Attachment 8

BIOLOGICAL RESOURCES ASSESSMENT

23071-23143 JERUSALEM GRADE [APN 013-015-36, 013-015-39, 013-015-40, 013-015-43 & 013-015-57]

LAKE COUNTY, CALIFORNIA

PREAPRED FOR:

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Lower Lake, California 95457

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1.0 INTRODUCTION

1.1 PURPOSE

The purpose of this Biological Resources Assessment (BRA) 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 BRA 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, gullys, and other erosional features. Also included are analysis of potential impacts to special-status species and habitats from proposed project activities, and avoidance and minimization measures for any sensitive species or habitats onsite that may be impacted by project activities.

1.2 PROJECT SUMMARY

The proposed project involves permitting of a commercial *Cannabis* cultivation facility on five parcels located at 23071, 23131, 23083, 23143, and 23119 Jerusalem Grade in unincorporated Lake County near the town of Lower Lake (Figure 1). Existing cultivation areas are shown in the locations shown in Figure 2. The proposed cultivation site is to be located in the grassland portion of parcel 013-015-40. The parcels can be accessed via graded dirt and gravel road that branches to the north off of Jerusalem Grade, that is in good condition. Several special-status species were found as well as one sensitive plant community type, however these should be able to be avoided or relocated as described in Section 3.0, below. There are several culvert crossings on Class III ephemeral drainages however none of these are required to reach the cultivation or work areas. There are no areas that appear to be jurisdictional wetlands. All parcels have received two early and late spring special-status plant surveys except for APN 013-015-40 that still requires an early spring plant survey that should be performed in 2025 as described in Section 3.0, below. As long as this future plant survey does not detect any special-status plants in the project area, the project as designed should have no impact on sensitive species or habitats if the measures described in Section 3.0, below, are implemented to the greatest extent practicable.

1.3 LOCATION

1.3.1 Site Overview

The project area is located in unincorporated Lake County, 3.8 miles east of Lower Lake, 9.6 miles southeast of Lower Lake, and 28 miles southwest of Lakeport (Figure 1). The project is located at 23071, 23131, 23083, 23143, and 23119 Jerusalem Grade, and assigned respective Assessor's Parcel Numbers (APN) 013-015-36, 013-015-39, 013-015-40, 013-015-43 & 013-015-57 (Figure 2). The parcels are located in Section 14, Township 11 North, Range 6 West, on the USGS Jericho Valley 7.5

minute quad. All five parcels are zoned Rural Lands (RL), are under the jurisdiction of the Central Valley (Region 5) Regional Water Quality Control Board (RWQCB), and the North-Central Region (District 2) of the California Department of Fish & Wildlife (CDFW).

1.3.2 Federal 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. The nearest FCH is located 4.3 miles to the northwest of the project parcel for Slender Orcutt grass (*Orcuttia tenuis*) near Little High Valley. There is also FCH for Slender Orcutt grass 18 miles to the west associated with Bogg's Lake. The next nearest species with designated FCH is for Northern spotted owl (*Strix occidentalis*; NSO) located 13 miles to the west near Cobb Mountain. There is no other FCH within 10 miles of the project parcel.

1.3.3 CNDDB 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 (CNDDB) 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 based the CNDDB database, published scientific literature, and the expertise of PEC staff, is provided in Appendix A, with all SSS known from a 15 mile radius around the project parcel highlighted. Additionally, map-based representation of all of the SSS within a 5 mile radius around the project site is provided in Appendix B.

There is one known occurrence of special-status animal species from the project parcel, an indistinct locality of Prairie Falcon (*Falco mexicanus*) located in the Jericho Valley 7.5 minute USGS quad, observed in 1991. The next nearest known occurrence of SSS animal species is Foothill Yellow-Legged Frog (*Rana boylii*; FYLF) observed in 2018 located 1.9 miles north of the project parcel in Soda Creek. There is also an occurrence of FYLF 2.6 miles south of the parcel in Putah Creek. The next nearest known occurrences of SSS animal species is Western Pond Turtle (*Emys marmorata*) observed in 1946 located 2.4 miles southeast of the project parcel in Putah Creek (Appendix C). The next nearest known occurrence of special-status animal species is Bald Eagle (*Haliaeetus leucocephalus*) located 2.7 miles southwest of the project parcel near McCreary Lake. The next nearest occurrence of SSS animal species is Golden Eagle (*Aquila chrysaetos*) observed in 1992 located 3.7 miles west of the project parcel near Hunting Creek. There are no other known SSS animal species from within 3 miles of the project parcel (Appendix C).

Several special-status plant species are known from the project parcel, as described in Section 2.0, below. Aside from these known species onsite, there are 19 different special-status plant species known from within 5 miles of the project parcel (Appendix C). Two special-status species are known from an adjacent parcel to the south based on field surveys by PRC in 2024: Sharsmith's Western Flax (*Hesperolinon sharsmithiae*) and Colusa layia (*Layia septentrionalis*). The nearest known occurrence of special-status plant species in the CNDDB database is an indistinct locality of Sharsmith's Western Flax observed in 2010 whose boundary comes as close as 0.13 miles east of the project parcel. There is another occurrence of Sharsmith's Western Flax located 0.4 miles northeast of

the project parcel in Jerusalem Valley. The next nearest known occurrence of special-status plant species is Adobe Lily (*Fritillaria pluriflora*) observed in 2015 located 0.4 miles southeast of the project parcel. There is another occurrence of Adobe Lily located 3.1 miles northeast of the project parcel in Jericho Valley. The next nearest known occurrence of special-status plant species is Hall's Harmonia (*Harmonia hallii*) observed in 1947 located 1.9 miles southeast of the project parcel near Amel Lake. The next nearest known occurrence of special-status plant species is Two-carpellate Western Flax (*Navarretia leucocephala* ssp. *pauciflora*) observed in 2000 located 2.8 miles south of the project parcel near McCreary Lake. There are no other known occurrences within 3 miles of the project parcel (Appendix C).

1.3.4 Landforms & Water Features

The parcels encompass the north side of a small ridge that forms from the western slope of Bishop Mountain, on the east slope of Salt Creek canyon (Figure 1). The maximum elevation is 1,080 feet above sea level along the center of the eastern boundary of parcel 013-015-39, and the minimum elevation is 958 feet above sea level on parcel 013-015-57 along the western parcel boundary where a Class III drainage exits the parcel (Figure 2). Most of the parcels are blue oak savannah, with slopes between 5% and 20%, as measured by Suunto PM5 handheld clinometer. The only classifiable watercourses onsite are the headwaters of two unnamed Class III ephemeral drainages that flow off the sides of the ridge on parcels 013-015-57 and 013-015-43 (Figure 2). More information on watercourses onsite is provided in Section 2.4, below.

Precipitation falling onsite eventually mostly infiltrates locally, gradually draining west before passing offsite and entering Salt Creek. Salt Creek is a Class I watercourse in this reach, and flows south for 1.0 miles before the confluence with Putah Creek, which flows southeast for approximately 19 miles before emptying into Lake Berryessa. From the outlet of Lake Berryessa at Monticello Dam, Putah Creek continues east for 27 miles flowing into the Central Valley and past the City of Davis before emptying into a series of low-lying basins known as the Putah Creek Sinks. From there water flows into the Yolo Bypass and south into the Sacramento River which flows south for approximately 40 miles before emptying into Suisun Bay and the Pacific Ocean.

1.3.5 Existing Structures

There residential buildings on parcels 013-015-36 and 013-015-39. Existing cultivation facilities including outdoor and/or hoop house type structures exist on parcels 013-015-36 (Figure 6), 013-015-39, 013-015-43 (Figure 8), and 013-015-57 (Figure 9). A cultivation area is proposed for parcel 013-015-40 in the central grassland area (Figure 7). There are three locking entrance gates to parcels 013-015-36, 013-015-39 and 013-015-57. Access is provided by graded and/or graveled roads that are generally in good condition.

1.3.6 Regional Land Uses

Land uses in the vicinity of the project parcel are primarily private property including undeveloped brushland, wildlands managed for mixed uses including timber harvest, rural residential parcels, irrigated and nonirrigated pastureland, and vineyard and orchard developments. Farther to the west is the community of Hidden Valley Lake. Much of the land to the north and east and south of the parcels were severely burned in the Jerusalem and Rocky Fires in 2015. The project parcels have not been burned in the last 10 years.

1.4 METHODS

1.4.1 Records Search & Literature Review

Based on a review of the literature and relevant databases, we compiled a list of special-status plant and animal species that are known to occur within 10 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 Department of Fish & Wildlife (CDFW) *California Natural Diversity Database* (CNDDB 2024), U.S. Fish and Wildlife Service Environmental Conservation Online System (USFWS 2024), the California Native Plants Society (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2024), the CDFW *Habitat Relationships System* (HRS), 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 2024), and the County of Lake Geographic Information System Portal (Lake Co. 2024). Plant species included here are state or federal endangered or threatened species, and/or considered rare by CDFW, and/or are recognized as special-status species (SSS) by CNPS or CDFW. Animal species included here are designated as State or Federally Endangered or Threatened, and/or CDFW species of special concern (SSC), and/or CDFW fully protected species (FPS). In addition, nests of most native bird species, regardless of their regulatory status, are protected from take or harassment under the U.S. Migratory Bird Treaty Act (MBTA) and relevant sections of the California Fish & Wildlife Code.

1.4.2 Field Surveys

Four protocol-level special-status plant surveys were conducted on the various parcels on May 24 in 2019, April 6 in 2021, April 23 in 2024, and June 11 in 2024. The 2019 survey was performed on parcels 013-015-39 & 013-015-57, the 2021 survey was performed on parcel 013-015-57, the April 23, 2024 survey was performed on 013-015-36, 013-015-39, 013-015-43 & 013-015-57, and the June 11, 2024 survey was performed on all five parcels. Thus, the only parcel that still needs a second (early or mid) spring survey to meet the County of Lake's requirements for two appropriately timed rare plant surveys is 013-015-40.

At each survey date, the entirety of each parcel was surveyed on foot by PRC botanist Dr. Christopher T. DiVittorio, recording the location and identity of all plant and animal species encountered. On some dates consulting botanist Dr. Zoya Akulova assisted with surveys. For each of the parcels surveyed at each time point, methods were performed as specified in the California Department of Fish & Wildlife (CDFW) publication titled *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*, dated March 20, 2018.

Protocol-level field surveys involved walking the entire parcel on foot in parallel lines approximately 15 feet apart, identifying every species that was flowering, and making note of any species that were past flowering or that had not yet flowered. Table 1 contains a list of all plant species found across all survey dates. Voucher specimens were taken of any species that required identification in the laboratory. All terminology follows currently accepted nomenclature as described in *The Jepson Manual* (2012) or subsequent taxonomic treatments.

All animals onsite were also recorded and a habitat assessment performed to determine if habitat for special-status animals in Appendix C exists onsite. As part of this assessment, Dr. DiVittorio observed and recorded all direct visual encounters, as well as indirect observations including vocalizations, scat, tracks, feathers, burrows, nests, and molts.

