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: Beckstoffer Vineyards Water Right Applications 29852, 30252, and 30253 and Petition to Change Water Right License 12902 (Application 25630)

APPLICATIONS: 29852 30253
30252 25630

APPLICANT: Beckstoffer Vineyards
c/o David Beckstoffer
Winegrowers Farming Company
P.O. Box 119
Rutherford, CA 94573

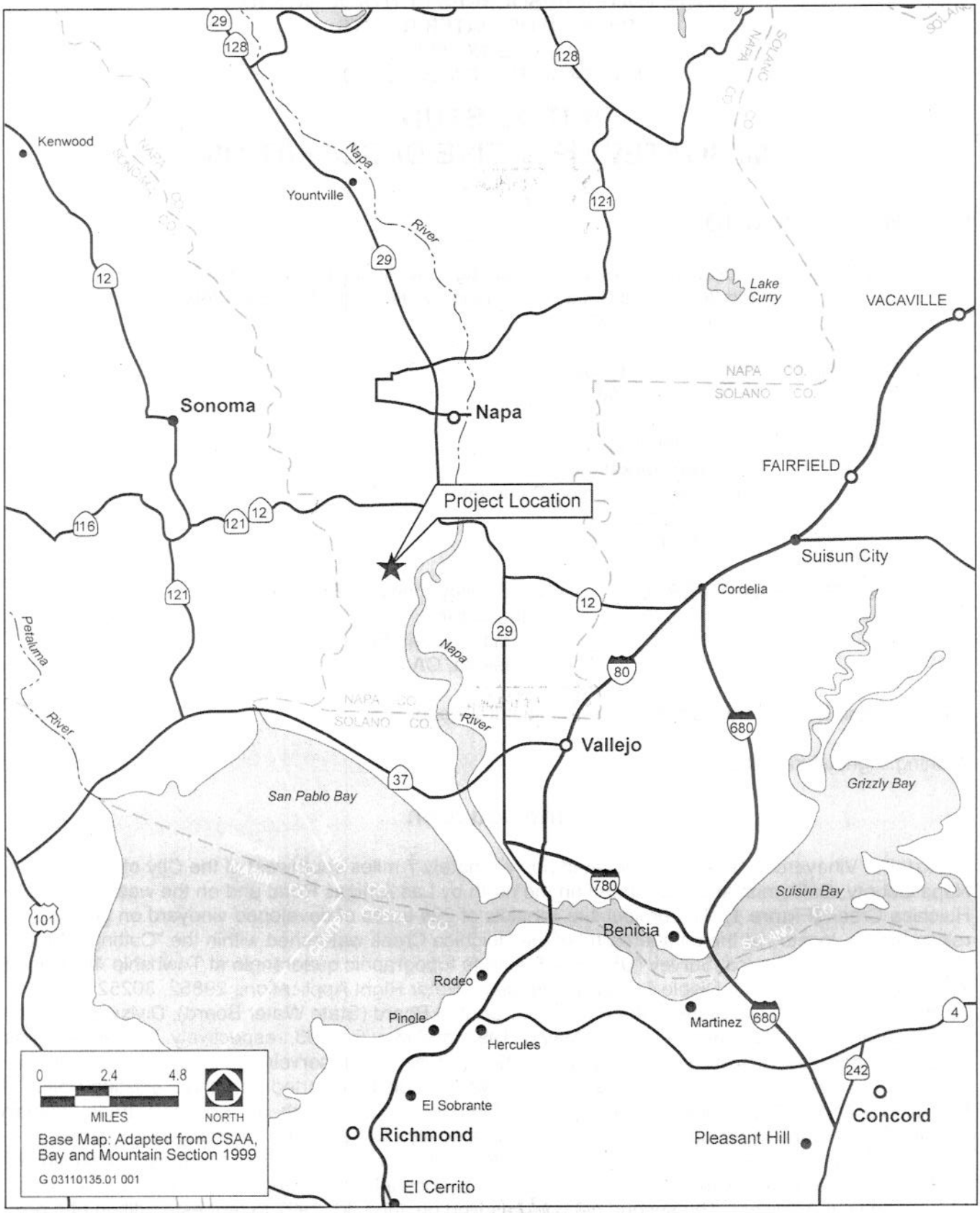
APPLICANT'S CONTACT PERSON: Napa Valley Vineyard Engineering
Diane Willson
176 Main Street, Suite B
St. Helena, CA 94574

General Plan Designation: Open Space, Agricultural Resource

Zoning: Agricultural Watershed

Introduction

Beckstoffer Vineyards (Applicant) is located approximately 7 miles southwest of the City of Napa in Napa County, California, and is bounded on the north by Las Amigas Road and on the west by Huichica Creek **(Figure 1)**. The project site consists of 296 acres of developed vineyard on gently rolling terrain, located at the southern end of the Huichica Creek watershed within the "Cuttings Wharf, California" U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle at Township 4N, Range 4W, Sections 6 and 7, Mt. Diablo Base and Meridian. Water Right Applications 29852, 30252, and 30253 were filed with the State Water Resources Control Board (State Water Board), Division of Water Rights (Division) on November 11, 1990; May 6, 1993; and May 5, 1993, respectively. The applications request 79 acre-feet of additional storage within the three existing reservoirs for irrigation of 296 acres of existing vineyard. The additional 79 acre feet of water would be diverted from three existing Points of Diversion (PODs) located on an unnamed stream tributary to Mud Slough, an unnamed stream tributary to Napa Slough, and Huichica Creek. The Applicant also filed two petitions for change on License 12902 (Application 25630). The first petition was filed on February 26, 1993 and requests expansion of the Place of Use (POU) from 171 acres to 296 acres to account for a neighboring vineyard which was acquired by the Applicant. The second petition was filed on June 30, 1997 to request addition of a point of rediversion and conversion of an onstream dam to a place of offstream storage via re-routing of an unnamed stream.



Source: California State Automobile Association, Bay and Mountain Section 1999

Project Vicinity Map **Figure 1**

Project Description

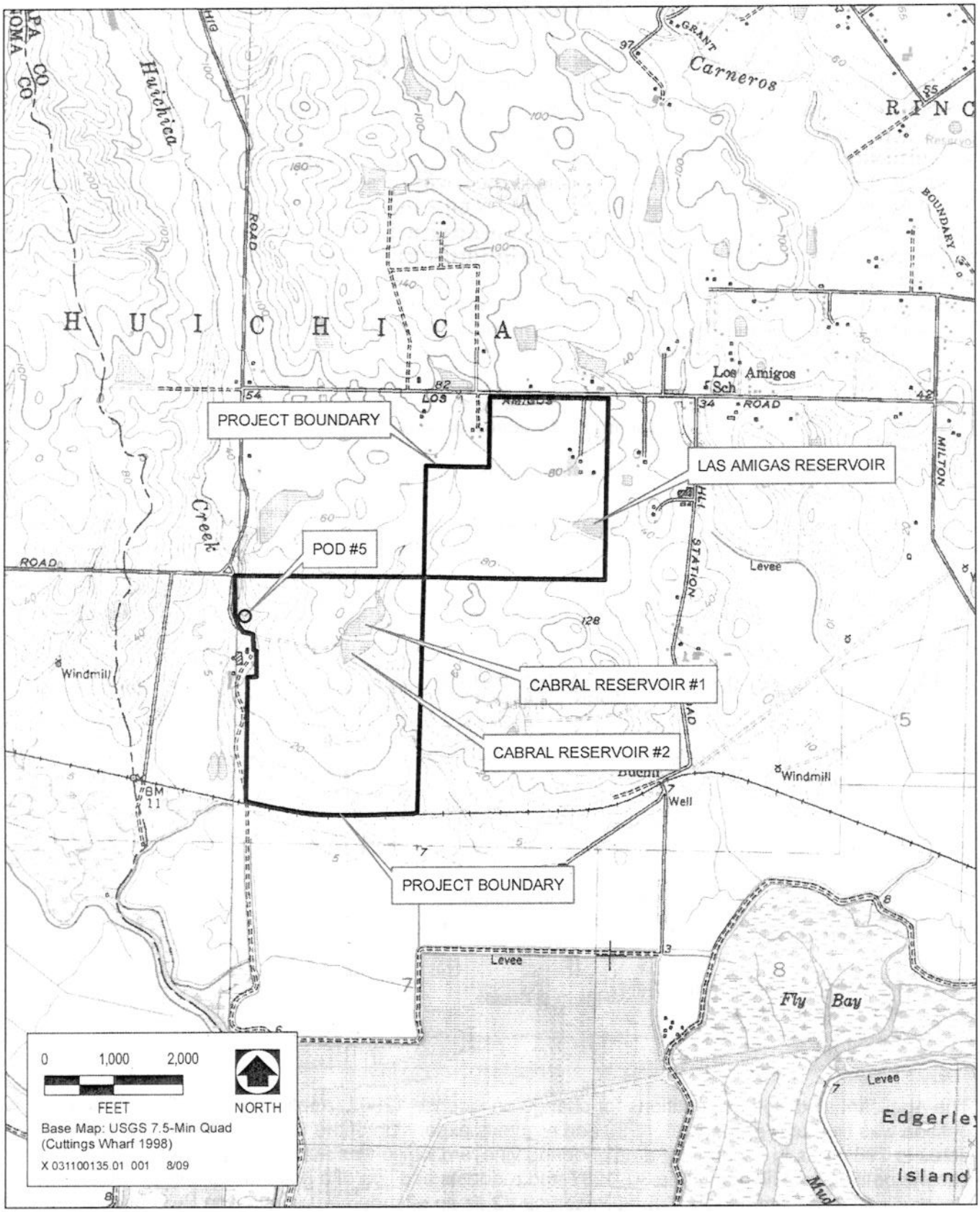
The three pending Applications seek to appropriate and divert an additional 79 acre feet (af) of water per year, for irrigation of the existing vineyard, as described in Table 1. There are a total of three existing reservoirs (Cabral Reservoir #1, Cabral Reservoir #2, and Las Amigas Reservoir #1) on the property **(Figure 2)**. Cabral Reservoir #1 and Las Amigas Reservoir are onstream reservoirs. An unnamed stream has been routed around Cabral Reservoir #2 to create an offstream, pit-type reservoir. The reservoirs are located on two separate unnamed streams, neither of which discharges into Huichica Creek. Las Amigas Reservoir is located on a watercourse that discharges into Mud Slough, and Cabral Reservoir #1 is located on a watercourse that discharges into Napa Slough. Cabral Reservoir #2 was located downstream of Cabral Reservoir #1 on the unnamed stream discharging to Napa Slough prior to the stream being rerouted. There are three existing licensed PODs; two of the PODs are the onstream dams, and the third POD is a point of diversion from Huichica Creek to offstream storage. The pending applications propose water diversion for use in vineyard irrigation throughout the 296 acres of developed vineyard as follows:

