT CONTOURS

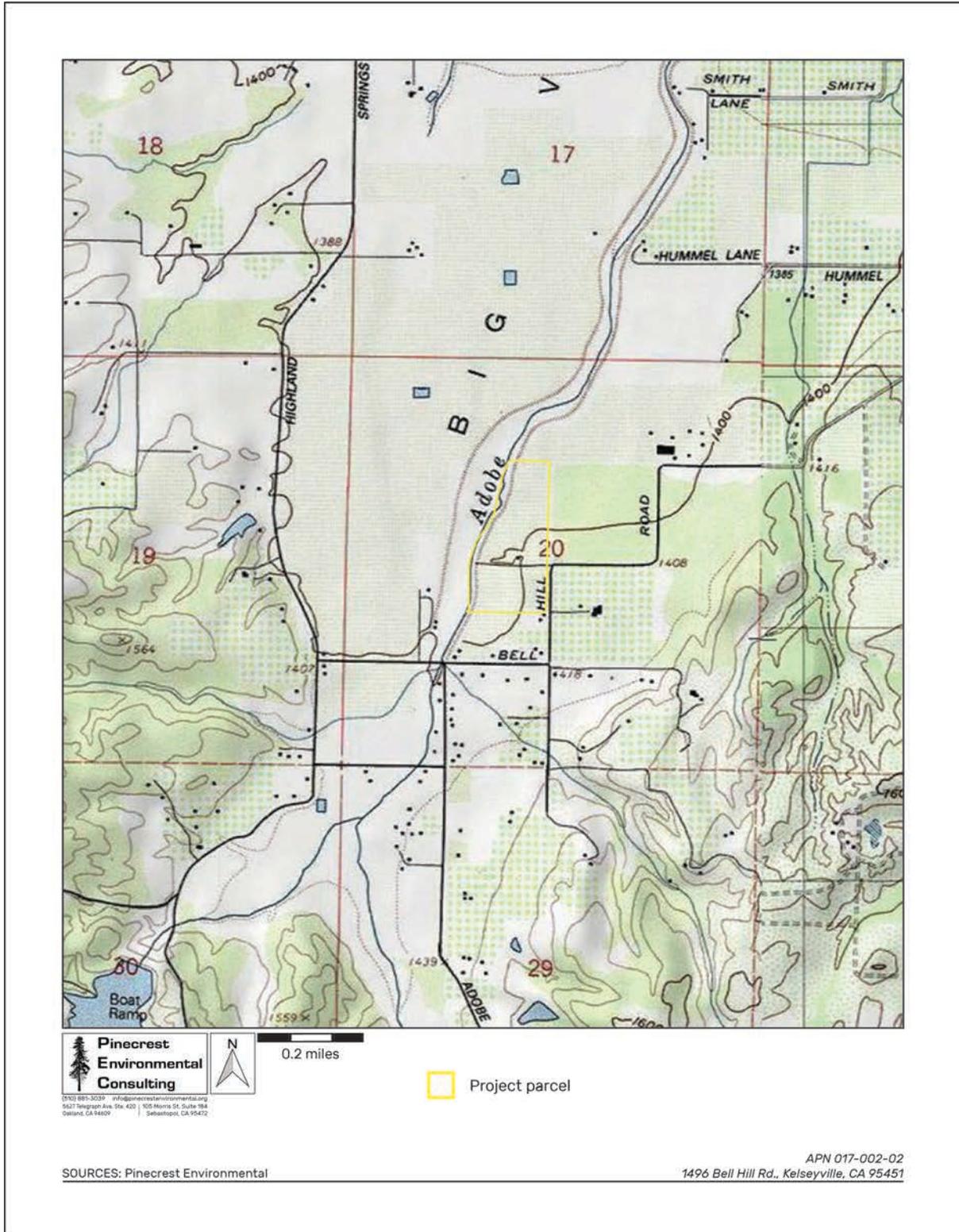


FIGURE 3: WATERCOURSES

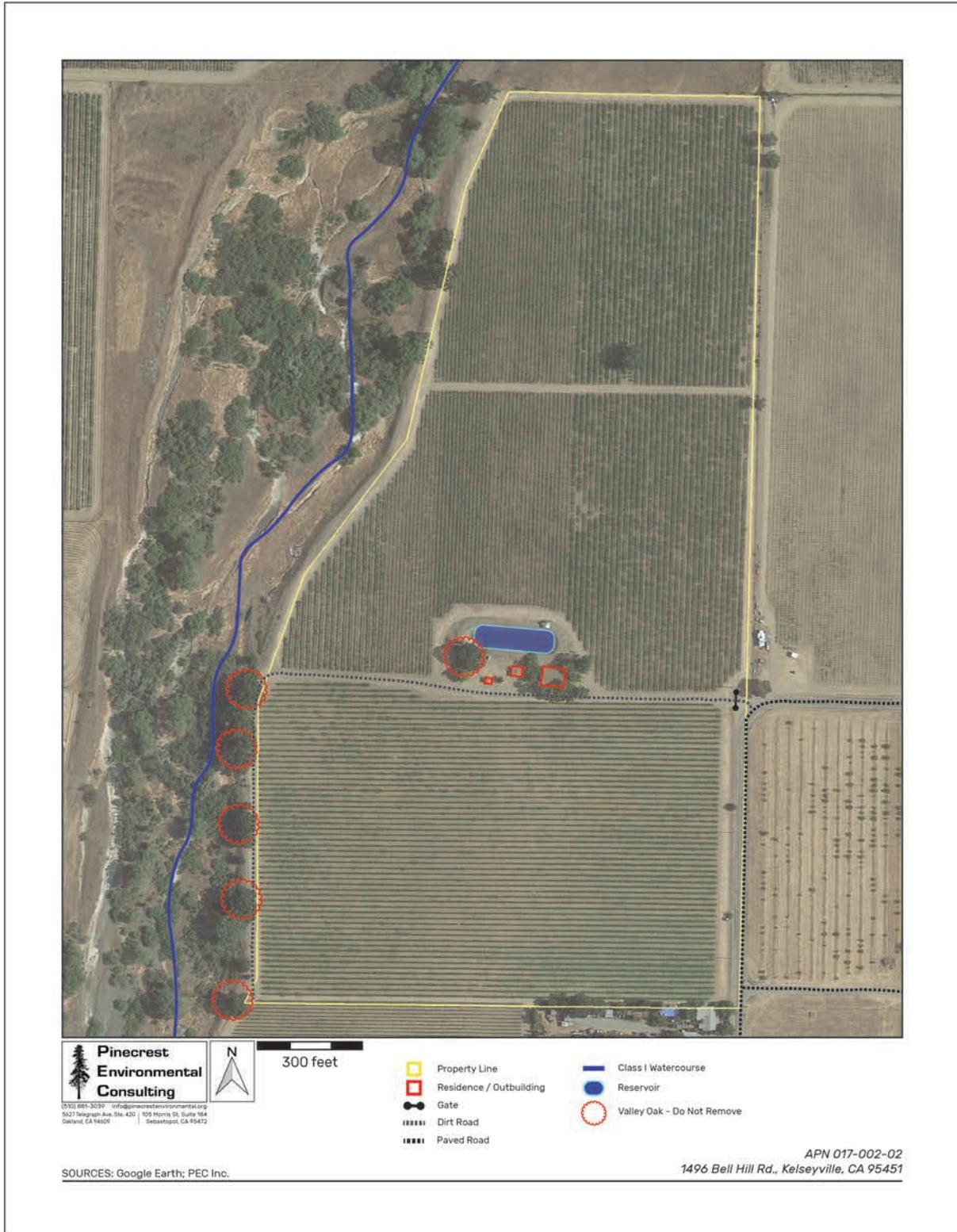


FIGURE 4: PHOTOGRAPH OF ACCESS GATE



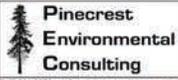
 **Pinecrest
Environmental
Consulting**

5703 887-3039 info@pinecrestenvironmental.org
5627 Telegraph Ave. Ste. 405 | 105 Morris St., Suite 104
Oakland, CA 94609 | Sebastopol, CA 95472

SOURCES: PEC Inc.

APN 017-002-02
1496 Bell Hill Rd., Kelseyville, CA 95451

FIGURE 5: PHOTOGRAPH OF ACCESS ROAD

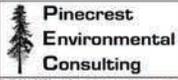


510) 887-3039 info@pinecrestenvironmental.org
5627 Telegraph Ave. Ste. 400 | 100 Morris St. Suite 104
Oakland, CA 94609 | Sebastopol, CA 95472

SOURCES: PEC Inc.

APN 017-002-02
1496 Bell Hill Rd., Kelseyville, CA 95451

FIGURE 6: PHOTOGRAPH OF RESERVOIR



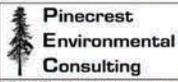
**Pinecrest
Environmental
Consulting**

5313 887-3039 info@pinecrestenvironmental.org
5627 Telegraph Ave. Ste. 400 | 100 Morris St. Suite 104
Oakland, CA 94609 | Berkeley, CA 94702

SOURCES: PEC Inc.

APN 017-002-02
1496 Bell Hill Rd., Kelseyville, CA 95451

FIGURE 7: PHOTOGRAPH OF PUMP & ELECTRICAL PANEL

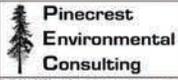


510) 887-3039 info@pinecrestenvironmental.org
5627 Telegraph Ave. Ste. 400 | 100 Morris St. Suite 104
Oakland, CA 94609 | Berkeley, CA 94702

SOURCES: PEC Inc.

APN 017-002-02
1496 Bell Hill Rd., Kelseyville, CA 95451

FIGURE 8: PHOTOGRAPH OF VINEYARD & RIPARIAN CORRIDOR



5303 887-3039 info@pinecrestenvironmental.org
5627 Telegraph Ave. Ste. 400 | 100 Morris St. Suite 104
Oakland, CA 94609 | Sebastopol, CA 95472

SOURCES: PEC Inc.

APN 017-002-02
1496 Bell Hill Rd., Kelseyville, CA 95451

FIGURE 9: PHOTOGRAPH OF WESTERN FENCELINE



 **Pinecrest
Environmental
Consulting**

510) 887-3039 info@pinecrestenvironmental.org
5627 Telegraph Ave. Ste. 400 | 100 Morris St. Suite 104
Oakland, CA 94609 | Sebastopol, CA 95472

SOURCES: PEC Inc.

APN 017-002-02
1496 Bell Hill Rd., Kelseyville, CA 95451

FIGURE 10: PHOTOGRAPH OF ABANDONED RESIDENCE



 **Pinecrest
Environmental
Consulting**
5123 887-3039 info@pinecrestenvironmental.org
5627 Telegraph Ave. Ste. 400 | 100 Morris St. Suite 104
Oakland, CA 94609 | Berkeley, CA 94702

SOURCES: PEC Inc.

