STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER RIGHTS
P.O. BOX 2000
SACRAMENTO, CA 95812-2000

INITIAL STUDY / MITIGATED NEGATIVE DECLARATION

I. BACKGROUND

PROJECT TITLE: Russ Living Trust Water Right Project

APPLICATIONS: 30322 and 30323

APPLICANT: Albert L. and Paula E. Russ
P.O. Box 62
San Gregorio, CA 94074

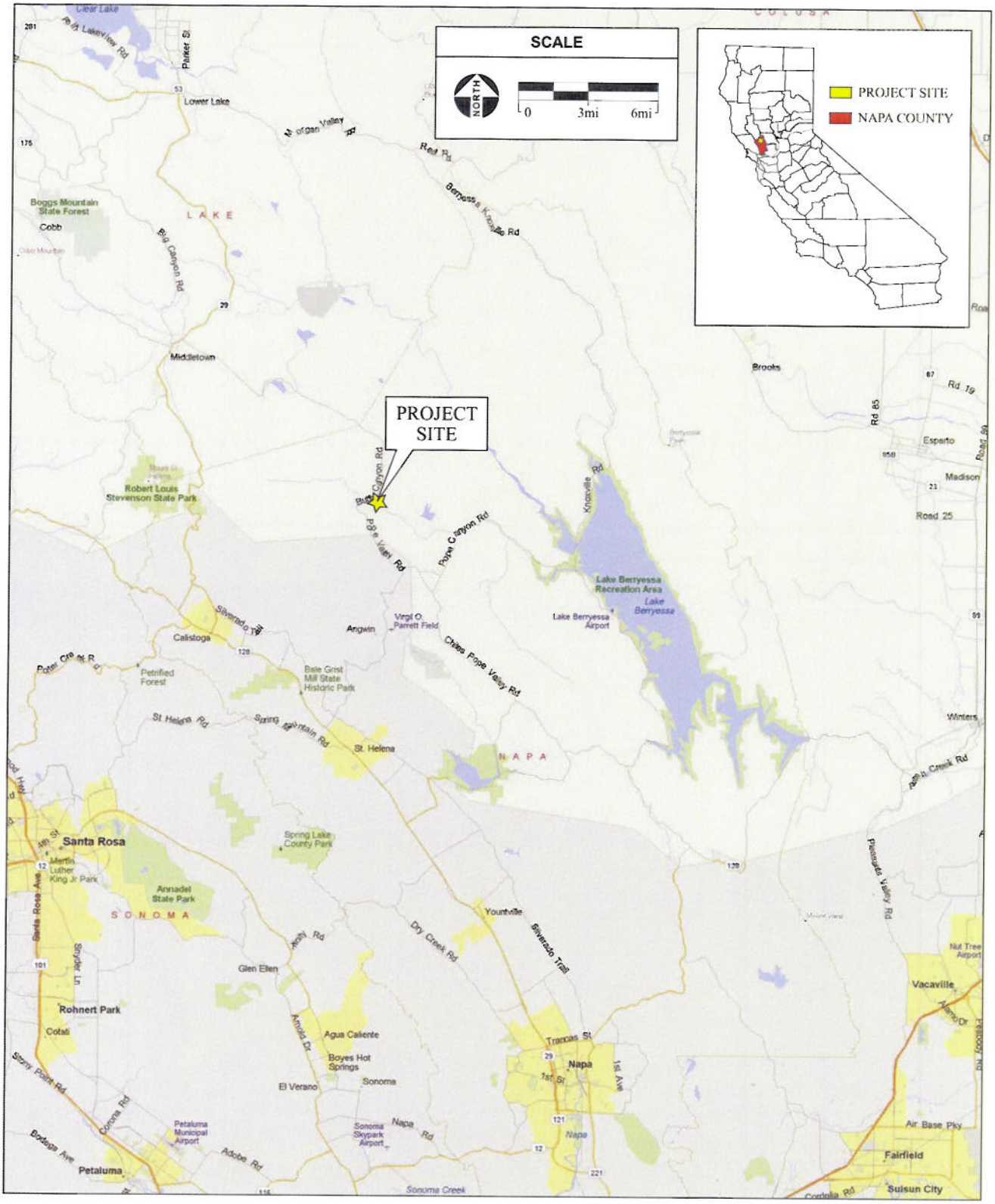
GENERAL PLAN DESIGNATION: Agriculture, Watershed, and Open Space

ZONING: Agricultural Watershed

Introduction

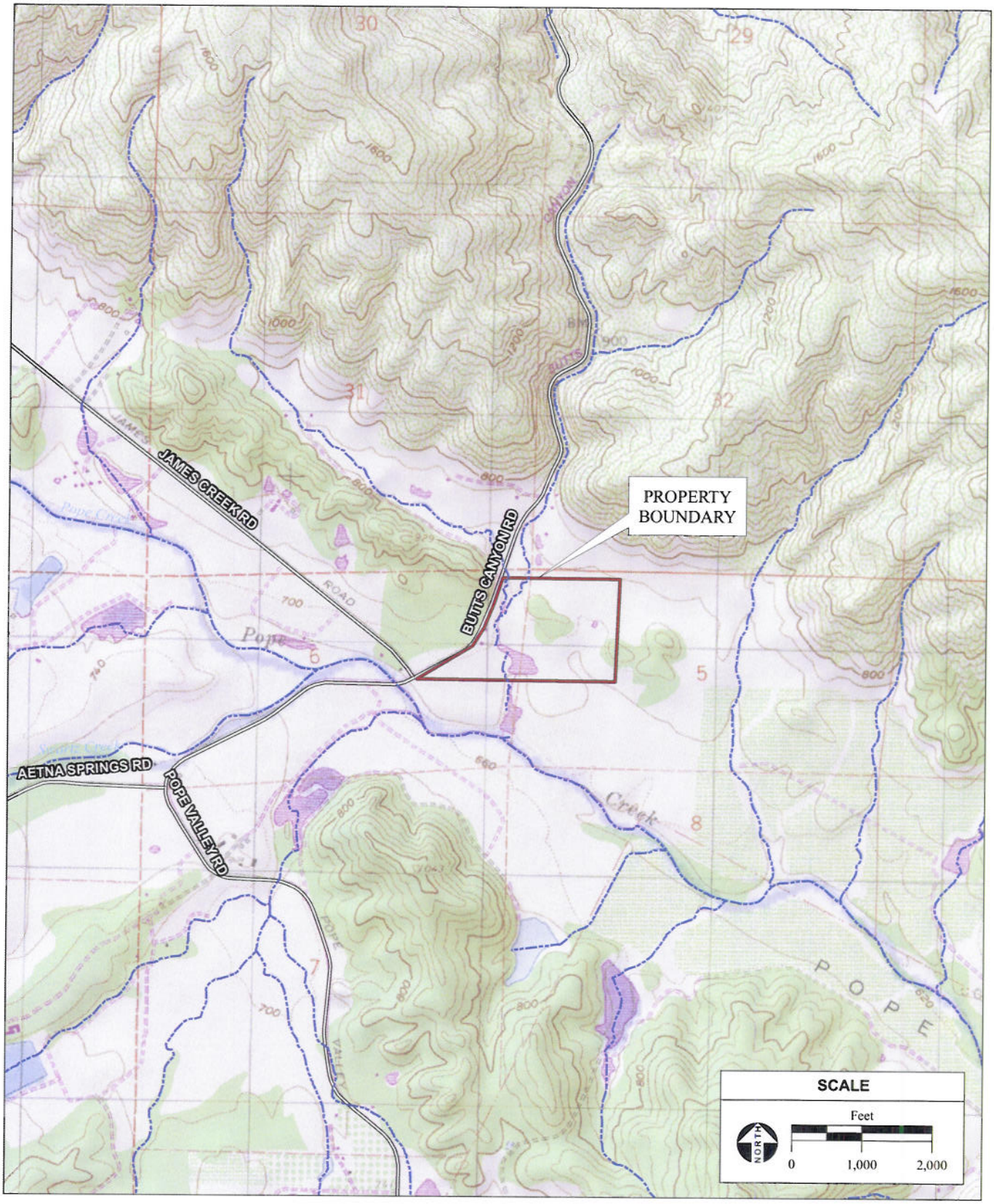
The 68-acre Russ Living Trust property is located approximately two miles east of the community of Aetna Springs and approximately 3.5 miles north of the community of Pope Valley in Napa County, California (**Figure 1**). The site is within Township 9N, Range 5W of the "Aetna Springs, California" U.S. Geological Survey (USGS) 7.5 minute topographic quadrangle (**Figure 2**).

Water Right Applications 30322 and 30323 (proposed project) were filed on December 17, 1993 with the State Water Resources Control Board (State Water Board), Division of Water Rights (Division), for the diversion of 49 acre-feet per annum (afa) of water to storage, direct diversion of 50 afa of water, and the enlargement of an existing onstream reservoir. Water would be used for irrigation, frost protection, and heat control purposes on 50 acres (proposed place of use; POU), as well as domestic, stockwatering, recreation, and fire protection uses.[1]



SOURCE: Microsoft Streets and Trips, 2003; AES, 2009

Figure 1
Regional Location



SOURCE: USGS 7.5 Minute Topographic Quadrangle,Sections 5 & 6, T9N, R5W, Mt. Diablo Baseline and Meridian; AES, 2009

Figure 2
Site and Vicinity

Project Description

Application 30322 proposes collection to storage of 49 afa from a seasonal Unnamed Stream tributary to Pope Creek thence Lake Berryessa. The collection season would be from November 1 through April 30. An existing 7 acre-foot (af) capacity onstream reservoir would be enlarged to 49 af with the proposed project. Although the reservoir capacity is 7 af, License 7870 (Application 19656) only authorizes collection to storage of 4 afa. Reservoir enlargement would occur through excavating earth material from the footprint of the reservoir and areas adjacent to the footprint and/or raising the spillway. The water would be used for the purposes of irrigation, frost protection, and heat control on a 50-acre proposed POU (**Tables 1** through **3**, **Figure 3**), as well as domestic, recreation, fire protection, and stockwatering uses. The proposed POU would be planted with vineyard, pasture, trees and/or native plantings on what was previously, in part, irrigated pasture and orchard. Currently the reservoir can be dewatered using a siphon at the dam. As part of the proposed project, the bypass facility would be re-designed. The Division may require installation of an outlet facility capable of bypassing instream flows. Up to four stream crossings may be required to provide year-round access to the proposed POU.

Application 30323 proposes direct diversion of 2.99 cubic feet per second (cfs), with an annual limit of 50 afa, at the same location as the onstream reservoir from March 1 through May 31 for frost protection of the 50-acre proposed POU.

TABLE 1: PROPOSED PROJECT[2]

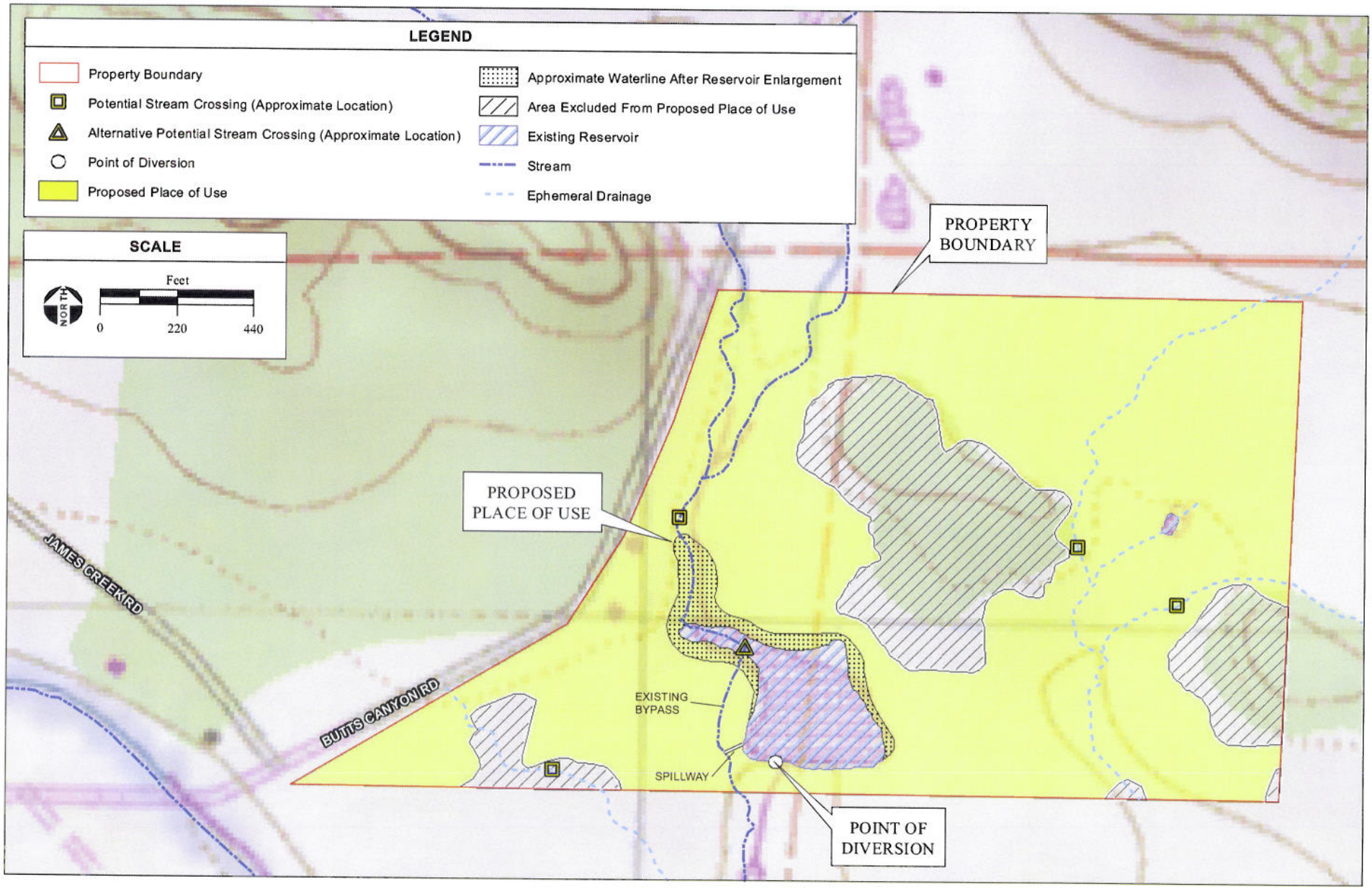
Application	Diversion	Diversion Amount	Diversion Season	Purposes of Use	Proposed Place of Use
30322	To Storage	49 afa	November 1 - April 30	Irrigation, frost protection, heat control, domestic, recreation, fire protection, and stockwatering	50 acres
30323	Direct	2.99 cfs with 50 afa annual limit	March 1 - May 31	Frost protection	50 acres

TABLE 2: POINT OF DIVERSION[3]

POD	Location	Within	Section	Township	Range	B & M
1	Unnamed Stream tributary to Pope Creek thence Putah Creek thence Lake Berryessa	NE ¼ of SE ¼	6	9N	5W	MD

TABLE 3: PROPOSED PLACE OF USE[4]

Use Within	Section	Township	Range	B & M	Acres	Cultivated
SE¼ of NE¼	6	9N	5W	MD	2	No
NE¼ of SE¼	6	9N	5W	MD	13	No
SW¼ of NW¼	5	9N	5W	MD	11	No
NW¼ of SW¼	5	9N	5W	MD	24	No
				Total	**50 acres**	



SOURCE: USGS 7.5 Minute Topographic Quadrangle,Sections 5 & 6, T9N, R5W, Mt. Diablo Baseline and Meridian; AES, 2009

Figure 3
Proposed Project Features

Project Background and Environmental Setting

Applications 30322 and 30323 were filed with the State Water Board on December 17, 1993, which is the California Environmental Quality Act (CEQA) baseline date for the project. The applications were noticed for public review on May 13, 1994.

Protests were submitted by the United States Bureau of Reclamation and the Solano County Water Agency and were accepted by the State Water Board on July 8, 1994. The protests have not yet been resolved.

The existing 7 af reservoir was constructed in 1961 and stores water diverted pursuant to License 7870. The license allows for the diversion to storage of 4 afa from October 1 to May 1 for irrigation of one acre, as well as domestic, recreation, and fire protection purposes. In 1965, Division staff determined the reservoir capacity to be 7 af and limited withdrawal in any one year to 4 af. The license was issued in 1967.[5] This reservoir will be expanded in capacity from approximately 7 af to 49 af in order to accommodate the project development. **Figure 4** provides an aerial view of the project site in 1993. The existing reservoir is visible in the figure, and it shows that when the application was submitted to the Division the 50-acre proposed POU had not been developed as currently proposed. Additional features within the property boundary include a residence and a stockpond not associated with Application 30322 or Application 30323.

This Initial Study/Mitigated Negative Declaration (IS/MND) assesses impacts involved with: the enlargement of the existing reservoir to a capacity of 49 af, development of up to 50 acres within the proposed POU and up to four stream crossings, the direct diversion of 2.99 cfs, with a 50 af annual limit, and collection to storage of 49 afa (for a total diversion of 99 afa) from an Unnamed Stream tributary to Pope Creek.