Table 1
Summary of Requested Applications

Water Right	Storage Location	Diversion Amount (afa)	Season	Source
Application 29852	Cabral Reservoir #2	14	November 1 to April 30	Huichica Creek
Application 30252	Las Amigas Reservoir and Cabral Reservoir #2	up to 65 in combination with 30253	October 15 to April 30	Unnamed streams tributary to Napa and Mud Sloughs
Application 30253	Las Amigas Reservoir and Cabral Reservoir # 2	up to 65 in combination with 30252	October 15 to April 30	Huichica Creek
Total		**Up to 79**		
POD	**Location**	**Associated Applications**		
Onstream dam at Las Amigas Reservoir #1	Stream flow from unnamed stream tributary to Mud Slough	A030252		
Onstream dam at Cabral Reservoir #1	Stream flow from unnamed stream tributary to Napa Slough	A030252		
Point of diversion from Huichica Creek to offstream storage	Huichica Creek	A029852 and A030253		

afa = acre feet per annum

The Applicant also filed two petitions for change on License 12902 (Application 25630). The first petition was filed on February 26, 1993 and requests expansion of the Place of Use (POU) from 171 acres to 296 acres to account for a neighboring vineyard which was acquired by the Applicant. The second petition was filed on June 30, 1997 and requests addition of a point of rediversion at Cabral Reservoir #1 to accommodate Cabral Reservoir #2 as an offstream reservoir. The POD associated with the original onstream dam of Cabral Reservoir #2 is to be abandoned as a result of routing the stream around the reservoir.



Source: Napa Valley Vineyard Engineering 2004, USGS Cutting Wharf Quad 1981

Project Site

Figure 2

The project also involves removing and replacing the existing pump structure located on the bank of Huichica Creek. The replacement would occur within a small footprint adjacent to the upland maintenance area, approximately 15 feet away from the bank. The following table **(Table 2)** is a summary of the pending applications, petitions, and existing licenses:

Table 2
Project Summary

Application	Amount and Source	POD/PORD	Season	POU	Purpose	Distribution
A024493 L11333	15 af from unnamed stream thence Mud slough	Las Amigas (POD)	Oct. 1 to May 1	296 acres	Irrigation Recreation	15 af in Las Amigas*
A025630 L12902	45 af from unnamed stream thence Napa Slough and Huichica Creek at a max rate of 1.66 cfs **	Cabral 1 (POD, PORD) Huichica Creek (POD)	Nov. 1 to Apr. 30	171 ac (1993 petition for 296 acres)	Irrigation	35 af in Cabral 1 10 af in Cabral 2
A029852	14 af from Huichica Creek at a max rate of 2 cfs **	Huichica Creek (POD) Cabral 1 (PORD)	Nov. 1 to Apr. 30	171 ac (1997 petition for 296 acres)	Irrigation	14 af in Cabral 2
A030252	65 af from unnamed streams tributary to Napa and to Mud Sloughs	Cabral 1 (POD) Las Amigas (POD and PORD)	Oct. 15 to Apr. 30	296 acres	Irrigation	65 af in Cabral 2 and Las Amigas*
A030253	65 af from Huichica Creek at a max rate of 3 cfs **	Huichica Creek (POD) Cabral 1 (PORD) Las Amigas (PORD)	Oct. 15 to Apr. 30	296 acres	Irrigation	65 af in Cabral 2 and Las Amigas*

* not to exceed 65 af under 30252, 30253, and 24493
** combined maximum diversion rate from Huichica Creek to offstream storage under Applications 25630, 29852, and 30253 will not exceed 3 cfs
POD = Points of Diversion
PORD = Point of Rediversion

There are a total of three existing reservoirs (Cabral Reservoir #1, Cabral Reservoir #2, and Las Amigas Reservoir #1) on the property **(Figure 2)**. Cabral Reservoir #1 and Las Amigas Reservoir are onstream and Cabral Reservoir #2 is an offstream, pit-type reservoir. The reservoirs are located on two separate watercourses, neither of which discharges into Huichica Creek. Las Amigas Reservoir is located on a watercourse that discharges into Mud Slough, and Cabral Reservoir #1 is located on a watercourse that discharges into Napa Slough. There are three existing licensed PODs; two of the PODs are the onstream dams, and the third POD is a point of diversion from Huichica Creek to offstream storage. Water is used for vineyard irrigation throughout the 296 acres of developed vineyard.

The dam of Las Amigas Reservoir is POD 1. Las Amigas currently has a capacity of 15 af. The Applicant is proposing reservoir expansion to a total capacity of 30 af. It collects the runoff from a bowl-like area that surrounds the reservoir; it also has the capability to receive water from the two Cabral Reservoirs on the other side of the property. As a result of land alterations, there is no longer a defined stream channel above and below this reservoir; once the excess water clears the spillway, it meanders through planted vineyards and into a drain tile system, and eventually reaches Mud Slough. Existing vines would need to be removed during the course of reservoir expansion.

The dam of Cabral Reservoir #1 is POD 2. Cabral Reservoir #1 has a total capacity of 35 af and exists as an onstream structure under License 12902. Excess water from this dam spills over and flows into an unnamed, intermittent watercourse tributary to Napa Slough. Water appropriated at Cabral Reservoir #1 can also be routed to Cabral Reservoir #2 and Las Amigas Reservoir.

Cabral Reservoir #2 was made into an offstream reservoir by re-routing the unnamed stream channel around the reservoir. Cabral Reservoir #2 currently has a total capacity of 84 af. It receives water from Cabral Reservoir #1, Las Amigas Reservoir, Huichica Creek, and the vineyard drain tile system.

Huichica Creek is the location of the third POD. For the purpose of continuity with the application file and project description submitted by the Applicant, it will be referred to in this document as POD #5. POD #5 consists of a POD and a pump for transporting the water to Cabral Reservoir #1, Cabral Reservoir #2, and Las Amigas Reservoir. These PODs are summarized in Table 3, below.

There is also a tile drainage system throughout the property that allows for the collection of subsurface irrigation water runoff directly into the reservoirs. All of the reservoirs have the necessary conveyance system to move water to and from the different reservoirs and thus intermingle all the water appropriated.

The Applicant has two existing (licensed) water rights, as follows:

Table 3
Summary of Existing Water Rights

Water Right	Location	Amount (afa)	Season
License 11333 (A24493)	Las Amigas Reservoir	15	October 1 to May 1
License 12902 (A25630)	Cabral Reservoirs	Res #1 – 35 Res #2 – 10	November 1 to April 30
Total		**Up to 60**	

Project Background

Public notice was issued for Application 29852 on May 17, 1991 (the application was filed on November 11, 1990). A protest was received on July 12, 1991 from the California Department of Fish and Game (DFG), contending that appropriation of water under this application may adversely affect stream resources. This protest was later dismissed by the Division on June 28, 1996. Public notice was issued for Applications 30252 and 30253 on October 21, 1994. Downstream diverter, Avatar Wine Partners, filed a protest against Application 30252 on the basis of potential injury to vested rights on the unnamed streams. As part of the protest dismissal process, the Applicant agreed to specific protest dismissal terms to prevent injury to the downstream water right with the understanding that the terms, substantially as written, will be included in any permit issued pursuant to Application 30252.

The Applicant filed subsequent petitions to modify Applications 29852, 30252, and 30253 and License 12902 (Application 25630) on June 30, 1997. The Division issued a public notice of the petitions for change on February 23, 1998. The California Sportfishing Protection Alliance and DFG filed protests on the basis of potential impacts to the environment. The California Sportfishing Protection Alliance protest was dismissed on December 1, 1998 subject to terms for a mandatory minimum streamflow requirement and measuring device requirements. DFG submitted protest dismissal terms in a letter dated June 17, 2009 requiring a bypass flow of 15.5 cubic feet per second (cfs) as measured at the Napa County Resource Conservation Gage at the DFG Huichica Creek Unit; a restoration plan for a minimum of 1,000 linear feet of stream bank in Napa Slough, Mud Slough, or Huichica Creek; and a

Lake and Streambed Alteration Agreement. The Applicant has agreed to the DFG terms and the protest will be dismissed.