APN 017-002-02
1496 Bell Hill Rd., Kelseyville, CA 95451

APPENDIX A: SPECIAL-STATUS SPECIES CONSIDERED

The following is a list of special-status plant and animal species generated based on knowledge of the species and habitats of Lake County by PEC staff, from various State and Federal databases, and from the California Natural Diversity Database (CNDDDB). CNDDDB occurrences within 5 miles of the project site are shown in bold.

Taxon	Status ¹ Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
PLANTS			
Adobe lily (<i>Fritillaria pluriflora</i>)	—/—/1B.2	Valley grasslands, foothill woodland	<u>None</u> : No suitable grassland habitat exists onsite.
Anthony peak lupine (<i>Lupinus antoninus</i>)	—/—/1B.2	Montane forest	<u>None</u> : No suitable montane habitat exists onsite.
Baker's manzanita (<i>Arctostaphylos bakeri</i> ssp. <i>bakeri</i>)	—/—/1B.1	Serpentine chaparral	<u>None</u> : No serpentine habitat exists onsite.
Baker's meadowfoam (<i>Limnanthes bakeri</i>)	—/ST/1B.1	Vernal pools, freshwater wetland	<u>None</u> : No suitable wetland habitat exists onsite.
Baker's navarretia (<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>)	—/—/1B.1	Vernal pools	<u>None</u> : No suitable vernal pool habitat exists onsite.
Beaked tracyina (<i>Tracyina rostrata</i>)	—/—/1B.2	Valley grassland, foothill woodland	<u>Very Low</u> : No suitable grassland habitat exists onsite.
Bent flowered fiddleneck (<i>Amsinckia lunaris</i>)	—/—/1B.2	Valley grassland, foothill woodland	<u>Very Low</u>: No suitable grassland habitat exists onsite. Nearest known occurrence is 2.0 miles NE of the parcel near Kelseyville.
Big scale balsamroot (<i>Balsamorhiza macrolepis</i>)	—/—/1B.2	Valley grassland, foothill woodland	<u>None</u> : No suitable grassland habitat exists onsite.
Bogg's Lake hedge-hyssop (<i>Gratiola heterosepala</i>)	—/—/1B.2	Vernal pools, lake margins	<u>None</u>: No suitable wetland habitat exists onsite. Nearest known

Taxon	Status ¹ Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
			occurrence is 2.0 miles NE of the parcel near Kelseyville.
Bolander's horkelia (<i>Horkelia bolanderi</i>)	—/—/1B.2	Yellow pine forest, grassland	None: No suitable forest habitat exists onsite. Nearest known occurrence is 2.8 miles SW of the parcel near Highland Creek.
Brandegee's eriastrum (<i>Eriastrum brandegeeeae</i>)	—/—/1B.1	Clearings in chaparral	None: No suitable chaparral habitat exists onsite. Nearest known occurrence is 1.5 miles E of the parcel near Wilson Road.
Bristly sedge (<i>Carex comosa</i>)	—/—/2B.1	Freshwater marsh, riparian	None: No suitable wetland habitat exists onsite.
Brownish beaked-rush (<i>Rhynchospora capitellata</i>)	—/—/2B.2	Freshwater marsh, riparian	None: No suitable wetland habitat exists onsite.
Burke's goldfields (<i>Lasthenia burkei</i>)	FE/SE/1B.1	Vernal pools	Very Low: No suitable vernal pool habitat exists onsite. Nearest known occurrence is 3.2 miles E of the parcel near Kelseyville.
California alkalai grass (<i>Puccinellia simplex</i>)	—/—/1B.2	Alkalai sink	None: No alkalai wetland habitat exists onsite.
California satintail (<i>Imperata brevifolia</i>)	—/—/2B.1	Chaparral	None: No suitable chaparral habitat exists onsite.
Calistoga ceanothus (<i>Ceanothus divergens</i>)	—/—/1B.2	Chaparral	None: No suitable chaparral habitat exists onsite.
Cascade downingia (<i>Downingia willamettensis</i>)	—/—/2B.2	Vernal pool	None: No vernal pool habitat exists onsite.
Clara Hunt's milk vetch (<i>Astragalus claranus</i>)	—/—/1B.1	Chaparral, grassland	None: No suitable chaparral habitat exists onsite.
Cobb Mountain lupine (<i>Lupinus sericatus</i>)	—/—/1B.2	Chaparral, pine forest	None: No suitable chaparral habitat exists onsite.
Colusa layia (<i>Layia septentrionalis</i>)	—/—/1B.2	Chaparral, valley grassland	Very Low: No suitable grassland habitat exists onsite. Nearest known occurrence is 1.4 miles SW of the parcel near Highland Springs Reservoir.

Taxon	Status ¹ Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Congested-headed hayfield tarplant (<i>Hemizonia congesta</i> ssp. <i>congesta</i>)	—/—/1B.2	Grassland, coastal scrub	<u>None</u> : No suitable grassland habitat exists onsite.
Deep scarred cryptantha (<i>Cryptantha excavata</i>)	—/—/1B.1	Foothill woodland	<u>None</u> : No suitable grassland habitat exists onsite.
Dimorphic snapdragon (<i>Antirrhinum subcordatum</i>)	—/—/4.3	Serpentine chaparral	<u>None</u>: No serpentine habitat exists onsite. Nearest known occurrence is 2.8 miles SW of the parcel near Highland Creek.
Drymaria-like western flax (<i>Hesperolinon drymarioides</i>)	—/—/1B.2	Serpentine outcrops	<u>None</u> : No serpentine outcrop habitat exists onsite.
Dwarf downingia (<i>Downingia pusilla</i>)	—/—/2B.2	Vernal pools, freshwater wetland	<u>None</u> : No vernal pool habitat exists onsite.
Dwarf soaproot (<i>Chlorogalum pomeridianum</i> var. <i>minus</i>)	—/—/1B.2	Serpentine chaparral	<u>None</u> : No serpentine chaparral habitat exists onsite.
Early jewelflower (<i>Streptanthus vernalis</i>)	—/—/1B.2	Serpentine outcrops	<u>None</u> : No suitable serpentine outcrop habitat exists onsite.
Eel-grass pondweed (<i>Potamogeton zosteriformis</i>)	—/—/2B.2	Freshwater lakes, ponds	<u>None</u> : No suitable pond habitat exists onsite.
Few-flowered navarretia (<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>)	FE/ST/1B.1	Vernal pools	<u>Very Low</u>: No suitable vernal pool habitat exists onsite. Nearest known occurrence is 3.2 miles E of the parcel near Kelseyville.
Franciscan onion (<i>Allium peninsulare</i> var. <i>franciscanum</i>)	—/—/1B.2	Grassland	<u>None</u> : No suitable grassland habitat exists onsite.
Freed's jewelflower (<i>Streptanthus brachiatus</i> ssp. <i>hoffmanii</i>)	—/—/1B.2	Serpentine outcrops	<u>None</u> : No serpentine outcrop habitat exists onsite.
Geysers panicum (<i>Panicum acuminatum</i> var. <i>thermale</i>)	—/—/1B.2	Chaparral, wetlands	<u>None</u> : No suitable chaparral seep habitat exists onsite.
Glandular western flax (<i>Hesperolinon adenophyllum</i>)	—/—/1B.2	Chaparral	<u>Very Low</u>: No suitable chaparral habitat exists onsite. Nearest known occurrence is 1.4 miles SW of the parcel near Highland Springs Reservoir.

Taxon	Status ¹ Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Grassleaf water plantain (<i>Alisma gramineum</i>)	—/—/2B.2	Wetland, riparian	<u>None</u> : No suitable riparian habitat exists onsite.
Green jewelflower (<i>Streptanthus hesperidis</i>)	—/—/1B.2	Serpentine outcrops	<u>None</u> : No serpentine outcrop habitat exists onsite.
Greene's narrow-leaved daisy (<i>Erigeron greenei</i>)	—/—/1B.2	Serpentine grassland	<u>None</u> : No serpentine habitat exists onsite.
Hall's harmonia (<i>Harmonia hallii</i>)	—/—/1B.2	Chaparral, grassland	<u>None</u> : No suitable grassland habitat exists onsite.
Hoffman's bristly jewelflower (<i>Streptanthus glandulosus</i> spp. <i>hoffmanii</i>)	—/—/1B.3	Chaparral, foothill woodland	<u>None</u> : No suitable chaparral habitat exists onsite.
Holly-leaved ceanothus (<i>Ceanothus purpureus</i>)	—/—/1B.2	Chaparral	<u>None</u> : No suitable chaparral habitat exists onsite.
Hospital Canyon larkspur (<i>Delphinium californicum</i> ssp. <i>interius</i>)	—/—/1B.2	Foothill woodland	<u>Very Low</u> : No woodland habitat exists onsite.
Indian Valley brodiaea (<i>Brodiaea rosea</i>)	—/SE/3.1	Serpentine chaparral	<u>None</u> : No suitable serpentine habitat exists onsite.
Jepson's coyote thistle (<i>Eryngium jepsonii</i>)	—/—/4.2	Wetlands and vernal pools	<u>None</u> : No vernal pool habitat exists onsite.
Jepson's dodder (<i>Cuscuta jepsonii</i>)	—/—/1B.2	Chaparral, grassland	<u>Very Low</u> : No suitable chaparral habitat exists onsite.
Jepson's leptosiphon (<i>Leptosiphon jepsonii</i>)	—/—/1B.2	Chaparral, serpentine grassland	<u>None</u> : No serpentine chaparral habitat exists onsite.
Jepson's milk-vetch (<i>Astragalus rattanii</i> var. <i>jepsonianus</i>)	—/—/1B.2	Chaparral, serpentine grassland	<u>None</u> : No suitable chaparral habitat exists onsite.
Keck's checkerbloom (<i>Sidalcea keckii</i>)	FE/—/1B.1	Valley grassland, serpentine	<u>None</u> : No suitable wetland habitat exists onsite.
Kenwood marsh checkerbloom (<i>Sidalcea oregana</i> ssp. <i>valida</i>)	FE/SE/1B.1	Freshwater wetlands	<u>None</u> : No suitable wetland habitat exists onsite.
Konocti manzanita (<i>Arctostaphylos manzanita</i> ssp. <i>elegans</i>)	—/—/1B.3	Chaparral, foothill woodland	<u>Very Low</u>: No suitable chaparral habitat exists onsite. Nearest known occurrence is 1.4 miles SW of the