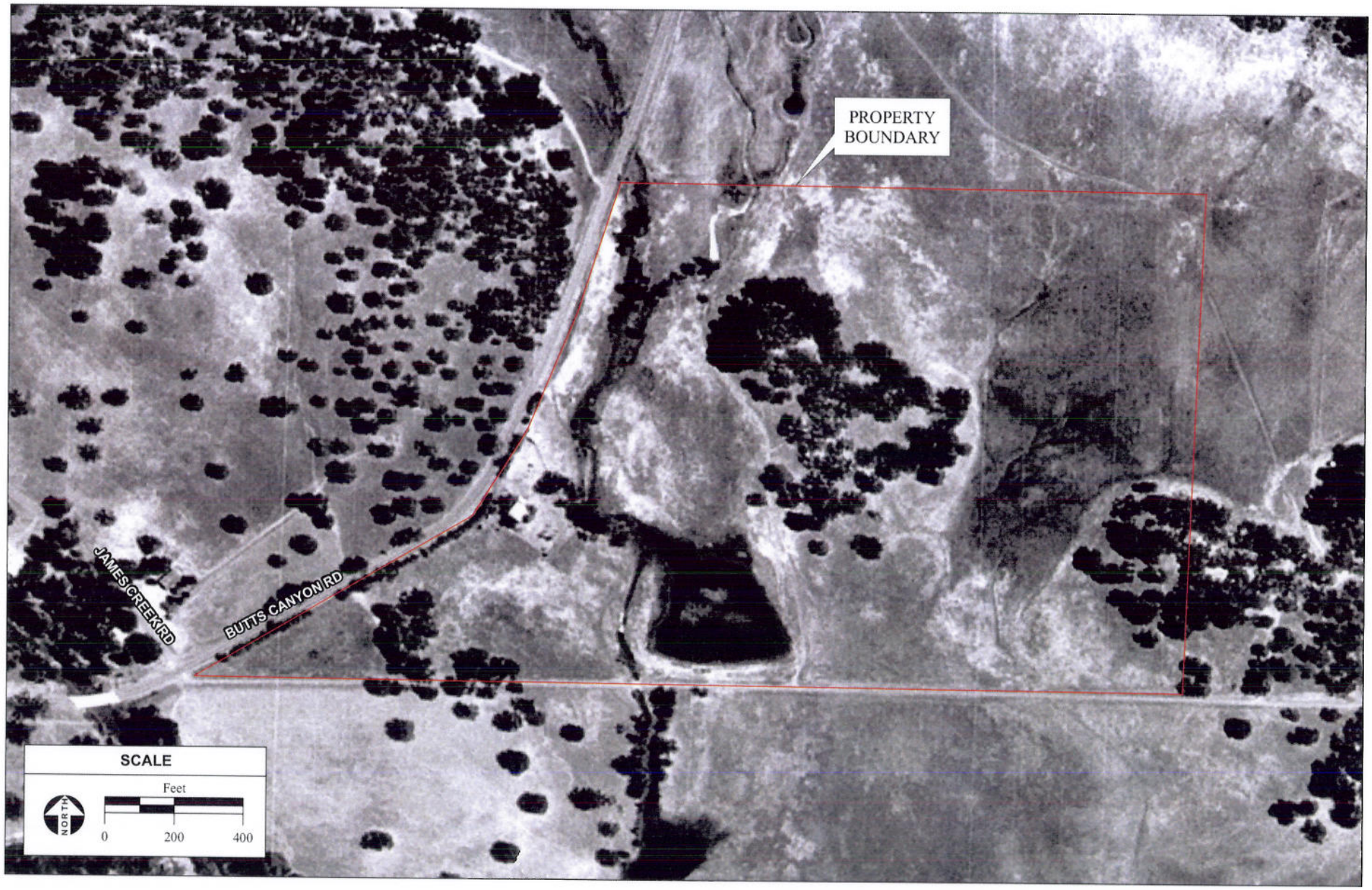
Table 4 provides an overview of project components in relation to the CEQA baseline date.

TABLE 4: CEQA BASELINE AND PROJECT COMPONENTS

Existing Project Components at CEQA Baseline	CEQA Baseline Date	Project Components Assessed in the IS/MND
• Existing 7 af reservoir, with 4 afa annual withdrawal	December 17, 1993	• Development of the 50-acre proposed POU and up to four stream crossings • Enlargement of the onstream reservoir to 49 af • Collection to storage of 49 afa from the Unnamed Stream • Direct diversion of 2.99 cfs, with a 50 af annual limit

Napa County has a Mediterranean climate with cool winters and hot, dry summers. It is located within the Inner North Coast Range Mountains, which is a geographic subdivision of the larger California Floristic Province, and has a strong influence from the coastal environment.[6] The average annual temperature varies from about 46 to 69° F with average annual precipitation of approximately 41 inches per year.[7] The region is in climate Zone 14 "Ocean Influenced Northern and Central California," characterized as an inland area with ocean or cold air influence. Land use in the vicinity of the study area is agricultural and rural housing.

The geology of the surrounding area is within the California Coast Range geomorphic province. This province is a geologically complex and seismically active region characterized by



SOURCE: USGS Aerial Photograph, July 1993; AES, 2009

Figure 4
1993 Aerial Photograph

sub-parallel northwest-trending faults, mountain ranges and valleys. Extensive prehistoric folding and thrust faulting have created the complex geologic conditions that underlie the highly varied topography. Elevation at the project site is approximately 680 feet to 740 feet above mean sea level (msl). Aquatic habitats in the project region include seasonal and perennial drainages, seasonal wetlands, wetland swales, groundwater seeps, and man-made reservoirs.

Biological surveys were conducted on the property in March, April, and May 1995 by Kjeldsen Biological Consulting, and May 2004 and 2009 by Analytical Environmental Services (AES). Three vegetation community types were identified on the property: annual grassland, oak woodland/savanna, and palustrine emergent wetland. The project site contains suitable habitat for 12 special status plant species and eight special status animal species. Approximately 30 plants of Brewer's milk-vetch, a California Native Plant Society (CNPS) List 4 species, were observed in 1995, and the location was staked and mapped for avoidance. Western pond turtles were also observed in the reservoir and in the Unnamed Stream upstream of the reservoir during a site visit in May 2004 with Division, Department of Fish and Game (DFG), and AES staff, and Western pond turtles were observed in the reservoir by an AES biologist in 2009. No other special status species have been documented on the property.

Regulatory Environment

The State Water Board is the lead agency under CEQA with the primary authority for project approval. In addition, the following responsible and trustee agencies may have jurisdiction over some or the entire proposed project:

- Napa County – Erosion Control Plan, Grading Permit
- Central Valley Regional Water Quality Control Board or State Water Board – Section 401 Water Quality Certification
- DFG – California Endangered Species Act (CESA) Compliance, Streambed Alteration Agreement
- U.S. Fish and Wildlife Service (USFWS) – Federal Endangered Species Act (ESA) Compliance
- U.S. Army Corps of Engineers (USACE) – Section 404 Permit

II. ENVIRONMENTAL IMPACTS

The environmental factors checked below could be potentially affected by this project. See the checklists on the following pages for more details.

☑	Land Use and Planning	☐	Transportation and Circulation	☐	Public Services
☐	Population and Housing	☑	Biological Resources	☐	Utilities and Service Systems
☑	Geology and Soils	☐	Mineral Resources	☐	Aesthetics
☑	Hydrology and Water Quality	☐	Hazards and Hazardous Materials	☑	Cultural Resources
☑	Air Quality and Greenhouse Gas Emissions	☐	Noise	☐	Recreation
☐	Agriculture Resources	☑	Mandatory Findings of Significance		

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
1. Geology and Soils. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated in the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☑	☐
ii) Strong seismic ground shaking?	☐	☐	☑	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☑	☐
iv) Landslides?	☐	☐	☑	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☑	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☑	☐	☐
d) Be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☑	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternate wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☑

Napa County is part of the hilly to steep mountains of the California Coast Range. The County is characterized by a number of northwesterly parallel mountain ridges and intervening valleys of varying widths.[8] The project site is located in Pope Valley, in northern Napa County. The floor of Pope Valley is relatively level and has an approximate elevation of 700 feet above mean sea level. The mountainous area surrounding the valley rises up to elevations greater than 2,000 feet above mean sea level. The elevation of the project site ranges from approximately 680 feet to 740 feet above mean sea level and, using GIS software, it was estimated that slopes on the property vary from about 15 percent to a maximum of about 54 percent. Within the areas proposed for development, slopes vary from about 16 percent to a maximum of about 49 percent, with the majority of the areas containing slopes of 15 to 16 percent.

According to the Napa County Soil Survey, the project site contains the soils and respective characteristics as detailed in **Table 5** below:

TABLE 5: PROJECT SITE SOIL CHARACTERISTICS[9]

Soil Type	Characteristics
Bale clay loam, 0 to 2 percent slopes (104)	Slow surface water runoff and slight erosion hazard.
Bressa-Dibble Complex, 5 to 15 percent slopes (112)	Medium surface water runoff and slight erosion hazard.
Bressa-Dibble Complex, 30 to 50 percent slopes (114)	Medium surface water runoff and slight to moderate erosion hazard.
Contra Costa gravelly loam, 5 to 15 percent slopes (121)	Slow surface water runoff and slight erosion hazard.
Maxwell clay, 2 to 9 percent slopes (151)	Slow surface water runoff and slight erosion hazard.
Montara clay loam, 5 to 30 percent slopes (166)	Rapid surface water runoff and moderate erosion hazard.

Active faults in the County extend from the Bay Area's San Andreas Fault system, a broad north-northwest trending fault system that extends along the California coast line, which is located approximately 30 miles southwest of the City of Napa. Suspected faults in Napa County roughly parallel the northwest-southwest course of the San Andreas Fault. According to the California Geological Survey (CGS) three main active faults have been identified within Napa County, including the Cordelia and Green Valley faults (approximately 25 miles southeast of the project site) and the West Napa fault (approximately 15 miles south of the project site). The Hunting Creek Fault, located approximately 10 miles northeast of the project site, is a possible northward extension of the Green Valley Fault.[10] The Hunting Creek Fault is identified by the Alquist-Priolo Earthquake Fault Zone Map; however, the project site is not located in a fault-rupture hazard zone.[11] Ground shaking occurs as a series of complex waves or oscillations in the ground surface, which can result in ground failures. Based on fault length it is estimated that the three main faults involved are capable of producing earthquakes with a Richter Magnitude of up to 6¾. Such an earthquake would be considered a moderate-sized event, and is capable of producing a substantial amount of damage.[12]

Liquefaction and landslides can increase damage from ground shaking. Liquefaction changes water-saturated soil to a semi-liquid state, removing support from foundations and causing buildings to sink. Landslides are considered to be the most important seismic hazard within Napa County, as many areas within the County are susceptible. The project site is located within an area of Napa County with some slide risk.[13] The project area is primarily within an area mapped by Napa County as having very low to low liquefaction susceptibility; the area around the reservoir and tributaries to the north of the reservoir are mapped as having moderate liquefaction susceptibility.[14]

Questions A and D

The project site is not located in a fault-rupture hazard zone. Primary seismic hazards in the project area are therefore considered to be ground shaking and ground failure. The project site may also be subject to landslides and expansive soils. Development of the proposed POU would not place people or structures at risk from these effects, but the reservoir that would be increased in capacity to 49 af with the proposed project could be impacted by ground shaking or ground failure. A registered civil engineer will oversee the design and construction of the reservoir enlargement to ensure that it adheres to current standards. Potential impacts are considered less than significant.

Questions B and C

Soils in the project area have a runoff potential that ranges from slow to rapid and a hazard of erosion that ranges from slight to moderate. The proposed project would entail land clearing

and grading activities related to reservoir expansion, bypass reconstruction and agricultural development and associated stream crossings. Reservoir enlargement would occur through excavating earth material from the footprint of the reservoir and areas adjacent to the footprint and/or raising the spillway. Due to the soil types present within the proposed project areas and soil-disturbing activities associated with construction and operation, the proposed project could result in unstable soil conditions, potentially resulting in significant soil erosion or slope failure.

Section 18.108.070 of the Napa County Zoning Ordinance requires that prior to commencement of a project involving grading, earthmoving, or land disturbance of any kind on slopes greater than five percent, an Erosion Control Plan must be prepared by a qualified professional and approved by the County unless standard erosion control measures are permitted for installation.[15] Use permit approval from Napa County is required prior to development on land having a slope of 30 percent or greater. Since slopes of greater than five percent are proposed for development with the proposed project, Erosion Control Plan approval from Napa County will be required. In addition, the Applicant will be required to maintain Napa County setbacks from all County-definitional streams pursuant to Napa County Code Section 18.108.025 (discussed further in the Biological Resources and Land Use and Planning sections).

In addition, Napa County Conservation Regulations (Napa County Code Section 18.108.070) require the following measures, implemented through Erosion Control Plan approval, to prevent erosion and sedimentation:

- Site development shall be conducted in a manner, based upon the topography and soil type, which creates the least potential for erosion;
- The site shall be developed in phases of workable size which can be completed in a single construction season. Erosion and sediment control measures shall be coordinated with the sequence of grading, development, and construction operations so as to avoid leaving any portion of a disturbed site unprotected from erosion during the winter shutdown period;
- Vegetation removal shall be limited to the minimum amount necessary to accommodate the project;
- As the permanent vegetation cover is maturing, temporary vegetation or other erosion control measures sufficient to stabilize the soil shall be established on all disturbed areas as needed as each stage of grading is completed. New planting shall be protected by using such measures as jute netting, straw mulching and fertilizing or other means which are specified in the approved Erosion Control Plan;
- All required erosion control facilities, both temporary and permanent, shall be maintained in accordance with the approved Erosion Control Plan;
- All sediment retention devices specified in the approved Erosion Control Plan shall be completed by the grading deadline of the calendar year in which the erosion control plan is approved or clearing and/or grading activity has commenced, whichever is later; and
- Grading and earthmoving activities on slopes greater than five percent shall be limited to the period between April 1 and October 15.

To prevent substantial erosion from construction activities, the following permit terms, substantially as follows, shall be included in any water right permits or licenses issued pursuant to Applications 30322 and 30323:

- *Best Management Practices (BMPs) for any disturbed areas shall be included in any plan to control erosion for the proposed project. At a minimum, BMPs shall include, but not be limited to the following measures:*

- *Temporary erosion control measures, such as silt fences, staked straw bales, and temporary revegetation, shall be installed in disturbed areas;*
- *No disturbed surfaces shall be left without erosion control measures in place during the winter and spring months; and*
- *Sediment shall be retained onsite by a system of sediment basins, traps, or other appropriate measures.*

- *Prior to the commencement of construction activities, Permittee shall obtain a grading permit and approval of an Erosion Control Plan prepared in accordance with Napa County's Conservation Regulations from the County of Napa. The Napa County Erosion Control Plan shall be consistent with the Napa County use requirements in areas with slopes greater than five percent. Copies of the approved grading permit and Erosion Control Plan from the County of Napa shall be submitted to the Deputy Director for Water Rights for approval prior to starting construction. If an Erosion Control Plan is not required, Permittee shall provide the Deputy Director for Water Rights a copy of a waiver from Napa County prior to any project construction activity in the place of use.*

- *No construction shall commence and no water shall be used under this permit until all necessary Federal, State and local approvals have been obtained.*

To prevent further undercutting at the spillway, the following permit term, substantially as follows, shall be included in any water right permits or licenses issued pursuant to Applications 30322 and 30323:

- *Prior to the start of construction and/or diversion under this permit, Permittee shall submit a detailed spillway repair plan approved by a registered engineer documenting how the spillway will be repaired to prevent sediment from entering the waterway. The plan shall include best management practices for prevention of sediment and non-set concrete from entering the waterway during construction. The plan shall document whether water quality section 401 and/or section 404 certification are needed for the repair and list the dates such approvals were applied for. No spillway repair construction shall occur until all necessary approvals are obtained. The plan shall be subject to review, modification and approval by the Deputy Director for Water Rights prior to implementation. Within 30 days of completion of the spillway repairs, the registered engineer shall provide documentation to the Deputy Director for Water Rights that all repairs or modifications were made in accordance with the plan and all other required approvals. No diversion may occur until the Deputy Director for Water Rights receives the required documentation that spillway repairs were made in accordance with the approved repair plan.*

The measures above combined with the measures described in the Hydrology and Water Quality section below will reduce potential erosion and sedimentation impacts to a less than significant level.

Question E
No septic tanks or wastewater disposal systems are proposed as part of the project. No impacts would occur.

Findings
After the implementation of the permit terms outlined above, impacts to geology and soils as a result of the proposed project are considered less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
2. Air Quality and Greenhouse Gas Emissions. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☑	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☑	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☑	☐
d) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☑	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☑	☐
f) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment?	☐	☐	☑	☐
g) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☑	☐

The proposed project is located within the San Francisco Bay Area Air Basin, which is under the jurisdiction of the San Francisco Bay Area Air Quality Management District (BAAQMD). The San Francisco Bay Area Air Basin is generally affected by regionally high pollution emissions.

Air quality in the area is a function of the criteria air pollutants emitted locally, the existing regional ambient air quality, and the meteorological and topographic factors that influence the intrusion of pollutants into the area from sources outside the immediate vicinity.

Regulations

The 1977 Federal Clean Air Act (CAA) required the United States Environmental Protection Agency (EPA) to identify National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for the six "criteria" air pollutants: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_x), sulfur dioxide (SO_x), respirable particulate matter (PM_{10}), and lead. Pursuant to the 1990 CAA Amendments (CAAA), the EPA has classified air basins (or portions thereof) as either "attainment" or "non-attainment" for each criteria air pollutant, based on whether or not the NAAQS have been achieved. Under the NAAQS, the Bay Area is currently designated a non-attainment area for 8-hour O_3 and is designated as unclassified/attainment for CO. **Table 6** shows national standards for O_3.

The California Air Resources Board (CARB) regulates mobile emissions sources and oversees the activities of County Air Pollution Control Districts (APCDs) and regional Air Quality Management Districts (AQMDs). CARB regulates local air quality indirectly by State Ambient Air Quality Standards (SAAQS) and vehicle emission standards by conducting research activities, and through its planning and coordinating activities.

California has adopted ambient standards that are more stringent than the Federal standards for the criteria air pollutants. Under the California Clean Air Act (CCAA), patterned after the Federal CAA, areas have been designated as attainment or non-attainment with respect to SAAQS. Under the CAAQS, the Bay Area is designated as a non-attainment for O_3 and particulate matter (PM_{10}, and $PM_{2.5}$).[16] **Table 6** shows state standards for PM_{10} and O_3.

TABLE 6: STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS[17]

Pollutant	Averaging Time	SAAQS[1]	NAAQS[2]
Ozone (O_3)	1 hour	-	0.12 ppm
Respirable Particulate Matter (PM_{10})	24 hour Annual	50 $\mu g/m^3$ 20 $\mu g/m^3$	150 $\mu g/m^3$ 50 $\mu g/m^3$

[1] SAAQS (i.e., California standards) for ozone and respirable particulate matter are values that are not to be exceeded.

[2] NAAQS (i.e., national standards) - The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard.

ppm = parts per million by volume

$\mu g/m^3$ = micrograms per cubic meter of air

Ozone (O_3)

O_3 is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere. Through a complex series of photochemical reactions, in the presence of strong sunlight and ozone precursors (nitrogen oxides [NO_x] and reactive organic gases [ROG]), O_3 is created. Motor vehicles are a major source of O_3 precursors. O_3 causes eye and respiratory irritation, reduces resistance to lung infection, and may aggravate pulmonary conditions in persons with lung disease.

Carbon Monoxide (CO)

CO is an odorless, invisible gas usually formed as the result of incomplete combustion of organic substances and is primarily a winter pollution problem. CO concentrations are influenced by the spatial and temporal distributions of vehicular traffic, wind speed, and atmospheric mixing. High levels of CO can impair the transport of oxygen in the bloodstream, thereby aggravating cardiovascular disease and causing fatigue, headaches, and dizziness.