2.0 RESULTS

2.1 NATURAL COMMUNITIES IN THE EVALUATION AREA

Using field surveys, a review of published literature, and the knowledge of PRC staff, all of the natural communities present on and around the project site were assessed. Regionally, the dominant vegetation type is burned chaparral and mixed conifer and chaparral scrub, with higher proportions of hardwoods near watercourses, and grasslands on flat floodplains and ridge tops, with scattered serpentine outcrops particularly to the east.

2.2 NATURAL COMMUNITIES WITHIN THE PROJECT SITE

The community types present on the project parcels consist of chaparral and oak savannah (Figure 3), interspersed with patches of grassland. The specific community descriptions below are organized based on the zones that were surveyed, and the floristic results presented in Appendix B. Overall, the parcel consists of approximately 45% oak savannah, 45% grassland, and 10% developed areas.

2.2.1 Blue Oak Savannah

All five parcels can be described as blue oak savannah with interspersed with grassland primarily dominated by non-native annual grasses but with some remnant patches of native grassland (Figure 2). A full list of all plant species observed across the five site visits is provided in Appendix B, below.

Two special-status plant species and one sensitive plant community type were positively identified from the site (Figure 1). Recommended avoidance and mitigation measures for these species are provided in Section 3.0, below.

Hoover’s lomatium (*Lomatium hooveri*) is a perennial plant in the Apiaceae family and was found on the north side of a greenhouse in the area shown by a yellow star in Figure 2. This species is not listed as Threatened or Endangered by the State or Federal governments, but is included on California Native Plant Society (CNPS) List 4.3. Hoover's lomatium was also found along the west side of the cultivation area in parcel 013-015-57, however these plants were relocated as part of permitting for the installation of the garden, as recommended in the rare plant report prepared for the project by PRC dated May 1, 2021.

Colusa layia (*Layia septentrionalis*) is an annual plant in the Asteraceae family and was found in oak woodland habitat in the areas shown in blue in Figure 2. A representative ground-level photograph is presented in Figure 4. This species is not listed as Threatened or Endangered by the State or Federal governments, but is included on CNPS List 1B.2. This species was also discussed in the rare plant

report dated May 1, 2021, however the populations described in that report as well as those presented in this BRA are not near any proposed development areas.

Several patches of native grassland with greater than 80% cover of native grasses were found in the areas shown in blue in Figure 2. A representative ground-level photograph is presented in Figure 5. Species in this grassland habitat include *Stipa pulchra*, *Elymus glaucus*, *Elymus triticoides*, *Elymus multisetus*, and *Festuca microstachys*. Native grassland with greater than 80% cover are considered sensitive habitats by CDFW.

2.3 WILDLIFE

Numerous animal species were observed both directly and indirectly across the five site visits, although protocol-level targeted surveys were not performed for any species or animal group specifically. Bird species observed onsite include acorn woodpecker (*Melanerpes formicivorus*), Western scrub jay (*Aphelocoma californica*), turkey vulture (*Cathartes aura*), common crow (*Corvus brachyrhynchos*), white-breasted nuthatch (*Sitta carolinensis*), and mourning dove (*Zenaida macroura*).

Other animal species observed onsite include Western bumblebee (*Bombus occidentalis*), pocket gopher (*Thomomys bottae*), Western fence lizard (*Sceloporous occidentalis*), prints of mule deer (*Odocoileus hemionus*), excavation mounds of California ground squirrel (*Otospermophilus beecheyi*), scat of Western coyote (*Canis latrans*), and runways of black-tailed jackrabbit (*Lepus californicus*).

2.4 WETLANDS & STREAMS

Streams and 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. Jurisdictional streamcourses are mapped in Figure 2. According to these criteria, there are two unnamed seasonal Class III watercourses on parcel 013-015-57 that initiate onsite and that flow offsite to the north and west off the main ridge top. These channels do not exhibit riparian vegetation or scour and do not support aquatic life. There are also several Class III channels that drain to the west off parcel 013-015-43 that are conveyed beneath the access road by several culverts (Figure 2). The north culvert is an approximately 16" diameter corrugated metal culvert and is non-jurisdictional and does not exhibit any scour up or down slope from the culvert (Figure 10). The middle culvert is an approximately 16" diameter HDPE structure on a Class III watercourse (Figure 11). The south culvert is an approximately 16" diameter corrugated metal structure on a Class III watercourse (Figure 12).

One stock pond exists on parcel 013-015-36, that has a 24" diameter HDPE overflow culvert installed on the north side of the pond (Figure 13). There is no scour downstream of the overflow culvert and no obvious inlet watercourse to the pond, thus it does not appear to be an in-stream pond.

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). There are no locations onsite that appear to satisfy the ACOE criteria for wetlands, although a protocol-level wetland delineation was not performed. There are no locations onsite that appear to be jurisdictional wetlands based on the absence of any areas near the proposed cultivation areas that exhibit satisfactory cover of hydrophytic vegetation or that exhibit signs of wetland hydrology such as spring seeps or ponding. The Class III drainages are furthermore likely too steep and rocky to exhibit soils of sufficient duration of saturation to qualify as wetland soils. There is also no riparian wetland vegetation around these channels that would be required to be jurisdictional wetlands.

2.5 SOILS & LOCAL GEOMORPHOLOGY

The parent materials are typical of inner Coast Range mountains of the Lake County subtype, with highly dissected valleys cut into soft Franciscan sediments, with abundant volcanic extrusive and intrusive formations (USGS 1985). Local formations on the majority of the site are mapped as well-drained Bally-Phipps complex, 15-30% slopes (#107), with lesser proportions of Forbesville (12%) formations. The far southern portion of the site is mapped as Phipps complex, 5 to 15 percent slopes (#195), with lesser proportions of Forbesville (10%), and unnamed (10%) formations. There are no serpentine or other ultramafic rock types onsite and no serpentine derived soils. There are no alkalai or vernal pool soil types onsite.

3.0 SUMMARY & CONCLUSIONS

Plants

Several special-status plant species and one sensitive plant community were found onsite during four site surveys, as described in Section 2.2.1 and shown in Figure 2. The following recommendation were developed in order to avoid impacts to these sensitive species and habitats.

Recommendation 1: Populations of Colusa layia shown in Figure 2 should be avoided. These populations are not in proposed development areas and it should be possible to keep vehicle traffic to the existing roadbed. If any individuals of Colusa layia are in proposed development areas in the future, including expansion or maintenance of the north side of the road on parcel 013-015-57, they should not be disturbed until a plan for reseeding is prepared by a qualified biologist. The plan should involve collecting seed of plants from the proposed development areas and distributing them in an area of the site that is not to be disturbed.

Recommendation 2: One individual of Hoover's lomatium was found to the west of the existing greenhouse on parcel 013-015-36 in the location shown in Figure 2. This plant should be allowed to grow and trenching or ground disturbing activities should be avoided in the vicinity of the plant. If the area near the plant needs to be disturbed, the plant should be excavated and transplanted to a similar habitat that will not be disturbed in the future, under supervision of a qualified biologist. In addition, if it is possible to collect seeds from the plant, they should be collected and dispersed near the transplanted soil.

Recommendation 3: Several populations of native grassland with greater than 80% cover of native grasses were observed in the locations shown in Figure 2. These areas should not be disturbed since they are not located near any potential or existing cultivation areas. If disturbance of these areas is required in the future such as for road widening, a plan should be developed by a qualified biologist to collect seed of affected individuals and disperse them in suitable habitat onsite that is not proposed to be disturbed.

Recommendation 4: Parcel 013-015-40 has only received one spring survey. If this parcel is to be developed one more spring survey should be performed ideally in April to satisfy the County of Lake's requirement for two spring rare plant surveys.

Animals

No special-status animal species were observed during the surveys performed at the site. Despite this, numerous trees are proposed to be removed, and removal of these trees may have significant impacts to protected species such as raptors or migratory birds. In order to avoid impacts to bird species, the following recommendation should be implemented:

Recommendation 5**:** If trees are proposed to be removed during the nesting season for birds, typically February 1 to October 31, a nesting bird survey should be performed by a qualified biologist for all trees to be removed to ensure that no active nests of protected bird species including hawks and eagles are present. The nesting bird survey should take place no more than 7 days prior to tree removal. If active nests are observed, appropriate buffers should be established by the project biologist around the tree, and no disturbance should occur inside these buffers until birds have fledged and the nests have become inactive.

Wetlands & Watercourses

There are several ephemeral watercourses in the study area, and setbacks of at least 50 feet should be observed off of all of the mapped features in Figure 2 as required by the 2017 State Water Resources Control Board *Cannabis* General Order. Due to dense vegetation present onsite, there are no visible paths for sediment to enter waters of the State or waters of the U.S. at the time of the surveys. There are also no isolated wetland features such as ponds, bogs, springs, vernal pools, or wet meadows identified during the surveys, however a protocol-level wetland delineation was not performed. During and after project implementation, as long as appropriate erosion control BMPs are implemented to the greatest extent practicable, no sediment discharge to waters of the State or waters of the U.S. is anticipated. Anywhere revegetation after disturbance is required, only native vegetation from local genotypes should be used. A list of suitable species and nurseries/vendors can be provided by PRC on request.

4.0 REGULATORY FRAMEWORK

4.1 FEDERAL

4.1.1 Endangered Species Act (ESA)

The U.S. Fish & Wildlife Service (USFWS) has jurisdiction over federally-listed threatened and endangered species under the ESA. USFWS also maintains a list of proposed and candidate species that are not legally protected under the ESA, but are often included in their review of a project as they may become listed in the near future. The ESA 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 ESA if they occur on federal lands. Pursuant to the requirements of the ESA, 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 USFWS.

4.1.2 Migratory Bird Treaty Act (MBTA)

The MTBA implements international treaties between the U.S. and other nations that were enacted to protect migratory birds, their parts, eggs, and nests from activities including hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. All migratory birds and their nests are protected from take and other impacts under MTBA (16 USC §703, *et. seq*.).

4.1.3 Eagle Protection Acts

Both bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) are additionally protected under the Eagle Protection Act (16 USC §669, *et. seq*.) and the Bald & Golden Eagle Protection Act (16 USC §668-668d).

4.1.4 Clean Water Act (CWA)

Section 404 The United States Army Corps of Engineers (USACE) administers Section 404 of the federal Clean Water Act (CWA), which regulates the discharge of dredge and fill material into waters of the United States. As of the date of preparation of this report, the U.S. Environmental Protection Agency (EPA) and USACE published a final rule in the Federal Resister on September 8, 2023 that took effect on the same date, amending the “Revised Definition of Waters of the United States” that was published in the Federal Register on January 18, 2023, and took effect on March 20, 2023. This final rule conforms the definition of "waters of the United States" to the U.S. Supreme Court's May 25, 2023 decision in the case of *Sackett vs. EPA.*

According to the September 8, 2023 final rule and as codified in Title 40 Code of Federal Regulations §120.2 and Title 33 Code of Federal Regulations §328.3, “waters of the United States“ have been amended to read as follows:

1. Waters which are:
    a. Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
    b. The territorial seas; or
    c. Interstate waters;
2. Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (5) of this section;
3. Tributaries of waters identified in paragraph (1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;
4. Wetlands adjacent to the following waters:
    a. Waters identified in paragraph (1) of this section; or
    b. Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (2) or (3) of this section and with a continuous surface connection to those waters;
5. Intrastate lakes and ponds not identified in paragraphs (1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (1) or (3) of this section.

Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area’s status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the EPA and/or USACE.

“Wetland” refers to areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and seasonal wetlands. Wetlands are considered jurisdictional if they fall under one of the categories of waters of the United States defined above. The USACE jurisdiction typically extends up to the ordinary high water mark (OHWM).

In general, a USACE permit must be obtained before placing fill in wetlands or other waters of the United States. The type of permit depends on the impacted acreage, the purpose of the proposed fill, and other factors.

Section 401 Under Section 401 of the CWA, "any applicant for a federal permit for activities that involve a discharge to waters of the State, shall provide the federal permitting agency a certification from the State in which the discharge is proposed that states the discharge will comply with the applicable provisions under the Federal Clean Water Act." In this case, applicants must obtain a Section 401 Water Quality Certification from, the Regional Water Quality Control Board from the region in which the project takes place.

4.2 STATE

4.2.1 California Environmental Quality Act (CEQA)

The following CEQA guidelines are intended to determine significance thresholds when analyzing the potential impacts of a proposed project on biological resources. The following is a list of criteria for determining if impacts are considered significant:

Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plan, policies, or regulations, or by the California Department of Fish & Wildlife (CDFW) or U.S. Fish & Wildlife Service (USFWS).

1. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.
2. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
3. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
4. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
5. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan.

4.2.2 California Endangered Species Act (CESA)

The State of California enacted CESA in 1984 and is similar to the federal ESA but pertains to State-listed threatened and endangered species. CESA requires State agencies to consult with CDFW when preparing a CDQA documents to ensure that the State lead agency actions do not jeopardize the continued existence of a listed species or results in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternative available (Fish & Game Code [FGC] §2080.) CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur, and allows CDFW to identify reasonable and prudent alternatives to the proposed project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the State's prohibition against take of a listed species of the take is incidental to carrying out an other wise lawful project thar has been approved under CEQA (FGC §2081).

4.2.3 California Fish & Game Code

Under CESA, CDFW has the responsibility for maintaining a list of threatened and endangered species (FGC §2070). Fish & Game Code §2050-2098 outline the protection provided to California’s rare, endangered, and threatened species. Fish & Game Code §2080 prohibits the taking of plants and animals listed under CESA. Fish & Game Code §2081 establishes an incidental take permit program for State-listed species. CDFW also maintains a list of candidate species that it formally notices as being under review for addition to the list of endangered or threatened species.

In addition, the Native Plant Protection Act of 1977 (NPPA) (FGC §1900, *et seq*.) prohibits the taking, possessing, or sale within the State of any plants with a State designation of rare, threatened, or endangered (as defined by CDFW). An exception to this prohibition in NPPA allows landowners, to take listed plant species under specified circumstances, provided that the owners first notify CDFW and give the agency at least 10 days to come and retrieve (and presumably replant) the plants before they are plowed under or otherwise destroyed. Fish & Game Code §1913 exempts from the take prohibition "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right-of-way." Project impacts to these species are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of the proposed project.

In addition to formal listing under federal ESA and CESA, some species receive additional consideration by CDFW and local lead agencies during the CEQA process. Species that may be considered for review are those listed as a "Species of Special Concern." CDFW maintains lists of Species of Special Concern that serve as species "watch lists." Species with this status may have limited distributions or limited populations, and/or the extent of their habitats has been reduced substantially, such that their populations may be threatened. Thus, their populations are monitored, and they may receive special attention during environmental review. While they do not have statutory protection, they may be considered rare under CEQA, and specific protection measures may be warranted. In addition to Species of Special Concern, CDFW Special Animals List identifies animals that are tracked by the California Natural Diversity Database (CNDDB) and may be potentially vulnerable but warrant no federal interest and no legal protection.

Sensitive species that would qualify for listing but are not currently listed are afforded protection under CEQA. CEQA Guidelines §15065 (Mandatory Findings of Significance) requires that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines §15380 (Rare or Endangered Species) provides for the assessment of unlisted species as Rare or Endangered under CEQA if the species can be shown to meet the criteria for listing. Unlisted plant species on the California Native Plant Society (CNPS) List ranked 1A, 1B, and 2 would typically require evaluation under CEQA.

Fish & Game Code §3500-5500 outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. The CDFW cannot issue permits or licenses that authorize the take of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock.

Under Fish & Game Code §3503.5, it is unlawful to take, possess, or destroy any birds in the orders of Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. To comply with the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any State-listed endangered or threatened species may be present in the project study area and determine whether the proposed project will have a potentially significant impact on such species. In addition, CDFW encourages informal consultation on any proposed project that may impact a candidate species. Project-related impacts to species on CESA endangered or threatened list would be considered significant. State-listed species are fully protected under the mandates of CESA. Take of protected species incidental to otherwise lawful management

activities may be authorized under Fish & Game Code §206.591. Authorization from CDFW would be in the form of an Incidental Take Permit.

Fish & Game Code §1602 requires any entity to notify CDFW before beginning any activity that "may substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake" or "deposit debris, waste, or other materials that could pass into any river, stream, or lake." This definition includes waters that are episodic and perennial and ephemeral streams, desert washes, and watercourses with a subsurface flow. A Lake or Streambed Alteration Agreement (LSAA) will be required if CDFW determines that project activities may substantially adversely affect fish or wildlife resources through alterations to a covered body of water.

4.2.4 Porter-Cologne Water Quality Control Act

California's Regional Water Quality Control Boards (RWQCB) regulate actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the water of the State" (Water Code §13260(a)), pursuant to provisions of the Porter-Cologne Water Quality Act. "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the State" (Water Code §13050(e)).

4.2.5 California Native Plant Society (CNPS)

The CNPS maintains a rank of plant species that are native to California and that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Following are the definitions of the CNPS ranks:

- Rank 1A: Plants presumed extirpated in California and either rare or extinct elsewhere
- Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- Rank 2A: Plants presumed extirpated in California but common elsewhere
- Rank 2B: Plants rare, threatened, or endangered in California but more common elsewhere
- Rank 3: Plants about which more information is needed
- Rank 4: Watch List: Plants of limited distribution

Potential impacts to populations of CNPS ranked plants receive consideration under CEQA review. All plants appearing on CNPS Lists 1 or 2 are considered to meet the CEQA Guidelines Section 15380 criteria. While only some of the plants ranked 3 and 4 meet the definitions of threatened or endangered species, potential impacts to these species or their habitats should be analyzed during the preparation of environmental documents pursuant to CEQA, as they may meet the definition of Rare or Endangered under the CEQA Guidelines Section 15380 criteria.

4.2.6 State Water Resources Control Board *Cannabis* Cultivation General Order

In addition to the above regulations, *Cannabis* cultivation is subject to State Water Resources Control Board (SWRCB) *Cannabis* Cultivation General Order No. WQ-2019-0001-DWQ (Order). This statewide Order specifies measures that must be taken to ensure water quality based on the size of the cultivation area (Tier 1 vs Tier 2), the risk determination based on potential to affect water quality (low, medium, high), and watercourse classifications and minimum setbacks that must be followed. Currently, Class I watercourses (perennial streams, lakes, ponds) must observe 150 foot setbacks,

Class II watercourses (intermittent streams or wetlands) must observe 100 foot setbacks, and Class III watercourses (ephemeral streams) must observe 50 foot setbacks. Class IV watercourses (e.g. man-made canals) that support native aquatic species must observe a setback equal to the established riparian vegetation zone, or if the watercourse does not support aquatic species does not need to observe setbacks. Other measures that must be taken to protect water resources are also provided in the text of the statewide Order.

4.2.7 California Oak Woodlands Conservation Act

The California Oak Woodlands Conservation Act requires the County to determine whether a project in their jurisdiction may result in a conversion of oak woodlands that will have a significant effect on the environment, as codified in California Public Resources Code Section 21083.4. If it is determined that there may be a significant effect to oak woodlands, the County shall require one or more mitigation alternatives to mitigate the significant effect of the conversion of oak woodlands. Alternatives to mitigate the significant effect of the conversion of oak woodlands include replacement of removed trees typically at a rate of 3:1, and maintenance of trees for a period of seven years after the trees are planted, although replacement typically may only comprise 50% of the required mitigation for the project, with the remainder often consisting of conservation easements or other mitigation measures developed by the County. Trees subject to the provisions of California Public Resources Code Section 21083.4 are those in the genus *Quercus* that have a diameter at breast height (DBH) of 5 inches or more.

4.3 REGIONAL & LOCAL

Natural resource use and *Cannabis* commercial development in Lake County is guided by the Lake County General Plan and regulated by Lake County Code. Below is a sample of relevant codes and ordinances that pertain to vegetation management and commercial *Cannabis* cultivation on lands within the County's jurisdiction.

4.3.1 County of Lake Municipal Code

Cannabis Cultivation (Chapter 11, Article 27)

The Ordinance Code of the County of Lake provides comprehensive guidelines on the size, location, and permitted activities for all commercial *Cannabis* facilities within the County's jurisdiction including restrictions on water sources, types of fencing, pest control measures, vegetation clearing, noise and visual impacts, storage and disposal of waste products, and grading. The Ordinance also specifies that the applicant must abide by all applicable Federal and State laws including the SWRCB *Cannabis* General Order, as discussed above.

4.3.2 Habitat Conservation Plan / Natural Communities Conservation Plan

The project site is not located in an area that is covered by any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, no additional mitigation related to local or regional conservation plans is necessary.