Taxon	Status ¹ Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
			parcel near Highland Springs Reservoir.
Kruckeberg's jewelflower (<i>Streptanthus morrisonii</i> ssp. <i>kruckebergii</i>)	—/—/1B.2	Serpentine outcrops	<u>None</u> : No serpentine outcrop habitat exists onsite.
Lake County stonecrop (<i>Sedella leiocarpa</i>)	—/—/1B.1	Rock outcrops	<u>None</u> : No suitable rock outcrop habitat exists onsite.
Lake County western flax (<i>Hesperolinon didymocarpum</i>)	—/SE/1B.2	Serpentine grasslands	<u>None</u> : No suitable serpentine habitat exists onsite.
Lake Pillsbury checkerbloom (<i>Sidalcea hickmanii</i> spp. <i>pillsburiensis</i>)	—/—/1B.2	Chaparral	<u>None</u> : No suitable chaparral habitat exists onsite.
Legenere (<i>Legenere limosa</i>)	—/—/1B.1	Vernal pool, freshwater wetland	<u>None</u> : No suitable vernal pool habitat exists onsite.
Loch Lomond button-celery (<i>Eryngium constancei</i>)	FE/SE/1B.1	Vernal pool, freshwater wetland	<u>None</u> : No suitable vernal pool habitat exists onsite.
Many-flowered navarretia (<i>Navarretia leucocephala</i> spp. <i>plieantha</i>)	FE/SE/1B.2	Vernal pools	<u>None</u> : No suitable vernal pool habitat exists onsite.
Marsh checkerbloom (<i>Sidalcea oregana</i> ssp. <i>hydrophila</i>)	—/—/1B.2	Freshwater wetland, riparian	<u>Very Low</u>: No suitable riparian habitat exists onsite. Nearest known occurrence is 0.3 miles E of the parcel near Bell Hill Road.
Mayacamas popcornflower (<i>Plagiobothrys lithocaryus</i>)	—/—/A1	Foothill woodland, valley grassland	<u>Very Low</u> : Presumed extinct. Last observed in 1884 near present-day Lakeport.
Milo Baker's lupine (<i>Lupinus milo-bakeri</i>)	—/—/1B.1	Foothill woodland	<u>None</u> : No suitable woodland habitat exists onsite.
Morrison's jewelflower (<i>Streptanthus morrisonii</i> ssp. <i>morrisonii</i>)	—/—/1B.2	Serpentine outcrops	<u>None</u> : No serpentine outcrop habitat exists onsite.
Mt. St. Helena morning-glory (<i>Calystegia collina</i> ssp. <i>oxyphylla</i>)	—/—/4.2	Serpentine chaparral	<u>None</u> : No serpentine habitat exists onsite.
Napa bluecurls (<i>Trichostema ruygtii</i>)	—/—/1B.2	Chaparral, grassland	<u>Low</u>: No suitable grassland habitat exists onsite. Nearest known occurrence is 0.3 miles E of the parcel near Bell Hill Road.

Taxon	Status ¹ Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Napa checkerbloom (<i>Sidalcea hickmanii</i> ssp. <i>napensis</i>)	—/—/1B.1	Chaparral	<u>None</u> : No suitable woodland habitat exists onsite.
Napa false indigo (<i>Amorpha californica</i> var. <i>napensis</i>)	—/—/1B.2	Forest, woodland	<u>Very Low</u> : No suitable woodland habitat exists onsite.
Narrow-anthered brodiaea (<i>Brodiaea leptandra</i>)	—/—/1B.2	Foothill woodland, grassland	<u>None</u> : No suitable grassland habitat exists onsite.
North Coast semaphore grass (<i>Pleuropogon hooverianus</i>)	—/—/1B.1	Freshwater wetland, vernal pools	<u>None</u> : No suitable vernal pool habitat exists onsite.
Northern California black walnut (<i>Juglans hindsii</i>)	—/—/1B.1	Riparian	<u>High</u> : Some suitable riparian habitat exists onsite. Nearest occurrence is onsite.
Northern meadow sedge (<i>Carex praticola</i>)	—/—/2B.2	Freshwater wetlands	<u>None</u> : No suitable wetland habitat exists onsite.
Nuttall's ribbon-leaved pondweed (<i>Potamogeton epihydrus</i>)	—/—/2B.2	Ponds and lakes	<u>None</u> : No suitable pond habitat exists onsite.
Oregon polemonium (<i>Polemonium carneum</i>)	—/—/2B.2	Coastal scrub, yellow pine forest	<u>None</u> : No suitable habitat exists onsite.
Oval-leaved viburnum (<i>Viburnum ellipticum</i>)	—/—/2B.3	Chaparral	<u>Very Low</u> : No suitable chaparral habitat exists onsite.
Pappose tarplant (<i>Centromadia parryi</i> ssp. <i>parryi</i>)	—/—/1B.2	Grassland, wetland	<u>None</u> : No suitable grassland habitat exists onsite.
Pennell's bird's beak (<i>Cordylanthus tenuis</i> ssp. <i>capillaris</i>)	FE/SR/1B.2	Chaparral	<u>None</u> : No suitable chaparral habitat exists onsite.
Peruvian dodder (<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>)	—/—/1B.2	Grassland, chaparral	<u>Very Low</u> : Parasitic plant, typical host plants not known from the property.
Pink creamsacs (<i>Castilleja rubicundula</i> var. <i>rubicundula</i>)	—/—/1B.2	Grasslands	<u>None</u> : No suitable grassland habitat exists onsite.
Porter's navarretia (<i>Navarretia paradoxinota</i>)	—/—/1B.3	Grasslands, wetlands	<u>None</u> : No suitable grassland habitat exists onsite.
Raiche's manzanita	—/—/1B.1	Serpentine chaparral	<u>None</u> : No serpentine chaparral habitat exists onsite.

Taxon	Status ¹ Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
<i>(Arctostaphylos stanfordiana</i> ssp. <i>raichei)</i>			
Rincon Ridge ceanothus (<i>Ceanothus confusus</i>)	—/—/1B.1	Chaparral, foothill grassland	<u>None</u> : No suitable chaparral habitat exists onsite.
Rincon Ridge manzanita (<i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i>)	—/—/1B.1	Chaparral	<u>None</u> : No suitable chaparral habitat exists onsite.
Round-leaved filaree (<i>California macrophylla</i>)	—/—/1B.2	Foothill grassland	<u>None</u> : No suitable grassland habitat exists onsite.
Saline clover (<i>Trifolium hydrophilum</i>)	—/—/1B.2	Wetland, riparian	<u>None</u> : No suitable wetland habitat exists onsite.
San Joaquin spearscale (<i>Extriplex joaquinana</i>)	—/—/1B.2	Shadscale scrub, valley grassland	<u>None</u> : No alkalai scrub habitat exists.
Santa Rosa horkelia (<i>Horkelia tenuiloba</i>)	—/—/1B.2	Chaparral	<u>None</u> : No suitable chaparral habitat exists onsite.
Sebastopol meadowfoam (<i>Limnanthes vinculans</i>)	FE/SE/1B.1	Freshwater wetland, vernal pools	<u>None</u> : No suitable vernal pool habitat exists onsite.
Serpentine cryptantha (<i>Cryptantha dissita</i>)	—/—/1B.2	Serpentine chaparral	<u>Very Low</u> : No serpentine habitat exists onsite. Nearest known occurrence is 2.8 miles SW of the parcel near Highland Creek.
Serpentine daisy (<i>Erigeron serpentinus</i>)	—/—/1B.3	Serpentine chaparral	<u>None</u> : No serpentine chaparral habitat exists onsite.
Sharsmith's western flax (<i>Hesperolinon sharsmithiae</i>)	—/—/1B.2	Chaparral	<u>Very Low</u> : No suitable chaparral habitat exists onsite.
Shining navarretia (<i>Navarretia nigelliformis</i> ssp. <i>radians</i>)	—/—/1B.2	Vernal pools	<u>Very Low</u> : No suitable vernal pool habitat exists onsite.
Slender Orcutt grass (<i>Orcuttia tenuis</i>)	FT/SE/1B.1	Grassland, freshwater wetlands	<u>None</u> : No suitable wet meadow habitat exists onsite.
Small-flowered calycadenia (<i>Calycadenia micrantha</i>)	—/—/1B.2	Foothill grassland	<u>Low</u> : Some suitable grassland habitat exists onsite. Nearest known occurrence is 3.0 miles NW of the parcel near CA- 175.

Taxon	Status ¹ Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Small groundcone (<i>Kopsiopsis hookeri</i>)	—/—/2B.3	Redwood forest	<u>None</u> : No suitable forest habitat exists onsite.
Small pincushion navarretia (<i>Navarretia meyersii</i> ssp. <i>deminuta</i>)	—/—/1B.1	Wetlands	<u>Very Low</u> : No suitable wetland habitat exists onsite.
Snow Mountain buckwheat (<i>Eriogonum nervulosum</i>)	—/—/1B.2	Serpentine outcrops	<u>None</u> : No serpentine outcrop habitat exists onsite.
Socrates Mine jewelflower (<i>Streptanthus brachiatus</i> ssp. <i>brachiatus</i>)	—/—/1B.2	Serpentine outcrops	<u>None</u> : No serpentine habitat exists onsite.
Sonoma beardtongue (<i>Penstemon newberryi</i> var. <i>sonomensis</i>)	—/—/1B.3	Chaparral	<u>Very Low</u> : No suitable chaparral habitat exists onsite.
Sonoma ceanothus (<i>Ceanothus sonomensis</i>)	—/—/1B.2	Chaparral	<u>None</u> : No suitable chaparral habitat exists onsite.
Thin-lobed horkelia (<i>Horkelia tenuiloba</i>)	—/—/1B.2	Chaparral	<u>Very Low</u> : No suitable chaparral habitat exists onsite.
Three-fingered morning glory (<i>Calystegia collina</i> ssp. <i>tridactylosa</i>)	—/—/1B.2	Serpentine grassland	<u>None</u> : No suitable serpentine habitat exists onsite.
Three Peaks jewelflower (<i>Streptanthus morrisonii</i> ssp. <i>elatus</i>)	—/—/1B.2	Serpentine outcrops	<u>None</u> : No serpentine outcrop habitat exists onsite.
Tracy's eriastrum (<i>Eriastrum tracyi</i>)	—/SR/3.2	Chaparral	<u>None</u> : No suitable chaparral habitat exists onsite.
Two-carpellate Western flax (<i>Hesperolinon bicarpellatum</i>)	—/—/1B.2	Chaparral	<u>None</u> : No suitable chaparral habitat exists onsite.
Vine Hill ceanothus (<i>Ceanothus foliosus</i> var. <i>vineatus</i>)	—/—/1B.1	Chaparral	<u>Very Low</u> : No suitable chaparral habitat exists onsite.
Vine Hill manzanita (<i>Arctostaphylos densiflora</i>)	—/SE/1B.1	Chaparral	<u>Very Low</u> : No suitable chaparral habitat exists onsite.
Watershield (<i>Brasenia schreberi</i>)	—/—/2B.3	Pond, wetland	<u>None</u> : No suitable pond habitat exists in the project area.
White beaked-rush (<i>Rhynchospora alba</i>)	—/—/2B.2	Wetlands, freshwater marsh	<u>None</u> : No suitable wetland habitat exists onsite.