Respirable Particulate Matter (PM_{10})

Respirable particulate matter consists of particulate matter 10 microns (one micron is one one-millionth of a meter) or less in diameter, which can be inhaled. Relatively small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorine or ammonia) that may be injurious to health. Primary sources of PM_{10} emissions in Napa County are entrained road dust and construction and demolition activities. Burning of wood in residential wood stoves and fireplaces and open agricultural burning are other sources of PM_{10}. The amount of particulate matter and PM_{10} generated is dependent on the soil type and the soil moisture content.

Regulation of air quality is achieved through both federal and state ambient air quality standards and emission limits for individual sources of air pollutants.

Greenhouse Gas (GHG) Emissions

California has been a leader among the states in outlining and aggressively implementing a comprehensive climate change strategy that is designed to result in a substantial reduction in total statewide GHG emissions in the future. California's climate change strategy is multifaceted and involves a number of state agencies that are in the process of implementing a variety of

state laws and policies. At the local level, the BAAQMD released draft CEQA thresholds on October 9, 2009, which included thresholds for criteria pollutants and GHG.[18] On November 9, 2009, the BAAQMD released revised draft CEQA guidelines, which included the October 9, 2009 draft CEQA threshold for GHG. The draft CEQA guidelines were slated to be approved on January 6, 2009 by the BAAQMD Board; however the decision was postponed for a future meeting. A second revision of the draft BAAQMD CEQA Guidelines is pending consideration by the BAAQMD Board. The second revision of the BAAQMD CEQA Guidelines include the October 9, 2009 GHG thresholds. GHG emissions thresholds of significance focus on operational-related emissions for the following land use development projects: residential, commercial, industrial, and public land uses and facilities. No GHG emissions thresholds of significance pertinent to tree loss have been adopted at the state or local level.

Questions A-D

Potential air quality impacts associated with the proposed project are limited to those resulting from short-term construction activities involved with development of the project. The BAAQMD has prepared guidelines for assessing the air quality impacts of proposed projects.[19] The BAAQMD's approach to assessment of construction-related air quality impacts is to emphasize the implementation of effective and comprehensive control measures for PM_{10} emissions rather than provide detailed quantification of emissions.[20]

To protect air quality, the following permit terms, substantially as follows, shall be included in any water right permits or licenses issued pursuant to Applications 30322 and 30323:

- *In order to minimize PM_{10} emissions associated with construction, a dust control plan shall be developed and implemented for the proposed project. At a minimum, the plan shall include, but not be limited to the following measures:*
    - *Active construction areas shall be watered at least twice daily; all trucks hauling soil, sand, or other loose material shall be covered or required to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer);*
    - *Exposed stockpiles shall be covered or watered twice daily;*
    - *All construction vehicles and equipment shall be properly maintained and operated, and the use of construction equipment that meets the current emission standards for diesel engine-powered equipment shall be required; and*
    - *Traffic speeds on unpaved access roads shall be limited to 15 miles per hour.*

- *Permittee shall submit a detailed Dust Control and Mitigation Plan for review and approval by BAAQMD. Prior to the start of construction or diversion of water under this permit, Permittee shall submit evidence to the Deputy Director for Water Rights showing that BAAQMD has approved the Permittee's Dust Control and Mitigation Plan.*

Question E

The application of agricultural chemicals during project operation, such as sulfur products, has the potential to result in objectionable odors. The nearest sensitive receptor, Pope Valley Elementary School, is located approximately 2.5 miles to the southwest of the project site and would not be impacted by odors at the project site given the distance. Compliance with permit regulations from the Agricultural Commissioner's Office for the use of soil stabilizers, pesticides, herbicides, and other regulated chemicals would reduce potential onsite impacts to a less than significant level.

Questions F and G

The proposed project would directly generate GHGs during enlargement of the reservoir and conversion of 50 acres of grassland. GHG emissions are estimated to be 191.09 metric tons of CO_2 equivalent. The following assumptions, air quality model, and emission factors were used to estimate project-related emissions:

- Construction of the reservoir enlargement would take 60 days;
- Development of the 50 acre proposed POU would take 120 days;
- OFFROAD2007 emission factors were used to estimate enlargement of the reservoir and conversion of 50 acres of grassland;
- Construction equipment for the enlargement of the reservoir would include two (2) D-8 tractor/loader/backhoes; and
- Construction equipment for the conversion of 50 acres of grassland would include two (2) excavators and one (1) D-8 tractor/loader/backhoe.

It is currently anticipated that up to nine trees would be impacted during reservoir enlargement; however, up to 50 acres of vineyard, pasture, trees and/or native plantings would be developed in the proposed POU with the project, so it is not expected that significant carbon emissions or sequestration loss would occur. Operation of the proposed project would include seasonal vehicle trips by staff and maintenance equipment that would emit far less GHG emissions than the 191.09 metric tons of CO_2 equivalent emitted during construction given the scale of the project. Construction and operational project-related GHG emissions combined is less than the BAAQMD's threshold of 1,100 metric tons per year (from the BAAQMD Draft CEQA Air Quality Guidelines); therefore, the project would not significantly impact the environment through GHG emissions. The project also would not conflict with any applicable policy or regulation adopted for the purpose of reducing the emissions of GHG.

Findings

After the implementation of the permit terms outlined above, impacts to air quality as a result of the proposed project are considered less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
3. Hydrology and Water Quality. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☑	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (*e.g.*, the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☑
c) Substantially alter the existing drainage pattern of the site, including through alteration of the course of a stream or river, or substantially increase the rate or volume of surface runoff in a manner that would:				
i) result in flooding on or offsite?	☐	☐	☑	☐
ii) create or contribute runoff water that would exceed the capacity of existing or planned storm water discharge?	☐	☐	☑	☐

iii) provide substantial additional sources of polluted runoff?	☐	☑	☐	☐
iv) result in substantial erosion or siltation on or offsite?	☐	☑	☐	☐
d) Otherwise substantially degrade water quality?	☐	☑	☐	☐
e) Place housing or other structures which would impede or re-direct flood flows within a 100-yr. flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☑
f) Expose people or structures to a significant risk of loss, injury, or death involving flooding:				
i) as a result of the failure of a dam or levee?	☐	☐	☑	☐
ii) from inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☑
g) Would the change in the water volume and/or the pattern of seasonal flows in the affected watercourse result in:				
i) a significant cumulative reduction in the water supply downstream of the diversion?	☐	☐	☑	☐
ii) a significant reduction in water supply, either on an annual or seasonal basis, to senior water right holders downstream of the diversion?	☐	☐	☑	☐
iii) a significant reduction in the available aquatic habitat or riparian habitat for native species of plants and animals?	☐	☑	☐	☐
iv) a significant change in seasonal water temperatures due to changes in the patterns of water flow in the stream?	☐	☐	☑	☐
v) a substantial increase or threat from invasive, non-native plants and wildlife?	☐	☐	☑	☐

Napa County is divided into three watersheds: Napa River, Putah Creek/Lake Berryessa, and Suisun Creek. The project site lies within the Putah Creek/Lake Berryessa watershed. Two Unnamed Streams that are tributary to Pope Creek are located within the project site, as well as several ephemeral drainages. The project site is not located within the Federal Emergency Management Agency (FEMA) flood zone.[21] The project area is not located within a potentially affected coastal area, or located near a large body of water that may be affected by a tsunami or a seiche.

Questions A, C (iii and iv), and D

The proposed project could result in discharge of dredged material into the Unnamed Stream or ephemeral drainages onsite during construction activities associated with the reservoir enlargement, bypass re-design, stream crossing installation, and proposed POU development. The project could also potentially result in increased erosion as discussed in Questions B and C of the Geology and Soils section, which could result in increased sedimentation to the drainages onsite. The proposed development will require the Applicant to obtain a Section 404 permit from the USACE, a Section 401 Water Quality Certification and/or Waste Discharge Requirements (dredge/fill projects) from the Division of Water Rights in order to comply with state water quality standards. These permits, as well as the need for a Streambed Alteration Agreement with DFG, are discussed in Questions B and C in the Biological Resources section.

To protect water quality, in addition to the Erosion Control Plan measures and BMPs outlined in the Geology and Soils section, the following permit terms, substantially as follows, shall be included in any permits or licenses issued pursuant to Applications 30322 and 30323:

- *In order to prevent degradation of the quality of water during and after construction of the project, prior to commencement of construction, Permittee shall file a report pursuant to Water Code section 13260 and shall comply with all waste discharge requirements imposed by the California Regional Water Quality Control Board, Central Valley Region or by the State Water Board.*

- *No debris, soil, silt, cement that has not set, oil, or other such foreign substance will be allowed to enter into or be placed where it may be washed by rainfall runoff into the waters of the State. When operations are completed, any excess materials or debris shall be removed from the work area.*

Question B
The proposed project does not involve the use of groundwater resources. No significant impacts to groundwater resources would occur.

Question C (i and ii)
The proposed project would include ground disturbing and earthmoving activities. These activities would alter the existing drainage pattern from removal of vegetation and planting of crops. However, this change would be expected to result in only slight changes to the volume and rate of runoff as existing drainage facilities would not be significantly affected. No structures or grades would be introduced that could redirect flood flows. The permit terms and BMPs outlined in the Geology and Soils section would prevent substantial erosion from construction activities and project operation, and potential impacts would be considered less than significant.

Question E
The project site is not located within a FEMA flood zone. No impact would occur.

Question F
The proposed project includes the enlargement of and use of water at the site of the existing reservoir, but the enlarged reservoir would not be of jurisdictional size under the Division of Safety of Dams. A registered civil engineer would oversee the design and construction of the enlarged reservoir to ensure that it adheres to current standards, thereby minimizing the risk of future flooding from dam failure to a less than significant level. The proposed project would not result in any inundation due to a tsunami or a seiche since the project site is not located within a potentially affected coastal area, or located near a large body of water. Development of the proposed POU would be located on existing contours; no recontouring or terracing would occur that would trigger a mudflow.

Question G
A Water Availability Analysis/Cumulative Flow Impairment Index (WAA/CFII) was prepared for the proposed project by Hanson Engineering.[22] The WAA/CFII was based on the WAA dated November 21, 2005 which was accepted by the Division. **Table 7** describes the Points of Interest (POIs) relevant to Applications 30322 and 30323. **Table 8** summarizes the findings from the WAA/CFII for Application 30322 and **Table 9** summarizes the findings from the WAA/CFII for Application 30323.

The February median flow (FMF) for the project's point of diversion (POD) was calculated in supplemental analyses by Hanson Engineering.[23] The FMF for the POD is 2.0 cfs.

TABLE 7: POINTS OF INTEREST FOR APPLICATIONS 30322 AND 30323[24]

Point of Interest	Description	Drainage Area (acres)	Mean Annual Precipitation (inches)
1	The point on Pope Creek immediately above where it enters Lake Berryessa.	50,083	35.30
2	The point on Pope Creek immediately below the confluence with Maxwell Creek.	49,742	35.33
3	The point on Pope Creek immediately above the confluence with Maxwell Creek.	27,323	36.75
4	The point on Pope Creek immediately below the confluence with the Unnamed Stream as shown on the map on file with the Division.	25.424	37.21
5	The point on Pope Creek immediately below the confluence with the Unnamed Stream as shown on the map on file with the Division.	23,664	37.56
6	The point on Pope Creek immediately below the confluence with the Unnamed Stream as shown on the map on file with the Division.	22,969	37.71
7	The point on Pope Creek immediately below the confluence with the Unnamed Stream as shown on the map on file with the Division.	22,331	37.82
8	The point on Pope Creek immediately below the confluence with the Unnamed Stream as shown on the map on file with the Division.	20,342	38.31
9	The point on Pope Creek immediately below the confluence with the Unnamed Stream as shown on the map on file with the Division.	18,822	38.75
10	The point on Pope Creek immediately below the confluence with the Unnamed Stream as shown on the map on file with the Division.	18,551	38.80
11	The point on Pope Creek immediately below the confluence with the Unnamed Stream tributary containing POD 1.	18,131	38.91
16	The point on the unnamed tributary containing POD 1.	1,200	33.42
17	The point on the Unnamed Stream tributary to Pope Creek at POD1.	1,176	33.40

The CFII values are used to evaluate the cumulative demand of all existing and pending water right projects in the watershed of interest, relative to the estimated average seasonal unimpaired flow. The CFII values (**Tables 8** and **9**) account for all water rights senior to and including the proposed project.

TABLE 8: RESULTS OF WAA/CFII – APPLICATION 30322[25]

Point of Interest	Estimated Unimpaired Seasonal Flow Nov 1-Apr 30 (af)	Water Rights Senior to and Including Application 30322 – CFII (%)	Resulting Increase in CFII from Application 30322 (%)
1	66,713	17.72	0.03
2	66,315	17.83	0.03
3	37,891	19.42	0.06
4	35,698	20.59	0.06
5	33,540	21.44	0.07
6	32,685	21.18	0.07
7	31,869	21.72	0.07
8	29,407	10.46	0.07
9	27,522	10.44	0.08
10	27,161	9.67	0.08
11	26,621	9.87	.08
16	1,513	3.24	1.45
17	1,482	3.04	1.48

TABLE 9: RESULTS OF WAA/CFII – APPLICATION 30323[26]

Point of Interest	Estimated Unimpaired Seasonal Flow Nov 1-May 31 (af)	Water Rights Senior to and Including Application 30323 – CFII (%)	Resulting Increase in CFII from Application 30323 (%)
1	67,862	17.76	0.03
2	67,457	17.87	0.03
3	38,543	19.51	0.06
4	36,313	20.69	0.06
5	34,117	21.54	0.06
6	33,248	21.25	0.07
7	32,418	21.80	0.07
8	29,914	10.55	0.07
9	27,996	10.56	0.08
10	27,629	9.81	0.08
11	27,080	10.00	0.08
16	1,539	4.61	1.43
17	1,508	4.44	1.46

As evidenced by the resulting minimal increase in the CFII from the subject applications, a less than significant impact to water supply downstream of the POD would occur with the proposed project. Specifically, diversions made pursuant to Applications 30322 and 30323 would result in an incremental increase in the CFII value of less that 0.10 percent at the POIs located on Pope Creek (POIs 1-11) and less that 1.5 percent at the POIs located on the Unnamed Stream containing the project POD (POIs 16 and 17).

To ensure that water is diverted and used in accordance with the project description and to minimize the project's potential impacts to hydrology and water quality, the following permit terms, substantially as follows, shall be included in any permits or licenses issued pursuant to Applications 30322 and 30323:

- *Under any permits on Applications 30322 and 30323: The total quantity of water diverted under permits issued pursuant to Applications 30322 and 30323, together with that diverted under the license issued pursuant to Application 19656, shall not exceed 99 acre-feet per annum.*

- *Under any permit on Application 30322: Within one year of reservoir enlargement, Permittee shall have the capacity of the reservoir surveyed by a registered civil engineer or licensed surveyor. A copy of the survey and area-capacity curve shall be provided to the Putah Creek Watermaster and the Deputy Director for Water Rights.*

- *Under any permit on Application 30322: Prior to storage of any water under Application 30322, Permittee shall install and properly maintain in the reservoir a staff gage, satisfactory to the Putah Creek Watermaster and the Deputy Director for Water Rights, for the purpose of determining water levels in the reservoir. The staff gage must be maintained in operating condition as long as water is being diverted or used under this permit.*

  Permittee shall record the staff gage readings on the last day of each month and on November 1 annually. Permittee shall record the maximum and minimum water surface elevations and the dates that these water levels occur each water-year between October 1 and September 30. Permittee shall maintain a record of all staff gage readings and shall submit these records with annual progress reports, and whenever requested by the Division.

  The State Water Board may require the release of water that cannot be verified as having been collected under a valid basis of right.

- *Under any permit on Application 30323: Prior to any direct diversion of water under Application 30323, Permittee shall maintain a device, satisfactory to the Deputy Director for Water Rights, which is capable of measuring water directly diverted under this permit. A satisfactory device includes: a weir, flume, or other flow measuring device that is properly installed, or a flow-rating curve established by volumetric measurements. Permittee shall maintain monthly records of direct diversion from March 1 to May 31 of each year, or such other period as may be specified with written notice to the Permittee by the Putah Creek Watermaster. Permittee shall submit the records with annual Progress Reports by Permittee, and whenever requested by the Division.*

- *Under any permit on Applications 30322 and 30323: For the protection of fish and wildlife, under all bases of right, Permittee shall during the period from November 1 to May 31 maintain a minimum bypass of 2.0 cfs below the point of diversion. Under all bases of right Permittee shall bypass the total streamflow from June 1 through October 31. The total streamflow at the reservoir shall be bypassed whenever it is less than 2.0 cfs at the point of diversion.*

- *Under any permit on Applications 30322 and 30323: Prior to the start of construction, and diversion or use of water under this permit, the Permittee shall submit a Compliance Plan for approval by the Deputy Director for Water Rights that will demonstrate compliance with the flow bypass terms specified in this permit. The Compliance Plan shall include the following:*

a. *A description of the physical facilities (i.e., outlet pipes, siphons, pipelines, bypass ditches, splitter boxes, etc.) that will be constructed or have been constructed at the project site and will be used to bypass flow.*
b. *A description of the gage and monitoring device that will be installed or have been installed to measure stream flow and/or reservoir storage capacity, including any necessary calibration.*
c. *A time schedule for the installation and rating of these facilities.*
d. *A description of the frequency of data collection and the methods for recording bypass flows and storage levels.*
e. *An operation and maintenance plan that will be used to maintain all facilities in good condition.*
f. *A description of the events that will trigger recalibration of the monitoring devices, and the process that will be used to recalibrate.*

The Permittee shall be responsible for all costs associated with developing the Compliance Plan and monitoring facilities described in the Compliance Plan.

Permittee shall maintain all measurements and other monitoring required by this condition. Permittee shall provide measuring and monitoring records to the Deputy Director for Water Rights within 15 days upon request by the State Water Board, the Deputy Director, or other authorized designees of the State Water Board.

Diversion or use of water prior to approval of the Compliance Plan and the installation of facilities specified in the Compliance Plan is not authorized.