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FIGURE 1: REGIONAL LOCATION

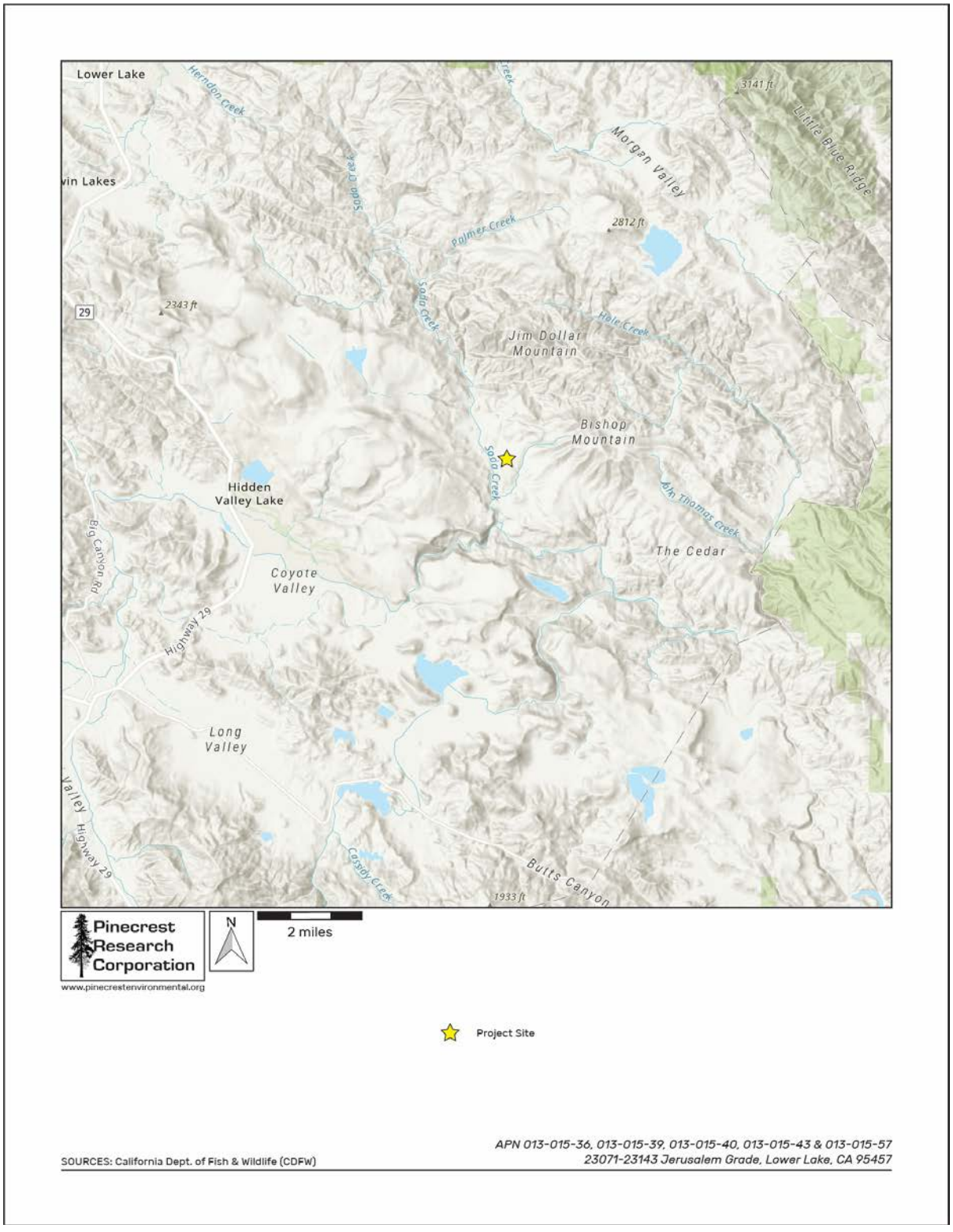


FIGURE 2: SITE MAP

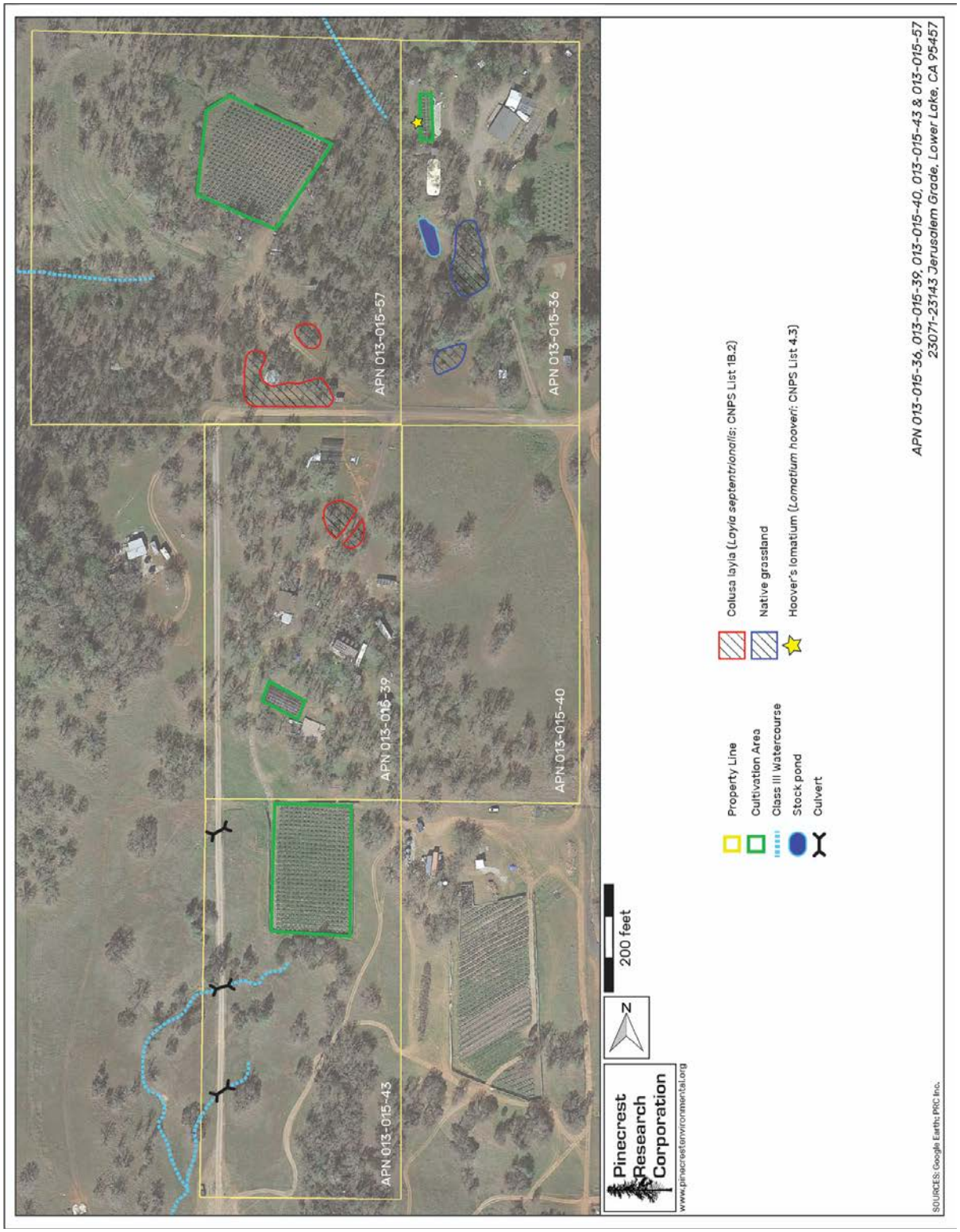


FIGURE 3: PHOTOGRAPH OF OAK SAVANNAH

Pinecrest Research Corporation
www.pinecrestenvironmental.org

SOURCES: PRC Inc.

APN 013-015-34, 013-015-35, 013-015-36, 013-015-40 & 013-015-57
Jerusalem Grade, Lower Lake, CA 95457

FIGURE 4: PHOTOGRAPH OF COLUSA LAYIA

Pinecrest Research Corporation
www.pinecrestenvironmental.org

SOURCES: PRC Inc.

APN 013-015-34, 013-015-35, 013-015-36, 013-015-40 & 013-015-57
Jerusalem Grade, Lower Lake, CA 95457

FIGURE 5: PHOTOGRAPH OF NATIVE GRASSLAND

Pinecrest Research Corporation
www.pinecrestenvironmental.org

SOURCES: PRC Inc.

APN 013-015-34, 013-015-35, 013-015-36, 013-015-40 & 013-015-57
Jerusalem Grade, Lower Lake, CA 95457

FIGURE 6: PHOTOGRAPH OF CULTIVATION ON 013-015-36

Pinecrest Research Corporation
www.pinecrestenvironmental.org

SOURCES: PRC Inc.

APN 013-015-34, 013-015-35, 013-015-36, 013-015-40 & 013-015-57
Jerusalem Grade, Lower Lake, CA 95457

FIGURE 7: PHOTOGRAPH OF CULTIVATION ON 013-015-40

Pinecrest Research Corporation
www.pinecrestenvironmental.org

SOURCES: PRC Inc.

APN 013-015-34, 013-015-35, 013-015-36, 013-015-40 & 013-015-57
Jerusalem Grade, Lower Lake, CA 95457

FIGURE 8: PHOTOGRAPH OF CULTIVATION ON 013-015-43

Pinecrest Research Corporation
www.pinecrestenvironmental.org

SOURCES: PRC Inc.

APN 013-015-34, 013-015-35, 013-015-36, 013-015-40 & 013-015-57
Jerusalem Grade, Lower Lake, CA 95457

FIGURE 9: PHOTOGRAPH OF CULTIVATION ON 013-015-57

Pinecrest Research Corporation
www.pinecrestenvironmental.org

SOURCES: PRC Inc.

APN 013-015-34, 013-015-35, 013-015-36, 013-015-40 & 013-015-57
Jerusalem Grade, Lower Lake, CA 95457

FIGURE 10: PHOTOGRAPH OF NORTH CULVERT

Pinecrest Research Corporation
www.pinecrestenvironmental.org

SOURCES: PRC Inc.

APN 013-015-34, 013-015-35, 013-015-36, 013-015-40 & 013-015-57
Jerusalem Grade, Lower Lake, CA 95457

FIGURE 11: PHOTOGRAPH OF MIDDLE CULVERT

Pinecrest Research Corporation
www.pinecrestenvironmental.org

SOURCES: PRC Inc.

APN 013-015-34, 013-015-35, 013-015-36, 013-015-40 & 013-015-57
Jerusalem Grade, Lower Lake, CA 95457

FIGURE 12: PHOTOGRAPH OF SOUTH CULVERT

Pinecrest Research Corporation
www.pinecrestenvironmental.org

SOURCES: PRC Inc.

APN 013-015-34, 013-015-35, 013-015-36, 013-015-40 & 013-015-57
Jerusalem Grade, Lower Lake, CA 95457

FIGURE 13: PHOTOGRAPH OF RESERVOIR

Pinecrest Research Corporation
www.pinecrestenvironmental.org

SOURCES: PRC Inc.