Taxon	Status ¹ Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
White-flowered rein orchid (<i>Piperia candida</i>)	—/—/1B.2	Yellow pine forest	<u>None</u> : No suitable forest habitat exists onsite.
Wolly meadowfoam (<i>Limnanthes floccosa</i> ssp. <i>floccosa</i>)	—/—/4.2	Vernal pools	<u>None</u> : No vernal pool habitat exists onsite. Nearest known occurrence is 4.1 miles SE of the parcel near Shaul Valley.
MOSESSES, LICHENS & LIVERWORTS			
Angel's hair lichen (<i>Ramalina thrausta</i>)	—/—/2B.1	Old growth conifer and hardwood forests	<u>None</u> : No suitable forest habitat exists onsite.
Coastal triquetrella (<i>Triquetrella californica</i>)	—/—/1B.2	Forest, woodland	<u>Very Low</u> : Some woodland habitat exists onsite.
Elongate copper moss (<i>Mielichhoferia elongata</i>)	—/—/4.3	Forest, woodland	<u>Very Low</u> : Some woodland habitat exists onsite.
Methuselah's beard lichen (<i>Dolichousnea longissima</i>)	—/—/4.2	Old growth conifer and hardwood forests	<u>None</u> : No suitable forest habitat exists onsite.
Slender silver moss (<i>Anomobryum julaceum</i>)	—/—/4.2	Rocky substrates in forests, riparian	<u>Very Low</u> : No suitable riparian habitat exists onsite.
Torren's grimmia (<i>Grimmia torenii</i>)	—/—/1B.3	Forest, woodland	<u>Very Low</u> : Some woodland habitat exists onsite.
FISH			
Chinook Salmon Coastal California DPS (<i>Oncorhynchus kisutch</i>)	FT/SE/—	Freshwater streams, open ocean and estuaries	<u>None</u> : No suitable streams exist onsite.
Clear Lake Drainage Resident Rainbow trout (<i>Oncorhynchus mykiss</i>)	FE/SE/—	Freshwater streams, open ocean and estuaries	<u>None</u> : No suitable habitat exists in the project area.
Clear Lake hitch (<i>Lavinia exilicauda chi</i>)	FE/SE/—	Freshwater lakes and streams	<u>None</u> : No suitable habitat exists in the project area. Nearest known occurrence is 0.4 miles SW of the parcel in Adobe Creek.
Clear Lake tule perch (<i>Hysterothorax traskii lagunae</i>)	—/SSC/—	Freshwater lakes and streams	<u>None</u> : No suitable habitat exists in the project area. Nearest known

Taxon	Status ¹ Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
			occurrence is 4.0 miles N of the parcel in Clear Lake.
Coho Salmon Central California Coast ESU (<i>Oncorhynchus kisutch</i>)	FE/SE/—	Freshwater streams, open ocean and estuaries	<u>None</u> : No suitable streams exist onsite.
Sacramento perch (<i>Archoplites interruptus</i>)	—/SSC/—	Low gradient sloughs and lakes	<u>None</u> : No suitable habitat exists in the project area. Nearest known occurrence is 4.0 miles N of the parcel in Clear Lake.
Sacramento splittail (<i>Pogonichthys macrolepidotus</i>)	—/SSC/—	Low gradient freshwater streams	<u>None</u> : No suitable streams exist onsite.
Steelhead Central California Coast DPS (<i>Oncorhynchus mykiss irideus</i>)	FT/—/—	Freshwater streams, open ocean and estuaries	<u>None</u> : No suitable streams exist onsite.
Steelhead Northern California DPS (<i>Oncorhynchus mykiss irideus</i>)	FT/—/—	Freshwater streams, open ocean and estuaries	<u>None</u> : No suitable streams exist onsite.
AMPHIBIANS & REPTILES			
California giant salamander (<i>Dicamptodon ensatus</i>)	—/SSC/—	Wetlands and riparian areas	<u>None</u> : No suitable wetland habitat exists onsite.
Foothill yellow-legged frog (<i>Rana boylei</i>)	—/SSC/—	Wetlands, riparian, streams and ponds	Very Low : No suitable breeding habitat onsite. Some poor quality estivation habitat onsite. Nearest known occurrence is 2.5 miles SE of the parcel near Kelsey Creek.
Red bellied newt (<i>Taricha rivularis</i>)	—/SSC/—	Woodland streams, riparian corridors	<u>None</u> : No suitable stream habitat exists onsite. Nearest known occurrence is 2.3 miles SW of the parcel in Highland Creek.
Western pond turtle (<i>Emys marmorata</i>)	—/SSC/—	Slow-moving creeks, streams, ponds, rivers, ditches.	<u>None</u> : No suitable pond habitat exists onsite. Nearest known occurrence is indistinct and encompasses the entire USGS Kelseyville 7.5 minute quad, that comes as close as 0.3 miles E of the parcel.

Taxon	Status ¹ Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
INVERTEBRATES			
Behren's silverspot butterfly (<i>Speyeria zerene behrensii</i>)	FE/SSC/—	Coastal prairie	<u>None</u> : Requires blue violet to reproduce; none onsite.
Blennosperma vernal pool andrenid bee (<i>Andrena blennospermatis</i>)	—/SSC/—	Upland areas near vernal pools	<u>None</u> : No suitable vernal pool habitat exists onsite although there is some grassland habitat. Nearest known occurrence is 3.8 miles N of the parcel near Thompson Creek.
Borax Lake cuckoo wasp (<i>Hedychridium milleri</i>)	—/SSC/—	Lakes and streams	<u>None</u> : No suitable lake or stream habitat exists onsite.
Brownish dubiraphian riffle beetle (<i>Dubiraphia brunnescens</i>)	—/SSC/—	Freshwater lakes and streams	<u>None</u> : No suitable stream habitat exists onsite. Nearest known occurrence is 4.0 miles N of the parcel in Clear Lake.
California brackishwater snail (<i>Tryonia imitator</i>)	—/SSC/—	Brackish wetlands	<u>None</u> : No suitable wetland habitat exists onsite.
California floater (<i>Anodonta californiensis</i>)	—/SSC/—	Freshwater ponds, streams	<u>None</u> : No suitable stream habitat exists onsite.
California freshwater shrimp (<i>Syncaris pacifica</i>)	FE/SE/—	Freshwater ponds	<u>None</u> : No suitable pond habitat exists onsite.
California linderiella (<i>Linderiella occidentalis</i>)	—/SSC/—	Vernal pools	<u>None</u> : No vernal pool habitat exists onsite.
Clear Lake pyrg (<i>Pyrgulopsis ventricosa</i>)	—/SSC/—	Freshwater streams	<u>None</u> : No suitable stream habitat exists onsite.
Crotch bumble bee (<i>Bombus crotchii</i>)	—/SSC/—	Grassland, chaparral	<u>Medium</u> : Some grassland habitat exists onsite.
Leech's skyline diving beetle (<i>Hydroporus leechi</i>)	—/SSC/—	Freshwater ponds	<u>None</u> : No suitable pond habitat exists onsite.
Myrtle silverspot butterfly (<i>Speyeria zerene myrtilae</i>)	FE/SSC/—	Coastal prairie, chaparral	<u>None</u> : Requires western dog violet for reproduction; none onsite.
Monarch butterfly California overwintering Population #1 (<i>Danaus plexippus</i>)	—/SSC/—	Large trees required for roosting.	<u>Low</u> : Some suitable trees for roosting onsite.

Taxon	Status ¹ Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Obscure bumble bee (<i>Bombus caliginosus</i>)	—/SSC/—	Grassland, foothill woodland, chaparral	<u>Medium</u> : Some grassland habitat exists onsite.
Opler's longhorn moth (<i>Adela oplerella</i>)	—/SSC/—	Usually associated with <i>Platystemon</i> (creamcups)	<u>None</u> : No suitable host plants onsite.
Oregon floater (<i>Anodonta oregonensis</i>)	—/SSC/—	Large freshwater streams	<u>None</u> : No suitable stream habitat exists onsite.
Ricksecker's water scavenger beetle (<i>Hydrochara rickseckeri</i>)	—/SSC/—	Freshwater lakes and ponds	<u>None</u> : No suitable pond habitat exists onsite.
Serpentine cypress wood-boring beetle (<i>Trachykele hartmani</i>)	—/SSC/—	Requires cypress trees in serpentine outcrops	<u>None</u> : No suitable host plants known from the project site.
Sonoma zerene fritillary (<i>Speyeria zerene sonomensis</i>)	—/SSC/—	Grasslands and meadows with <i>Viola</i> plants	<u>None</u> : Requires <i>Viola</i> for reproduction; none onsite.
Unnamed isopod (<i>Calasellus californicus</i>)	—/SSC/—	Freshwater wetlands	<u>None</u>: No suitable wetland habitat exists onsite. Nearest known occurrence is 2.3 miles NE of the parcel near Kelseyville.
Western bumblebee (<i>Bombus occidentalis</i>)	—/SSC/—	Grassland	<u>Very Low</u> : Some marginal habitat exists onsite.
Wilbur Springs minute moss beetle (<i>Ochthebius reticulatus</i>)	—/SSC/—	Shorelines of hot springs	<u>None</u> : No suitable hot spring habitat exists onsite.
Wilbur Springs shorebug (<i>Saldula usingeri</i>)	—/SSC/—	Ponds	<u>None</u> : No suitable pond habitat exists onsite.
Wilbur Springs shore fly (<i>Paracoenia calida</i>)	—/SSC/—	Hot sulphur springs	<u>None</u> : No suitable hot spring habitat exists onsite.
BIRDS			
American peregrine falcon (<i>Falco peregrinus anatum</i>)	—/SSC/—	Forages in open grasslands, nests in trees	<u>Very Low</u> : Some marginal nesting and foraging habitat exists.
Bank swallow (<i>Riparia riparia</i>)	FE/SE/—	Typically found near lakes and streams	<u>None</u> : No suitable stream habitat exists onsite.