- *Permittee shall report any non-compliance with the terms of the permit to the Deputy Director for Water Rights within three days of identification of the violation.*

Findings
After the implementation of the permit terms outlined above, impacts to hydrology and water quality as a result of the proposed project are considered less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4. Biological Resources. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the DFG or USFWS?	☐	☑	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the DFG or USFWS?	☐	☑	☐	☐
c) Have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Federal Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, *etc.*) through direct removal, filling, hydrological interruption or other means?	☐	☑	☐	☐

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites?	☐	☑	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☑	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	☐	☐	☐	☑

Botanical and wetland surveys of the project area were conducted by Kjeldsen Biological Consulting on March 18, April 8, and May 5, 1995.[27] A biological survey of the project area was conducted by AES biologists on May 24, 2004.[28] Additional habitat assessments and surveys of proposed stream crossings were conducted by an AES biologist on May 29, 2009.

Habitat Types

Habitat types occurring within the property include: annual grassland, oak woodland/savanna, and palustrine emergent wetland. These habitat types are discussed below; a habitat map of the property is presented as **Figure 5**. Photos of the project site are presented in **Figures 6**, **7** and **8**. A residence also occurs on the property and the residential area is shown in **Figure 5**.

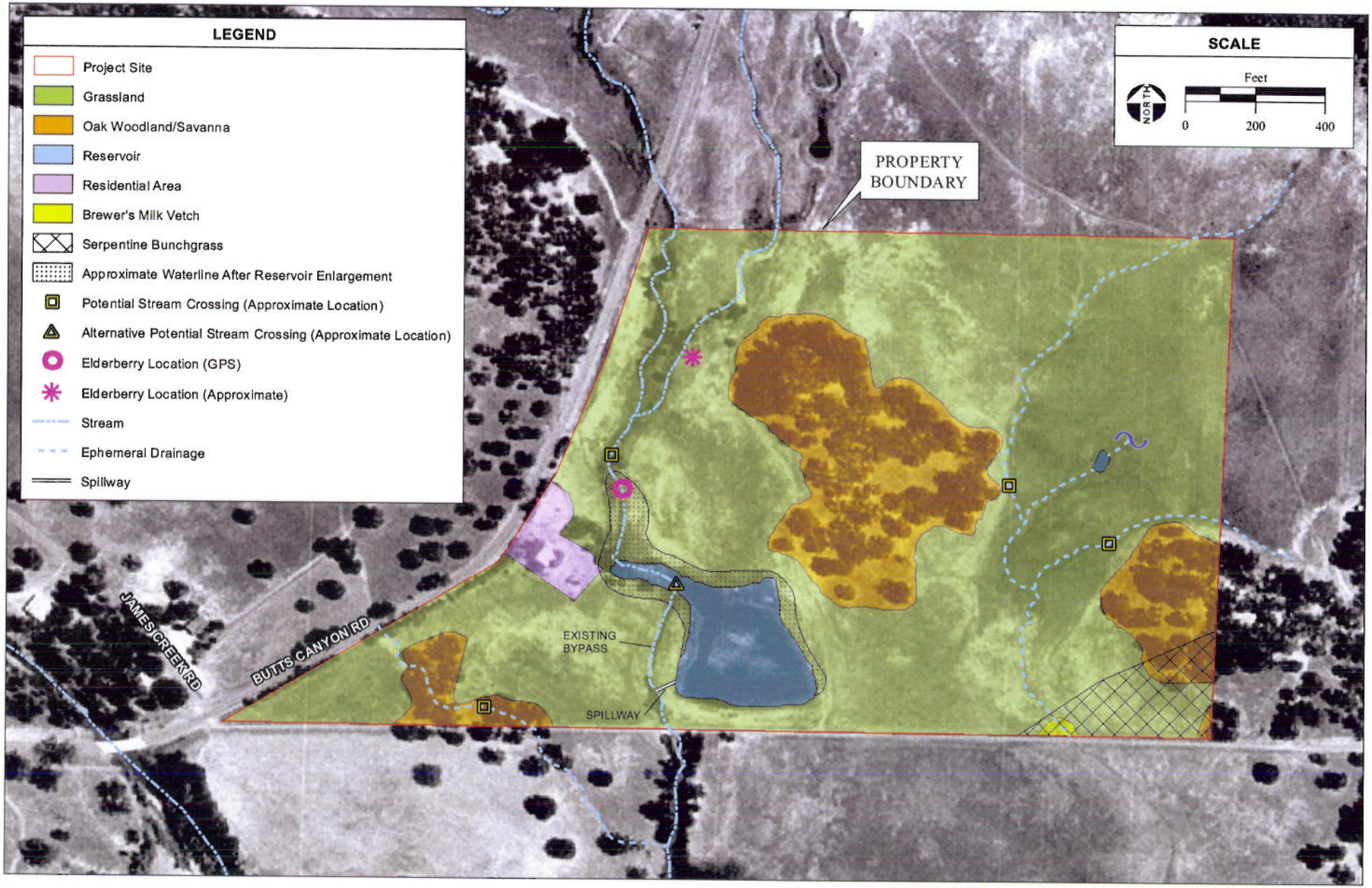
Annual Grassland

Native and non-native annual grasses, as well as herbaceous forbs characterize annual grassland. Typical grasses found within the site include: wild oat (*Avena fatua*), cultivated oat (*Avena sativa*), blue wildrye (*Elymus glaucus)*, tall fescue (*Festuca arundinacea*), perennial ryegrass (*Lolium perenne*), and wheat (*Triticum aestivum*). Herbaceous forbs observed during the site visit include: common monkeyflower (*Mimulus guttatus)*, bindweed (*Convolvulus arvensis*), and elegant brodiaea (*Brodiaea elegans*). A photograph of the grassland community is shown in **Figure 6**, Photo 6.

A Serpentine Bunchgrass community reported from a CNDDB query covers the southeast corner of the property (**Figures 5** and **9**). This community is described by Holland as "an open grassland dominated by perennial bunchgrass". Characteristic species found in this community include: soft chess (Bromus mollis), serpentine reedgrass (Calamagrostis ophitidis), California poppy (Eschscholzia californica), fescue (Festuca grayi), hayfield tarweed (Hemizonia congesta ssp. luzulifolia), lotus (Lotus subpinnatus), California melic grass (Melica californica), one-sided bluegrass (Poa scabrella), needlegrass species (Stipa cernua, S. lepida, S. pulchra), and vulpia (Vulpia microstachys).

Palustrine Emergent Wetland

Palustrine emergent wetlands occur near the Unnamed Streams that enter the reservoir, as well as the region above and near the location of the Brewer's milk-vetch (*Astragalus breweri*) (**Figure 5**). A botanical survey conducted by Kjeldsen Biological Consulting in 1995 originally identified the milk-vetch (**Figure 7**, Photo 7). Typical vegetation found along these environments includes: Baltic rush (*Juncus balticus*), small-leaved bulrush (*Scirpus microcarpus*), Scouler willow (*Salix scouleriana*), and red willow (*Salix laevigata*).



SOURCE: USGS Aerial Photograph, July 1993; AES, 2009

Figure 5
Habitat Types

PHOTO 1: View of stream that flows into the reservoir.

PHOTO 2: Reservoir with residence in background.

PHOTO 3: Spillway for reservoir.

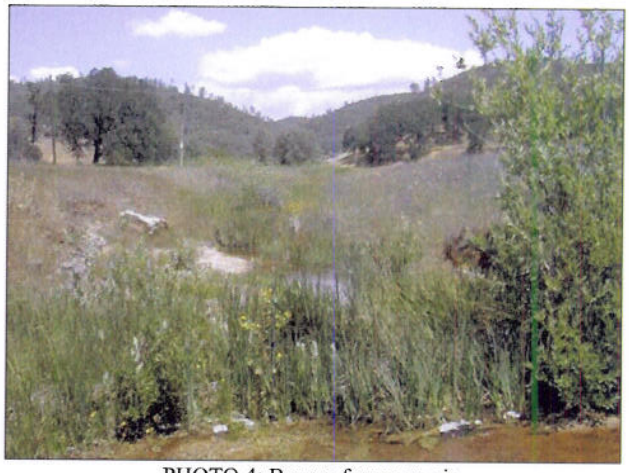


PHOTO 4: Bypass for reservoir.

PHOTO 5: Confluence where bypass and spillway converge to flow downstream. Drop-off is approximately 6' high.

PHOTO 6: Typical proposed places of use. Upland area dominated by upland grasses.

SOURCE: AES, 2009

Figure 6
Site Photographs

PHOTO 7: Stakes in wetland area marking off area where *Astragalus Breweri* was found by Kjeldsen in 1995. Upland area near fenceline is a proposed place of use.

PHOTO 8: Upland oak woodland area in middle of the property.

PHOTO 9: One of the two ephemeral streams that lead to the reservoir.

PHOTO 10: Westernmost ephemeral drainage. Approximate stream crossing location.

PHOTO 11: Eastern ephemeral drainage, looking upstream. Potential stream crossing location.

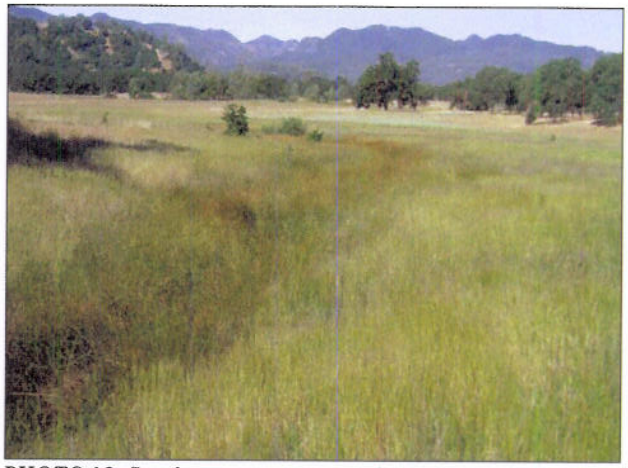


PHOTO 12: Southernmost eastern ephemeral drainage. View looking west from property boundary.

SOURCE: AES, 2009

Figure 7
Site Photographs

PHOTO 13: Northeastern ephemeral drainage. View looking southwest from northeastern corner of the property.

PHOTO 14: Middle ephemeral drainage from small reservoir. View southwest.

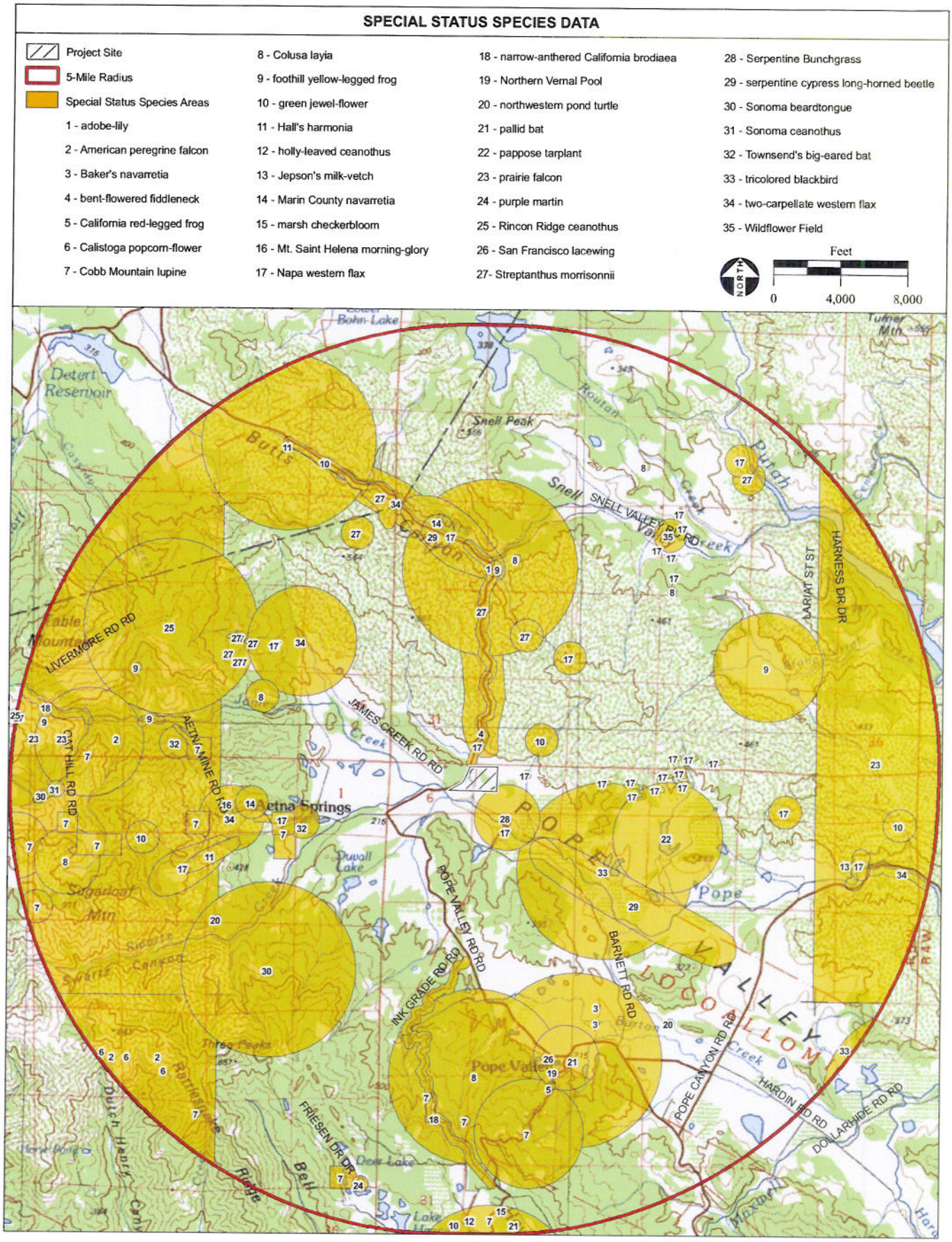
PHOTO 15: Elderberry shrub and riparian vegetation along unnamed creek.

PHOTO 16: Elderberry shrub along unnamed creek.

PHOTO 17: Unnamed creek at potential stream crossing.

SOURCE: AES, 2009

Figure 8
Site Photographs



SOURCE: California Natural Diversity Database, 2009; "Healdsburg, CA"
USGS 100k Topographic Quadrangle,
Mt. Diablo Baseline & Meridian; AES, 2009

Figure 9
CNDDB 5-Mile Radius Map

Waters of the U.S.
The term "waters of the U.S." is defined as:

- All waters which are 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;
- All interstate waters including interstate wetlands; or
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use or degradation of which could affect interstate or foreign commerce including any such waters.

"Wetlands" are defined as:

> Waters of the U.S. or isolated features that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Informal assessments of jurisdictional wetlands and other waters of the U.S. within the study area were conducted by Kjeldsen Biological Consulting and AES during the biological surveys. These assessments identified an onstream reservoir and a stockpond, two seasonal Unnamed Streams, and four drainages as being potentially subject to USACE regulation under Section 404 of the Clean Water Act.

Intermittent Streams
An intermittent stream has flowing water during certain times of the year when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.[29]

Two intermittent, Unnamed Streams flow into the property from the north, converge, flow through the existing reservoir, and flow offsite to Pope Creek (**Figure 5**). These streams have defined bed and banks and ordinary high water marks. Typical vegetation found along these creeks includes willows (*Salix* sp.), gray pine (*Pinus sabiniana*), and common monkey flower (*Mimulus guttatus*). Elderberry (*Sambucus mexicana*) was also observed at two locations (**Figure 5**). Photographs of the Unnamed Streams are shown in **Figure 6**, Photo 1 and **Figure 7**, Photo 9.

Ephemeral Drainage
An ephemeral drainage has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral streambeds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.[30]

Ephemeral drainages occur in the western corner and eastern half of the project site. A single drainage in the western corner flows southeast through the project site and joins with the Unnamed Stream tributary to Pope Creek (**Figure 7**, Photo 10). Three tributaries on the eastern half of the project site flow south and converge before flowing offsite. Typical vegetation found within these drainages includes common monkey flower (*Mimulus guttatus*) and Baltic rush (*Juncus balticus*). Photographs of the eastern ephemeral drainages are shown in **Figure 7**, Photo 11 and Photo 12.

Flora and Fauna

A partial list of wildlife observed in the above habitats during field surveys include: Western pond turtle (*Actinemys marmorata)*, beechey ground squirrel (*Spermophilus beecheyi*), yellow-billed magpie (*Pica nuttalli*), red-winged blackbird (*Agelaius phoeniceus*), acorn woodpecker (*Melanerpes formicivorus*), turkey vulture (*Cathartes aura*), mourning dove (*Zenaida macroura*), mallard (*Anas* sp.), red-tailed hawk (*Buteo jamaicensis*), bullfrogs (*Rana catesbeiana*), gopher (*Thomomys bottae*) burrows, and a Western fence lizard (*Sceloporus occidentalis*). A complete description of plant and animal species observed onsite is included in the biological survey reports prepared for the project, which are on file with the Division.[31]

Special Status Species

For the purposes of this Initial Study, "special status" is defined to include those species that are:

- Listed as endangered or threatened under the federal ESA (or formally proposed, or candidates, for listing);
- Listed as endangered or threatened under CESA (or proposed for listing);
- Designated as endangered or rare, pursuant to DFG Code (§1901);
- Designated as fully protected, pursuant to DFG Code (§3511, §4700, or §5050);
- Designated as species of concern or species of local concern by the USFWS, or as species of special concern by DFG;
- Plants or animals that meet the definitions of rare or endangered under CEQA;
- Plants listed as rare under the California Native Plant Protection Act; or
- Plants considered by the CNPS to be "rare, threatened, or endangered in California" (List 1B and 2).

An inventory of regionally occurring special status plant and animal species was gathered based on a review of pertinent literature, reconnaissance-level site assessments, informal consultation with the USFWS, and the results of a California Natural Diversity Data Base (CNDDB) query of all reported occurrences of special status species within the Aetna Springs and surrounding eight quadrangles. Habitat requirements for each special status species were assessed and compared to the habitats occurring within the Russ Trust property and adjacent areas; each species was assessed for the possibility of occurrence on the project site and adjacent areas. The study area and/or adjacent areas represent potential habitat for 12 special status plants and eight special status animals. The name, regulatory status, habitat requirements, and period of identification for regionally occurring special status species are identified in **Table 10** and briefly discussed below.