CEQA Baseline

To determine whether the project has a significant environmental effect under the California Environmental Quality Act (CEQA), the lead agency must set a baseline against which to compare the project's effects on the environment. The CEQA baseline for this project has been set at November 11, 1990, the date the first water right application (Application 29852) for this project was initially filed with the State Water Board, which triggers the CEQA process and the initial environmental review by State Water Board staff. All project-related activities that were conducted subsequent to the baseline date shall be considered part of the proposed project under CEQA and therefore shall be analyzed for potential project impacts on the environment. Table 4 outlines the baseline components analyzed under CEQA.

Table 4
CEQA Baseline and Components

Existing Project Components at CEQA Baseline	CEQA Baseline Date	Project Components
Las Amigas Reservoir (capacity 15 af) and existing POD	November 11, 1990	Additional diversion and storage of 79 acre-feet of water from Huichica Creek and unnamed tributaries
Cabral Reservoir #1 (capacity 35 af) and existing POD		Expansion of Las Amigas Reservoir to 30 af capacity
Cabral Reservoir #2 (as an onstream reservoir under L 12902) and existing POD		Expansion of Cabral Reservoir #2 to 84 af capacity and rerouting of unnamed stream to create an offstream reservoir
Existing intake and pump structure (POD #5) on Huichica Creek and existing pipe conveyance		Replacement of the water intake structure, setback of the pump structure, and extension of associated conveyance piping from intake to pump structure (POD #5)
296 acres of existing vineyard (currently licensed POU under L 11333 and L 12902)		

Construction work to expand the capacity of Cabral Reservoir #2 and re-route the unnamed stream was completed after the applications were filed and therefore after the baseline date. As such, potential impacts resulting from these changes will be included in the CEQA analysis. Construction work at Cabral Reservoir #2 is assumed to have included use of typical farming equipment consisting of 2 scrapers, 2 bulldozers, one compactor and hand tools. It is assumed that a backhoe excavator may have been used for short periods of time to remove material from the reservoir site as well. Construction work to expand Las Amigas Reservoir, replace the intake structure, setback the pump structure, and extend the associated conveyance piping would be completed after issuance of any forthcoming water right permits and change orders. Construction work to expand Las Amigas reservoir would use equipment and methods similar to the Cabral Reservoir #2 expansion, but likely on a smaller scale. Replacement of the pump structure and associated conveyance piping is assumed to use trucks and minor hand equipment for installation.

Environmental Setting

The project site is located in southern Napa County, approximately 4.0 miles southwest of the intersection of State Highways 12 and 29. Huichica Creek flows year-round in a southerly direction adjacent to the southwestern boundary of the project site, into Hudeman Slough. A second unnamed, intermittent watercourse flows in a southerly direction through the central portion of the project site and drains into Napa Slough. Runoff from the bowl-like area surrounding Las Amigas Reservoir, in the northeastern portion of the project site, flows in a southeasterly direction, eventually reaching Mud Slough.

Elevations on the project site range from approximately 10 feet to approximately 100 feet above mean sea level (msl). All three existing reservoirs are approximately 50 feet above msl. Runoff is slow to medium and the erosion potential for soils on the slopes adjacent to the reservoirs is slight to moderate. Annual precipitation is less than 25 inches at the project site, with a long summer dry season.

The project site is designated in the Napa County General Plan as Open Space/Agricultural Resource. It is approximately 2.5 miles northwest of the Napa County Airport.

Habitat types at all three of the existing reservoirs consist of open water with ruderal vegetation along the upper banks. Small isolated clumps of tule (*Scirpus acutus*) and cattail (*Typha* sp.) are widely scattered within the reservoirs. Water plantain (*Alisma plantago-aquatica*), cocklebur (*Xanthium strumarium*), and dallisgrass (*Paspalum distichum*) were observed at the water's edge and on the lower banks of Cabral Reservoir #2. Ruderal annual grassland occurs on the upper banks of the reservoirs, Huichica Creek, and along vineyard edges. This habitat is characterized by bromes (*Bromus diandrus, B. hordaeceus, B. madritensis* ssp. *rubens*), yellow starthistle (*Centaurea solstitialis*), bristly ox-tongue (*Picris echioides*), filaree (*Erodium* spp.), shortpod mustard (*Hirschfeldia incana*), chicory (*Cichorium intybus*), and rose clover (*Trifolium hirtum*).

The reach of Huichica Creek where POD #5 is located is characterized by willows (*Salix* spp.). Scattered clumps of cattail (*Typha* sp.) and bulrush (*Scirpus* sp.) are present within the stream channel. Upland vegetation at POD #5 is characterized by annual grassland. The willow overstory becomes much more open and annual grasses and weedy forbs encroach into the channel immediately downstream of POD #5. Cattail and bulrush are absent in the portion of the stream as well.

The cultivated vineyards in the POU provide some habitat value for wildlife because they provide a food source and some cover. However, the disturbed nature of the vineyards provides habitat for only a limited number of wildlife species. Some species associated with the open water habitat in the POU may also occur in the vineyards. Species observed or expected in the vineyards include: America crow (*Corvus brachyrhynchos*), Brewer's blackbird (*Euphagus cyanocephalus*), house finch (*Carpodacus mexicanus*), and dark-eyed junco (*Junco hyemailis*). The open water in the reservoirs provides habitat for waterfowl and other wildlife associated with aquatic habitats. Cabral Reservoir #2 and Las Amigas Reservoir provide only moderate quality habitat for wildlife because riparian vegetation is limited and the upper banks in these reservoirs support mostly ruderal vegetation. Vegetation is absent along the lower banks of Cabral Reservoir #1, resulting in poor quality habitat for wildlife. No wildlife was observed in Cabral Reservoir #1 during the EDAW November 2004 survey; however, wildlife that occurs in the two other reservoirs could occur in Cabral Reservoir #1 due to the proximity of the three open water habitats in the POU. Wildlife observed or expected in the reservoirs includes: bufflehead (*Bucephala albeola*), black-necked stilt (*Himantopus mexicanus*), greater yellow legs (*Tringa melanoleuca*), and killdeer (*Charadrius vociferus*). The willow overstory and scattered clumps of cattail and bulrush in the reach of Huichica Creek where POD #5 is located supports good quality habitat for a diversity of wildlife, and provides shelter, nesting substrate, food resources, and water (during winter and spring). Species observed or expected in this habitat include: white-crowned sparrow (*Zonotrichia leucophrys*), black phoebe (*Sayornis nigrican*), dark-eyed junco, Brewer's blackbird, pacific tree frog

(*Hyla regilla*), raccoon (*Procyon lotor*), and muskrat (*Ondatra zibethicus*). The Napa-Sonoma Marshes Wildlife Area, managed by DFG, is located immediately downstream of POD #5.

One special-status anadromous fish species is known to occur in Huichica Creek within the project area. The Central California Coast steelhead (*Oncorhychus mykiss*) has been federally listed by the National Marine Fisheries Service (NMFS) as Threatened under the federal Endangered Species Act (FESA) (62 FR 43938, August 18, 1997). Designated critical habitat for steelhead includes the drainages of San Francisco and San Pablo Bays (65 FR 7764, February 16, 2000). This species is not listed as Threatened or Endangered under the California Endangered Species Act (CESA).

California red-legged frog (*Rana aurora draytonii*) is federally-listed as a Threatened species. Suitable habitat for California red-legged frog is present at all three project reservoirs, as well as the lower portion of Huichica Creek adjacent to the project site.

California freshwater shrimp (*Syncaris pacificus*), listed as Endangered under the federal and state ESAs, are known to occur in Huichica Creek approximately 1.5 miles upstream of the Beckstoffer project site.

Responsible, Trustee, and Federal Agencies

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 all of the proposed project:

- DFG – Streambed Alteration Agreement, California Endangered Species Act (CESA) Compliance
- California Regional Water Quality Control Board – Clean Water Act (CWA) Section 401 Water Quality Certification
- County of Napa – County Use Permit
- U.S. Fish and Wildlife Service (USFWS) – Federal Endangered Species Act (ESA) Compliance
- NMFS – Federal ESA Compliance
- U.S. Army Corps of Engineers (USACE) – Clean Water Act Section 404 Compliance

II. ENVIRONMENTAL IMPACTS

The environmental factors checked below could be potentially affected by this project and are discussed in detail in the following analysis.