Taxon	Status ¹ Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Bald eagle (<i>Haliaeetus leucocephalus</i>)	—/SSC/—	Forages over open lakes and streams	<u>Very Low</u> : No suitable foraging or nesting habitat exists onsite.
Bell's sage sparrow (<i>Artemisospiza belli belli</i>)	—/SSC/—	Chaparral	Low : Some marginal habitat exists onsite. Nearest known occurrence is 2.8 miles SW of the parcel near Highland Creek.
Black swift (<i>Cypseloides niger</i>)	—/SSC/—	Cliff faces near water	<u>None</u> : No suitable stream habitat exists onsite.
Burrowing owl (<i>Athene cunicularia</i>)	—/SSC/—	Grasslands with ground squirrel burrows	<u>Very Low</u> : No suitable grassland habitat exists onsite due to lack of ground squirrel or other burrows.
California black rail (<i>Laterallus jamaicensis coturniculus</i>)	FE/SE/—	Coastal salt marshes and mudflats	<u>None</u> : No suitable salt marsh habitat exists onsite.
California horned lark (<i>Eremophila alpestris actia</i>)	—/SSC/—	Herbaceous vegetation, chaparral	<u>Very Low</u> : Some marginal foraging and nesting habitat exists onsite.
Cooper's hawk (<i>Accipiter cooperii</i>)	—/WL/—	Forages over open grassland	<u>Very Low</u> : Some marginal foraging habitat exists onsite.
Double-crested cormorant (<i>Phalacrocorax auritus</i>)	—/SSC/—	Forages in open water. Nests in trees and cliffs.	<u>None</u> : No suitable foraging or nesting habitat exists onsite.
Ferruginous hawk (<i>Buteo regalis</i>)	—/SSC/—	Forages over open grassland. Nests in old-growth trees	<u>Very Low</u> : Some marginal foraging habitat exists onsite.
Golden eagle (<i>Aquila chrysaetos</i>)	—/SSC/—	Forages over open grassland. Nests in old-growth trees	<u>None</u> : No foraging habitat. Some suitable nesting habitat.
Grasshopper sparrow (<i>Ammodramus savannarum</i>)	—/SSC/—	Forages over open grassland	<u>Low</u> : Some suitable foraging and nesting habitat exists onsite.
Great blue heron (<i>Ardea herodias</i>)	—/SSC/—	Nests in trees, forages in wetlands and grasslands	<u>None</u> : No suitable foraging or nesting habitat exists onsite.
Great egret (<i>Ardea alba</i>)	—/SSC/—	Nests in trees, forages in wetlands and grasslands	<u>None</u> : No suitable foraging or nesting habitat exists onsite.
Marbled murrelet (<i>Brachyramphus marmoratus</i>)	FT/SE/—	Old growth coniferous forest	<u>None</u> : No suitable old-growth forest habitat exists onsite.

Taxon	Status ¹ Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Northern goshawk (<i>Accipiter gentilis</i>)	—/SSC/—	Coniferous forest	<u>None</u> : No suitable forest habitat exists onsite.
Northern spotted owl (<i>Strix occidentalis</i>)	FT/ST/—	Nests primarily in old growth forests	<u>None</u> : No suitable nesting or foraging habitat exists onsite.
Osprey (<i>Pandion haliaetus</i>)	—/WL/—	Areas with fish	Very Low : No suitable foraging habitat onsite. Some poor quality nesting habitat onsite. Nearest known occurrence is 2.5 miles NE of the parcel near Loasa Road.
Prairie falcon (<i>Falco mexicanus</i>)	—/SSC/—	Forages over grasslands	<u>Very Low</u> : No suitable nesting and foraging habitat exists onsite.
Purple martin (<i>Progne subis</i>)	FE/SE/—	Insectivorous, nests in cavities	<u>None</u> : No suitable nesting habitat onsite. No suitable foraging habitat onsite.
Sharp-shinned hawk (<i>Accipiter striatus</i>)	—/SSC/—	Forest and woodland	<u>None</u> : No suitable nesting or foraging habitat exists onsite.
Tricolored blackbird (<i>Agelaius tricolor</i>)	—/SSC/—	Forages in grasslands and nests in freshwater marshes	Medium : Some marginally suitable nesting habitat exists onsite. Some suitable foraging habitat. Nearest known occurrence is 0.8 miles W of the parcel near Highland Springs Road.
Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	—/SE/—	Woodland, riparian	<u>Very Low</u> : No suitable nesting and foraging habitat exists onsite.
White-tailed kite (<i>Elanus leucurus</i>)	—/CFP/—	Prefers to nest in marshes next to deciduous forests.	<u>Very Low</u> : No suitable nesting and foraging habitat exists onsite.
Yellow breasted chat (<i>Icteria virens</i>)	—/SSC/—	Dense shrubby growth, grasslands	<u>Very Low</u> : No suitable grassland habitat exists onsite.
Yellow rail (<i>Coturnicops noveboracensis</i>)	—/SSC/—	Breeds in marshes, forages in wet meadows	<u>None</u> : No suitable marsh habitat exists onsite.
MAMMALS			
American badger (<i>Taxidea taxus</i>)	—/SSC/—	Open grassland habitats with plenty of prey	<u>None</u> : No suitable den habitat exists onsite.

Taxon	Status ¹ Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Big free-tailed bat (<i>Nyctinomops macrotis</i>)	—/SSC/—	Forages over open areas, roots in trees or caves	<u>Very Low</u> : Some suitable foraging habitat. Few suitable roosts in project area.
Fisher (<i>Pekania pennanti</i>)	—/SSC/—	Forages and breeds primarily in forests	<u>None</u> : No suitable forest habitat exists onsite.
Fringed myotis (<i>Myotis thysanodes</i>)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	<u>Very Low</u> : Some suitable foraging habitat. Few suitable roosts in project area.
Hoary bat (<i>Lasiurus cinereus</i>)	—/SSC/—	Forages over open areas, roots in trees or caves at high altitude	<u>Very Low</u> : Few suitable roosts in the project area. Primarily forages at high altitude.
Humboldt marten (<i>Martes caurina humboldtensis</i>)	—/SSC/—	Forages and breeds in forests, typically near streams	<u>None</u> : No suitable den and foraging habitat exists onsite.
Long-eared myotis (<i>Myotis evotis</i>)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	<u>Very Low</u> : Some suitable foraging habitat. Few suitable roosts in project area.
Long-legged myotis (<i>Myotis volans</i>)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	<u>Very Low</u> : Some foraging habitat. Few suitable roosts in project area.
North American porcupine (<i>Erethizon dorsatum</i>)	—/SSC/—	Require rocky areas or trees for dens, abundant open space for foraging	<u>None</u> : No suitable foraging and den habitat exists onsite.
Pallid bat (<i>Antrozous pallidus</i>)	—/SSC/—	Common in open dry habitats with rocky areas for roosting	<u>Very Low</u> : Some foraging habitat exists. Few suitable roosts in the project area.
Silver haired bat (<i>Lasionycteris noctivagans</i>)	—/SSC/—	Nocturnal, migratory, solitary, roosts in tree cavities	<u>Very Low</u> : Some suitable trees exist for roosting. Some foraging habitat exists.
Sonoma tree vole (<i>Arborimus pomo</i>)	—/SSC/—	Old growth Douglas fir canopies	<u>None</u> : No suitable forest habitat exists onsite.
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	—/SSC/—	Hibernate in mines or caves, roost in man made structures and caves	<u>Low</u> : Few man-made structures exist suitable for roosting. Some habitat for foraging.
Western red bat (<i>Lasiurus blossevillii</i>)	—/SSC/—	Forages over open areas, roots in trees or caves	<u>Very Low</u> : Little suitable roosting habitat. Some suitable foraging habitat.

Taxon	Status ¹ Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Yuma myotis (<i>Myotis yumanensis</i>)	—/SSC/—	Forages over open areas, roots in trees or caves	<u>Very Low</u> : No suitable nesting habitat exists onsite. Some suitable foraging habitat exists onsite.
HABITATS			
Coastal & Valley Freshwater Marsh (CVFM)	—	—	<u>None</u> : No marsh habitat exists onsite.
Northern Basalt Flow Vernal Pool (NBFVP)	—	—	<u>None</u> : No basalt flow vernal pool habitat exists onsite.
Northern Hardpan Vernal Pool (NHVP)	—	—	<u>None</u> : No hardpan vernal pool habitat exists onsite.
Northern Vernal Pool (NVP)	—	—	<u>None</u> : No vernal pool habitat exists onsite.
Sycamore Alluvial Woodland (SAW)	—	—	<u>None</u> : No woodland habitat exists onsite.
Valley Needlegrass Grassland (VNG)	—	—	<u>Low</u> : Some grassland habitat exists onsite.
Valley Oak Woodland (VOW)	—	—	<u>None</u> : No valley oaks exist onsite.
Valley Sink Scrub (VSS)	—	—	<u>None</u> : No sink habitat exists onsite.

¹ Status:

Federal

FE = Federally Endangered Species

FT = Federally Threatened Species

State

SE = State Endangered Species

ST = State Threatened Species

SR = State Rare (applies to plants only)

SSC = California Species of Special Concern

CFP = California Fully Protected Species

CNPS (applies to plants only)

List 1B = plants considered rare, threatened, or endangered in California and elsewhere

List 2B = plants rare, threatened or endangered in California, but more common elsewhere