TABLE 10: REFINED DATABASE RESULTS OF POTENTIAL REGIONALLY OCCURRING SPECIAL STATUS SPECIES[32]

Scientific Name **Common name**	**Listing Status USFWS/ DFG/CNPS**	**Known Range**	**General Habitat Description**	**Ideal Period of Identification**
PLANTS				
Amsinckia lunaris bent-flowered fiddleneck	--/--/1B	Known to occur in Alameda, Contra Costa, Colusa, Lake, Marin, Napa, San Benito, Santa Clara, Santa Cruz, San Mateo, and Yolo counties.	Coastal bluff scrub, Cismontane woodland, and Valley and foothill grassland. Elevations: 3-500 meters.	March-June

Scientific Name **Common name**	**Listing Status USFWS/ DFG/CNPS**	**Known Range**	**General Habitat Description**	**Ideal Period of Identification**
Astragalus breweri Brewer's milk-vetch	--/--/4*	Known to occur in Colusa, Lake, Mendocino, Marin, Napa, Sonoma, and Yolo counties.	Chaparral, cismontane woodland, meadows and seeps, and valley and foothill grassland. Elevations: 90-730 meters.	April-June
Brodiaea californica var. *leptandra* narrow-anthered brodiaea	--/--/1B	Known to occur in Lake, Napa, and Sonoma counties.	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, and Valley and foothill grassland/clay. Elevations: 110-915 meters.	May-July
Ceanothus confusus Rincon Ridge ceanothus	--/--/1B	Known to occur in Lake, Mendocino, Napa, and Sonoma counties.	Closed-cone coniferous forest, Chaparral, and Cismontane woodland/volcanic or serpentinite. Elevations: 75-1,065 meters.	February-June
Ceanothus purpureus holly-leaved ceanothus	--/--/1B	Known to occur in Napa, Shasta, Solano, Sonoma, and Trinity counties.	Chaparral, Cismontane Woodland (volcanic, rocky)	February-June
Centromadia parryi ssp. *parryi* pappose tarplant	--/--/1B	Known to occur in Butte, Colusa, Glenn, Lake, Napa, San Mateo, Solano, and Sonoma counties.	Chaparral, Coastal prairie, Meadows and seeps, Marshes and swamps (coastal salt), and Valley and foothill grassland (vernally mesic)/often alkaline. Elevations: 2-420 meters.	May-November
Fritillaria pluriflora adobe lily	--/--/1B	Know to occur in Butte, Colusa, Glenn, Lake, Napa, Solano, Tehama and Yolo counties.	Chaparral, cismontane woodland, and Valley and foothill grassland (often adobe). Elevations: 60-705 meters.	February-April
Layia septentrionalis Colusa layia	--/--/1B	Known to occur in Colusa, Glenn, Lake, Mendocino, Napa, Sonoma, Sutter, Tehama, and Yolo counties.	Chaparral, cismontane woodland, valley and foothill grassland (sandy, serpentine). Elevations: 100-1,095.	April-May
Lupinus sericatus Cobb Mountain lupine	--/--/1B	Known to occur in Colusa, Lake, Napa, and Sonoma counties.	Broadleafed upland forest, Chaparral, Cismontane woodland, and Lower montane coniferous forest. Elevations: 275-1525 meters.	March-June

Scientific Name **Common name**	**Listing Status USFWS/ DFG/CNPS**	**Known Range**	**General Habitat Description**	**Ideal Period of Identification**
Navarretia leucocephala ssp. *bakeri* Baker's navarretia	--/--/1B	Known to occur in Colusa, Glenn, Lake, Mendocino, Marin, Napa, Solano, Sonoma, Sutter, Tehama, and Yolo counties.	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland, vernal pools/mesic. Elevations: 5-1,740 meters.	April-July
Plagiobothrys strictus Calistoga popcorn flower	FE/CT/1B	Known from Napa County.	Meadows and seeps, valley and foothill grassland, and in vernal pool habitat in alkaline areas near thermal springs. Elevations: 90-160 meters.	March-June
Streptanthus breweri var. *hesperidis* green jewel-flower	--/--/1B	Known from Glenn, Lake, Napa, and Sonoma counties.	Chaparral (openings) and cismontane woodland (serpentine, rocky). Elevations: 130-760 meters.	May-July
ANIMALS				
INVERTEBRATES				
Desmocerus californicus dimorphus valley elderberry longhorn beetle	FT/--/--	Known throughout the riparian forests of the Central Valley from Redding to Bakersfield. Counties include Amador, Butte, Calaveras, Colusa, El Dorado, Fresno, Glenn, Kern, Madera, Mariposa, Merced, Napa, Placer, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Yolo, and Yuba.	Riparian forest communities. Exclusive host plant is elderberry (Sambucus species), which must have stems ≥ 1-inch diameter for the beetle. Elevations: 0-762 meters.	Year Round
AMPHIBIANS				
Rana aurora draytonii California red-legged frog	FT/CSC/--	Known to occur along the Coast from Mendocino County to Baja California, and inland through the northern Sacramento Valley into the foothills of the Sierra Nevada mountains, south to eastern Tulare County, and possibly eastern Kern County. Currently accepted range excludes the Central Valley.	Occurs in permanent and temporary pools of streams, marshes, and ponds with dense grassy and/or shrubby vegetation. Elevations: 0-1,160 meters.	November-June

Scientific Name Common name	Listing Status USFWS/ DFG/CNPS	Known Range	General Habitat Description	Ideal Period of Identification
Rana boylii foothill yellow-legged frog	--/CSC/--	Known to occur in the coast Ranges from the Oregon border south to the Transverse Mountains in Los Angeles County, throughout most of northern California west of the Cascade crest, and along the western portion of the Sierra south to Kern County, with a few isolated populations in the Central Valley.	Occurs in shallow flowing streams with some cobble in a variety of habitats including woodlands, riparian forest, coastal scrub, chaparral, and wet meadows. Rarely encountered far from permanent water sources. Elevations: 0-1,830 meters.	March-June
REPTILES				
Actinemys marmorata Western pond turtle	--/CSC/--	In California, primarily north of the San Francisco Bay Area and west of the Sierra Nevada Range.	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires basking sites and suitable upland habitat for egg laying. Nest sites most often characterized as having gentle slopes (<15%) with little vegetation or sandy banks. Elevations: 0-1,525 meters.	March-October
BIRDS				
Athene cunicularia burrowing owl	--/CSC/--	Formerly common within the described habitats throughout the state except the northwest coastal forests and high mountains.	Yearlong resident of open, dry grassland and desert habitats, as well as in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats.	Year Round
Falco peregrinus anatum American peregrine falcon	--/CE/--	Active nesting sites known along the coast north of Santa Barbara and other mountains in northern California.	Breeds mostly in woodland, forest, and coastal habitats near water on high cliffs or banks. Will nest on man-made structures and in the hollows of old trees or open tops of cypress, sycamore or cottonwood trees 50-90 feet above the ground.	Year Round (some migrate)

Scientific Name **Common name**	**Listing Status USFWS/ DFG/CNPS**	**Known Range**	**General Habitat Description**	**Ideal Period of Identification**
Progne subis Purple martin	--/CSC/--	Known from Mendocino, Napa, Sonoma, Lake, Riverside, Sacramento, San Luis Obispo, Placer, Shasta, San Diego and Monterey Counties.	Found in a variety of wooded, low-elevations habitats. Uses valley foothill and montane hardwood, valley foothill and montane hardwood-conifer, and riparian habitats. Also occurs in coniferous habitats, including closed-cone pine-cypress, ponderosa pine, Douglas fir, and redwood. Inhabits more open areas in winter.	Year Round
MAMMALS				
Antrozous pallidus pallid bat	--/CSC/--	Locally common species at low elevations. It occurs throughout California except for the high Sierra Nevada from Shasta to Kern cos., and the northwestern corner of the state from Del Norte and western Siskiyou cos. to northern Mendocino Co.	Habitats occupied include grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests, generally below 2,000 meters. The species is most common in open, dry habitats with rocky areas for roosting. Roosts also include cliffs, abandoned buildings, bird boxes, and under bridges.	Year Round

STATUS CODES:
FEDERAL: (U.S. Fish and Wildlife Service)
FE = Listed as Endangered by the Federal Government
FT = Listed as Threatened by the Federal Government
STATE: (California Department of Fish and Game)
CE = Listed as Endangered by the State of California
CT = Listed as Threatened by the State of California
CSC = California Species of Special Concern
CNPS: (California Native Plant Society)
List 1B = Plants rare, threatened, or endangered in California and elsewhere
List 4= Plants of limited distribution; A Watch List
* This List 4 species was included because it was observed on the property.

Special Status Plant Species

BENT-FLOWERED FIDDLENECK (*AMSINCKIA LUNARIS*)

Federal Status – None
State Status – None
Other – CNPS List 1B

Bent-flowered fiddleneck is an annual herb from the borage family (Boraginaceae) that occurs in coastal bluff scrub, cismontane woodland, and valley and foothill grassland communities at elevations that range from 3 to 500 meters above mean sea level. This species blooms from March through June. The known range of bent-flowered fiddleneck includes Alameda, Contra Costa, Colusa, Lake, Marin, Napa, San Benito, Santa Clara, Santa Cruz, San Mateo, and Yolo Counties.[33] The flowers are bright orange with a five-petal calyx.

Potential habitat for this species occurs in the oak woodland and annual grassland onsite. The CNDDB 5-mile query (**Figure 9**) shows occurrences of the species directly to the north of the property boundary.[34] The March 18, April 8 and May 5, 1995 and May 24, 2004 surveys were conducted during the appropriate bloom period of the bent-flowered fiddleneck. However, this species was not observed during any of the site visits.

BREWER'S MILK-VETCH (*ASTRAGALUS BREWERI*)

Federal Status – none
State Status – none
Other – CNPS List 4

Brewer's milk-vetch is an annual herb in the legume family (Fabaceae). It is found in chaparral, cismontane woodland, meadows and seeps, and valley and foothill grasslands that are open, often gravelly, serpentine, or volcanic. It occurs at elevations from 90 to 730 meters above mean sea level and blooms from April through June. Its known range includes Colusa, Lake, Mendocino, Marin, Napa, Sonoma, and Yolo counties.[35]

Approximately 30 plants of this species were found in 1995 by Kjeldsen and Arnold. The perimeter of the location where the species was found on the property was staked by Kjeldsen and Arnold on July 28, 1995; the area is mapped in **Figure 5** and photographed in **Figure 7**, Photo 7. The habitat and a 50 foot buffer surrounding the habitat have been marked off with posts and the area will not be part of the proposed development area. The identified location of the Brewer's milk vetch was located during the May 24, 2004 survey, although the species was not observed in the identified location or elsewhere on the property; the 2004 survey was conducted during the appropriate bloom season for the species.

NARROW-ANTHERED CALIFORNIA BRODIAEA (*BRODIAEA CALIFORNICA* VAR. *LEPTANDRA*)

Federal Status – None
State Status – None
Other – CNPS List 1B

Narrow-anthered brodiaea is a perennial herb in the lily family (Liliaceae). It has a fibrous corm and occurs in broadleaf upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and Valley and foothill grassland habitats at elevations that range from 110 to 915 m above mean sea level. It has an affinity for volcanic substrates and often occurs on serpentine soil types. This species blooms from May through August. The known range of narrow-anthered brodiaea includes Lake, Napa, and Sonoma counties.[36] This species is noted

for having perianth lobes that are at least two times greater than the tube and between four to seven millimeters (mm) wide and an ovary that is approximately five to seven mm long.[37]

Potential habitat for this species is found in oak woodland and annual grassland onsite. The nearest CNDDB occurrence is located approximately four miles south of the project site.[38] The May 5, 1995 and May 24, 2004 surveys were conducted within the appropriate bloom period for this species. This species was not observed onsite during any of the surveys.

RINCON RIDGE CEANOTHUS (*CEANOTHUS CONFUSUS*)
Federal Status – None
State Status – None
Other – CNPS List 1B

Rincon Ridge ceanothus is a prostrate to decumbent shrub from the buckthorn family (Rhamnaceae). It occurs in closed-cone coniferous forest, chaparral, and cismontane woodland communities at elevations that range from 75 to 1,065 meters above mean sea level. It frequently occurs on volcanic and/or serpentinite substrates. This species blooms from February through June. The known range of Rincon Ridge ceanothus includes Lake, Mendocino, Napa, and Sonoma counties. This species is noted for having leaves that are less than two centimeters (cm) long with toothed margins and fruits that are typically five mm long. The fruits are bright red with slender upright horns that are not wrinkled, but have minute ridges.

This species has the potential to occur within the oak woodland onsite; however, the oak woodland onsite will not be affected by the proposed project. The nearest CNDDB occurrence is located approximately three miles northwest of the project site.[39] All surveys were conducted within the appropriate bloom period and this species was not observed within the project site.

HOLLY-LEAVED CEANOTHUS (*CEANOTHUS PURPUREUS*)
Federal Status – none
State Status – none
Other – CNPS List 1B

Holly-leaved ceanothus is an evergreen shrub in the buckthorn family (Rhamnaceae). It occurs in chaparral and volcanic, rocky cismontane woodland habitats from 120 to 640 meters above mean sea level. Blooming occurs from February through June. The known range of this species includes Napa, Shasta, Solano, Sonoma, and Trinity counties.[40]

The oak woodland within the project site is suitable habitat for this species. The nearest documented CNDDB occurrence is nearly five miles to the south of the project site.[41] All surveys were conducted within the appropriate bloom period and this species was not observed within the project site. The oak woodland onsite will not be affected by the proposed project. Therefore, the proposed project will have no negative effect on the holly-leaved ceanothus.

PAPPOSE TARPLANT (*CENTROMADIA PARRYI* SSP. *PARRYI*)
Federal Status – none
State Status – none
Other – CNPS 1B.2

Pappose tarplant is an annual herb from the composite family (Asteraceae). It occurs in chaparral; coastal Prairie; meadows and seeps; coastal salt marshes and swamps; and the vernally mesic, often alkaline soils of valley and foothill grasslands. This species occurs at

elevations ranging from 2 to 420 meters above mean sea level. It blooms from May through November. The known range of pappose tarplant includes Butte, Colusa, Glenn, Lake, Napa, San Mateo, Solano, and Sonoma counties.[42]

The annual grassland and the aquatic features within the project site provide suitable habitat for this species. The nearest documented CNDDB occurrence is approximately two miles west of the project site.[43] The May 5, 1995 and May 24, 2004 surveys were conducted within the appropriate bloom period. However, this species was not observed on the project site.

ADOBE LILY (*FRITILLARIA PLURIFLORA*)
Federal Status – None
State Status – None
Other – CNPS List 1B

The adobe lily is a bulbous perennial of the lily family (Liliaceae) and has acquired its name from the types of soil it is most found on: adobe clay. The flowers are nodding, pink to purple, with bright yellow stamens and petal tips that are rounded to acute and not recurved. Community types where this species is found include valley and foothill grassland, cismontane woodland, and chaparral communities, generally at elevations of less than 700 meters. Its known range includes Butte, Colusa, Glenn, Lake, Napa, Solano, Tehama, and Yolo counties. The blooming period is from February to April.[44]

The oak woodland and the annual grassland within the project site provide suitable habitat for the adobe lily. The nearest documented CNDDB occurrence is approximately 1.5 miles north of the project site.[45] The March 18 and April 8, 1995 surveys were conducted during the appropriate bloom period. This species was not observed within the project site during any of these surveys.

COLUSA LAYIA (*LAYIA SEPTENTRIONALIS*)
Federal Status – None
State Status – None
Other – CNPS List 1B

Colusa layia is an annual herb from the composite family (Asteraceae). It occurs in chaparral, cismontane woodland, and valley and foothill grassland communities at elevations that range from 100 to 1,095 meters above mean sea level. It frequently occurs on sandy or serpentinite substrates. This species blooms from April through May. The range of Colusa layia includes Colusa, Glenn, Lake, Mendocino, Napa, Sonoma, Sutter, Tehama, and Yolo counties.[46]

The oak woodland and the annual grassland within the project site provide suitable habitat for Colusa layia. The nearest documented CNDDB occurrence is approximately three miles northeast of the project site.[47] The April 8 and May 5, 1995 and May 24, 2004 surveys were conducted during the appropriate bloom period. This species was not observed within the project site during any of these surveys.

COBB MOUNTAIN LUPINE (*LUPINUS SERICATUS*)
Federal Status – None
State Status – None
Other – CNPS List 1B

Cobb Mountain lupine is a perennial herb from the legume family (Fabaceae). It occurs in broadleaf upland forest, chaparral, cismontane woodland, and lower montane coniferous forest communities at elevations that range from 275 to 1,525 meters above mean sea level. This species blooms from March through June. The range of Cobb Mountain lupine includes Colusa, Lake, Napa, and Sonoma counties.[48] This species is noted for having peduncles that are 8 to 15 cm long, leaves that are covered with short, appressed hairs, and purple petals.

The oak woodland within the project site provides suitable habitat for this species. The nearest documented CNDDB occurrence is located approximately 2.5 miles west of the project site.[49] All of the botanical surveys were conducted during the appropriate bloom period but this species was not observed on the project site.

BAKER'S NAVARRETIA (*NAVARRETIA LEUCOCEPHALA* SSP. *BAKERI*)
Federal Status – None
State Status – None
Other – CNPS List 1B.1

Baker's navarretia is an annual herb in the phlox family (Polemoniaceae). It occurs in cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, and vernal pool communities at elevations that range from 5 to 1,740 meters above mean sea level. This species blooms from April through July. The range of Baker's navarretia includes Colusa, Glenn, Lake, Marin, Mendocino, Napa, Solano, Sonoma, Sutter, Tehama, and Yolo counties.[50] This species is noted for having an inflorescence that is a dense cyme (as opposed to a head), a glabrous or slightly hairy calyx and included corolla tubes. This particular subspecies has an inflorescence that is typically 10 to 60 flowered, white corollas that is greater than or equal to the calyx, erect stems, and ascending branches.

The oak woodland and annual grassland within the project site provide suitable habitat for this species. The nearest documented CNDDB occurrence is approximately 2.5 miles southeast of the project site.[51] The April 8 and May 5, 1995 and May 24, 2004 surveys were conducted during the appropriate bloom period but Baker's navarretia was not observed on the project site.

CALISTOGA POPCORN-FLOWER (*PLAGIOBOTHRYS STRICTUS*)
Federal Status – Endangered
State Status – Threatened
Other – CNPS List 1B

Calistoga popcorn-flower is an annual herb in the forget-me-not family (Boraginaceae) that occurs in valley and foothill grassland and vernal pool habitats at elevations that range from 90 to 160 meters (295 to 525 feet) above mean sea level. This species has an affinity for alkaline soil types that occur near thermal springs. Calistoga popcorn-flower occurs exclusively in Napa County and blooms from March through June. This species is differentiated from other popcorn-flowers by its nutlet scar, so one must have mature fruits to accurately identify it. The nutlet scar of this species is typically linear and occasionally triangular at the base. The scar is approximately 25 to 60 percent of the entire nutlet length, is generally concave, and may be bristled, but does not have any large prickles.