☐ Aesthetics	☐ Agriculture Resources	☒ Air Quality
☒ Biological Resources	☐ Cultural Resources	☐ Geology / Soils
☐ Hazards & Hazardous Materials	☒ Hydrology / Water Quality	☐ Land Use / Planning
☐ Mineral Resources	☒ Noise	☐ Population / Housing
☐ Public Services	☐ Recreation	☐ Transportation / Traffic
☐ Utilities / Service Systems	☐ 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 on 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 offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
1. GEOLOGY AND SOILS. Would the project:				
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Environmental Setting

The project site is located within the Cutting's Warf quadrangle Alquist-Priolo fault-rupture hazard zone[1]. The project site is located approximately 2 miles northwest of the southern portion of the West Napa fault, which is known to have experienced active displacement during the last several hundred years[2]. The proposed project involves construction work associated with reservoir expansions and replacement of existing water conveyance facilities. Soils types at the project site consist primarily of Haire Loam (2 to 9 percent slopes) and Haire Clay Loam (2 to 9 percent slopes)[3]4. A small area of Haire Loam (0 to 2 percent slopes), which has a moderate shrink-swell potential, occurs adjacent to Huichica Creek. The Haire Clay Loam and Diablo Clay soil types have a high shrink-swell potential.

Discussion

Questions a–e)

The proposed project features are relatively small and even if damaged during a seismic event would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death. Therefore, there would be less-than-significant impacts associated with seismic events.

The proposed project does not involve any new construction of structures that would be impacted by liquefaction or expansive soil; therefore, there would be no impacts from seismically related liquefaction or expansive soil hazards.

The reservoirs and PODs under consideration in Applications 29852, 30252, 30253, and 25630, and Petition to Change License 12902 (Application 25630), are located in an area where the potential for landslide is considered low, on a gentle grade, and are not adjacent to unstable slopes.

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
2. AIR QUALITY				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on 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) 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 which exceed quantitative thresholds for ozone precursors)?	☐	☒	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Environmental Setting

The project site is located in Napa County, which is within the San Francisco Bay Area Air Basin (SFBAAB). The SFBAAB comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties, and the southern half of Sonoma County. Ambient concentrations of air pollutant emissions are determined by the amount of emissions released by pollutant sources and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and the presence of sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources.

Air quality in Napa County is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). With respect to ozone, Napa County is currently designated as a serious nonattainment area for the state 1-hour ambient air quality standards, and nonattainment for the federal 8-hour standard. Napa County is also designated as a nonattainment area with respect to the state standard for respirable particulate matter with an aerodynamic diameter of 10 micrometers or less (PM_{10}) and fine particulate matter ($PM_{2.5}$). Napa County is designated as an unclassified area with respect to the national standard for PM_{10} and $PM_{2.5}$. (ARB 2009a[5]).

Concentrations of ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), PM_{10}, $PM_{2.5}$, and lead are used as indicators of ambient air quality conditions. Because these are the most prevalent air pollutants known to be deleterious to human health, and because extensive documentation is available on health-effects criteria for these pollutants, they are commonly referred to as "criteria air pollutants." Standards called the California ambient air quality standards (CAAQS) and national ambient air quality standards (NAAQS) have been set for criteria air pollutants by the California Air Resources Board (ARB) and U.S. Environmental Protection Agency (EPA), respectively. Concentrations of criteria air pollutants are measured at several monitoring stations in the SFBAAB. The Jefferson Street station, located 5 miles north of the project site in the City of Napa, is the closest station with recent data for ozone and CO. Data for other pollutants have not been collected in the project vicinity for the last 3 years. In general, the ambient air quality measurements from this station would be representative of the air quality in the project vicinity. **Table 5** summarizes air quality data for the most recent 3 years of available data.

Table 5
Summary of Annual Data on Ambient Air Quality (2006–2008)[a]

	2006	2007	2008
OZONE			
Maximum concentration (1-hour/8-hour average, ppm)	0.096/0.072	0.074/0.064	0.107/0.077
Number of days state standard exceeded (1-hour/8-hour)	1/2	0/0	1/2
Number of days federal standard exceeded (8-hour)	0	0	2
RESPIRABLE PARTICULATE MATTER (PM_{10})			
Maximum concentration ($\mu g/m^3$)	-	-	-
Number of days state standard exceeded (measured/estimated[b])	-/-	-/-	-/-
Number of days federal standard exceeded (measured/estimated[b])	-/-	-/-	-/-
CARBON MONOXIDE (CO)			
Maximum concentration (8-hour average, ppm)	2.77	1.96	1.84
Number of days state standard exceeded (8-hour)	0	0	0
Number of days federal standard exceeded (8-hour)	0	0	0

Notes: $\mu g/m^3$ = micrograms per cubic meter; ppm = parts per million; – = insufficient data to determine the value

[a] Measurements from the Jefferson Avenue station, Napa, CA

[b] Measurements are usually collected every 6 days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

- Data not available

Source: ARB 2009b[6]

Both ARB and EPA use the monitoring data to designate areas according to attainment status for criteria air pollutants established by the agencies. The purpose of these designations, identified above, is to identify those areas with air quality problems and thereby initiate planning efforts for improvement.

The BAAQMD seeks to improve air quality conditions in Napa County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promoting understanding of air quality issues. The BAAQMD's clean air strategy includes preparing plans and programs for the attainment of ambient air quality standards, adopting and enforcing rules and regulations, and issuing permits for stationary sources. The BAAQMD also inspects stationary sources, responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements other programs

and regulations required by the Clean Air Act (CAA), Clean Air Act Amendments (CAAA), and California Clean Air Act (CCAA). The project must comply with all applicable regulations and thresholds established by the BAAQMD.

The BAAQMD prepares plans to attain ambient air quality standards in the SFBAAB, including ozone attainment plans (OAPs) for the national ozone standard and clean air plans (CAPs) for the California standard, in coordination with the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG). Past plans include the 2001 OAP and the 2000 CAP.

The BAAQMD has begun a process to update, in cooperation with MTC and ABAG, the Bay Area Ozone Strategy (BAOS), which was previously adopted by the BAAQMD's Board of Directors on January 4, 2006. The updated BAOS will describe current conditions, review the SFBAAB's progress in reducing ozone levels to attain state 1-hour and 8-hour ozone standards, and describe how the SFBAAB's proposed control strategy will fulfill the CCAA planning requirements for the state 1-hour ozone standard and mitigation requirements for transport of ozone and ozone precursors to neighboring air basins. The control strategy includes stationary source control measures to be implemented through BAAQMD regulations; mobile source control measures to be implemented through incentive programs and other activities; and transportation control measures to be implemented through programs in cooperation with MTC, local governments, transit agencies, and others. (BAAQMD 2006[7]).

Thresholds of Significance

As stated in Appendix G of the state *CEQA Guidelines*, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. Thus, as identified by the BAAQMD, implementation of the proposed project would result in significant air quality impacts if (BAAQMD 1999[8]):

- BAAQMD-recommended control measures are not incorporated into project design or implemented during project construction;
- Long-term operational (regional) emissions of reactive organic gases (ROG),Oxides of Nitrogen (NO_X), or PM10 exceed the BAAQMD-recommended mass emissions threshold of 15 TPY or 80 lb/day;
- Long-term operational (local) mobile-source emissions of CO violate or contribute substantially to a violation of the NAAQS or CAAQS;
- Sensitive receptors are exposed to a substantial incremental increase in toxic air contaminant (TAC) emissions (e.g., stationary or mobile-source) that exceed 10 chances per million for excess cancer risk and/or a hazard Index of 1 for non-cancer risk at the Maximally Exposed Individual (MEI); or
- Sensitive receptors would be located near an existing odor source where one confirmed complaint per year averaged over a 3-year period, or three unconfirmed complaints per year averaged over a 3-year period have been experienced by existing receptors as close as the project to the odor source; or by existing receptors in the vicinity of a similar facility considering distance, frequency, and odor control, where there is currently no nearby development and for proposed odor sources near existing receptors.
- For the purposes of this analysis, if the proposed project would substantially conflict with the greenhouse gas (GHG) reduction goals mandated in Assembly Bill (AB) 32.

Discussion

Questions a, b, c)

Short-Term Construction Emissions

Construction emissions are described as "short-term" or temporary in duration and have the potential to represent a significant impact with respect to air quality, especially fugitive dust emissions (PM_{10}). Fugitive dust emissions are associated primarily with heavy site preparation activities and vary as a function of such parameters as soil silt content, soil moisture, wind speed, and acreage of disturbance area. ROG and NO_X emissions are associated primarily with gas and diesel equipment exhaust. With respect to the project, reservoir expansion(s) and pump relocation would result in the temporary generation of ROG, NO_X, and PM_{10} emissions from grading, dredging, and other miscellaneous activities. On-site construction equipment for these types of activities may include but is not limited dozers, scrapers, and compactors. No off-site fill or hauling would be required for project implementation.

Short-term construction-generated emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ were modeled using the BAAQMD-recommended URBEMIS 2007, Version 9.2.4, computer program. Input parameters were based on default model settings and project specific information (e.g., number and type of equipment). The modeled maximum daily construction emissions are summarized in **Table 6** and described in more detail below and in Appendix A.

Table 6
Summary of Modeled Maximum Short-Term Construction-Generated Emissions

Source	ROG (lbs per day)	NO_X (lbs per day)	PM_{10} (lbs per day)	$PM_{2.5}$ (lbs per day)
Reservoir Expansion Activities (2010)[1]				
Mobile Equipment Exhaust	9.0	81.2	3.4	3.1
Fugitive Dust	–	–	20.0	4.2
Total Maximum Unmitigated	9.0	81.2	23.4	7.3

Notes: lbs = pounds, TPY = tons per year, ROG = reactive organic gases; NO_X = oxides of nitrogen; PM_{10} = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; $PM_{2.5}$ = fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less; BAAQMD = Bay Area Air Quality Management District

[1] Accounts for on-site heavy-duty construction equipment operations and employee commute trips

See Appendix B for modeling results and assumptions.