APN 013-015-34, 013-015-35, 013-015-36, 013-015-40 & 013-015-57
Jerusalem Grade, Lower Lake, CA 95457

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 (CNDDB). CNDDB 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 (*Fritillaria pluriflora*)	**—/—/1B.2**	**Valley grasslands, woodland**	**Medium: Some grassland habitat exists onsite. Nearest occurrence is 0.4 miles southeast of the project parcel in Jerusalem Valley.**
Alkalai milk-vetch (*Astragalus tener* var. *tener*)	—/—/1B.2	Valley grasslands, alkali sinks	None: No suitable alkalai habitat exists onsite.
Anthony peak lupine (*Lupinus antoninus*)	—/—/1B.2	Mixed evergreen forest	Very Low: No suitable forest habitat exists onsite.
Baker's goldfields (*Lasthenia californica* ssp. *bakeri*)	—/—/1B.2	Coastal grasslands	Low: Some grassland habitat exists onsite.
Baker's manzanita (*Arctostaphylos bakeri* ssp. *bakeri*)	—/—/1B.1	Serpentine chaparral, mixed evergreen forest	None: No serpentine habitat exists onsite.
Baker's meadowfoam (*Limnanthes bakeri*)	—/ST/1B.1	Vernal pools, freshwater wetland	None: No suitable wetland habitat onsite.
Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*)	—/—/1B.1	Vernal pools, riparian woodland	Very Low: No vernal pools exist onsite.
Beaked tracyina (*Tracyina rostrata*)	—/—/1B.2	Valley grassland, foothill woodland	Low: Some grassland habitat exists onsite.
Bent flowered fiddleneck (*Amsinckia lunaris*)	**—/—/1B.2**	**Valley grassland, foothill woodland**	**Low: Some grassland habitat exists onsite. Nearest occurrence is 4.8 miles southwest of the parcel in Coyote Valley.**

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Big scale balsamroot (*Balsamorhiza macrolepis*)	—/—/1B.2	Valley grassland	Low: Some grassland habitat exists onsite.
Bogg's Lake hedge-hyssop (*Gratiola heterosepala*)	**—/—/1B.2**	**Freshwater marsh, riparian**	**None: No suitable wetland habitat exists onsite. Nearest occurrence is 4.0 miles northwest of the parcel near Stienhart Lake.**
Bolander's horkelia (*Horkelia bolanderi*)	—/—/1B.2	Forest, meadows, wetlands	Very Low: No suitable forest habitat exists onsite.
Brandegee's eriastrum (*Eriastrum brandegeeae*)	—/—/1B.1	Chaparral	Low: A small amount of chaparral habitat exists onsite.
Bristly sedge (*Carex comosa*)	—/—/2B.1	Freshwater marsh, riparian	None: No suitable wetland habitat exists onsite.
Brownish beaked-rush (*Rhynchospora capitellata*)	—/—/2B.2	Freshwater marsh, riparian	None: No suitable wetland habitat exists onsite.
Burke's goldfields (*Lasthenia burkei*)	**FE/SE/1B.1**	**Vernal pools**	**Very Low: No vernal pool habitat exists onsite. Nearest occurrence is 4.1 miles southwest of the parcel near Coyote Creek.**
California alkalai grass (*Puccinellia simplex*)	—/—/1B.2	Grassland, riparian	None: No alkalai wetland habitat exists onsite.
California beaked-rush (*Rhynchospora californica*)	—/—/1B.1	Freshwater wetlands	None: No wetland habitat exists onsite.
California satintail (*Imperata brevifolia*)	—/—/2B.1	Chaparral, wetlands	Low: A small amount of chaparral habitat exists onsite.
Calistoga ceanothus (*Ceanothus divergens*)	—/—/1B.2	Chaparral	Low: Some chaparral habitat exists onsite.
Caper-fruited tropidocarpum (*Tropidocarpum capparideum*)	—/—/1B.1	Valley grassland	Very Low: Some grassland habitat exists onsite.
Cascade downingia (*Downingia willamettensis*)	—/—/2B.2	Wetland, grassland	Low: Some grassland habitat exists onsite.
Clara Hunt's milk vetch (*Astragalus claranus*)	—/—/1B.1	Chaparral, grassland	Very Low: Some chaparral habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Cobb Mountain lupine (*Lupinus sericatus*)	—/—/1B.2	Chaparral, pine forest	Low: Some chaparral habitat exists onsite.
Colusa layia (*Layia septentrionalis*)	**—/—/1B.2**	**Chaparral, valley grassland**	**High: Species found onsite. Nearest occurrence offsite is on adjacent parcel to the south.**
Congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*)	**—/—/1B.2**	**Grassland, coastal scrub**	**Very Low: Some grassland habitat exists onsite. Nearest occurrence is 4.4 miles west of the parcel near Coyote Valley.**
Deep scarred cryptantha (*Cryptantha excavata*)	—/—/1B.1	Foothill woodland	Very Low: Some grassland habitat exists onsite.
Dimorphic snapdragon (*Antirrhinum subcordatum*)	—/—/4.3	Serpentine, chaparral	None: No serpentine habitat exists onsite.
Drymaria-like western flax (*Hesperolinon drymarioides*)	—/—/1B.2	Serpentine outcrops	None: No serpentine outcrop habitat exists onsite.
Dwarf downingia (*Downingia pusilla*)	—/—/2B.2	Vernal pool, freshwater wetland	None: No vernal pool habitat exists onsite.
Dwarf soaproot (*Chlorogalum pomeridianum* var. *minus*)	—/—/1B.2	Serpentine chaparral	None: No serpentine chaparral habitat exists onsite.
Eel-grass pondweed (*Potamogeton zosteriformis*)	—/—/2B.2	Freshwater wetland, aquatic	None: No suitable wetlands exist onsite.
Few-flowered navarretia (*Navarretia leucocephala* ssp. *pauciflora*)	FE/ST/1B.1	Wetlands, vernal pools	None: No vernal pool habitat exists onsite.
Franciscan onion (*Allium peninsulare* var. *franciscanum*)	—/—/1B.2	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Freed's jewelflower (*Streptanthus brachiatus* ssp. *hoffmanii*)	**—/—/1B.2**	**Serpentine outcrops**	**None: No serpentine outcrop habitat exists onsite. Nearest occurrence is 3.2 miles northeast of the parcel near Hole Creek.**
Geysers panicum (*Panicum acuminatum* var. *thermale*)	—/—/1B.2	Chaparral, wetlands	Very Low: A small amount of chaparral habitat exists onsite.
Glandular western flax (*Hesperolinon adenophyllum*)	—/—/1B.2	Chaparral	Very Low: A small amount of chaparral habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Grassleaf water plantain (*Alisma gramineum*)	—/—/2B.2	Wetland, riparian	None: No suitable wetland habitat exists onsite.
Green jewelflower (*Streptanthus hesperidis*)	**—/—/1B.2**	**Serpentine outcrops**	**None: No serpentine outcrop habitat exists onsite. Nearest occurrence is 4.2 miles southwest of the parcel near Coyote Valley.**
Greene's narrow-leaved daisy (*Erigeron greenei*)	—/—/1B.2	Serpentine grassland	None: No serpentine habitat exists onsite.
Hall's harmonia (*Harmonia hallii*)	**—/—/1B.2**	**Chaparral**	**Medium: A small amount of chaparral habitat exists onsite. Nearest occurrence is 1.9 miles southeast of the project parcel near Amel Lake.**
Hoffman's bristly jewelflower (*Streptanthus glandulosus* spp. *hoffmanii*)	—/—/1B.3	Chaparral, foothill woodland	Very Low: A small amount of chaparral habitat exists onsite.
Holly-leaved ceanothus (*Ceanothus purpureus*)	—/—/1B.2	Chaparral	Very Low: A small amount of chaparral habitat exists onsite.
Hoover's lomatium (*Lomatium hooveri*)	**—/—/4.0**	**Chaparral**	**High: Species found onsite.**
Hospital Canyon larkspur (*Delphinium californicum* ssp. *interius*)	—/—/1B.2	Foothill woodland	Very Low: A small amount of woodland habitat exists onsite.
Jepson's coyote thistle (*Eryngium jepsonii*)	—/—/4.2	Wetlands and vernal pools	None: No vernal pool habitat exists onsite.
Jepson's leptosiphon (*Leptosiphon jepsonii*)	—/—/1B.2	Chaparral, serpentine grassland	None: No serpentine chaparral habitat exists onsite.
Jepson's milk-vetch (*Astragalus rattanii* var. *jepsonianus*)	**—/—/1B.2**	**Chaparral, serpentine grassland**	**Very Low: Some chaparral habitat exists onsite. Nearest occurrence is 4.2 miles southwest of the parcel near Hidden Valley Road.**
Kenwood marsh checkerbloom (*Sidalcea oregana* ssp. *valida*)	FE/SE/1B.1	Freshwater wetlands	None: No suitable wetland habitat exists onsite.
Konocti manzanita (*Arctostaphylos manzanita* ssp. *elegans*)	—/—/1B.3	Chaparral, foothill woodland	Very Low: A small amount of chaparral habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Kruckeberg's jewelflower (*Streptanthus morrisonii* ssp. *kruckebergii*)	**—/—/1B.2**	**Serpentine outcrops**	**None: No serpentine outcrop habitat exists onsite. Nearest occurrence is 4.7 miles northeast of the parcel near Round Mountain.**
Lake County stonecrop (*Sedella leiocarpa*)	—/—/1B.1	Rock outcrops	Very Low: Some rock outcrop habitat exists onsite.
Lake County western flax (*Hesperolinon didymocarpum*)	—/SE/1B.2	Serpentine grasslands	None: No suitable serpentine habitat exists onsite.
Legenere (*Legenere limosa*)	**—/—/1B.1**	**Freshwater wetland, valley grassland**	**None: No suitable wetland habitat exists onsite. Nearest occurrence is 4.0 miles northwest of the parcel near Stienhart Lake.**
Loch Lomond button-celery (*Eryngium constancei*)	FE/SE/1B.1	Freshwater wetland	None: No suitable wetland habitat exists onsite.
Many-flowered navarretia (*Navarretia leucocephala* spp. *plieantha*)	**FE/SE/1B.2**	**Vernal pools**	**Very Low: No vernal pool habitat exists onsite. Nearest occurrence is 4.0 miles northwest of the parcel near Stienhart Lake.**
Marsh checkerbloom (*Sidalcea oregana* ssp. *hydrophila*)	—/—/1B.2	Freshwater wetland, riparian	None: No suitable riparian habitat exists onsite.
Marsh microseris (*Microseris paludosa*)	—/—/1B.2	Northern coastal scrub	None: No marsh habitat exists onsite.
Milo Baker's lupine (*Lupinus milo-bakeri*)	—/—/1B.1	Foothill woodland, valley grassland	None: No serpentine habitat exists onsite.
Morrison's jewelflower (*Streptanthus morrisonii* ssp. *morrisonii*)	—/—/1B.2	Chaparral	Very Low: Some chaparral habitat exists onsite.
Mt. St. Helena morning-glory (*Calystegia collina* ssp. *oxyphylla*)	**—/—/4.2**	**Serpentine chaparral**	**None: No serpentine habitat exists onsite. Nearest occurrence is 4.2 miles southwest of the parcel near Long Valley.**
Napa bluecurls (*Trichostema ruygtii*)	—/—/1B.2	Chaparral, grassland	Very Low: Some grassland habitat exists onsite.
Napa checkerbloom (*Sidalcea hickmanii* ssp. *napensis*)	—/—/1B.1	Chaparral	Very Low: Some woodland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Napa false indigo (*Amorpha californica* var. *napensis*)	—/—/1B.2	Forest, woodland	Very Low: Some woodland habitat exists onsite.
Narrow-anthered brodiaea (*Brodiaea leptandra*)	—/—/1B.2	Foothill woodland, grassland	Low: Some grassland habitat exists onsite.
North Coast semaphore grass (*Pleuropogon hooverianus*)	—/—/1B.1	Freshwater wetland, vernal pools	None: No suitable wetland or vernal pool habitat exists onsite.
Northern California black walnut (*Juglans hindsii*)	—/—/1B.1	Riparian, woodland	Very Low: No suitable riparian habitat exists onsite.
Northern meadow sedge (*Carex praticola*)	—/—/2B.2	Freshwater wetlands	None: No suitable wetland habitat exists onsite.
Nuttall's ribbon-leaved pondweed (*Potamogeton epihydrus*)	—/—/2B.2	Freshwater wetlands	None: No wetland or pond habitat exists onsite.
Oregon polemonium (*Polemonium carneum*)	—/—/2B.2	Coastal scrub, yellow pine forest	None: No coastal scrub habitat exists onsite.
Oval-leaved viburnum (*Viburnum ellipticum*)	—/—/2B.3	Chaparral	Low: Some chaparral habitat exists onsite.
Pappose tarplant (*Centromadia parryi* ssp. *parryi*)	—/—/1B.2	Grassland, wetland	None: No wetland habitat exists onsite.
Pennell's bird's beak (*Cordylanthus tenuis* ssp. *capillaris*)	—/—/1B.2	Chaparral	Very Low: Some chaparral habitat exists onsite.
Perennial goldfields (*Lasthenia californica* ssp. *macrantha*)	—/—/1B.2	Northern coastal scrub	Very Low: Some grassland habitat exists onsite.
Peruvian dodder (*Cuscuta obtusiflora* var. *glandulosa*)	—/—/1B.2	Grassland, chaparral	Very Low: Parasitic plant, typical host plants not known from the property.
Pink creamsacs (*Castilleja rubicundula* var. *rubicundula*)	**—/—/1B.2**	**Grasslands**	**Low: Some grassland habitat exists onsite. Nearest occurrence is 6.8 miles west of the parcel near Harbin Mountain.**
Porter's navarretia (*Navarretia paradoxinota*)	**—/—/1B.3**	**Grasslands, wetlands**	**Very Low: No suitable wetland habitat exists onsite. Nearest occurrence is 4.2 miles west of the parcel near Coyote Valley.**