USFWS critical habitat has not been designated for this species and it does not have a recovery plan. The annual grassland and aquatic features within the project site are suitable habitat for this species. The nearest documented occurrence of this species is located approximately 4.5 miles southwest of the project site.[52] Calistoga popcorn-flower was not observed onsite during the field surveys, which were conducted within the appropriate bloom period.

GREEN JEWEL-FLOWER (*STREPTANTHUS BREWERI* SSP. *HESPERIDIS*)
Federal Status – None
State Status – None
Other – CNPS List 1B

The green jewel-flower is an annual herb in the mustard family (Brassicaceae). It occurs in chaparral and cismontane woodland communities at elevations that range from 130 to 760 meters above mean sea level. It frequently occurs within openings and on rocky, serpentinite substrates. This species blooms from May through July. The range of green jewel-flower includes Glenn, Lake, Napa, and Sonoma Counties.[53] This species is noted for having lower cauline leaves that are not strongly 2-ranked, internodes that are generally greater than the sepals, and an inflorescence that is not crowded along the peduncle. This particular subspecies has distinct yellow/green herbage, a zigzag inflorescence, sepals that are greenish white, and a calyx that is strongly narrowed at the tip.

The oak woodland within the project site is suitable habitat for this species. The nearest CNDDB occurrence is approximately half a mile to the northeast of the project site.[54] The May 5, 1995 and May 24, 2004 surveys were conducted within the appropriate bloom period for this species. Green jewel-flower was not observed on the project site during these surveys.

Special Status Animal Species

VALLEY ELDERBERRY LONGHORN BEETLE (*DESMOCERUS CALIFORNICUS DIMORPHUS*)
Federal Status – Threatened
State Status – None

The valley elderberry longhorn beetle (VELB) is completely dependent on its host plant, elderberry (*Sambucus* spp.), in and around California's Central Valley during its entire life cycle.[55]VELB larvae live within the soft pith of the elderberry where they feed for 1-2 years. Adults emerge from pupation inside the wood of elderberry shrubs during the spring as the plant begins to flower. The adults feed on the elderberry foliage up until they mate. Females lay their eggs in the crevices of elderberry bark. Upon hatching, the larvae then tunnel into shrub stems and feed there. VELB typically utilize stems that are greater than one inch in diameter at ground level.[56] (Due largely to the loss of riparian habitat within California's Central Valley, the VELB populations in the state had decreased to a point that in 1980 the USFWS listed the species as threatened pursuant to the FESA. USFWS has designated Critical Habitat for this species.[57]

There are no documented CNDDB occurrences within a five-mile radius of the proposed project. There are two locations along the Unnamed Stream where elderberry shrubs with multiple stems occur; these shrubs may provide habitat for the VELB (**Figure 5** and **Figure 7**, Photo 12). As such, mitigation measures to preserve elderberry shrubs are included in Question A below.

CALIFORNIA RED-LEGGED FROG (*RANA AURORA DRAYTONII*)
Federal Status – Threatened
State Status – Species of Special Concern

The California red-legged frog (CRLF) is brown to reddish-brown in color with prominent dorsolateral folds and has diffuse moderate-sized dark brown to black spots that sometimes have light centers. Distribution of red or red-orange pigment is highly variable, but is usually restricted to the belly and the undersurfaces of the thighs, legs, and feet. The breeding period is from November to March.

Breeding habitat of the CRLF is characterized as dense, shrubby or emergent vegetation associated with deep (occasionally greater than 2 1/3-feet deep, though depth varies), still or slow-moving water. The shrubby riparian vegetation that structurally seems to be most suitable for CRLF is that provided by arroyo willow (*Salix lasiolepis*). Cattails (*Typha* sp.) and bulrushes (*Scirpus* sp.) also provide suitable habitat. CRLF estivate in burrows or moist leaf litter and can be found greater than 100 feet from water. Although CRLF can occur in ephemeral or permanent streams or ponds, it is likely that populations would not be maintained in ephemeral streams in which surface water disappears.[58] Thus, CRLF would likely not utilize the ephemeral drainages on the project site to breed, but could occur there as dispersing juveniles or non-breeding adults. The unnamed intermittent channel edges could provide suitable breeding habitat for CRLF, if water is present at least 4 months of the year (minimum 0.5 months for larval development and 3.5 months to metamorphism).[59] While bullfrogs (*Rana catesbeiana*) are known to occur in the reservoir, it could also provide suitable CRLF breeding habitat within the project site. The CRLF is named for its abdomen and hind legs, which are distinctively reddish in color. CRLF has been found as far as 30 miles away from water in dense riparian vegetation. The current range of this species includes 31 counties in California and extends from the Point Reyes National Seashore in Marin County, south to San Diego County and north and inland up to Shasta County (excluding the Central Valley) then back down to the foothill regions of as far south as Fresno County. The closest known record of CRLF to the project site is a 1979 record along Howell Mountain Road, approximately 0.4 miles southwest of Pope Valley. This record falls approximately 3.6 miles south of the project site (**Figure 9**). A visit to this site in 2004 found that the seeps and springs present upon initial observation in 1979 have been altered by land conversion and CRLF are presumed to be extirpated.[60] No other records are known from a search of "Aetna Springs, CA" and the eight surrounding quadrangles within the vicinity of the project site.[61]

USFWS critical habitat has been designated for this species and the critical habitat designation is proposed for revision.

During the site survey, the streams, reservoir, and stockpond on the property were investigated for the presence of frogs. The stockpond contained bullfrog tadpoles. Bullfrog tadpoles, as well as adult bullfrogs, occupied the reservoir. Evidence of bullfrogs in the stream tributary was also noted. CRLF were not seen on the project site during any of the surveys. Mitigation measures to protect CRLF are included in Question A below.

FOOTHILL YELLOW-LEGGED FROG (*RANA BOYLII*)
Federal Status – None
State Status – Species of Special Concern

Foothill yellow-legged frog (FYLF) is named for its abdomen and hind legs, which are distinctively yellowish in color. This species occurs in partially shaded, rocky streams at low to

moderate elevations in areas of chaparral, cismontane woodland, and broadleaf upland forest habitats. This species' ideal habitat consists of open slow-moving perennial streams with rocky or bedrock substrates and small deeper pools. However, it can also occur in smaller perennial streams that have cobble size rocks and riffles. FYLF breeds from March through May in pools within perennial streams and attaches its eggs to gravel or rocks at the edges or along the banks. This species' range includes most of northern California, west of the Cascades and south along the coast to the San Gabriel Mountains, and south along the western side of the Sierra Nevada Mountains and into Kern County.

The nearest documented occurrence of this species is located approximately 2.5 miles north of the project site.[62] The FYLF was not found on the project site during any of the surveys. The aquatic features within the project site are marginally suitable habitat for this species. FYLF may utilize the reservoir and stockpond within the property, but these habitats are not ideal. Due to the ephemeral nature of the streams onsite, it is unlikely that FYLF would utilize them as habitat. However, because the drainages onsite are tributary to Pope Creek (which is suitable habitat for this species), and because the proposed project involves water diversion, this species is considered in the discussion. Mitigation measures to protect FYLF are included in Question A below.

WESTERN POND TURTLE (*ACTINEMYS MARMORATA*)
Federal Status – None
State Status – California Species of Concern

The Western pond turtle (*Actinemys marmorata*) occurs throughout California. Suitable habitat consists of any permanent or nearly permanent water body or stream with suitable refuges, basking sites, and nesting sites. Refuge sites can be submerged logs or rocks or mats of floating vegetation. Basking sites can be partially submerged rocks or logs, as well as shallow-sloping banks with little or no cover. This species eats a variety of organisms, including aquatic plants, beetles, fish, and frogs.[63]

This species generally leaves the aquatic site only to reproduce and to hibernate. Hibernation typically takes place from October or November to March or April. Egg-laying typically occurs May through July.[64] Western pond turtles nest in open, sunny areas with little vegetation to ensure the quick development of their young. Nesting for the Western pond turtle has been reported to occur up to 1,391 feet (402 meters) from water,[65] but is usually closer, averaging 92 feet (28 meters) from aquatic habitat.[66] To avoid the drying of late summer and flooding of winter, Western pond turtles hibernate by burrowing into leaf litter in wooded upland habitats up to 1,640 feet (500 meters) away from water.[67] Two long-term studies on the movements of the Western pond turtle calculated two separate overwintering averages. Rathbun et al. (2002) calculated an average distance from water of 164 feet (50 meters).[68] In contrast, Reese and Welsh (1997) calculated an overwintering average of 643 feet (196 meters) from water.[69] By using the relative sample size of each study, a weighted average from the two studies was calculated; this cumulative average overwintering distance from water is about 275 feet.[70]

The Western pond turtle has declined in conjunction with habitat alteration from urbanization and agricultural development. Nesting (i.e., oviposition) and basking habitat (important for egg maturation) are crucial to self-sustaining populations. Loss of emergent wetland vegetation to grazing and trampling makes habitat less suitable for hatchlings and juveniles. Fire suppression on native grasslands may cause overgrowth which can excessively shade nesting grounds. Introduced predators such as bullfrogs and warm-water fish can decimate hatchling turtle numbers.

This species utilizes upland habitats in proximity to suitable aquatic habitats to lay eggs and take refuge from flooding or dry conditions. The Western pond turtle is a habitat generalist and will traverse terrain until suitable habitat for nesting and overwintering is reached. Suitable nesting and refuge habitat is present in the grassland and woodland habitats in proximity to occupied aquatic habitats.

The permanent or near permanent aquatic habitats onsite provide potential habitat for the Western pond turtle. The nearest documented CNDDB occurrence is approximately three miles southwest of the project site. Western pond turtles were observed in the reservoir and in the Unnamed Stream upstream of the reservoir during a site visit in May 2004 with Division, DFG, and AES staff, and were also observed in the reservoir during the May 29, 2009 AES survey. Mitigation measures to protect Western pond turtle are included in Question A below.

BURROWING OWL (*ATHENE CUNICULARIA*)
Federal Status – None
State Status – Species of Special Concern

Burrowing owls are relatively small raptors that occur in a variety of upland habitats including open grassland, prairie, plains, savanna, agricultural fields, and other ruderal areas such as vacant lots and wasteyards. This species is colonial and requires pre-existing burrows that have been abandon by other animals (e.g., squirrel, fox, woodchuck) for roosting and nesting. Occupied burrows can be identified by a lining of feathers, pellets, and debris. Burrowing owls spend most of their time on the ground or on low-lying perches such as fence posts or dirt mounds. Most burrowing owls seek cover during the warmest part of the day, though they are capable of hunting during the day and night. The nesting season of this species extends from March through August and young fledge approximately two to four weeks after hatching. The range of this species includes the entire Central Valley to the Transverse Range, most of the Great Basin region, and most of the eastern and southern desert regions of Southern California.

The annual grassland within the site may be considered suitable habitat for this species; however, this species has not been documented within a five-mile radius of the project site (**Figure 9**) and burrowing owls were not observed within the project site during the field surveys. Because suitable habitat for burrowing owl occurs within the project site, a mitigation measure to protect the species is included in Question A below.

AMERICAN PEREGRINE FALCON (*FALCO PEREGRINUS ANATUM*)
Federal Status – None, Delisted
State Status – Endangered

Nesting habitat for this species consists of vertical rocky cliffs in undisturbed areas, and tall buildings, bridges, rock quarries, and raised platforms in man-made sites. Foraging habitat for this species consists of open areas such as grassland, pasture, or rivers. Their prey is generally medium sized passerines as well as small waterfowl. Some small mammals as well as invertebrates also contribute to their diet.

The annual grassland and reservoir within the project site provide foraging habitat for the American peregrine falcon. The nearest CNDDB occurrence occurs approximately 4.5 miles southwest of the project site. This species was not observed on the project site during any of the surveys.

PURPLE MARTIN (*PROGNE SUBIS*)
Federal Status – None
State Status – Species of Concern

Purple martins are widely distributed throughout the eastern U.S., and patchily distributed throughout the western U.S. In California, the species is locally distributed, with the highest concentration of populations occurring along the western Cascade and Sierra Nevada Ranges; North Coast and northern Central Coast Ranges; and in extreme southwest California. They inhabit woodlands and low elevation coniferous forest of Douglas fir, ponderosa pine and Monterey pine.[71] The purple martin is a cavity-nester, and is generally restricted to areas with dead trees containing woodpecker holes. They are also known to nest in manmade structures such as nest boxes, highway and railway overpass structures. Breeding season extends from April to August.[72]

The oak woodland on the project site provides potential habitat for the purple martin. The nearest CNDDB occurrence lies approximately 4.5 miles south by southwest of the project site. The purple martin was not observed on the project site during any of the field surveys.

PALLID BAT (*ANTROZOUS PALLIDUS*)
Federal – None
State – Species of Concern

The pallid bat occurs from British Columbia to Texas south to Baja California and central Mexico.[73] In California, the pallid bat occurs throughout the state except in the high Sierra Nevada Range from Shasta County to Kern County. The pallid bat is most commonly found in arid and semi-arid regions with open habitats and rocky areas for roosting. This species has three different roosts: the day roost is usually in a warm horizontal opening such as in attics or rock cracks; the night roost is usually in the open, near foliage; and the hibernation roost, which is often in buildings, caves, or cracks in rocks. Pallid bats are insectivores but will occasionally forage on lizards as well.[74] The pallid bat is a medium-sized bat with large wide ears that are clearly separated at the base. This species occurs in a wide variety of habitats including grasslands, shrublands and chaparrals, woodlands, and forests. It is most abundant in open dry habitats that have abundant rocky areas for roosting. It forages over open ground and is mostly a nocturnal hunter. Pallid bats (like most bat species) are most active during the dawn and dusk hours. This species will establish daytime roosts in caves, crevices, mines, large hollow trees, and unoccupied buildings. Pallid bats mate during the months of October through February and most young are born from April through July. The range of the pallid bat includes most of California with the exception of the high Sierra Nevada, from Shasta to Kern counties, and the northwestern-most corner of the state.

The annual grassland and oak woodland within the project site provide potential foraging habitat for the pallid bat. Potential roosting habitat (either diurnal or nocturnal) is limited within the project site to areas within the oak woodland or the human dwellings and other buildings onsite. This potential habitat will not be affected by the proposed project. Rocky cliffs or outcrops, typical of maternity colonies, are not known to occur within the project site. The nearest CNDDB occurrences lie approximately 3.5 and 5.0 miles south of the project site, generally mapped from museum specimens collected in 1945, 1965 and 1968. The pallid bat was not observed during any surveys of the project site.

Question A
Twenty special status species, including 12 special status plants and eight special status animals, have the potential to occur onsite. Of these species, only one special status plant was observed onsite (Brewer's milk-vetch) and one special status animal was observed onsite (Western pond turtle).

The population of Brewer's milk-vetch identified in 1995 by Kjeldsen is a CNPS List 4 plant. The location of these plants has been avoided with a 50 foot buffer and is not proposed for development (**Figure 3**). The identified location of the Brewer's milk vetch was located during the May 24, 2004 survey, but the species was not observed in the identified location or elsewhere on the property. To avoid impacts to any special status plant species that may have become established since the last botanical survey of the property in 2004, the following permit term, substantially as follows, shall be included in any permits or licenses issued pursuant to Applications 30322 and 30323:

- *A biologist whose qualifications are acceptable to the Deputy Director for Water Rights shall conduct a pre-construction survey for regionally occurring special status plant species during their bloom periods prior to any ground moving or construction activities. The results of the survey shall be submitted to the Deputy Director for Water Rights for any approval to begin ground moving or construction activities. If any special status plant species are found during the pre-construction survey, a 25-foot no-disturbance buffer shall be established around the species' locations to avoid direct or indirect impacts. The species location(s) shall be indicated on a map that shall be submitted to the Deputy Director for Water Rights with the survey report. An exclusionary fence shall be installed around the buffered areas prior to any construction within 100 feet of the species location. No encroachment into the fenced areas shall be permitted and fencing shall remain in place until all construction activities have ceased. The buffers shall be permanently avoided and no activity shall occur within the buffer zones, including, but not limited to grading, road construction, fencing, storage areas, and irrigation, except permitted crossings consistent with USACE, Section 404 permit (33 U.S.C. § 1344.) and DFG Streambed Alteration Agreement (DFG Code 1600 et seq.) requirements.*

The 2004 Biological Site Assessment prepared for the project recommended pre-construction surveys for the Western pond turtle to avoid temporary impacts to habitat for this species. DFG also recommended the following mitigation during the 2004 site visit: an undisturbed buffer along the shores of the reservoir should be created during the construction period, and rescue efforts should be implemented to minimize impacts to the species. After construction, pond turtle habitat should be created along the banks of the reservoir.[75] However, according to the Applicant, the need to stabilize all banks of the reservoir during enlargement makes this infeasible. Therefore, to protect Western pond turtles, the following permit term, substantially as follows, shall be included in any permits or licenses issued pursuant to Applications 30322 and 30323:

- *Within 14 days prior to the onset of construction activities, a biologist whose qualifications are acceptable to the Deputy Director for Water Rights (approved biologist), shall conduct pre-construction surveys for Western pond turtle within all areas that fall within 100 feet of suitable aquatic habitat for this species as shown in the habitat map (Figure 5 of the Russ Trust Initial Study/Mitigated Negative Declaration). If Western pond turtles are observed within the reservoir proposed for expansion, the approved biologist, upon authorization from DFG, shall capture the turtles and transport them to an area of equally suitable habitat at least 300 feet outside of the construction footprint. If*

no turtles are observed during the pre-construction survey, then construction activities may begin. If construction is delayed or halted for more than 30 days, another pre-construction survey for Western pond turtle shall be conducted. Within seven days of the pre-construction survey, a report of findings from the survey shall be submitted to the DFG with a copy to the Deputy Director for Water Rights.