Source: Data modeled by EDAW in 2009

Project implementation would result in short-term project-generated increases in construction-related emissions of criteria air pollutants and precursors. The BAAQMD considers construction-related emissions from all projects in this region to be mitigated to a less-than-significant level if BAAQMD-recommended fugitive PM_{10} dust controls (e.g., watering, sweeping, and stabilizing) and equipment exhaust emission controls (e.g., reduction of idling), respectively, are implemented. Implementation of applicable BAAQMD dust and exhaust control permit terms would reduce this impact to a less-than-significant level. In order to minimize potential air quality impacts, the Applicant shall develop and implement an emission control plan for the proposed project. At a minimum the plan should include, but not be limited to the following measures:

- **Reduction of Particulate Emissions during Construction.** Implement fugitive dust mitigation measures recommended by BAAQMD. The Applicant shall implement the following BAAQMD-

recommended mitigation measures to reduce emissions of fugitive dust (particulate matter, or PM_{10}) from construction activities:

Water all active construction areas at least twice daily, and more often during times of high wind.

Hydroseed or apply (nontoxic) soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more).

Enclose, cover, water twice daily, *or* apply (nontoxic) soil binders to exposed stockpiles (dirt, sand, etc.).

Limit traffic speeds on unpaved roads to 15 miles per hour or as allowed by the BAAQMD based on site conditions.

Replant vegetation in disturbed areas as quickly as possible.

- **Implement BAAQMD-recommended exhaust emissions mitigation measures.** The Applicant shall implement the following BAAQMD-recommended mitigation measures to reduce exhaust emissions of reactive organic gases, nitrogen oxides, and PM_{10} from construction activities:

Minimize idling time to 5 minutes for all on-site heavy-duty equipment when not engaged in work activities.

Locate staging areas and equipment maintenance activities as far from sensitive receptors as possible.

All equipment shall be maintained in good working order and properly tuned in accordance with manufacturers' specifications.

To protect air quality, a permit term, substantially as follows, will be included in any water right permit or license issued pursuant to Applications 29852, 30252, or 30253:

Prior to the start of construction Permittee shall submit a detailed Emission Control and Mitigation Plan to the Deputy Director for Water Rights. Permittee shall also submit a copy of the plan to the San Francisco Bay Area Air Quality Management District. The Emission Control and Mitigation Plan shall be consistent with the San Francisco Bay Area Air Quality Management District's Air Quality Guidelines and include a monitoring and reporting component to ensure that mitigation measures identified in the Emission Control and Mitigation Plan are implemented. Permittee shall provide evidence to verify implementation of measures identified in the Emission Control and Mitigation Plan within 30 days of completion of construction work to the Deputy Director for Water Rights. Permittee shall also provide a copy of the evidence to the San Francisco Bay Area Air Quality Management District upon request. Evidence may consist of, but is not limited to, photographs and construction records.

Long-term Operational Emissions

Other than during project construction, the proposed project includes no new equipment, machinery, or other devices that would create new air emissions. As discussed below under Section 3.15, "Transportation/Traffic," the long-term operation of the proposed project would not cause a significant increase in vehicle traffic on the local roadway system. Thus, project operation would not increase long-term regional ROG, NO_X, and PM_{10} or local CO emissions associated with increases in stationary or mobile sources (the water intake pump would continue to operate under its existing permit or status with BAAQMD). In addition, implementation of the proposed project would not result in an increase of vehicle miles traveled, and thus would not result in the generation of emissions that conflict with or obstruct implementation of BAAQMD's air planning efforts. Thus, long-term operational emissions would not violate an air quality standard or contribute substantially to an existing or projected air quality

violation. In addition, operational emissions would not result in a cumulatively considerable net increase of criteria air pollutants for which the project region is nonattainment under an applicable federal or state ambient air quality standard. Therefore, there would be no impact.

Global Climate Change

GHG emissions generated by the project would be primarily in the form of carbon dioxide (CO_2) from construction equipment exhaust. Although emissions of other GHGs such as methane and nitrous oxide are important with respect to global climate change, the emissions levels of these GHGs for the sources associated with project construction are nominal compared with CO_2 emissions, even considering their higher global warming potential. Therefore, all GHG emissions for construction and operation are reported as CO_2.

Emissions factors and calculation methods for estimating GHG emissions associated with infrastructure projects have not been formally adopted for use by the state, BAAQMD, or any other air district. The construction-related GHG emissions associated with project implementation were calculated using URBEMIS 2007, Version 9.2.4.

Minimal to no new electricity or water indirect GHG emissions would be associated with implementation of the project and are, therefore, not quantified.

A net increase in GHG emissions would result from various construction activities. Construction-related GHG emissions would be associated with engine exhaust from heavy-duty construction equipment. Although any increase in GHG emissions would add to the quantity of emissions that contribute to global climate change, it is noteworthy that emissions associated with construction of the proposed project would occur over a finite period of time. All construction emissions would cease following construction.

To establish additional context in which to consider the order of magnitude of project-generated construction GHG emissions, it may be noted that facilities (i.e., stationary, continuous sources of GHG emissions) that generate greater than 25,000 metric tons of CO_2 per year are mandated to report their GHG emissions to ARB pursuant to AB 32. As shown in **Table 7**, estimated GHG emissions associated with construction of the entire project would be approximately 6 metric tons of CO_2 over the entire construction period. Because construction-related emissions would be temporary and finite in nature, reduced by implementing permit terms, and below established reporting levels, the project's GHG emissions would be less than significant.

Table 7
Summary of Modeled Construction-Generated Emissions of Greenhouse Gases

Source	Total Mass CO_2 Emissions (metric tons per year)
Construction Emissions[1]	
2010 Totals	149.5

Notes:
CO_2 = carbon dioxide
[1] Construction emissions were modeled with the URBEMIS 2007 computer model. The URBEMIS 2007 model does not account for embedded CO_2 emissions associated with the manufacture of construction equipment or production of concrete or other building materials used in project construction. URBEMIS does not estimate greenhouse gas emissions other than CO_2, such as methane and nitrous oxide, as these levels are expected to be nominal in comparison to the estimated CO_2 levels despite their higher global warming potential.
Source: Modeling conducted by EDAW in 2009

Question d)

Short-Term Construction Emissions

Project construction, which is limited to reservoir expansion and pump relocation, would result in short-term generation of diesel exhaust emissions from the use of off-road diesel equipment required for site grading and other construction activities. Particulate exhaust emissions from diesel-fueled engines (diesel PM) were identified as a toxic air contaminant (TAC) by ARB in 1998. The potential cancer risk from the inhalation of diesel PM, as discussed below, outweighs the potential for all other health impacts (ARB 2003[9]). The dose to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project (Salinas, pers. comm., 2004[10]).

The possible sensitive receptor exposure period for the proposed project is short. BAAQMD does not have any current guidance on TAC emissions from mobile equipment, a threshold of significance for exposure to emissions of diesel exhaust, nor recommends the completion of health risk assessments (HRAs) for construction-related emissions of TACs (BAAQMD 1999[11]). In addition, diesel PM is highly dispersive, and studies have shown that measured concentrations of vehicle-related pollutants, including ultra-fine particles, decrease dramatically within approximately 300 feet of the source (Zhu et al. 2002[12]). Because the use of mobilized equipment would be temporary, in combination with the dispersive properties of diesel PM, and because primary construction activities would not be active within 300 feet of any sensitive receptors, construction-related TAC emissions would not be anticipated to expose sensitive receptors to substantial pollutant concentrations. Therefore, this impact would be less than significant.

Long-Term Operational Emissions

As discussed under item a) above, other than during project construction, the proposed project includes no new equipment, machinery, or other devices that would result in TAC emissions. Thus, project operation would not increase TAC emissions associated with increases in stationary or mobile sources. Thus, long-term operational emissions would not expose sensitive receptors to substantial pollutant concentrations. Therefore, there is no impact.

Question e)

Construction of the proposed project would result in diesel exhaust emissions from on-site construction equipment. The diesel exhaust emissions would be intermittent and temporary and would dissipate rapidly from the source with an increase in distance. Therefore, these emissions would not result in an objectionable odor that would affect a substantial number of people. In addition, no existing sources of odors are located in the project vicinity, and the proposed project would not include the long-term operation of any new sources. Operation of the proposed project would not result in new permanent odor sources or the siting of sensitive receptors in proximity to odor sources. Therefore, this impact would be 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 or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or offsite?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3. HYDROLOGY AND WATER QUALITY.				
i) Expose people or structures to a significant risk of loss, injury, or death from flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Result in inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Environmental Setting

The Beckstoffer project site lies within the Huichica Creek watershed. A water availability analysis (WAA) for Beckstoffer's applications, and the Huichica Creek watershed as a whole, was prepared by State Water Board staff in November 2000 (SWRCB 2000)[13,14]. Results of these analyses indicated that in 2000, existing projects in the Huichica Creek watershed were diverting approximately 39% of the estimated annual unimpaired runoff. This value exceeds the DFG/NMFS threshold of 5%. Under CEQA, this level of runoff impairment could represent a potentially "substantial adverse effect" and, therefore, the cumulative flow-related impacts to Huichica Creek are considered to be potentially significant without mitigation.