List 4 = plants of limited distribution

²USFWS

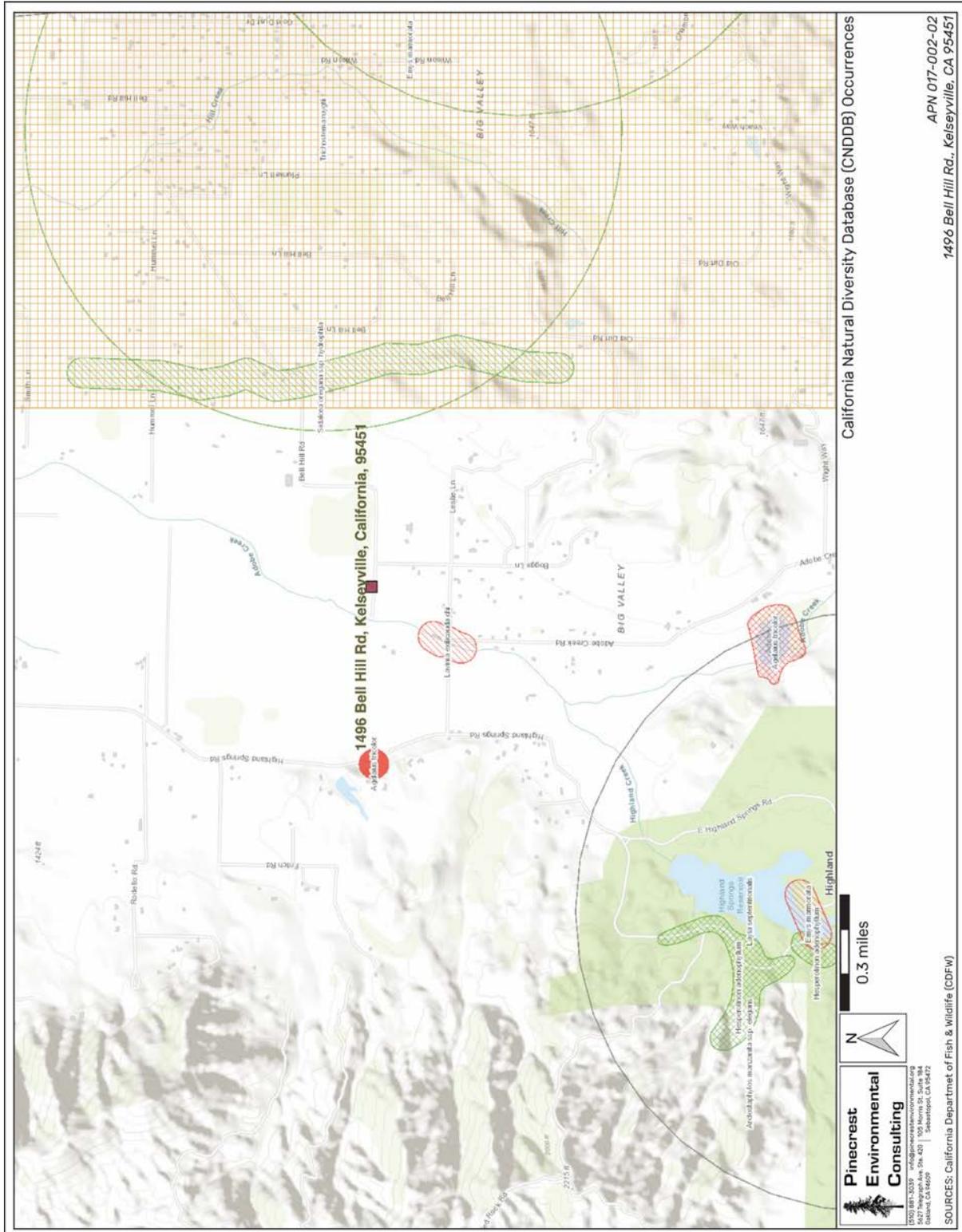
APPENDIX B: SPECIES ENCOUNTERED

PLANTS
<i>Achillea millefolium</i>
<i>Aira caryophylla</i>
<i>Amsinckia intermedia</i>
<i>Artemesia douglasiana</i>
<i>Avena barbata</i>
<i>Baccharis pilularis</i>
<i>Brassica nigra</i>
<i>Briza minor</i>
<i>Bromus diandrus</i>
<i>Bromus hordeaceous</i>
<i>Carduus pycnocephalus</i>
<i>Centaurea solstitialis</i>
<i>Cirsium vulgare</i>
<i>Clarkia amoena</i>
<i>Convolvulus arvensis</i>
<i>Croton setiger</i>
<i>Cynosurus echinatus</i>
<i>Daucus carota</i>
<i>Elymus caput-medusae</i>
<i>Elymus elymoides</i>
<i>Elymus glaucus</i>
<i>Erigeron bonariensis</i>
<i>Eriodictyon californicum</i>
<i>Erodium botrys</i>
<i>Festuca myuros</i>
<i>Gnaphalium palustre</i>
<i>Hordeum murinum</i>
<i>Hypericum perforatum</i>
<i>Hypochaeris glabra</i>
<i>Juglans hindsii</i>
<i>Juglans regia</i>
<i>Lactuca serriola</i>
<i>Lupinus bicolor</i>
<i>Malus pumila</i>
<i>Marrubium vulgare</i>
<i>Medicago polymorpha</i>
<i>Plagiobothrys tenellus</i>
<i>Plantago lanceolata</i>
<i>Pseudotsuga menziesii</i>

<i>Quercus lobata</i>
<i>Ranunculus occidentalis</i>
<i>Raphanus sativa</i>
<i>Stellaria media</i>
<i>Torilis arvensis</i>
<i>Toxicodendron diversilobium</i>
<i>Verbascum thapsus</i>
<i>Verbena lasiostachys</i>

ANIMALS
<i>Aphelocoma californica</i>
<i>Callipepla californica</i>
<i>Cathartes aura</i>
<i>Corvus brachyrhynchos</i>
<i>Euphagus cyanocephalus</i>
<i>Junco hyemalis</i>
<i>Melanerpes formicivorus</i>
<i>Passerculus sandwichensis</i>
<i>Sceloporous occidentalis</i>
<i>Thomomys bottae</i>
<i>Zenaida macroura</i>

APPENDIX C: CNDDDB OCCURRENCES MAP



APPENDIX F: CANNABIS CULTIVATION BEST MANAGEMENT PRACTICES

Best management practices (BMPs) are designed to prevent, minimize, and control the discharge of waste and pollutants associated with site operations and maintenance for the aforementioned project. Many of these BMPs are considered enforceable conditions under State Water Resources Control Board *Cannabis* General Order No. WQ 2019-0001-DWQ.

F.1 CANNABIS CULTIVATION

- Pesticide and fertilizer storage facilities shall be located outside of the Riparian Corridor setbacks for structures.
- Pesticide and fertilizer storage facilities shall not be located within 100 feet of a wellhead, or within 50 feet of identified wetlands.
- Pesticide and fertilizer storage facilities shall be adequate to protect pesticide and fertilizer containers from the weather.
- Store all bags and boxes of pesticides and fertilizers off the ground on pallets or shelves.
- If the structure does not have an impermeable floor, store all liquid pesticides and fertilizers on shelves capable of containing spills or provide appropriate secondary containment.
- Routinely check for leaks and spills.
- Have spill cleanup kit onsite to be able to respond to any leaks or spills.
- Inspect planting stock for pests and diseases prior to planting. Avoid planting stock with pests and disease and notify the supplier of the planting stock of the infestation.
- Comply with all pesticide laws and regulations as enforced by the California Department of Pesticide Regulation and Sonoma County Agricultural Commissioner.
- For pesticides with the signal word CAUTION that have listed food uses, comply with all pesticide label directions as they pertain to personal protective equipment, application method, and rate, environmental hazards, longest reentry intervals and greenhouse and indoor use directions.
- For all other pesticides, use must comply with all label requirements including site and crop restrictions.
- Prior to the use of any registered pesticide on cannabis, Operator Identification Number should be obtained from the County Agricultural Commissioner if required.
- Submit monthly pesticide use reports to the County Agricultural Commissioner if required.

- Prior to applying fertilizers, evaluate irrigation water, soils, growth media, and plant tissue to optimize plant growth and avoid over fertilization.
- Apply fertilizers at label rates and no higher.
- Do not apply fertilizers in a way that will result in runoff that may contaminate ground or surface water or escape via airborne drift or fugitive dust.
- Observe riparian corridor setbacks for agricultural cultivation as applicable. These shall be maintained as “no touch” areas. The removal of vegetation is prohibited within these setback areas.
- No equipment, vehicles, or other materials shall be stored in the riparian setback areas.
- Composting areas shall not be located in the riparian setback areas.
- Irrigation must be conducted in a manner that does not result in runoff from the cultivated area.
- Any water tanks or storage facilities must obtain all necessary permits from the Sonoma County Permit and Resource Management Department (PRMD).
- The use of membrane based water bladders is prohibited.
- If using an irrigation system, inspect for and repair leaks prior to planting each year and continuously during the season.
- Irrigation systems shall be equipped with a backflow prevention devices and shutoff valves.
- Recycle or properly dispose of all plastic bags, containers, and irrigation materials.
- Properly dispose of green waste in a manner that does not discharge pollutants to a watercourse. This may be accomplished by composting, chipping, and/or shredding. The method of green waste disposal must be documented.
- Used growth medium (soil and other organic medium) shall be handled to minimize or prevent discharge of soil and residual nutrients and chemicals to watercourses. Proper disposal could include incorporating into garden beds, spreading on a stable surface and re-vegetating, storage in watertight dumpsters, or covering with tarps or plastic sheeting prior to proper disposal. The method of disposal must be documented.
- Compost piles are to be located outside of riparian setbacks for agricultural cultivation and in a manner that will not discharge pollutants to a watercourse. If necessary, construct a berm or install fiber roll around compost area to prevent runoff or use straw wattles around perimeter.
- Cover compost piles with tarp or impermeable surface prior to fall rains and continuously throughout the rainy season.
- Leave a vegetative barrier along the property boundary and interior watercourses to act as a pollutant filter.
- Avoid soil disturbance between November 1 and April 15 and during times of active precipitation.
- All exposed and disturbed soil must be covered with a minimum of 2 inches of mulch, such as straw, bark, wood chips, etc., by November 15. Alternatively, establish a thick cover crop over disturbed areas composed of native species.

- Erosion control materials shall be available on site at all times in the form of straw or appropriate mulch adequate to cover area of disturbed soil.
- In the event of a forecast storm event likely to produce runoff, apply mulch to disturbed areas prior to rain event.
- Any grading or drainage conducted as part of site preparation shall have the appropriate permits from the Sonoma County PRMD.

F.2 EROSION & SEDIMENT CONTROL

- Erosion control and sediment detention devices and materials shall be incorporated into the cleanup/restoration work design and installed prior to the end of project work and before the beginning of the rainy season or any predicted rain events.
- Any continuing, approved project work conducted after October 15 shall have erosion control measures completed and up-to-date.
- All erosion control measures shall be inspected daily during severe rain events.
- Erosion control materials shall be, at minimum, stored on-site at all times during approved project work between May 1 and October 15.
- Approved project work within the 5-year flood plain shall not begin until all temporary erosion controls (straw bales or silt fences that are effectively keyed-in) are installed downslope of cleanup/restoration activities.
- Native species appropriate to the local habitat shall be used for all revegetation purposes. Non-invasive, non-persistent grass species (e.g., barley grass) may be used for their temporary erosion control benefits to stabilize disturbed slopes and prevent exposure of disturbed soils to rainfall.
- Upon work completion, all exposed soil present in and around the cleanup/restoration sites shall be stabilized within 7 days.
- The disturbed area will be minimized at all times to only that which is essential for the completion of the project.
- Provide temporary cover over disturbed areas that are not currently being worked on.
- Heavy equipment shall not be used in flowing water.
- Use of heavy equipment shall be avoided or minimized in a channel bottom with rocky or cobbled substrate.
- Heavy equipment shall not introduce chemicals or foreign sediment to the channel (e.g., remove mud from tracks or cover channel work area with plastic sheeting prior to heavy equipment entry).
- When heavy equipment is used, any woody debris and stream bank or streambed vegetation disturbed shall be replaced to a pre-project density with native species appropriate to the site.
- When possible, existing ingress or egress points shall be used or work shall be performed remotely from the top of the creek banks.

- Divert runoff away from unprotected slopes or loose soils using a combination of mats, geotextiles, silt fencing, wattling, check dams, sediment basins, vegetated buffers, or rock armor.
- Deploy appropriate erosion control measures such as silt fencing or straw wattles around all temporary exposed piles or soil or surface disturbances.
- All temporary exposed piles or soil or surface disturbances shall have tarping and sand bags or other stabilization materials deployed in order to prevent discharge of sediments in the event of a rain or wind event.
- Geotechnical fabric shall be deployed on all exposed dirt surfaces with a slope of greater than 15% and staked in place during ground disturbing activities, and silt fencing deployed on slopes of greater than 15% where appropriate.
- Sand bags, straw bales, or other devices shall be placed at appropriate locations near and alongside the roadsides and swales in anticipation of large storm events.
- Bioswales and cultivation areas including parking areas shall be maintained free of trash including empty soil and pesticide or fertilizer containers.
- Locations of sediment sources shall be identified during rain events and mitigated where appropriate.
- Protect ditch inlets and outlets from erosion using rock armor.
- Silt fencing shall be installed downstream of rock piles, stockpiles, and temporary soils storage areas.
- Desilting or retention basins shall be installed if the capacity of the natural percolation exceeds the inputs during routine storm events.
- Sediment traps shall be used on all exposed driveway surfaces where natural vegetation is not able to be established.
- Exposed unvegetated surfaces will be graveled where appropriate.
- Rock placed for slope protection shall be the minimum necessary to avoid erosion, and shall be part of a design that provides for native plant revegetation and minimizes bank armoring.
- Soil exposed as a result of project work, soil above rock riprap, and interstitial spaces between rocks shall be revegetated with native vegetation by live planting, seed casting, or hydroseeding prior to the rainy season of the year work is completed.
- Avoidance of earthwork on steep slopes and minimization of cut/fill volumes, combined with proper compaction, shall occur to ensure the area is resilient to issues associated with seismic events and mass wasting. If cracks are observed, or new construction is anticipated, consultation with a qualified professional is recommended.
- Culvert fill slopes shall be constructed at a 2:1 slope or shall be armored with rock.
- If it is necessary to conduct work in or near a live stream, the work space shall be isolated to avoid project activities in flowing water.
- Any spoils associated with site maintenance shall be placed in a stable location where it cannot enter a watercourse.