- *Prior to the onset of construction activities, the approved biologist shall develop a worker sensitivity training program that addresses all the issues associated with the presence of Western pond turtle within the project site, including recognition of this species and its habitat, as well as measures to take in the event the species is observed onsite during construction. All personnel that will be working within the vicinity of suitable habitat for Western pond turtle shall take the sensitivity training program and sign an acknowledgement that he or she has received the training, and fully understands the contents of the sensitivity training program. Within seven days of the sensitivity training program, the signed acknowledgments by project personnel shall be submitted to DFG with a copy to the Deputy Director for Water Rights. The construction foreman or other designated construction personnel shall be designated as the onsite monitor for the duration of construction activities. The onsite monitor will be responsible for ensuring any new personnel joining the construction crew receives the sensitivity training material and signs the acknowledgement. The approved biologist shall be retained on-call in the event the onsite monitor has any questions or encounters Western pond turtle situations beyond the scope of the sensitivity training.*

- *If Western pond turtles are observed in the construction area at any time during construction, the onsite monitor shall be notified and construction in the vicinity of the sighting shall be halted until such a time as a turtle has left the construction zone of its own volition or the approved biologist is given clearance by DFG to relocate a turtle.*

- *Once construction of the proposed project is complete, Permittee shall maintain a 50-foot wide setback around the enlarged reservoir. No new ground disturbing activities shall occur within the setback area, with the exception of livestock access and occasional equipment access necessary for continued operation of the reservoir. Equipment access within the setback area shall be limited to only activities necessary for the ongoing operation of the reservoir and shall incorporate best management practices to minimize disturbance to water, soils, and vegetation. Natural vegetation shall be preserved and protected within the setback area. Planting of native riparian vegetation within the setback area is allowed. The setback shall not apply to permitted crossings consistent with USACE, Section 404 permit (33 U.S.C. § 1344.) and DFG Streambed Alteration Agreement (DFG Code 1600 et seq.) requirements.*

Elderberry shrubs on the project site have the potential to harbor VELB and one mapped elderberry shrub may be inundated due to the reservoir enlargement (**Figure 5**). To protect the federally threatened VELB, the following permit term, substantially as follows, shall be included in any permits or licenses issued pursuant to Applications 30322 and 30323:

- *Two elderberry shrubs have been observed on the property at separate locations along the seasonal Unnamed Streams (see Figure 5 of the Russ Trust Initial Study/Mitigated Negative Declaration, 2011). Prior to any construction activities in the place of use, Permittee shall consult with USFWS to establish a mitigation plan (Plan) for the two elderberry shrubs. Permittee shall submit a plan approved by USFWS to the Deputy*

Director for Water Rights to protect valley elderberry longhorn beetle (VELB) prior to any project construction. If a plan is not required by USFWS, Permittee shall forward a statement from USFWS indicating that a plan is not required to the Deputy Director for Water Rights prior to any construction activities related to this project. If construction-related disturbance will occur within 100-feet of elderberry shrubs, USFWS shall be consulted to determine if an impact will occur. If VELB are determined to occupy the site, no activities determined to have a potential to adversely affect the shrubs or any VELB shall be conducted without a Biological Opinion, Incidental Take Permit, or other authorization from USFWS, and findings shall be provided to the Deputy Director for Water Rights for approval 10 days prior to any project construction. If required, transplanting of elderberry shrubs or planting additional seedlings or cuttings shall be conducted consistent with the USFWS Conservation Guidelines for the Valley Elderberry Longhorn Beetle (1999).

Suitable habitat for the California red-legged frog and foothill yellow-legged frog occurs onsite. In addition to the terms discussed in Question D below, the following permit terms, substantially as follows, shall be included in any permits or licenses issued pursuant to Applications 30322 and 30323 to protect special status amphibians:

- *Within 14 days prior to the onset of construction activities, a biologist whose qualifications are acceptable to the Deputy Director for Water Rights (approved biologist), shall conduct a pre-construction survey for California red-legged frog (CRLF) and foothill yellow-legged frog (FYLF) within any and all areas that fall within 100 feet of suitable habitat for these species. If either of these species are observed within the project site during the pre-construction survey, Division of Water Rights, USFWS and/or DFG shall be contacted and any and all construction activities must be delayed until an appropriate course of action can be established and approved by USFWS and/or DFG. If no CRLF and/or FYLF are observed within the project site during the pre-construction survey, the Permittee shall notify the Deputy Director for Water Rights of the results of the survey before any construction begins. If construction is delayed or halted for more than 30 days, another pre-construction survey for CRLF and FYLF shall be conducted.*

- *Prior to the onset of construction activities, a biologist, whose qualifications are acceptable to the Deputy Director for Water Rights (qualified biologist) shall develop a worker sensitivity training program that addresses all of the issues associated with the assumed presence of California red-legged frog (CRLF) and foothill yellow-legged frog (FYLF) within the project site; including recognition of these species and their habitat. Any and all personnel that will be working within the vicinity of suitable habitat for these species shall take the sensitivity training program and sign an acknowledgement that he or she has received the training, understands that take of these animals and destruction of their habitats is a violation of the Federal Endangered Species Act and/or the California Endangered Species Act, and fully understands the contents of the sensitivity training program.*

  Exclusion fencing erected as part of mitigation for Western pond turtle shall be suitable for exclusion for FYLF and CRLF. Once the exclusion fencing is erected, the qualified biologist shall return to the project site once a week during the construction period to inspect the fencing and confirm that no frogs have access to the exclusion zone. If either of these species is observed within the project site during construction, the Division of Water Rights, USFWS and/or DFG must be contacted and all construction activities must be delayed until an appropriate course of action can be established and

approved by USFWS and/or DFG.

- *For the protection of potential California red-legged frog (CRLF) habitat along the reservoirs and to allow for the growth of riparian vegetation, Permittee shall:*

  a. *Obtain approval of the USFWS, Sacramento Endangered Species Office, and DFG prior to any reservoir dredging operation. Permittee shall submit to the Deputy Director for Water Rights evidence of agency approval prior to any future reservoir dredging operations;*
  b. *Refrain from disturbing the fringe of emergent (wetland) vegetation in the reservoir during dredging operations;*

  These requirements shall remain in effect as long as water is being diverted under any permits or licenses issued pursuant to Applications 30322 and 30323.

Approximately nine trees that occur near and on the banks of the reservoir and the Unnamed Stream have the potential to be impacted by the reservoir enlargement. Trees and snags within the project site provide potential habitat for nesting and migratory bird species. To protect special status birds, the following permit terms, substantially as follows, shall be included in any permit or license issued pursuant to Applications 30322 and 30323:

- *If tree removal activities are to occur between February 1 and September 30, a biologist, whose qualifications are acceptable to the Deputy Director for Water Rights, shall conduct a pre-construction survey for the purpose of identifying nesting bird species prior to tree removal. The pre-construction survey shall include all potential nesting habitat within 500 feet of proposed tree removal activities. The survey shall be conducted no more than 14 days prior to the beginning of tree removal activities. If an active raptor or migratory bird nest is found during the pre-construction survey, the Permittee shall notify the DFG. If an active raptor nest is found during the pre-construction survey, a 500-foot no-disturbance buffer shall be established and maintained around the nest until all young have fledged. If an active nest of any other migratory or non-migratory bird is found, a 250-foot buffer shall be established around the nest until all young have fledged. The Permittee shall report to the Deputy Director for Water Rights the results of the survey prior to any construction in the place of use.*

Potentially suitable habitat for burrowing owl may exist within the proposed POU. To protect burrowing owl, the following permit terms, substantially as follows, shall be included in any permits or licenses issued pursuant to Applications 30322 and 30323:

- *If ground-disturbing activities such as trenching or ripping are to occur in the place of use, Permittee shall consult with the DFG whether to conduct a burrowing owl (Athene cunicularia) survey in affected portions of the place of use. Prior to conducting ground-disturbing activities, Permittee shall submit the determination by DFG to the Deputy Director for Water Rights. If a survey is recommended, a biologist, whose qualifications are acceptable to the Deputy Director for Water Rights, shall conduct a burrowing owl burrow survey about 14 days prior to the ground-disturbing activity at the place of use. The biologist shall submit a survey protocol to be approved by the Deputy Director for Water Rights prior to conducting the burrowing owl/burrow survey. The protocol shall include the date(s) when the survey will be conducted. If burrowing owls or suitable habitat/nesting burrows are detected, the results of the survey shall be provided to DFG and the Deputy Director for Water Rights and the biologist shall develop a DFG-*

approved mitigation/conservation plan to be implemented prior to any ground-disturbing activities in the place of use. The survey report shall include a map indicating the locations of any burrowing owl(s) or owl sign. If no burrowing owls or suitable habitat/nest burrows are found, the biologist shall submit a report of the finding to the Deputy Director for Water Rights and no burrowing owl conservation measures will be required.

Questions B and C
A Serpentine Bunchgrass community reported from the CNDDB query occurs in the southeast corner of the subject property. The Serpentine Bunchgrass Community should be avoided and the proposed project should be designed around this community type. To protect the Serpentine Bunchgrass Community, the following permit term, substantially as follows, shall be included in any permits or licenses issued pursuant to Applications 30322 and 30323:

- *Permittee shall avoid adverse impacts to the Serpentine Bunchgrass Community onsite. Prior to construction activities within 100 feet of the Serpentine Bunchgrass Community, a 25-foot no-disturbance buffer shall be established around the Community. The perimeter of the no-disturbance buffer shall be marked off with posts and construction fencing by a qualified biologist approved by the Deputy Director for Water Rights to avoid direct or indirect impacts to the sensitive plant community. Photographs showing the buffer shall be submitted to the Deputy Director for Water Rights prior to construction within 100 feet of the Serpentine Bunchgrass Community. No encroachment into the fenced areas shall be permitted and fencing shall remain in place until all construction activities have ceased. The buffer shall be permanently avoided. No activity shall occur within the buffer zone, including, but not limited to grading, road construction, fencing, storage areas, and irrigation, except permitted crossings consistent with USACE Section 404 permit (33 U.S.C. § 1344.) and DFG Streambed Alteration Agreement (DFG Code 1600 et seq.) requirements.*

Riparian habitat is considered a sensitive natural community by DFG. Riparian habitat occurs along the Unnamed Streams within the project site. The proposed project may result in direct impacts to riparian habitat during construction activities associated with reservoir enlargement and possibly during culvert construction north of the reservoir, though proposed stream crossing locations were selected for minimal impacts to riparian vegetation (**Figure 3**). The remaining two proposed crossings on the eastern side of the property would be located in grassland habitat and the one in the southwest corner of the property would be located in a clearing within an oak woodland area. It is anticipated that each stream crossing would require about 400 square feet of disturbance.

The following permit terms, substantially as follows, shall be included in any permits or licenses issued pursuant to Applications 30322 and 30323:

- *No work shall commence and no water shall be diverted, stored, or used under this permit until a signed copy of a Streambed Alteration Agreement between the DFG and the Permittee is filed with the Deputy Director for Water Rights. Compliance with the terms and conditions of the agreement is the responsibility of the Permittee. If a Streambed Alteration Agreement is not necessary for this permitted project, the Permittee shall provide the Deputy Director for Water Rights a copy of a waiver signed by the DFG.*

- *Minimum 50-foot buffers along the two seasonal Unnamed Streams and minimum 20-foot buffers along the ephemeral streams on the property measured from the top of the bank on both sides of the stream shall be maintained within the place of use. Napa County Stream Setbacks may require additional buffers. The buffers shall be formally incorporated in any Erosion Control Plan for the project. The buffers shall be staked prior to construction by a biologist or engineer whose qualifications are acceptable to the Deputy Director for Water Rights, maintained throughout construction, and permanently avoided. Permitted uses within the buffer zones shall be consistent with Napa County Conservation Regulations and may include permitted crossings consistent with USACE, Section 404 permit (33 U.S.C. § 1344.) and DFG Streambed Alteration Agreement (DFG Code 1600 et seq.) requirements. Copies of an approved grading permit and Erosion Control Plan, if required, from the County of Napa, which incorporate the stream setbacks, shall be submitted to the Deputy Director for Water Rights, prior to starting construction.*

  Prior to the start of construction or diversion or use of water under this permit, Permittee shall obtain any required permit from USACE and file a copy with the Deputy Director for Water Rights. If a permit from USACE is not necessary for this permitted project, the Permittee shall provide to the Deputy Director for Water Rights a letter from USACE affirming that a permit is not needed.

  If required, Permittee shall obtain Clean Water Act section 401 Water Quality Certification from the State Water Resources Control Board prior to the start of construction or diversion or use of water under this permit.

Question D

The proposed project would not interfere substantially with resident or migratory fish species. Just below the confluence of the bypass and the spillway is a large (approximately 6 foot) drop-off. This feature impedes movement of any resident fish from the stream below the reservoir to the waters above the drop-off. In addition, a neighboring reservoir is located on an adjacent property downstream of the project reservoir (**Figure 2**).

Resident or migratory wildlife movement would not be impacted insofar as the proposed project would utilize upland grassland habitat for development. Oak woodland/savanna would not be utilized for the project development and riparian habitat will be impacted to the minimum extent feasible (see Questions B and C above).

Background information for a Public Trust Field Assessment was prepared by AES[76] to evaluate potential impacts of the proposed project on public trust resources, including fish and other aquatic resources. The project is located on an unnamed tributary to Pope Creek, which is a main tributary to Lake Berryessa, and therefore lies above the impoundment of Lake Berryessa on a non-anadromous stream. As a result, the majority of the California Department of Fish and Game -National Marine Fisheries Service (NMFS) Draft *Guidelines for Maintaining Instream Flows to Protect Fisheries Resources Downstream of Water Diversions in Mid-California Coastal Streams* is inapplicable.[77] Rainbow trout (*Oncorhynchus mykiss*) are native to Lake Berryessa; however, occurrences of rainbow trout utilizing Pope Creek for spawning have not been documented in recent years.[78] The terms in the Hydrology and Water Quality section, including the implementation of the February median flow bypass and maintenance of the instantaneous flow outside of the diversion season, will protect aquatic resources that otherwise may be impacted by the proposed diversions.

Question E
Oak woodland/savanna habitat was identified within the project site. This habitat is located outside of the proposed POU and would not be impacted by the proposed project (**Figure 5**). Up to approximately nine trees that occur near and on the banks of the reservoir and the Unnamed Stream have the potential to be impacted by the reservoir enlargement. Based on the currently available approximation of the waterline after reservoir enlargement shown in **Figure 5**, trees that have the potential to be impacted include one grey pine (*Pinus sabiniana*) and approximately eight oaks, including valley oak (*Quercus lobata*) and blue oak (*Quercus douglasii*). For the purposes of environmental review, it is assumed that eight oak trees would be impacted during reservoir enlargement and mitigation to offset this impact is discussed below.

To protect oak trees and oak woodland habitat, the following permit term, substantially as follows, shall be included in any permits or licenses issued pursuant to Applications 30322 and 30323:

- *Direct impacts to native oak trees shall be mitigated by the following: 1) An oak tree replacement program shall be implemented, which shall include the planting, irrigation, monitoring, and maintenance of replacement native oak trees at a 2 to 1 ratio in areas not included in the proposed place of use; 2) A permit for removal of trees greater than six inches in diameter shall also be obtained from Napa County prior to any tree removal activities, unless specifically waived by Napa County, and; 3) A copy of the Napa County permit or waiver shall be submitted to the Deputy Director for Water Rights prior to the commencement of any construction activities.*

  Pursuant to Napa County requirements, vegetation identified by Napa County for preservation that is removed (either advertently or inadvertently) or vegetation that is removed before any required permit from Napa County has been issued, shall be replaced with fifteen-gallon trees at a ratio of 2 to 1 at locations approved by Napa County, or replaced with smaller trees at a higher ratio to be determined by Napa County. Failed plantings shall be replaced to achieve net success criteria of 80 percent tree survival after five years. Trees surviving five years shall be maintained in perpetuity. Photo documentation showing the results of the tree replacement shall be submitted to the Deputy Director for Water Rights after the five years. All photos shall be dated and the location of the photos shown on a drawing.

  To protect oak trees intended to remain undisturbed from project-related disturbance, construction fencing shall be installed as far as feasible outside the driplines of oak trees within the vicinity of construction areas. No encroachment into the fenced areas shall be permitted and fencing shall remain in place until all construction activities have ceased. Where encroachment is necessary past the driplines, a certified arborist shall document compliance with the following: 1) At least 12 inches of mulch will be temporarily placed to protect roots from compaction; 2) Any tree roots to be severed shall be the maximum feasible distance from the trunk, and; 3) Any roots over one-inch in diameter that are damaged as a result of construction activities shall be traced back and cleanly cut behind any damaged area, and exposed roots shall be kept moist or covered immediately.

  Documentation that this mitigation measure has been completed shall be submitted to the Deputy Director for Water Rights within 180 days of reservoir construction (for trees

near the reservoir) and within 180 days of vineyard planting (for trees in the place of use).

Question F
No Habitat Conservation Plan or Natural Community Conservation Plan has been adopted for the project site. The proposed project would not result in conflicts with any approved local, regional, state, or federal Habitat Conservation Plan. No project related impacts would occur.

Findings
The proposed project could result in potentially significant impacts to biological resources. However, with implementation of the identified permit terms, potential impacts would be considered less than significant.

5. Agricultural Resources. In determining whether impacts to agricultural resources are significant environmental impacts, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses?	☐	☐	☐	☑
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	☐	☐	☐	☑

Agriculture and agricultural production are prevalent land uses in Napa County. Fertile valley and foothill areas have been identified by Napa County as areas where agriculture is and should continue to be the predominant land use. Urban-centered growth and agricultural preservation are objectives of the county[79]. The project site lies within an area zoned and designated as Agricultural Watershed (see the Land Use and Planning section) and has a long history of agricultural use for cattle grazing.

Questions A-C
The project site is designated within the Napa County General Plan as Agriculture, Watershed and Open Space.[80] Under the proposed project, the project site would be used for agricultural purposes. No impact would occur.

Findings
No impacts would occur to agricultural resources as a result of the proposed project.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
6. Noise. Would the project result in:				
a) Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☑	☐
b) Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☐	☐	☑	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing in or working in the project area to excessive noise levels?	☐	☐	☐	☑
f) For a project within the vicinity of a private airstrip, would the project expose people residing in or working in the project area to excessive noise levels?	☐	☐	☐	☑

The dominant sources of noise in Napa County consist of highway traffic, railroads, airports, industry/commerce, and agriculture. Major noise sources in the rural/agricultural areas of Napa County consist primarily of agricultural noise and occasional construction noise. Agricultural noise includes general machinery use, pest control devices often use noise to drive away birds from agricultural areas, and frost protection devices, which employ engine-driven propellers to move air in a frost, threatened field.[81]

The Napa County Noise Ordinance requires that construction activities be conducted in such a manner that the maximum noise levels at surrounding residential properties will not exceed 75 dBA between 7:00 AM and 7:00 PM and 60 dBA between 7:00 PM and 7:00 AM.

Noise sensitive areas identified within Napa County are those areas that are subject to noises that adversely affect what people are doing on the land.[82]

Questions A-D
The proposed project would result in seasonal and temporary noise generation related to short-term construction activities to expand the existing reservoir and develop the proposed POU. At the project site, construction activities would require the use of heavy equipment. During construction and operation, work would typically be conducted during daylight hours. Given the existing rural and agricultural nature of the project area, the proposed project would not expose sensitive receptors to substantial noise, and impacts are considered less than significant.