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Purple-stemmed checkerbloom (*Sidalcea malviflora* spp. *purpurea*)	—/—/1B.2	Wetlands	None: No suitable wetland habitat exists onsite.
Raiche's manzanita (*Arctostaphylos stanfordiana* ssp. *raichei*)	—/—/1B.1	Chaparral	Very Low: A small amount of chaparral habitat exists onsite.
Rincon Ridge ceanothus (*Ceanothus confusus*)	—/—/1B.1	Chaparral	Medium: Some chaparral habitat exists onsite.
Rincon Ridge manzanita (*Arctostaphylos stanfordiana* ssp. *decumbens*)	—/—/1B.1	Chaparral	Very Low: Some chaparral habitat exists onsite.
Round-leaved filaree (*California macrophylla*)	—/—/1B.2	Foothill grassland	Very Low: Some grassland habitat exists onsite.
Saline clover (*Trifolium hydrophilum*)	—/—/1B.2	Wetland, riparian	None: No suitable wetland habitat exists onsite.
San Joaquin spearscale (*Extriplex joaquinana*)	—/—/1B.2	Shadscale scrub, valley grassland	None: No alkalai scrub habitat exists.
Santa Cruz clover (*Trifolium buckwestiorum*)	—/—/1B.1	Coastal prairie	Very Low: Some grassland habitat onsite but species prefers the coast.
Santa Rosa horkelia (*Horkelia tenuiloba*)	—/—/1B.2	Freshwater wetland, vernal pools	Low: Some chaparral habitat exists onsite.
Sebastopol meadowfoam (*Limnanthes vinculans*)	FE/SE/1B.1	Freshwater wetland, vernal pools	None: No vernal pool habitat exists onsite.
Serpentine cryptantha (*Cryptantha dissita*)	—/—/1B.2	Serpentine chaparral	None: No serpentine habitat exists onsite.
Serpentine daisy (*Erigeron serpentinus*)	—/—/1B.3	Serpentine chaparral	None: No serpentine chaparral habitat exists onsite.
Sharsmith's western flax (*Hesperolinon sharsmithiae*)	**—/—/1B.2**	**Chaparral**	**Very Low: No serpentine habitat exists onsite. Nearest occurrence is on an adjacent parcel to the south.**
Slender Orcutt grass (*Orcuttia tenuis*)	**FT/SE/1B.1**	**Grassland, freshwater wetlands**	**None: No suitable grassland habitat exists onsite. Nearest occurrence is 3.9 miles northwest of the parcel near Stienhart Lake.**

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Small-flowered calycadenia (*Calycadenia micrantha*)	—/—/1B.2	Foothill grassland	Low: Some suitable grassland habitat onsite.
Small groundcone (*Kopsiopsis hookeri*)	—/—/2B.3	Redwood forest	None: No redwood forest habitat exists onsite.
Snow Mountain buckwheat (*Eriogonum nervulosum*)	—/—/1B.2	Serpentine outcrops	None: No serpentine outcrop habitat exists onsite.
Socrates Mine jewelflower (*Streptanthus brachiatus* ssp. *brachiatus*)	—/—/1B.2	Serpentine outcrops	None: No serpentine habitat exists onsite.
Sonoma beardtongue (*Penstemon newberryi* var. *sonomensis*)	—/—/1B.3	Chaparral	Very Low: Some grassland habitat exists onsite.
Sonoma ceanothus (*Ceanothus sonomensis*)	—/—/1B.2	Chaparral	Very Low: Some chaparral habitat exists onsite.
Sonoma sunshine (*Blennosperma bakeri*)	FE/SE /1B.1	Valley grassland, freshwater wetland	Very Low: Some grassland habitat exists onsite, although species prefers wetlands.
Thin-lobed horkelia (*Horkelia tenuiloba*)	—/—/1B.2	Chaparral	Very Low: Some chaparral habitat exists onsite.
Three-fingered morning glory (*Calystegia collina* ssp. *tridactylosa*)	—/—/1B.2	Serpentine grassland	None: No serpentine habitat exists onsite.
Two-carpellate Western flax (*Hesperolinon bicarpellatum*)	**—/—/1B.2**	**Chaparral**	**Low: A small amount of chaparral habitat exists onsite. Nearest occurrence is 2.8 miles south of the project parcel near McCreary Lake.**
Vine Hill ceanothus (*Ceanothus foliosus* var. *vineatus*)	—/—/1B.1	Chaparral	Very Low: Some chaparral habitat exists onsite.
Vine Hill manzanita (*Arctostaphylos densiflora*)	—/SE/1B.1	Chaparral	Very Low: Some chaparral habitat exists onsite.
Watershield (*Brasenia schreberi*)	—/—/2B.3	Pond, wetland	None: No pond habitat exists in the project area.
White beaked-rush (*Rhynchospora alba*)	—/—/2B.2	Wetlands, riparian	None: No suitable wetland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
White flowered rein orchid (*Piperia candida*)	—/—/1B.2	Yellow pine forest	Very Low: No suitable forest habitat exists onsite.
Wolly meadowfoam (*Limnanthes floccosa* ssp. *floccosa*)	—/—/4.2	Vernal pools	None: No vernal pool habitat exists onsite.
MOSSES, LICHENS & LIVERWORTS			
Angel's hair lichen (*Ramalina thrausta*)	—/—/2B.1	Old growth conifer and hardwood forests	None: No suitable forest habitat exists onsite.
Coastal triquetrella (*Triquetrella californica*)	—/—/1B.2	Forest, woodland	Very Low: Some woodland habitat exists onsite.
Elongate copper moss (*Mielichhoferia elongata*)	—/—/4.3	Forest, woodland	Very Low: Some woodland habitat exists onsite.
Methuselah's beard lichen (*Dolichousnea longissima*)	—/—/4.2	Old growth conifer and hardwood forests	None: No forest habitat exists onsite.
Slender silver moss (*Anomobryum julaceum*)	—/—/4.2	Rocky substrates in forests	Very Low: Some woodland habitat exists onsite.
Torren's grimmia (*Grimmia torenii*)	**—/—/1B.3**	**Forest, woodland**	**Very Low: Some woodland habitat exists onsite. Nearest occurrence is 3.9 miles northeast of the parcel near Jericho Creek.**
FISH			
Chinook Salmon Coastal California DPS (*Oncorhynchus kisutch*)	FT/SE/—	Freshwater streams, open ocean and estuaries	None: No suitable streams exist onsite.
Clear Lake Drainage Resident Rainbow trout (*Oncorhynchus mykiss*)	FE/SE/—	Freshwater streams, open ocean and estuaries	None: No suitable streams exist onsite.
Clear Lake hitch (*Lavinia exilicauda chi*)	FE/SE/—	Freshwater lakes and streams	None: No suitable streams exist onsite.
Coho Salmon Central California Coast ESU (*Oncorhynchus kisutch*)	FE/SE/—	Freshwater streams, open ocean and estuaries	None: No suitable streams exist onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Sacramento perch (*Archoplites interruptus*)	—/SSC/—	Low gradient sloughs and lakes	None: No suitable habitat exists onsite.
Sacramento splittail (*Pogonichthys macrolepidotus*)	—/SSC/—	Low gradient freshwater streams	None: No suitable streams exist onsite.
Steelhead Central California Coast DPS (*Oncorhynchus mykiss irideus*)	FT/—/—	Freshwater streams, open ocean and estuaries	None: No suitable streams exist onsite.
Steelhead Northern California DPS (*Oncorhynchus mykiss irideus*)	FT/—/—	Freshwater streams, open ocean and estuaries	None: No suitable streams exist onsite.
AMPHIBIANS & REPTILES			
California giant salamander (*Dicamptodon ensatus*)	—/SSC/—	Wetlands and riparian areas	None: No suitable wetland habitat exists onsite. Some poor quality estivation habitat onsite.
California red-legged frog (*Rana draytonii*)	FT/SSC/—	Vernal pools, seasonal pools, stock ponds, and associated grasslands	None: No suitable pond or wetland habitat exists onsite.
California tiger salamander (*Ambystoma californiense*)	FT/SSC/—	Ponds, streams, drainages, and associated uplands	None: No suitable pond or wetland habitat exists onsite.
Foothill yellow-legged frog (*Rana boylii*)	**—/SSC/—**	**Wetlands, riparian, streams and ponds**	**Very Low: No suitable breeding habitat onsite. Some poor quality estivation habitat onsite. Nearest occurrence is 1.9 miles north of the project parcel in Soda Creek.**
Red bellied newt (*Taricha rivularis*)	—/SSC/—	Woodland streams, riparian corridors	None: No suitable habitat exists onsite.
Western pond turtle (*Emys marmorata*)	**—/SSC/—**	**Slow-moving creeks, streams, ponds, rivers, ditches.**	**None: No pond habitat exists onsite. Nearest occurrence is 2.4 miles south of the parcel in Putah Creek.**
INVERTEBRATES			
Behren's silverspot butterfly (*Speyeria zerene behrensii*)	FE/SSC/—	Coastal prairie	None: Requires blue violet to reproduce; none onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Borax Lake cuckoo wasp (*Hedychridium milleri*)	—/SSC/—	Lakes and streams	None: No suitable lake or stream habitat exists onsite.
Brownish dubiraphian riffle beetle (*Dubiraphia brunnescens*)	—/SSC/—	Freshwater streams	None: No suitable stream habitat exists onsite.
California brackishwater snail (*Tryonia imitator*)	—/SSC/—	Brackish wetlands	None: No suitable wetland habitat exists onsite.
California floater (*Anodonta californiensis*)	—/SSC/—	Freshwater ponds, streams	None: No suitable stream habitat exists onsite.
California freshwater shrimp (*Syncaris pacifica*)	FE/SE/—	Freshwater ponds, streams	None: No suitable stream habitat exists onsite.
California linderiella (*Linderiella occidentalis*)	—/SSC/—	Vernal pools	None: No vernal pool habitat exists onsite.
Clear Lake pyrg (*Pyrgulopsis ventricosa*)	—/SSC/—	Freshwater streams	None: No suitable stream habitat exists onsite.
Crotch bumble bee (*Bombus crotchii*)	—/SSC/—	Grassland, chaparral	Low: Some grassland habitat exists onsite.
Leech's skyline diving beetle (*Hydroporus leechi*)	—/SSC/—	Freshwater ponds	None: No suitable pond habitat exists onsite.
Myrtle silverspot butterfly (*Speyeria zerene myrtleae*)	FE/SSC/—	Coastal prairie, chaparral	None: Requires western dog violet for reproduction; none onsite.
Monarch butterfly California overwintering Population #1 (*Danaus plexippus*)	—/SSC/—	Large trees required for roosting.	None: No suitable trees for roosting onsite.
Obscure bumble bee (*Bombus caliginosus*)	—/SSC/—	Grassland, foothill woodland, chaparral	Low: Some grassland habitat exists onsite.
Opler's longhorn moth (*Adela oplerella*)	—/SSC/—	Usually associated with *Platystemon* (creamcups)	None: No suitable host plants onsite.
Oregon floater (*Anodonta oregonensis*)	—/SSC/—	High order freshwater streams	None: No suitable stream habitat exists onsite.
Ricksecker's water scavenger beetle (*Hydrochara rickseckeri*)	—/SSC/—	Freshwater ponds	None: No suitable pond habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Sonoma zerene fritillary (*Speyeria zerene sonomensis*)	—/SSC/—	Grasslands and meadows	None: Requires *Viola* for reproduction; none onsite.
Western bumblebee (*Bombus occidentalis*)	—/SSC/—	Grassland	Medium: Some grassland habitat exists onsite.
Wilbur Springs shorebug (*Saldula usingeri*)	—/SSC/—	Ponds	None: No suitable pond habitat exists onsite.
Vernal pool andrenid bee (*Andrena blennospermatis*)	—/SSC/—	Upland areas near vernal pools	None: No vernal pool habitat exists onsite.
BIRDS			
American perigrine falcon (*Falco peregrinus anatum*)	**—/SSC/—**	**Forages in open grasslands, nests in trees**	**Very Low: No suitable nesting habitat exists. Nearest occurrence is 4.2 miles south of the parcel near McCreary Lake.**
Bank swallow (*Riparia riparia*)	FE/SE/—	Typically found near lakes and streams	None: No suitable stream habitat exists onsite.
Bald eagle (*Haliaeetus leucocephalus*)	**—/SSC/—**	**Forages over open lakes and streams**	**Very Low: No suitable foraging or nesting habitat exists onsite. Nearest occurrence is 2.7 miles south of the project parcel near McCreary Lake.**
Black swift (*Cypseloides niger*)	—/SSC/—	Cliff faces near water	None: No suitable stream habitat exists onsite.
Burrowing owl (*Athene cunicularia*)	—/SSC/—	Grasslands	None: No suitable grassland with ground squirrel burrows exists onsite.
California horned lark (*Eremophila alpestris actia*)	—/SSC/—	Herbaceous vegetation, chaparral	Very Low: A small amount of chaparral habitat exists onsite.
Cooper's hawk (*Accipiter cooperii*)	—/WL/—	Forages over open grassland.	Low: Some suitable foraging habitat exists onsite. No suitable nesting habitat.
Ferruginous hawk (*Buteo regalis*)	—/SSC/—	Forages over open grassland. Nests in old-growth trees.	Low: Some suitable foraging habitat exists onsite. No suitable nesting habitat.
Golden eagle (*Aquila chrysaetos*)	**—/SSC/—**	**Forages over open grassland. Nests in old-growth trees.**	**Low: Some suitable foraging habitat. No suitable nesting habitat. Nearest occurrence is 3.7 miles west of the parcel near Hunting Creek.**