Subsequent to the 2000 analysis, the Applicant hired environmental consultant Jones & Stokes to perform an environmental analysis for this project. By using the method outlined in the State Water Board staff report to determine impacts to anadromous fishery resources, Jones & Stokes concluded that further and more detailed studies addressing potential impacts to biological resources should be conducted, including analyses of cumulative diversion effects on fisheries resources, potential impacts to the downstream steelhead trout population in Huichica Creek, and potential impacts to California freshwater shrimp.

Following the Jones & Stokes analysis, the Applicant, along with Domaine Carneros and Hudson Vineyards, retained Hanson Environmental to conduct a reconnaissance survey of fishery habitat, evaluate barriers and impediments to steelhead migration, and determine the relationship between instream flow and adult steelhead passage within Huichica Creek. Hanson Environmental released a report containing its findings in September 2003.

Discussion

Questions a), f)

The proposed project involves construction work associated with reservoir expansions and pump and piping replacement. Grading and excavation of the reservoirs and the pump and piping replacement would potentially cause short-term effects to water quality through erosion. This would occur primarily in the reservoir systems, which would likely be localized in the reservoirs themselves. Any suspended sediment or silt that occurs as a result of construction would be contained and not allowed to enter natural waterways. Construction of the pump replacement and piping would occur primarily in an upland area and during a dry time of year so that stormwater runoff would not occur. The potential for erosion to occur or runoff to enter the creek is minimal because of construction Best Management Practices (BMPs) such as silt fencing, straw waddles, and other erosion BMPs which would contain

stormwater runoff and reduce erosion potential. Pursuant to the Clean Water Act Section 402 National Pollutant Discharge Elimination System (NPDES) General Construction Permit, for any construction involving disturbance of 1 acre of more, a Stormwater Pollution and Prevention Plan (SWPPP) would be prepared, which would be anticipated for the proposed action.

In addition, inclusion of the following permit terms in any water right permit or license issued pursuant to Applications 29852, 30252, or 30253, substantially as follows, would reduce potential impacts to short-term water quality to a less-than-significant level:

- *Permittee shall prevent any debris, soil, silt cement that has not set, oil, or other such foreign substance from entering into or being placed where it may be washed by rainfall runoff into the waters of the State.*

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

Diversion of the additional water requested by Applications 29852, 30252, and 30253 would not significantly affect long-term water quality.

Question b)

The project does not propose any activities that would directly affect groundwater or result in any substantial indirect effects on groundwater supplies or recharge. Impacts are less than significant.

Questions c), d), e)

Based on the information provided in the 2000 WAA, typical rainfall events in the project area are short-term and heavy, and provide adequate flows to fill the reservoirs and meet the minimum bypass requirements on Huichica Creek. When the rain ceases, the stream typically flows at rates that are lower than the estimated bypass requirement, and all Huichica Creek flow will be bypassed. Thus, hydrologic impacts from the project are considered to be less than significant. See the following section, "Biological Resources," for a discussion of impairment level, hydrologic flows, and fish and wildlife bypass flows and terms as they relate to fisheries resources.

The existing diversions being formally requested under these applications are not anticipated to substantially alter the existing drainage pattern of the site or area. Further, the diversions are not anticipated to substantially increase erosion or siltation or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite.

As discussed above, results of the WAA indicated that in 2000, existing projects in the Huichica Creek watershed were diverting approximately 39% of the estimated annual unimpaired runoff. This value exceeds the DFG/NMFS threshold of 5%. Under CEQA, this level of runoff impairment could represent a potentially "substantial adverse effect" and, therefore, the cumulative flow-related impacts to Huichica Creek are considered to be potentially significant without mitigation.

Before the Division can issue a water right permit, it must make a finding that unappropriated water is available to supply the Applicant. In determining the amount of water available for diversion, the Division must take into account, whenever it is in the public interest, the amount of water required to maintain instream beneficial uses such as fish and wildlife resources. An assessment of the project's potential impacts to instream biological resources is provided in the Biological Resources section of this

document. The November 2000 WAA document prepared for Applications 29852, 30252, and 30253 included information which may support a finding of water availability for the Applicant at the points of diversion. This analysis did not include an examination of downstream diverters within the unnamed streams. Division staff completed a supplemental analysis dated September 16, 2009 (SWRCB 2009)[15] which considered the downstream diverters within the unnamed stream. This analysis included information to suggest that water may be available for diversion from the unnamed streams under Application 30252 during wet year types. Furthermore, the Applicant has agreed to several permit terms for inclusion in any permit or license issued pursuant to Application 30252, as a result of protest resolution which will prevent injury to downstream vested rights.

Subsequent to the 2000 WAA, a site-specific study was conducted in consultation with DFG and NMFS to determine the relationship between instream flow and adult steelhead passage within Huichica Creek and develop a minimum bypass flow recommendation. A Compliance Plan for Flow Bypass will be prepared for Applications 29852, 30252, 30253, and 25630 to demonstrate how the Applicant would comply with flow bypass requirements. Implementation of the Compliance Plan would allow flows sufficient to protect biological resources in Huichica Creek as discussed above, and thus it is not anticipated that other hydrologic impacts from the project would occur if the plan were to be implemented.

To ensure that water is diverted in accordance with the project description and to minimize the project's potential to cause impacts to hydrology and water quality, the following permit terms, substantially as follows, shall be included in any water right permit or license issued pursuant to Applications 29852, 30252, 30253 and any amended license issued pursuant to the change petition filed on License 12902. These permit terms shall ensure that impacts are at a less-than-significant level:

- *Before storing water in the reservoirs, Permittee shall install a staff gage in each reservoir satisfactory to the Deputy Director for Water Rights, for the purpose of determining water levels in each reservoir. The staff gages 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 October 15 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 of Water Rights.*

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

- *Prior to diversion or use of water under this permit, Permittee shall install an in-line flow meter, satisfactory to the Deputy Director for Water Rights, that measures the instantaneous rate and the cumulative amount of water diverted from Huichica Creek. This in-line flow meter must be maintained in operating condition as long as water is being diverted or used under this permit. Permittee shall maintain a record of the end-of the month meter readings, the days and amounts of actual diversion, and shall submit these records with annual progress reports, and whenever requested by the Division of Water Rights.*

- (For use in any permit or license issued pursuant to Application 30253) *For the protection of fish and wildlife, under all bases of right, Permittee shall:*

  a) *during the period from October 15 to April 30, bypass a minimum of 15.5 cubic feet per second as measured downstream on Huichica Creek at the stream gage located adjacent to the California Department of Fish and Game refuge, as shown on the Natural Resource Conservation Service map on file with the Division of Water Rights;*

b) *bypass the total streamflow whenever it is less than 15.5 cubic feet per second; and*

c) *bypass the total streamflow from May 1 to October 14.*

- (For use in any permit or license issued pursuant to Application 29852 and any amended license issued pursuant to the change petition filed on License 12902) *For the protection of fish and wildlife, under all bases of right, Permittee shall:*

a) *during the period from November 1 to April 30, bypass a minimum of 15.5 cubic feet per second as measured downstream on Huichica Creek at the stream gage located adjacent to the California Department of Fish and Game refuge, as shown on the Natural Resource Conservation Service map on file with the Division of Water Rights;*

b) *bypass the total streamflow whenever it is less than 15.5 cubic feet per second; and*

c) *bypass the total streamflow from May 1 to October 31.*

- *Prior to the start of the 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 gages and monitoring devices that will be installed or have been installed to measure streamflow 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 installing and maintaining all flow bypass 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 Resources Control Board, the Deputy Director for Water Rights, or other authorized designees of the State Water Resources Control 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 (This term is not for use in permit terms pursuant to Application 30252).

- *Permittee shall not use more water under the basis of riparian right on the place of use authorized by this permit than Permittee would have used absent the appropriation authorized by this permit.*

  Based on the information in the Division of Water Rights files, riparian water has not been used on the place of use. Therefore, consistent with this term, Permittee may not divert any additional riparian water for use on the place of use authorized by this permit under basis of riparian right. With the Deputy Director for Water Rights approval, this information may be updated, and Permittee may use water under basis of riparian right on the authorized place of use, provided that Permittee submits reliable evidence to the Deputy Director for Water Rights quantifying the amount of water that Permittee likely would have used under the basis of riparian right absent the appropriation authorized by this permit. The Deputy Director for Water Rights is hereby authorized to approve or reject any proposal by Permittee to use water under the basis of riparian right on the place of use authorized by this permit. 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.