- Sidecasting shall be minimized and shall be avoided on unstable areas or where it has the potential to enter a watercourse.
- Entrance to the project site shall be maintained in a condition that will prevent tracking or flowing of sediment into the public right-of-way.
- All sediment spilled, dropped, washed, or tracked onto the public right-of-ways shall be removed immediately.
- When necessary, wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-ways.
- When wheel washing is required, it shall be done in an area stabilized with crushed stone that drains into a sediment trap fitted with appropriate erosion control measures.
- To control surface water runoff in and around cultivation areas use fiber rolls or wattling and stake appropriately and perpendicular to the flow path.
- Cover crops should be utilized on all exposed slopes that are not able to be protected by other means.
- Cover crops should be native species as described in the associated biological resources report.
- Rip compacted soils prior to placing spoils to prevent the potential for ponding under the spoils that could result in spoil site failure and subsequent sedimentation.
- Compact and contour stored spoils to mimic the natural slope contours and drainage patterns to reduce the potential for fill saturation and failure.
- Ensure that spoil materials are free of woody debris, and not placed on top of brush, logs or trees.
- Inspect all roads and culverts regularly for blockages.

F.3 WATER USE & POLLUTION

- Ensure that all appropriate water rights permits are filed with the State Water Resources Control Board.
- Notify the California Department of Fish and Wildlife by submitting a Lake and Streambed Alteration (LSA) notification package if the proposed activities involve substantial diversion from or alteration of the bed or bank of a stream or other waterbody.
- Ensure that all water storage features are permitted from the Department of Water Rights if necessary.
- All refueling and pesticide and chemical storage and transfer shall occur greater than 100 feet away from any swales, creeks, or natural areas.
- All refueling and pesticide and chemical storage and transfer shall occur on top of an impermeable metal or other fabric mat that is no less than 2 inches high on all sides and capable of completely containing any spillage.

- Concrete truck and other vehicles shall not be washed out in natural areas or directly onto soil and shall be washed out into a metal or other impermeable basin and disposed of properly such that no water is discharged to the soil.
- All waste shall be kept in plastic drums with tight fitting lids so that water is not able to make contact with the contents and potentially leach to the environment.
- All pesticide sprays shall occur on windless nights for outdoor facilities.
- Chemical or fertilizer wastes shall never be disposed of into swales or creeks and shall be contained inside closed-roof facilities and designated with appropriate labeling until it is possible to dispose of properly.
- Septic leach fields and graywater mulch fields shall be maintained free of large vegetation and not used for aboveground storage that may impact their proper functioning.
- Chemical contamination (fuel, grease, oil, hydraulic fluid, solvents, etc.) of water and soils is prohibited during routine equipment operation and maintenance.
- The use or storage of petroleum-powered equipment shall be accomplished in a manner that prevents the potential release of petroleum materials into waters of the state (Fish and Game Code 5650).
- Schedule excavation and grading activities for dry weather periods.
- Designate a contained area for equipment storage, short-term maintenance, and refueling. Ensure it is located at least 50 feet from waterbodies.
- Inspect vehicles for leaks and repair immediately.
- Clean up leaks, drips and other spills immediately to avoid soil or groundwater contamination.
- Conduct major vehicle maintenance and washing offsite.
- Ensure that all spent fluids including motor oil, radiator coolant, or other fluids and used vehicle batteries are collected, stored, and recycled as hazardous waste offsite.
- Ensure that all construction debris is taken to appropriate landfills and all sediment disposed of in upland areas or offsite, beyond the 100-year floodplain.
- Use dry cleanup methods (e.g., absorbent materials, cat litter, and/or rags) whenever possible. If necessary for dust control, use only a minimal amount of water.
- Sweep up spilled dry materials immediately.
- Separate organic material (e.g., roots, stumps) from the dirt fill and store separately. Place this material in long-term, upland storage sites, as it cannot be used for fill.
- Spoils shall not be placed or stored in locations where soils are wet or unstable, or where slope stability could be adversely affected.
- Do not locate spoil piles in or immediately adjacent to wetlands and watercourses.
- Store spoil piles in a manner (e.g. cover pile with plastic tarps and surround base of pile with straw wattle) or location that would not result in any runoff from the spoil pile ending up in wetlands and watercourses.

- Keep temporary disposal sites out of wetlands, adjacent riparian corridors, and ordinary high water areas as well as high risk zones, such as 100-year floodplain and unstable slopes.
- Conduct operations on a size and scale that considers available water sources and other water use and users in the planning watershed.
- Implement water conservation measures such as rainwater catchment systems, drip irrigation, mulching, or irrigation water recycling where possible.
- Hauled water utilized for irrigation shall be documented via receipt or similar, and show the date, name, and license plate of the water hauler, and the quantity of water purchased.
- If using a water storage tank, do not locate the tank in a flood plain or next to equipment that generates heat. Locate the tank so it is easy to install, access, and maintain.
- Vertical tanks should be installed according to manufacturer's specifications and placed on firm, compacted soil that is free of rocks/sharp objects and capable of bearing the weight of the tank and its maximum contents.
- Install float valves on tanks to prevent them from overflowing.
- Place proper lining or sealing in ponds to prevent water loss.

F.4 ROAD MAINTENANCE & GENERAL CONSTRUCTION

- Always limit work to the appropriate work date windows considering wet weather, migratory bird and other biological and environmental constraints that may be placed on the project.
- Proper design and location of roads and other features is critical to ensuring that a road or other feature be adequately drained and is best accomplished through consultation with a qualified professional.
- Placement of temporary access roads, staging areas, and other facilities shall avoid or minimize disturbance to habitat.
- If inspection identifies surface rills or ruts, then surfacing and drainage likely needs maintenance. Consultation should be made with a licensed professional to design appropriate erosion control strategies.
- Design of roads should allow for sheet flow of water and use water bars and rolling dips to break up slope length.
- Vehicle speed shall be kept to a maximum of 10 mph while onsite to minimize dust generation.
- All unvegetated and unpaved roadways and vehicle turnarounds shall be graveled to a depth of not less than 1" in order to prevent dust and sediment entrainment.
- Applicant will use geotechnical fabric or similar materials on exposed slopes, and distribute weed-free straw mulch wherever possible on exposed surfaces on the perimeter of all graded roads and graveled areas.

- Roads and the berms alongside all roads shall be maintained free of headcuts, gullies, stutter bumps, and other erosion features capable of discharging sediment to adjacent grassland areas.
- Roads will be graveled with clean rock whenever required to prevent dust and sediment erosion during the wet season.
- Whenever possible, road maintenance activities shall be performed from May 1 to October 15.
- Work performed outside of this window should take extra precautions for winter weather erosion control prevention beyond that which is described in this Plan.
- A 48 hour advance forecast for rain shall trigger a temporary cessation of work, and all soils piles will need to be covered and secured with sandbags or other materials.
- Placement of temporary access roads, staging areas, and other facilities shall avoid or minimize disturbance to habitat.
- Whenever feasible, finished grades shall not exceed 1.5:1 side slopes. In circumstances where final grades cannot achieve 1.5:1 slope, additional erosion control or stabilization methods shall be applied as appropriate for the project location.
- Spoils and excavated material not used during project activities shall be removed and placed outside of 100-year floodplains.
- Upon completion of grading, slope protection of all disturbed sites shall be provided prior to the rainy season through a combination of permanent vegetative treatment, mulching, geotextiles, and/or rock, or equivalent.
- Position vehicles and other apparatus so as to not block emergency vehicle access.
- After construction is complete, all storm drain systems and culverts shall be inspected and cleared of accumulated sediment and debris.
- Sediment barriers including wattles and silt fencing should be checked for sediment accumulation following each significant rainfall and sediment removed or the feature replaced as needed.
- Road drainage shall be discharged to a stable location away from a watercourse.
- Use sediment control devices, such as check dams, sand/gravel bag barriers, and other acceptable techniques, when it is neither practical nor environmentally sound to disperse ditch water immediately before the ditch reaches a stream.
- Within areas with potential to discharge to a watercourse (i.e. within riparian areas of at least 200 feet of a stream) road surface drainage shall be filtered through vegetation, slash, or other appropriate material or settled into a depression with an outlet with adequate drainage.

F.5 SWALE & VEGETATION MANAGEMENT

- The work area shall be restored to pre-project work condition or better.
- Any stream bank area left barren of vegetation as a result of cleanup/restoration activities

shall be stabilized by seeding, replanting, or other means with native trees, shrubs, and/or grasses appropriate to the site prior to the rainy season in the year work was conducted.