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Grasshopper sparrow (*Ammodramus savannarum*)	—/SSC/—	Forages over open grassland.	Low: Some suitable foraging habitat exists onsite.
Great egret (*Ardea alba*)	FE/SE/—	Nests in trees, forages in wetlands and grasslands	None: No suitable foraging or nesting habitat exists onsite.
Marbled murrelet (*Brachyramphus marmoratus*)	FT/SE/—	Old growth forest	None: No suitable forest habitat exists onsite.
Northern goshawk (*Accipiter gentilis*)	—/SSC/—	Old growth forest	Very Low: No suitable forest habitat exists onsite.
Osprey (*Pandion haliaetus*)	—/WL/—	Areas with fish	None: No suitable lake or stream habitat exists onsite.
Prairie falcon (*Falco mexicanus*)	**—/SSC/—**	**Forages over grasslands**	**Medium: Some suitable nesting and foraging habitat exists onsite. Nearest occurrence is somewhere in the Jericho Valley USGS Quad, which overlaps the project parcel.**
Purple martin (*Progne subis*)	FE/SE/—	Insectivorous, nests in cavities	Medium: Some suitable nesting habitat onsite. Some suitable foraging habitat onsite.
Sharp-shinned hawk (*Accipiter striatus*)	—/SSC/—	Forest and woodland	Very Low: Some suitable foraging habitat exists onsite. No suitable nesting habitat onsite.
Tricolored blackbird (*Agelaius tricolor*)	—/SSC/—	Forages in grasslands and nests in freshwater marshes	Low: Some suitable nesting and foraging habitat exists onsite.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	—/SE/—	Woodland, riparian	Very Low: No suitable nesting habitat exists. Some suitable foraging habitat.
White-tailed kite (*Elanus leucurus*)	—/CFP/—	Prefers to nest in marshes next to deciduous forests.	Very Low: No suitable nesting habitat onsite. Some suitable foraging habitat.
Yellow breasted chat (*Icteria virens*)	—/SSC/—	Dense shrubby growth, farmland.	Low: Some suitable habitat onsite.
Yellow warbler (*Coturnicops noveboracensis*)	—/SSC/—	Riparian, shrubland, farmland.	Low: Some suitable habitat onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
MAMMALS			
American badger (*Taxidea taxus*)	—/SSC/—	Open grassland habitats with plenty of prey.	None: Insufficient habitat complexity exists for this territorial animal.
Big free-tailed bat (*Nyctinomops macrotis*)	—/SSC/—	Forages over open areas, roots in trees or caves	None: Some suitable foraging habitat. No suitable roosts.
Fisher (*Pekania pennanti*)	—/SSC/—	Forages and breeds primarily in forests.	None: No suitable forest habitat.
Fringed myotis (*Myotis thysanodes*)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	Very Low: Some suitable foraging habitat. No suitable roosts in project area.
Hoary bat (*Lasiurus cinereus*)	—/SSC/—	Forages over open areas, roots in trees or caves at high altitude.	Very Low: Foraging limited to high altitudes. No suitable roosts in the project area.
Long-eared myotis (*Myotis evotis*)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	Very Low: Some suitable foraging habitat. No suitable roosts in project area.
Long-legged myotis (*Myotis volans*)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	None: Some foraging habitat. No suitable roosts.
North American porcupine (*Erethizon dorsatum*)	—/SSC/—	Require rocky areas or trees for dens, abundant open space for foraging.	Very Low: Some suitable foraging habitat. No suitable den habitat.
Pallid bat (*Antrozous pallidus*)	—/SSC/—	Common in open dry habitats with rocky areas for roosting.	Very Low: Some foraging habitat exists. No suitable roosts in the project area.
Silver haired bat (*Lasionycteris noctivagans*)	—/SSC/—	Nocturnal, migratory, solitary, roosts in tree cavities.	Low: Some suitable trees exist for roosting. Some foraging habitat exists.
Sonoma tree vole (*Arborimus pomo*)	—/SSC/—	Old growth Douglas fir canopies.	None: No suitable forest habitat exists onsite.
Townsend's big-eared bat (*Corynorhinus townsendii*)	**—/SSC/—**	**Hibernate in mines or caves, roost in man made structures and caves.**	**Very Low: Few man-made structures exist suitable for roosting. Some habitat for foraging. Nearest occurrence is 5.5 miles north of the parcel near Morgan Valley Road.**

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Western red bat (*Lasiurus blossevillii*)	—/SSC/—	Forages over open areas, roots in trees or caves.	Very Low: No suitable roosting habitat. Some suitable foraging habitat.
Yuma myotis (*Myotis yumanensis*)	—/SSC/—	Forages over open areas, roots in trees or caves.	Very Low: No suitable nesting habitat onsite. Some suitable foraging habitat exists.
HABITATS			
Coastal & Valley Freshwater Marsh (CVFM)	—	—	None: No marsh habitat exists onsite.
Northern Hardpan Vernal Pool (NHVP)	—	—	None: No hardpan vernal pool habitat exists onsite.
Northern Vernal Pool (NVP)	—	—	None: No vernal pool habitat exists onsite.
Sycamore Alluvial Woodland (SAW)	—	—	None: No woodland habitat exists onsite.
Valley Needlegrass Grassland (VNG)	—	—	Low: Some grassland habitat exists onsite.
Valley Oak Woodland (VOW)	—	—	None: No valley oaks exist onsite.
Valley Sink Scrub (VSS)	—	—	None: 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
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 3 = plant is likely rare but more information is required
List 4 = plants of limited distribution