Specific for Application 29852:

- *The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed a total of 14 acre-feet per annum to be collected from November 1 of each year to April 30 of the succeeding year as follows: 14 acre-feet per annum in Cabral Reservoir #2.*

- *The maximum rate of diversion from Huichica Creek Point of Diversion #5 to offstream storage shall not exceed 2 cfs. The combined maximum diversion rate from Huichica Creek Point of Diversion #5 to offstream storage under Applications 25630, 29852, and 30253 shall not exceed 3 cubic feet per second.*

Specific for Application 30252:

- *The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed a total of 65 acre-feet per annum to be collected from October 15 of each year to April 30 of the succeeding year for storage in Cabral Reservoir #2 and Las Amigas Reservoir.*

- *The total quantity of water collected to storage under Applications 30252, 30253, and 24493 shall not exceed 65 acre-feet per year.*

Specific for Application 30253:

- *The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed a total of 65 acre-feet per annum to be collected from October 15 of each year to April 30 of the succeeding year for storage in Cabral Reservoir #2 and Las Amigas Reservoir.*

- *The total quantity of water collected to storage under Applications 30252, 30253, and 24493 shall not exceed 65 acre-feet per year.*

- *The maximum rate of diversion from Huichica Creek Point of Diversion #5 to offstream storage shall not exceed 3 cubic feet per second. The combined maximum diversion rate from Huichica Creek Point of Diversion #5 to offstream storage under Applications 25630, 29852, and 30253 shall not exceed 3 cubic feet per second.*

Specific for License 12902 (Application 25630):

- *The maximum rate of diversion from Huichica Creek Point of Diversion #5 to offstream storage shall not exceed 1.66 cubic feet per second. The combined maximum diversion rate from*

Huichica Creek Point of Diversion #5 to offstream storage under Applications 25630, 29852, and 30253 shall not exceed 3 cubic feet per second.

Questions g), h), i)

The project would not place structures that would impede or redirect flood flows within a 100-year flood hazard area or place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. Further, the project would not expose people or structures to a significant risk of loss, injury, or death from flooding.

Question j)

The project would not result in inundation by seiche, tsunami, or mudflow because it is geographically isolated from these types of events.

	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 sensitive, candidate, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the 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 wildlife 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?	☐	☐	☐	☒

Environmental Setting

The biological resources evaluation for the proposed project site is based on review of DFG's California Natural Diversity Database (CNDDB), the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants, and reconnaissance-level field surveys conducted by EDAW biologists Tammie Beyerl, Chris Fitzer, and Robert Solecki on November 3, 2004. The purpose of the reconnaissance surveys was to characterize the general biological resources and to determine the potential for sensitive biological resources to occur on the project site. The purpose of the CNDDB and CNPS

Inventory searches was to identify sensitive biological resources that have been documented within the nine U.S. Geological Survey 7.5-minute quadrangles containing and surrounding the project site. Quadrangles searched include Benicia, Cordelia, Cuttings Wharf, Mare Island, Mt. George, Napa, Petaluma Point, Sears Point, and Sonoma.

Special-Status Plant Species

Table 8 lists the special-status plant species known from the project area, as identified in the database searches, along with their listing status, habitat description, and the rationale for whether or not they might occur in the project vicinity. Plant species documented in the nine quad search area that are restricted to habitats that do not exist in the project vicinity, such as vernal pools, chaparral, and woodland or forest habitats, or serpentine soils, are not included in **Table 8** and are not evaluated further in this document.

EDAW botanists determined that plant species associated with riparian habitats have some potential to occur in the riparian habitat along Huichica Creek because it is good quality habitat that supports native vegetation. Special-status plant species that occur in freshwater marsh habitat, such as Suisun marsh aster and Delta tule pea, are not expected to occur at the onsite reservoirs because the reservoirs are highly disturbed and support very low cover of native marsh vegetation. However, all species in **Table 8** that grow in marsh habitats have potential to occur adjacent to the south and east of the project site where high quality marsh habitat is present. Special-status plant species that grow in annual grassland habitat, such as Mt. Diablo fairy lantern, Congdon's tarplant, Napa bluecurls, and showy Indian clover, have low potential for occurrence on the project site because there is very little annual grassland habitat and it is regularly mowed. The site where the POD #5 pump would be relocated is characterized as ruderal vegetation and is not suitable to support special-status plant species. No special-status plants were observed during the reconnaissance-level survey conducted by EDAW, but this was not a protocol-level survey and species absence cannot be presumed based on this survey.

Special-Status Wildlife Species

The CNDDB reports that 28 special-status wildlife species are known to occur in the nine quads containing and surrounding the project site. **Table 9** lists the special-status wildlife species known from the project area, as identified in the database searches, along with their listing status, habitat description, and the rationale for whether or not they might occur in the project vicinity. In addition to the special-status species listed in **Table 9**, common raptor species protected under the California Fish and Game Code also have the potential to occur in the project vicinity.

Based on the absence of suitable habitat, most of the species identified in **Table 9** are not likely to occur on or adjacent to the project site. Many species recorded in the project area could occur in the abundant marsh habitats located south and east of the project site, but are not expected to occur on the project site because suitable marsh habitat is not present for these species.

California freshwater shrimp are endemic to Marin, Napa, and Sonoma Counties. This species requires a stable, well vegetated, low gradient stream with year-round flow or with perennial pools if the shallower water areas go dry during the summer (Rempel pers. comm., 1997)[16]. Specific habitat requirements for the freshwater shrimp include pools with undercut banks, overhanging grasses, sedges, blackberry, or willow and exposed adventitious willow or alder roots along the banks of the pools or within the bank undercut. California freshwater shrimp breed during the winter. Eggs incubate from December through March and larvae are released following winter and spring high flows (USFWS 1998)[17]. California freshwater shrimp have been recorded in Huichica Creek in the project vicinity. In 1990, California freshwater shrimp were collected in two areas of Huichica Creek, 0.8 km (0.5 mile) upstream and 2 km (1.2 miles) downstream of Highway 12/121 (Serpa 1992)[18]. The downstream

Table 8
Special-Status Plant Species with Potential to Occur on or Adjacent to Beckstoffer Project Site

Species	Listing Status			General Habitat	Flowering Period	Potential to Occur
	Fed.	State	CNPS			
Franciscan onion *Allium peninsulare* var. *sonomensis*	—	—	1B	Clay, volcanic, often serpentinite soils in cismontane woodland, and valley and foothill grassland; 150–1,000 feet elevation.	May–June	Not expected to occur; isolated patches of annual grassland provide only marginal habitat and project site is lower than species known elevation range.
Alkali milk-vetch *Astragalus tener* var. *tener*	FE	CT	1B	Alkaline playas, valley and foothill grassland with heavy clay soils, and alkaline vernal pools; 3–200 feet elevation.	March–June	Not expected to occur; suitable habitat is not present.
San Joaquin spearscale *Atriplex joaquiniana*	—	—	1B	Alkaline soils in chenopod scrub, meadows and seeps, playas, and valley and foothill grassland; 3–2,700 feet elevation.	April–October	Could occur in annual grassland habitat adjacent to the project site, but potential is very low on the project site due to mowing.
Bigscale balsamroot *Balsamorhiza macrolepis* var. *macrolepis*	—	—	1B	Chaparral, cismontane woodland, valley and foothill grassland; sometimes in serpentinite soils; 300–4,500 feet elevation.	March–June	Not expected to occur; isolated patches of annual grassland provide only marginal habitat and project site is lower than species known elevation range.
Big tarplant *Blepharizonia plumosa*	—	—	1B	Valley and foothill grassland; 100–1,700 feet elevation	July–October	Could occur in annual grassland habitat adjacent to the project site, but potential is very low on the project site due to mowing.
Narrow-anthered brodiaea *Brodiaea californica* var *leptandra*	—	—	1B	Broadleaved upland forest, lower montane coniferous forest, cismontane woodland, chaparral, valley and foothill grassland; 300–3,000 feet elevation	May–July	Not expected to occur; isolated patches of annual grassland provide only marginal habitat and project site is lower than species known elevation range.
Mt. Diablo fairy lantern *Calochortus pulchellus*	—	—	1B	Chaparral. Cismontane woodland, riparian woodland, valley and foothill grassland; 100–2,800 feet elevation.	April–June	Could occur in annual grassland and riparian habitat adjacent to the project site. Potential to occur on the project site is very low due to mowing.

Table 8
Special-Status Plant Species with Potential to Occur on or Adjacent to Beckstoffer Project Site

Species	Listing Status			General Habitat	Flowering Period	Potential to Occur
	Fed.	State	CNPS			
Congdon's tarplant *Centromadia parryi* ssp. *congdonii*	—	—	1B	Valley and foothill grassland in alkaline soils; 3–800 feet elevation.	May–October	Could occur in annual grassland habitat adjacent to the project site, but potential is very low on the project site due to mowing.
Pappose tarplant *Centromadia parryi* ssp. *parryi*	—	—	1B	Chaparral, coastal prairie, meadows and seeps, coastal salt marshes, vernally mesic grassland; often in alkaline soils; 6–1,500 feet elevation.	May–November	Could occur in marsh habitat adjacent to the south and east of the project site. No suitable habitat present on the project site.
Coastal prairie *Chorizanthe valida*	FE	CE	1B	Coastal prairie	June–August	Not expected to occur; no suitable habitat present
Bolander's water-hemlock *Cicuta maculata* var. *bolanderi*	—	—	2	Coastal marshes, wetland riparian; 0–650 feet elevation.	July–September	Could occur in marsh habitats adjacent to the project site and in riparian habitat on the project site.
Soft bird's-beak *Cordylanthus mollis* ssp. *mollis*	FE	CR	1B	Coastal salt marshes and swamps; 0–1,000 feet elevation.	July–November	Could occur in extensive marsh habitats to the south and east of the project site. No suitable habitat on the project site.
Western leatherwood *Dirca occidentalis*	—	—	1B	Mesic sites in broadleaved upland forest, closed-cone coniferous forest, cismontane woodland, chaparral, north coast coniferous forest, riparian forest and woodland; 200-4,000 feet elevation	January–March	Not expected to occur; potentially suitable riparian habitat is present along Huichica Creek, but the project site is lower than species known elevation range.
Fragrant fritillary *Fritillaria liliacea*	—	—	1B	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland, wetland-riparian; often in serpentine soils; 10–1,350 feet elevation	February–April	Could occur in riparian habitat along Huichica Creek, but potential to occur in grassland on site is very low due to mowing.