Questions E and F
The project site is not in the vicinity of a private or public airstrip. No impacts would occur.

Findings
Impacts to noise as a result of the proposed project are considered less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
7. Land Use and Planning. Would the project:				
a) Physically divide an established community?	☐	☐	☐	☑
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☑	☐	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☑

Existing Land Uses

The project site is characterized by grasslands and wooded areas that include groups of Valley Oak. Surrounding land uses consist of pasture and other agricultural uses, residences associated with agricultural properties, and open space.

Napa County General Plan

The project site lies within an area designated as Agriculture, Watershed and Open Space by the 2008 Napa County General Plan. The Napa County General Plan describes the intent of the Agriculture, Watershed and Open Space designation as follows:

> To provide areas where the predominant use is agriculturally oriented; where watersheds are protected and enhanced; where reservoirs, floodplain tributaries, geologic hazards, soil conditions, and other constraints make the land relatively unsuitable for urban development; where urban development would adversely impact all such uses; and where the protection of agriculture, watersheds, and floodplain tributaries from fire, pollution, and erosion is essential to the general health, safety, and welfare.[83]

General uses of the Agriculture, Watershed and Open Space designation provided by the General Plan consist of agriculture, processing of agricultural products, and single family dwelling.[84]

The Conservation and Open Space Element of the Napa County General Plan provides the following planning goal and applicable policies for Agricultural Lands:

> Planning Goal: Maintain and enhance the agricultural environment of Napa County.
>
> Applicable Conservation Policies:
>
> a. Limit growth to minimize urban development on prime soils and reduce conflict with the agricultural operations and economy.
> b. Encourage reclaimed water use for vegetation enhancement, frost protection and irrigation to enhance agriculture and grazing.
> c. Protect trees and shrubs for wildlife habitat and aesthetic purposes and encourage alternate uses, such as wildlife and recreation if feasible without undue environmental damage when grazing is phased out.
> d. Require that existing significant vegetation be retained and incorporated into agricultural projects to reduce soil erosion and to retain wildlife habitat. When

retention is found to be infeasible, replanting of native or adapted vegetation shall be required.

e. Minimize pesticide and herbicide use and encourage research and use on integrated pest control methods such as cultural practices, biological control, host resistance and other factors.[85]

Napa County Zoning Ordinance

The project site lies within the Agricultural Watershed (AW) District. The Napa County Zoning Ordinance describes the intent of the Agricultural Watershed designation as follows:

> The AW district classification is intended to be applied in those areas of the county where the predominant use is agriculturally oriented, where watershed areas, reservoirs and floodplain tributaries are located, where development would adversely impact all such uses, and where the protection of agriculture, watersheds and floodplain tributaries from fire, pollution and erosion is essential to the general health, safety and welfare.[86]

Agriculture and rural residences are allowed within an AW District, and do not require a Use Permit.

Napa County Erosion Control Plans

Erosion Control Plans are required for all agricultural developments which involve an earthmoving activity, grading, improvement, or construction of a structure on sites of 5 percent slope or greater. The Napa County Conservation, Development and Planning Department administers the ordinance and grants approvals. The Napa County Resource Conservation District reviews all erosion control plans for agriculture on slopes greater than 5 percent, and passes on its recommendations to Napa County Conservation, Development and Planning Department.[87]

With the exception of vineyard replants, use permit approval from Napa County is required prior to construction, improvement, grading, earthmoving activity or vegetation removal associated with the development or use of land on those parcels or portions thereof having a slope of 30 percent or greater (variance approval is required for slopes greater than 50 percent).

Napa County Stream Setbacks

Section 18.108.025 of the Napa County Conservation Regulations states that no clearing of land for new agricultural uses shall take place within the following setbacks from Napa County definitional streams (measured from the top of the bank on both sides of the stream as it exists at the time of replanting, redevelopment, or new agricultural activity):

Slope (Percent)	Required Setback
<1	35 feet
1-5	45 feet
5-15	55 feet
15-30	65 feet
30-40	85 feet
40-50	105 feet
50-60	125 feet
60-70	150 feet

Question A
The project site is located in a rural area of Napa County. Development of the proposed project would not result in physical barriers that would divide an established community. No impact would occur.

Question B
The proposed project is consistent with the General Plan and zoning designations for the property. The Applicant shall obtain a Napa County grading permit and Erosion Control Plan approval prior to development of the proposed project, and development of the proposed project would be consistent with the Napa County Stream setback requirements, as discussed in Question B in the Biological Resources section above. The standard mitigation measures for the Erosion Control Plan are listed in the Geology and Soils section of this document.

Question C
No Habitat Conservation Plan or Natural Community Conservation Plan currently exists for the proposed project area. Thus, the proposed project would not conflict with any existing habitat conservation plan or natural community conservation plan and no impact would occur.

Findings
The proposed project would not result in significant impacts to land use and planning with the implementation of the identified permit terms.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
8. Mineral Resources. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?	☐	☐	☐	☑
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☑

The Napa County General Plan identifies mercury deposits in the vicinity of the project, northwest of Aetna Springs.[88] Mercury was mined extensively in the mid to late 1800s as a result of the demand for the mineral in refining gold and making explosives. Historic mines in the area include Oat Hill Mine and Aetna Mine, northwest of Aetna Springs, and the Knoxville Mine, north of Lake Berryessa. Mercury mining proved to be unprofitable and most operations closed by the 1890s.

Questions A-B
Mercury deposits are located within the vicinity of the project site, but not on the project site. The proposed project would not impact the deposits. No impact would occur.

Findings
The proposed project would not result in impacts to mineral resources.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
9. Hazards and Hazardous Materials. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☑	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☑
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?	☐	☐	☐	☑
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or to the environment?	☐	☐	☐	☑
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☑	☐

The project site has historically been used for agricultural purposes. Database searches were conducted for records of known storage tank sites and known sites of hazardous materials generation, storage, and/or contamination. Databases were searched for sites and listings up to two miles from a point roughly equivalent to the center of the project site. The environmental database review was accomplished by using the services of a computerized search firm Environmental Data Resources, Inc. (EDR). EDR uses a geographical information system to plot the locations of past and/or current hazardous materials involvement. The complete list of reviewed databases is provided in the EDR report. The project site was not listed on any database searched by EDR as having hazardous materials involvement. Additionally, no adjacent sites were identified within a one mile radius as having current and/or past hazardous materials involvement.[89]

Questions A-G

Hazardous materials that would be used during the construction and operation of the proposed project would be limited to common petroleum and agricultural products. When properly used, these products do not present a significant hazard. The project site is approximately 2.5 miles from the nearest school, and the proposed project would not present a safety hazard to the school. A search of government environmental records did not reveal any known hazardous materials sites within the project site. The project site is located approximately five miles from the nearest airport, and the proposed project would not present a safety hazard to persons working in the project area. The proposed project does not include components that would

interfere with an adopted emergency plan.

Question H
The proposed project is located in a rural area that contains substantial fuels (e.g., grasses, shrubs, other vegetation) that are susceptible to wildland fire. The risk of wildland fire for the proposed project is similar to that for other construction sites and can be minimized through the use of BMPs. The proposed project would implement BMPs (e.g., clearing construction areas of combustible material, ensuring spark arresters are in good working order) during project construction. Therefore, potential impacts are considered less than significant.

Findings
Impacts to hazards and hazardous materials as a result of the proposed project are considered less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
10. Population and Housing. Would the project:				
a) Induce substantial population growth in an area either directly (*e.g.*, by proposing new homes and businesses) or indirectly (*e.g.*, through extension of roads or other infrastructure)?	☐	☐	☑	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

The project site is located in a rural area of Napa County. The Napa County General Plan does not identify acceptable areas for large-scale residential development in the vicinity of the proposed project areas. The City of Calistoga, located approximately nine miles southwest of the project site, is the closest location for large-scale residential development identified in the Napa County General Plan.[90]

Question A
The proposed project would not directly or indirectly induce substantial growth in the project area. Potential impacts are considered to be less than significant.

Questions B and C
The proposed project would not displace people or housing. No impact would occur.

Findings
The proposed project would not result in significant impacts to population and housing.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
11. Transportation and Circulation. Would the project:				
a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (*i.e.*, result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	☐	☐	☑	☐
b) Substantially increase hazards due to a design feature (*e.g.*, sharp curves or dangerous intersections) or incompatible uses (*e.g.*, farm equipment)?	☐	☐	☐	☑
c) Result in inadequate emergency access?	☐	☐	☐	☑
d) Result in inadequate parking capacity?	☐	☐	☐	☑
e) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☑
f) Conflict with adopted policies supporting alternative transportation (*e.g.*, bus turnouts, bicycle racks)?	☐	☐	☐	☑
g) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☑

Vehicular access to the project site is through an access road located on the south side of the property, off of Butts Canyon Road in northern Napa County. Butts Canyon Road intersects with Highway 29, approximately 13 miles to the northwest in Lake County, and turns into Pope Valley Road approximately one mile southwest of the project site. Pope Valley Road is a two lane County Road that connects the community of Pope Valley in the south with Aetna Springs in the north.

Questions A-G

A negligible increase in traffic is anticipated from the construction and implementation of the proposed project. A temporary increase in traffic would occur by construction crews and transportation of materials to and from the proposed construction area. Operation and maintenance of the proposed POU (potentially developed in vineyard) would also generate seasonal vehicle trips by staff; the most labor-intensive periods for vineyard are during the spring and harvest seasons from about April through June and August through October. However, construction and harvest activities would take place during off-peak traffic hours and any increase in traffic that they generate would be slight and would not represent a significant impact to transportation or circulation. No substantial new impediments to emergency access or incompatible uses are anticipated. The proposed project is not expected to result in inadequate parking capacity, or conflict with adopted alternative transportation policies, plans, or programs. Potential impacts are considered less than significant.

Findings

Impacts to transportation and circulation as a result of the proposed project are considered less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
12. Public Services. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service rations, response times or other performance objectives for any of the public services:				
a) Fire protection?	☐	☐	☐	☑
b) Police protection?	☐	☐	☐	☑
c) Schools?	☐	☐	☐	☑
d) Parks?	☐	☐	☐	☑
e) Other public facilities?	☐	☐	☐	☑

Public services include fire and police protection, schools, parks, and other public facilities. The project area is located within unincorporated Napa County and law enforcement services for this area are provided by the Napa County Sheriff's Department. Fire protection services are provided by the Napa County Fire Department and the California Department of Forestry (CDF). Pope Valley Union Elementary provides K-8 grade public education in the project area and St. Helena Unified School District provides K-12 grade public education to the east and south of the project area.

Questions A-E

The proposed project would result in the use of the project site for agricultural purposes and not generate substantial additional demand for government facilities or services.

Findings

The proposed project would not impact public services.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
13. Utilities and Service Systems. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☑
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?	☐	☐	☐	☑
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?	☐	☐	☐	☑
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☑
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☑
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☑

g) Comply with Federal, State, and local statutes and regulations related to solid waste?	☐	☐	☐	☑

The project site is not served by public water or wastewater services. Residences in the project area rely on private wells for domestic water supply and private septic systems for wastewater treatment. The closest landfill is the Clover Flat Landfill located on Silverado Trail near Calistoga in Napa County, approximately 16 miles southwest of the project site.

Questions A-G

No new wastewater generation would result as part of the proposed project. The project site is not connected to wastewater or storm water facilities. The proposed project, if approved, would result in the approval of additional surface water rights to support a proposed agricultural development. An analysis of surface water supply is discussed in the Hydrology and Water Quality section above. Additional water supplies, such as connection to public water supply, would not be required. The proposed project would not generate substantial solid waste and would not conflict with government regulations concerning the generation, handling or disposal of solid waste. No impacts would occur.

Findings

The proposed project would not impact utilities and service systems.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
14. Aesthetics. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☑	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	☐	☐	☑	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☑	☐
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☐	☑

The project area contains scenic resources characteristic of Napa County in general, including mountainous landscapes, agricultural and pastoral settings, and riparian areas. The proposed agricultural use of the project site is consistent with the rural aesthetic quality of the project area.

Questions A-D

The proposed project would result in the agricultural use of the project site. This use is consistent with the rural aesthetic quality of the project area. The project site is not located within a State scenic highway. The proposed project would not substantially degrade the existing visual character of the site or introduce a new source of substantial light or glare. Impacts are considered to be less than significant.

Findings

Impacts to aesthetics as a result of the proposed project are considered less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
15. Cultural Resources. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☑	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	☐	☑	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☑	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☑	☐	☐

Regulatory Framework

Under CEQA, historical resources are considered part of the environment (Public Resources Code, §§ 21060.5, 21084.1). An "'historical resource' includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California (Public Resources Code, §§ 21084.1, 5020.1, subd. (j))."

In 1992, the Public Resources Code was amended as it affects historical resources. The amendments included creation of the California Register of Historic Resources (California Register) (Public Resources Code, § 5024.1). The State Historical Resources Commission administers the California Register and adopted implementing regulations effective January 1, 1998 (Cal. Code Regs., tit. 14, § 4850 et seq.). The California Register includes historical resources that are listed automatically by virtue of their appearance on, or eligibility for, certain other lists of important resources. The California Register incorporates historical resources that have been nominated by application and listed after public hearing. Also included are historical resources listed as a result of the State Historical Resources Commission's evaluation in accordance with specific criteria and procedures.

CEQA requires consideration of potential impacts to resources that are listed or qualify for listing on the California Register, as well as resources that are significant but may not qualify for listing.

Cultural Resources Study

A cultural resources study for the project area was conducted in March 1996 by William E. Soule from the Division of Water Rights, State Water Resources Control Board.[91] The cultural resources study characterizes past uses of the project area, summarizes the results of a field survey and archival records search, and provides resource treatment recommendations. An updated consultation letter was sent to the Native American Heritage Commission on November 12, 2009 requesting a check of the Sacred Lands files for the project area and a list of appropriate Native American contacts for consultation; a reply has not been received as of the date of this document.

A review of ethnographic literature and maps, including archival research at the Northwest Information Center, Sonoma State University, found that there were two Lake Miwok villages located approximately five miles to the southeast of the project location. Previous archaeological surveys in the project vicinity demonstrated a relatively high sensitivity for cultural resources. During the field survey, an intensive reconnaissance was conducted within

the proposed 50 acre POU. The perimeter of the existing reservoir, and the two hills located within the property boundary were also assessed. No cultural resources were found during the field survey.

Questions A-D
No cultural resources were found on the project site. Therefore, no resource-specific measures are warranted.

There is the possibility that subsurface archaeological deposits may exist in the project area, as archaeological sites may be buried with no surface manifestation. As such, the following permit term, substantially as follows, shall be included in any water right permits or licenses issued pursuant to Applications 30322 and 30323:

- *Should any buried archaeological materials be uncovered during project activities, such activities shall cease within 100 feet of the find. Prehistoric archaeological indicators include: obsidian and chert flakes and flaked stone tools; bedrock outcrops and boulders with mortar cups; ground stone implements (grinding slabs, mortars and pestles) and locally darkened midden soils containing some of the previously listed items plus fragments of bone and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic and metal objects; milled and split lumber; and structure and feature remains such as building foundations, privy pits, wells and dumps; and old trails. The Deputy Director for Water Rights shall be notified of the discovery and a professional archaeologist shall be retained by the Permittee to evaluate the find and recommend appropriate mitigation measures. Proposed mitigation measures shall be submitted to the Deputy Director for Water Rights for approval. Project-related activities shall not resume within 100 feet of the find until all approved mitigation measures have been completed to the satisfaction of the Deputy Director for Water Rights.*

There is also the possibility that an unanticipated discovery of human remains could occur. The following permit term, substantially as follows, shall be included in any permits or licenses issued pursuant to Applications 30322 and 30323:

- *If human remains are encountered, the Permittee shall comply with Section 15064.5 (e) (1) of the CEQA Guidelines and the Health and Safety Code Section 7050.5. All project-related ground disturbances within 100 feet of the find shall be halted until the Napa County Coroner has been notified. If the Coroner determines that the remains are Native American, the Coroner will notify the Native American Heritage Commission to identify the most-likely descendants of the deceased Native Americans. Project-related ground disturbance, in the vicinity of the find, shall not resume until the process detailed under Section 15064.5 (e) has been completed and evidence of completion has been submitted to the Deputy Director for Water Rights.*

Findings
The proposed project could result in potentially significant impacts to cultural resources. However, with implementation of the identified mitigation measures, potential impacts would be considered less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
16. Recreation. Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☑
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☑

Recreational areas in Napa County include forests, wild land areas, lakes, and creeks which offer such recreational opportunities as hiking, picnicking, hunting, boating, fishing, and swimming. Lake Berryessa and Lake Hennessey, and numerous State Parks located near Napa Valley provide abundant recreational facilities in the project area.

Question A

The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. A less than significant impact is expected.

Question B

The proposed project does not include recreation facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. No impact would occur.

Findings

The proposed project would not result in significant impacts to recreation.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
17. Mandatory Findings of Significance				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☑	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☑	☐	☐
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☑	☐	☐

Questions A-C

As discussed in the preceding sections, the proposed project has a potential to degrade the quality of the environment by adversely impacting geology and soils, land use and planning, air quality, hydrology and water quality, biological resources, and cultural resources. However, with implementation of the identified permit terms, potential impacts would be reduced to a less than significant level. Potential adverse environmental impacts in combination with the impacts of other past, present, and future projects, could contribute to cumulatively significant effects on the environment. However, with implementation of the identified permit terms, the proposed project would avoid or minimize potential impacts and would not result in cumulatively considerable environmental impacts. No potentially significant adverse affects to humans have been identified.

III. DETERMINATION

On the basis of this initial evaluation

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	☐
I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A NEGATIVE DECLARATION will be prepared.	☑
I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	☐
I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	☐
I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.	☐

Prepared By:

2-27-12

David Zweig — Date
Analytical Environmental Services

Reviewed By:

Katherine Mrowka, Acting Manager 2-24-12

Phillip Crader — Date
Manager, Permitting and Licensing Section

(Form updated 3/28/00)

Authority: Public Resources Code Sections 21083, 21084, 21084.1, and 21087.

Reference: Public Resources Code Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.1 through 21083.3, 21083.6 through 21083.9, 21084.1, 21093, 21094, 21151; *Sundstrom v. County of Mendocino*, 202 Cal. App. 3d 296 (1988); *Leonoff v. Monterey Board of Supervisors,* 222 Cal. App. 3d 1337 (1990).

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