- Ensure that vegetated swales are properly formed, allow moderate velocity water passage without causing sediment entrainment, and are otherwise functioning properly.
- Create and expand vegetated bioswales where necessary, should additional construction or road maintenance be required, in order to maintain flow without scour.
- All bioswales and other drainage features requiring revegetation will be seeded with native vegetation and lawns and hedgerows maintained in good health and watered in dry years.
- Vegetation including grasses shall be mowed as necessary to create fire breaks and to prevent the accumulation of fuels that would be able to sustain a ground fire.
- All vegetation shall be surveyed on foot once a year by staff and new outbreaks of any invasive weeds identified by the California Invasive Plant Council as noxious or invasive to be removed by the owner or qualified landscaping professionals.
- Channels and swales that show evidence of overland flow and scour (e.g. bare of vegetation) shall be seeded with native grasses such as *Stipa pulchra*, *Hordeum brachyantherum*, *Elymus glaucus*, and *Bromus carinatus*, and kept vegetated at all times.
- If shrubs and non-woody riparian vegetation are disturbed, they shall be replaced with similar native species appropriate to the site.
- Disturbance to native shrubs, woody perennials or tree removal on the streambank or in the stream channel shall be avoided or minimized.
- If riparian trees over six inches dbh (diameter at breast height) are to be removed, they shall be replaced by native species appropriate to the site at a 3:1 ratio.
- Where physical constraints in the project area prevent replanting at a 3:1 ratio and canopy cover is sufficient for habitat needs, replanting may occur at a lesser replacement ratio.
- Vegetation planting for slope protection purposes shall be timed to require as little irrigation as possible for ensuring establishment by the commencement of the rainy season.
- The spread or introduction of exotic plant species shall be avoided to the maximum extent possible by avoiding areas with established native vegetation during cleanup/restoration activities, restoring disturbed areas with appropriate native species, and post-project monitoring and control of exotic species.
- Removal of invasive exotic species after construction activities is strongly recommended. Mechanical removal (hand tools, weed whacking, hand pulling) of exotics shall be done in preparation for establishment of native plantings.
- Where permanent soil stabilization is required a locally-appropriate mix of native grass species shall be used such as a mix containing *Nassella pulchra*, *Hordeum brachyantherum*, *Elymus glaucus*, and *Bromus carinatus* or as described in the site's Biological Resources Assessment.
- Entire cultivation site shall be seeded and maintained as a permanent non-tilled cover crop during non-usage times. Straw mulch shall be used where native seeding is not practicable.
- Use mulches (e.g. wood chips or bark) in cultivation areas that do not have ground cover to prevent erosion and minimize evaporative loss.

- Mulch shall be applied at a rate of 4000 lbs / acre and seeding shall be applied to achieve 70% cover in the first year or approximately 200 lbs / acre.
- Annual inspections for the purpose of assessing the survival and growth of revegetated areas and the presence of exposed soil shall be conducted for three years following project work.
- Dischargers and/or their consultant(s) or third party representative(s) shall note the presence of native/non-native vegetation and extent of exposed soil, and take photographs during each inspection.
- Dischargers and/or their consultant(s) or third party representative(s) shall provide the location of each work site, pre- and post-project work photos, diagram of all areas revegetated and the planting methods and plants used, and an assessment of the success of the revegetation program in the annual monitoring report as required under relevant state and local water board regulations.

F.6 IRRIGATION & CULTIVATION MANAGEMENT

- Cultivation-related waste shall be stored in a place where it will not enter a stream.
- Soil bags and other garbage shall be collected, contained, and disposed of at an appropriate facility, including for recycling where available.
- Pots shall be collected and stored where they will not enter a waterway or create a nuisance.
- Plant waste and other compostable materials be stored (or composted, as applicable) at locations where they will not enter or be blown into surface waters, and in a manner that ensures that residues and pollutants within those materials do not migrate or leach into surface water or groundwaters.
- Imported soil for cultivation purposes shall be minimized. In the event that containers (e.g. grow bags or grow pots) are used for cultivation, reuse of soil shall be maximized to the extent feasible.
- Spent growth medium (i.e. soil and other organic medium) shall be handled to minimize discharge of soil and residual nutrients and chemicals to watercourses. Proper handling of spent soil could include incorporating into garden beds, spreading on a stable surface and revegetation, storage in watertight dumpsters, covering with tarps or plastic sheeting prior to proper disposal.
- Trash containers of sufficient size and number shall be provided and properly serviced to contain the solid waste generated by the project.
- Provide roofs, awnings, or attached lids on all trash containers to minimize direct precipitation and prevent rainfall from entering containers.
- Use lined bins or dumpsters to reduce leaking of liquid waste. Design trash container areas so that drainage from adjoining roofs and pavement is diverted around the area(s) to avoid run-on.
- Make sure trash container areas are screened or walled to prevent off-site transport of trash. Consider using refuse containers that are bear-proof and/or secure from wildlife.

- Refuse shall be removed from the site on a frequency that does not result in nuisance conditions, transported in a manner that they remain contained during transport, and the contents shall be disposed of properly at a proper disposal facility.
- Ensure that human waste disposal systems do not pose a threat to surface or ground water quality or create a nuisance. Onsite treatment systems should follow applicable County ordinances for human waste disposal requirements, consistent with the applicable tier under the State Water Resources Control Board Onsite Waste Treatment System Policy.
- Install buffer strips, bioswales, or vegetation downslope of cultivation areas to filter runoff of chemicals from irrigation.
- Irrigate at rates to avoid or minimize runoff.
- Regularly inspect and repair leaks in mains and laterals, in irrigation connections, or at the ends of drip tape and feeder lines.
- Design irrigation system to include redundancy (i.e., safety valves) in the event that leaks occur, so that waste of water is prevented and minimized.
- Recapture and reuse irrigation runoff (tailwater) where possible, through passive (gravity-fed) or active (pumped) means.
- Construct retention basins for tailwater infiltration; percolation medium may be used to reduce pollutant concentration in infiltrated water. Constructed treatment wetlands may also be effective at reducing nutrient loads in water.
- Ensure that drainage and/or infiltration areas are located away from unstable or potentially unstable features.
- Regularly replace worn, outdated or inefficient irrigation system components and equipment.
- Leave a vegetative barrier along the property boundary and interior watercourses to act as a pollutant filter.
- Employ rain-triggered shutoff devices to prevent irrigation after precipitation.
- Evaluate irrigation water, soils, growth media, and plant tissue to optimize plant growth and avoid over-fertilization.
- All chemicals shall be stored in a manner, method, and location that ensures that there is no threat of discharge to waters of the State.
- Products shall be labeled properly and applied according to the label.
- Use integrated pest management strategies that apply pesticides only to the area of need, only when there is an economic benefit to the grower, and at times when runoff losses are least likely.
- Periodically calibrate pesticide application equipment.
- Use anti-backflow devices on water supply hoses, and other mixing/loading practices designed to reduce the risk of runoff and spills.
- Petroleum products shall be stored with a secondary containment system such as a pan or a tub

- Throughout the rainy season, any temporary containment facility shall have a permanent cover and side-wind protection, or be covered during non-working days and prior to and during rain events.
- Materials shall be stored in their original containers and the original product labels shall be maintained in place in a legible condition. Damaged or otherwise illegible labels shall be replaced immediately.
- Bagged and boxed materials shall be stored on pallets and shall not be allowed to accumulate on the ground. To provide protection from wind and rain throughout the rainy season, bagged and boxed materials shall be covered during non-working days and prior to rain events.
- Have proper chemical and fertilizer storage instructions posted at all times in an open and conspicuous location.
- Prepare and keep a spill prevention and cleanup plan onsite when dealing with any hazardous materials.
- Keep ample supply of appropriate spill clean-up material near storage areas.
- Plant cover crops to boost soil fertility, improve soil texture, and protect from storm caused sediment runoff.

F.7 SPECIAL-STATUS SPECIES AVOIDANCE MEASURES

- All employees and contractors including one-time contractors and day-laborers shall be distributed cards with visual identifications of all of the aforementioned special-status species, including both male and female, and juvenile and adult forms, and be briefed on all of the following AMMs contained herein. Species cards may be obtained from PEC on request.
- Observation of any of the aforementioned SSS onsite shall result in immediate stoppage of all work and notification of PEC and/or CDFW.
- All animals observed onsite shall be allowed to leave the premises voluntarily without being harassed.
- Vehicle speeds should be limited to 5 mph all year, with 3 mph limit during amphibian breeding and migration season from October 1 to June 1, and for breeding bird season from February 1 to September 1.
- No loud noises including unmuffled or non-street legal vehicles, heavy machinery, hammering, discharge of firearms, or unmuffled generators are allowed during the breeding and nesting window to avoid impacts to NSO and which is generally February 1 to September 1.
- Avoid ground disturbance including trenching, grading, or road scraping to a depth of greater than 10" without first clearing the site from a qualified biologist to avoid disturbing estivating amphibians.

- Access within 100 feet of nesting migratory bird should not be allowed, and a sign should be placed stating there is a sensitive habitat ahead and no entry is permitted.
- All roadways and culverts should be inspected once before major rain events and once after to ensure that all erosion control materials are effective and not discharging sediment to any jurisdictional watercourses.
- All containers and other vessels left outside unattended should be checked before use to ensure that no animals are inside.
- Vessels including buckets should be turned over on their sides to allow animals to escape.
- No holes greater than 6" deep should be left exposed and uncovered to avoid making "pitfall traps" into which animals can enter but cannot escape. If holes such as post holes must be left for more than 24 hours they should be checked daily to ensure no animals are inside.
- Clear areas within 100 feet of any watercourse by a biological monitor prior to disturbing the ground more than 6".
- Only native woody species should be planted wherever revegetation is required such as along the sides of roadcuts and bridge abutments.
- Preconstruction breeding bird surveys for NSO and other migratory birds should be performed if tree removal is to take place.
- No tree or vegetation removal should be conducted during breeding bird season from February 1 to September 1.
- No aerial wires or lines should be permitted that may impede the flight path of nesting birds.
- No upward pointed lights should be permitted during anytime during the year, and ambient outdoor night time lights should be prohibited during the breeding bird period from February 1 to September 1.
- Use of rodenticides should not be used under any circumstances due to the hazard of secondary ingestion by raptors.

APPENDIX G: STREAM CLASSIFICATION CRITERIA

The following stream classification criteria were copied from the California Department of Forestry & Fire Protection *Forest Practice Rules* (CALFIRE 2017) and is widely used by many state and local agencies. Most state and local jurisdictions require setbacks of 50, 100, and 150 feet from Class III, II, and I streams, respectively (as shown in Figure 4) although greater setbacks may be required in some jurisdictions.

Watercourse – a natural or artificial channel through which water flows.

- Perennial watercourse (Class I*):
 1. In the absence of diversions, water is flowing for more than nine months during a typical year.
 2. Fish always or seasonally present onsite or includes habitat to sustain fish migration and spawning, and/or
 3. Spring: an area where there is concentrated discharge of ground water that flows at the ground surface. A spring may flow any part of the year. For the purpose of this Policy, a spring does not have a defined bed and banks.
- Intermittent watercourse (Class II*):
 1. In the absence of diversions, water is flowing for three to nine months during a typical year.
 2. Provides aquatic habitat for non-fish aquatic species.
 3. Fish always or seasonally present within 1,000 feet downstream, and/or
 4. Water is flowing less than three months during a typical year and the stream supports riparian vegetation.
- Ephemeral watercourse (Class III*): In the absence of diversion, water is flowing less than three months during a typical year and the stream does not support riparian vegetation or aquatic life. Ephemeral watercourses typically have water flowing for a short duration after precipitation events or snowmelt and show evidence of being capable of sediment transport.
- Other watercourses (Class IV*): Class IV watercourses do not support native aquatic species and are man-made, provide established domestic, agricultural, hydroelectric supply, or other beneficial use.

*Except where more restrictive, stream class designations are equivalent to the Forest Practice Rules Water Course and Lake Protection Zone definitions (California Code of Regulations, title 14, Chapter 4. Forest Practice Rules, Subchapters 4, 5, and 6 Forest District Rules, Article 6 Water Course and Lake Protection).