[2] USFWS

APPENDIX B: SPECIES ENCOUNTERED

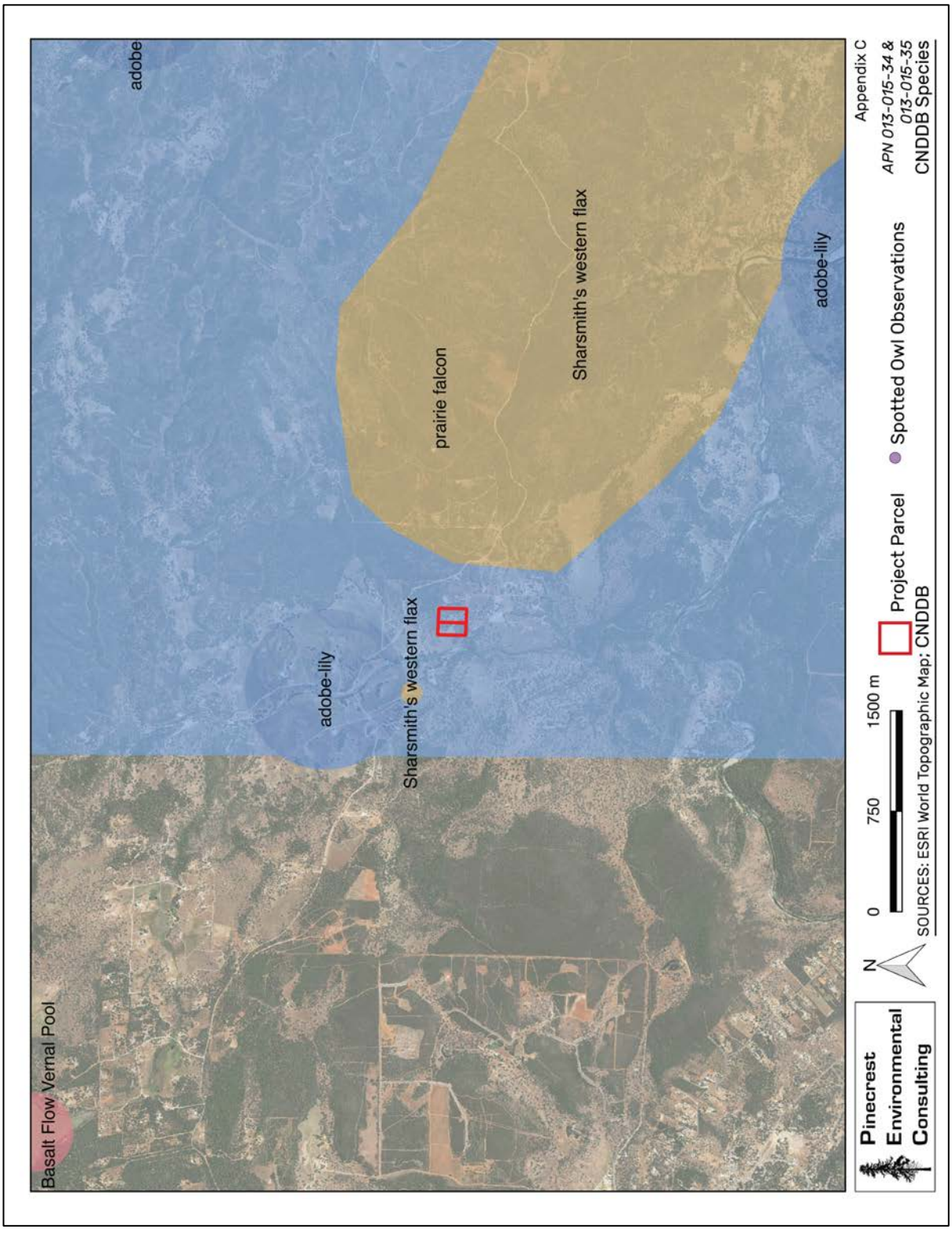
This list contains a list of all of the plants observed on the study parcels during the five site visits. Special-status species (SSS) are denoted in bold.

Scientific name	**Common name**	**Native**
Achyrachaena mollis	blow wives	yes
Acmispon brachycarpus	short-podded lotus	yes
Agoseris grandiflora	giant mountain dandelion	yes
Aira caryophyllea	hairgrass	no
Amaranthus californicus	California pigweed	yes
Amsinckia menziesii	Menzies' fiddleneck	yes
Arctostaphylos manzanita	common manzanita	yes
Arctostaphylos viscida	whiteleaf manzanita	yes
Astragalus gambelianus	Gamble's dwarf milkvetch	yes
Athysanus pusillus	common sandweed	yes
Avena barbata	wild oatgrass	no
Baccharis pilularis	coyote brush	yes
Brachypodium distachyon	false brome	no
Briza maxima	rattlesnake grass	no
Briza minor	little rattlesnake grass	no
Brodiaea elegans	harvest brodiaea	yes
Bromus diandrus	ripgut brome	no
Bromus hordeaceus	woft chess	no
Bromus madritensis	red brome	no
Bromus sterilis	poverty brome	no
Capsella bursa-pastoris	shepherd's purse	no
Carduus pycnocephalus	Italian thistle	no
Castilleja attenuata	narrow-leaf owl's clover	yes
Centaurea melitensis	tocalote	no
Cerastium glomeratum	mouse-ear chickweed	no
Chenopodium berlandieri	pit seed goosefoot	no
Chlorogalum pomeridianum var. *pomeridianum*	soap plant	yes
Clarkia purpurea ssp. *quadrivulnera*	purple clarkia	yes
Claytonia parviflora ssp. *parviflora*	miner's lettuce	yes
Collinsia heterophylla var. *heterophylla*	purple Chinese houses	yes
Croton setiger	turkey-mullein	yes
Cynara cardunculus ssp. *cardunculus*	wild artichoke	no
Cynoglossum grande	houndstongue	yes
Cynosurus echinatus	dogstail grass	no
Daucus carota	Queen Anne's lace	no

Delphinium variegatum ssp. *variegatum*	royal larkspur	yes
Diplacus aurantiacus	sticky monkeyflower	yes
Dipterostemon capitatum	blue dicks	yes
Elymus caput-medusae	medusahead	no
Elymus glaucus	blue wildrye	yes
Elymus multisetus	big squirreltail grass	yes
Epilobium densiflorum	denseflower willowherb	yes
Eriodictyon californicum	Yerba Santa	yes
Eriophyllum lanatum	woolly sunflower	yes
Erodium botrys	big heron bill	no
Erodium cicutarium	redstem filaree	no
Festuca microstachys	eastwood fescue	yes
Festuca myuros	Zorro fescue	no
Festuca perennis	Italian ryegrass	no
Galium andrewsii	phlox leaved bedstraw	yes
Galium parisiense	wall bedstraw	no
Galium porrigens	climbing bedstraw	yes
Gastridium phleoides	nit grass	no
Geranium dissectum	wild geranium	no
Geranium molle	woodland geranium	no
Gilia tricolor	bird's eyes	yes
Helianthella californica	California helianthella	yes
Hesperevax acaulis	dwarf hesperevax	yes
Hesperolinon spergulinum	slender western flax	yes
Heteromeles arbutifolia	toyon	yes
Hirschfeldia incana	shortpod mustard	no
Holocarpha virgata	narrow tarplant	yes
Hordeum murinum	foxtail barley	no
Hypericum perforatum	klamathweed	no
Hypochaeris glabra	smooth cat’s ears	no
Juncus bufonius	toad rush	yes
Lactuca serriola	prickly lettuce	no
Lamium amplexicaule	henbit	no
Lasthenia californica	California goldfield	yes
Lasthenia gracilis	needle goldfields	yes
***Layia septentrionalis* (CNPS List 1B.2)**	**Colusa tidy-tips**	**yes**
Lepidium didymum	lesser swine cress	no
Leptosiphon bicolor	true baby stars	yes
Lessingia ramulosa	Sonoma lessingia	yes
Logfia filaginoides	California cottonrose	no
Lomatium utriculatum	hog fennel	yes
***Lomatium hooveri* (CNPS List 4.3)**	**Hoover’s lomatium**	**yes**
Lonicera interrupta	chaparral honeysuckle	yes
Lupinus bicolor	miniature lupine	yes
Lysimachia arvensis	scarlet pimpernel	no
Navarretia atractyloides	holly-leaf navarretia	yes
Navarretia pubescens	purple navarretia	yes

Madia gracilis	slender tarweed	yes
Marah fabacea	manroot	yes
Matricaria discoidea	pineapple weed	no
Medicago polymorpha	bur clover	no
Melica californica	California melicgrass	yes
Melilotus indicus	annual yellow sweetclover	no
Micranthes californica	Greene's saxifrage	yes
Micropus californicus	q-tips	yes
Microseris douglasii	Douglas' silverpuffs	yes
Pedicularis densiflora	indian warrior	yes
Pentagramma triangularis	goldback fern	yes
Petrorhagia dubia	windmill pink	no
Plagiobothrys stipitatus	vernal pool allocarya	yes
Plantago erecta	hill plantain	yes
Plantago major	common plantain	no
Plectritis macrocera	longhorn plectritis	yes
Poa annua	annual blue grass	no
Poa secunda	pine bluegrass	yes
Polypogon monspeliensis	rabbitsfoot grass	no
Pinus sabiniana	gray pine	yes
Primula hendersonii	Henderson's shooting star	yes
Quercus douglasii	blue oak	yes
Ranunculus hebecarpus	pubescent fruited buttercup	yes
Raphanus sativa	wild radish	no
Sanicula bipinnatifida	purple sanicle	yes
Sanicula crassicaulis	gamble weed	yes
Senecio vulgaris	common groundsel	no
Silene gallica	common catchfly	no
Silybum marianum	milk thistle	no
Sisyrinchium bellum	blue eyes grass	yes
Stellaria media	chickweed	no
Stipa pulchra	purple needle grass	yes
Symphoricarpos albus var. *laevigatus*	snowberry	yes
Thysanocarpus curvipes	fringe pod	yes
Torilis arvensis	hedge nettle	no
Toxicodendron diversilobum	poison oak	yes
Trifolium bifidum	notch-leaf clover	yes
Trifolium depauperatum var. *depauperatum*	dwarf sack clover	yes
Triphysaria eriantha ssp. *eriantha*	butter'n'eggs	yes
Triteleia laxa	Ithuriel's spear	yes
Uropappus lindleyi	silver puffs	yes
Urtica dioica	stinging nettle	yes
Vicia villosa	hairy vetch	no
Zeltnera muehlenbergii	Muehlenberg's centaury	yes

APPENDIX C: CNDDB OCCURRENCES MAP



APPENDIX D: 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 2017-0023-DWQ.

D.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 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 and demarcated with appropriate flagging.
- The removal of vegetation is prohibited within riparian 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 permits from the local City or County planning department where required.
- 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 of growth medium 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, mulch, wattles, silt fencing, erosion control fabrics, sand bags, or other materials adequate to cover areas of disturbed soil or incipient erosion events.
- In the event of a forecast storm event likely to produce runoff, apply mulch, wattles, or other erosion prevention measures to the disturbed areas prior to rain event.
- Any grading or drainage conducted as part of site preparation shall have permits from local County or City agencies if required.

D.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.

D.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.

D.4 ROAD MAINTENANCE & GENERAL CONSTRUCTION

- Always limit work to the appropriate work date windows considering wet weather, migratory bird and other biological and environmental constrains 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.

D.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.

D.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.

APPENDIX E: STREAM CLASSIFICATION CRITERIA

The following stream classification criteria were copied form 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, 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).