Table 8
Special-Status Plant Species with Potential to Occur on or Adjacent to Beckstoffer Project Site

Species	Listing Status			General Habitat	Flowering Period	Potential to Occur
	Fed.	State	CNPS			
Diablo helianthella *Helianthella castanea*	—	—	1B	Broadleaved upland forest, cismontane woodland, chaparral, coastal scrub, riparian woodland, valley and foothill grassland; 200–4,000 feet elevation	March–June	Not expected to occur; isolated patches of grassland and riparian woodland provide only marginal habitat and the project site is lower than species known elevation range.
Pale yellow hayfield tarplant *Hemizonia congesta* ssp. *congesta*	—	—	1B	Valley and foothill grassland; sometimes on roadsides; 50–2,000 feet elevation	April–November	Could occur in grassland on and adjacent to the project site, but habitat is marginal due to mowing.
Santa Cruz tarplant *Holocarpha macradenia*	FT	CE	1B	Coastal prairie, coastal scrub, or valley and foothill grassland; often in clay or sandy soils; 30–750 feet elevation.	June–October	Not expected to occur; isolated grassland patches provide only marginal habitat and this species is not known from Napa County.
Thin-lobed horkelia *Horkelia tenuiloba*	—	—	1B	Mesic, sandy openings in broadleaved upland forest, chaparral, and valley and foothill grassland; 150–1,650 feet elevation.	May–July	Not expected to occur; isolated patches of annual grassland provide only marginal habitat and project site is lower than species known elevation range.
Northern California black walnut *Juglans hindsii*	—	—	1B	Riparian forests and woodlands; 0–1,500 feet elevation	April–May	Not expected to occur; hybridized forms of black walnut are widespread, but there are only two remaining pure stands of this species and they are in Contra Costa and Napa Counties.
Delta tule pea *Lathyrus jepsonii* var. *jepsonii*	—	—	1B	Freshwater and brackish marshes and swamps; 0–15 feet elevation	May–July	Could occur in the extensive marsh habitat south and east of the project site, but the isolated and disturbed marsh vegetation in the project reservoirs does not provide suitable habitat.
Mason's lilaeopsis *Lilaeopsis massonii*	—	CR	1B	Mudflats in freshwater and brackish marshes or riparian scrub; 0–30 feet elevation	April–November	Could occur in marsh habitats adjacent to the project site and possibly in riparian habitat along Huichica Creek.

Table 8
Special-Status Plant Species with Potential to Occur on or Adjacent to Beckstoffer Project Site

Species	Listing Status			General Habitat	Flowering Period	Potential to Occur
	Fed.	State	CNPS			
Sebastopol meadowfoam *Limnathes vinculans*	FE	CE	1B	Vernal pools and swales, meadows and seeps; 50–1,000 feet elevation	April–May	Not expected to occur; this species is restricted to the Cotati Valley in Sonoma County (56 FR 61173, Dec. 2, 1991).
Robust monardella *Monardella villosa* ssp. *globosa*	—	—	1B	Openings in broadleaved upland forest, chaparral, and cismontane woodland, valley and foothill grassland; 300–3,000 feet elevation	June–July	Not expected to occur; isolated patches of annual grassland provide only marginal habitat and project site is lower than species known elevation range.
California beaked-rush *Rhynchospora californica*	—	—	1B	Bogs and fens, lower montane coniferous forest, meadows and seeps, freshwater marshes and swamps; 150–3,300 feet elevation	May–July	Not expected to occur, project site is lower than species known elevation range.
Suisun Marsh aster *Symphiotrichum lentum*	—	—	1B	Freshwater and brackish marshes; 0–10 feet elevation	May–November	Could occur in the extensive marsh habitat south and east of the project site, but the isolated and disturbed marsh vegetation in the project reservoirs does not provide suitable habitat.
Napa bluecurls *Trichostema ruygtii*	—	—	1B	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland, vernal pools; 100–200 feet elevation	June–October	Could occur in annual grassland habitat adjacent to the project site, but potential is very low on the project site due to mowing.
showy Indian clover *Trifolium amoenum*	FE	--	1B	Coastal bluff scrub, valley and foothill grassland (sometimes on serpentinite substrate); 15–1,360 feet elevation	April–June	Could occur in grassland habitats adjacent to the west of the project site. Annual grassland on the project site is too disturbed to support this species.
Saline clover *Trifolium depauperatum* var. *hydrophilum*	—	—	1B	Marshes and swamps; mesic, alkaline grasslands; vernal pools; 0–1,000 feet elevation	April–June	Could occur in marsh habitats adjacent to the project site. Not expected to occur on the project site because no suitable habitat is present.

Table 9
Special-Status Wildlife Species with the Potential to Occur on the Beckstoffer Project Site or Vicinity

Species	Listing Status		Habitat	Potential for Occurrence
	Fed.	State		
Invertebrates				
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	--	Vernal pools in valley and foothill grasslands.	Not expected to occur; no suitable habitat present.
Myrtle's silverspot *Speyeria zerene myrtleae*	FE	--	Coastal dunes and prairies. Larval host plants are violets.	Not expected to occur; no suitable habitat present.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT	--	Elderberry shrubs below 3,000 feet in elevation.	Not expected to occur; no suitable habitat present.
California freshwater shrimp *Syncaris pacifica*	FE	CE	Shallow pools away from stream flow in low elevation, low gradient streams.	Not expected to occur; no suitable habitat present.
Amphibians and Reptiles				
California red-legged frog *Rana aurora draytonii*	FT	--	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Could occur; project reservoirs and Huichica Creek provide marginal habitat.
Foothill yellow-legged frog *Rana boylii*	--	CSC	Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	Could occur; Huichica Creek provides marginally suitable habitat.
Northwestern pond turtle *Actnemys marmorata marmorata*	--	CSC	Permanent or nearly permanent water in a wide variety of habitats with basking sites and suitable uplands for nesting	Could occur; project reservoirs provide marginal habitat. Not likely to nest on or adjacent to project site.
Alameda whipsnake *Masticophis lateralis euryxanthus*	FT	CT	Chaparral and northern coastal sage scrub with rock outcrops.	Not expected to occur; no suitable habitat present.
Birds				
White-tailed kite *Elanus leucurus* (breeding)	--	CFP	Nests in oak tree or willow near open foraging habitat: grasslands, meadows, and agricultural fields	Not expected to occur, no suitable nesting or foraging habitat on project site. Could occur in adjacent habitats.
Northern harrier *Circus cyaneus* (breeding)	--	CSC	Nests and forages in grasslands, agricultural fields, and marshes. Nests on the ground, generally in tall dense patches of herbaceous vegetation.	Not expected to occur, no suitable habitat present.
Swainson's hawk *Buteo swainsoni* (breeding)	--	FT	Forages in grasslands and agricultural land; nests in riparian and isolated trees.	Not expected to occur, no suitable habitat present.
Golden eagle *Aquila chrysaetos* (breeding and wintering)	--	CFP	Open grassland and oak savannah with large trees or cliffs for nesting.	Not expected to occur; no suitable habitat present.

Table 9
Special-Status Wildlife Species with the Potential to Occur on the Beckstoffer Project Site or Vicinity

Species	Listing Status		Habitat	Potential for Occurrence
	Fed.	State		
American peregrine falcon *Falco peregrinus anatum* (breeding)	FD	CE	Nests on cliffs, ridges, and rocky promontories. Forages in open habitats.	Not expected to occur; no suitable habitat present.
California black rail *Laterallus jamaicensis coturniculus*	--	CT CFP	Coastal salt marsh.	Known to occur in extensive marsh habitat south of the project site. No suitable habitat on the project site.
California clapper rail *Rallus longirostris obsoletus*	FE	FE CFP	Coastal salt and brackish marshes.	Known to occur in extensive marsh habitat south of the project site. No suitable habitat on the project site.
Western snowy plover *Charadrius alexandrinus nivosus*	FT	CSC	Coastal beaches.	Not expected to occur; no suitable habitat present.
Burrowing owl *Athene cunicularia* (breeding)	--	CSC	Nests and forages in grasslands, agricultural lands, open shrublands, and open woodlands with existing ground squirrel burrows or friable soils.	Not expected to occur; no suitable habitat present.
Black swift *Cypseloides niger* (breeding)	--	CSC	Nest on perpendicular cliffs near water, behind waterfalls, or in sea caves.	Not expected to occur; no suitable habitat present.
Salt-marsh common yellow throat *Geothlypis trichas sinuosa* (year around)	--	CSC	Freshwater, brackish and salt marshes, swamps, riparian woodlands.	Could occur in adjacent marsh habitats, but unlikely to occur on the project site.
Suisun song sparrow *Melospiza melodia maxillaris* (year around)	--	CSC	Nests and forages primarily in emergent marsh, riparian scrub, and early successional riparian forest habitats in the north-central portion of the Central Valley; infrequently in mature riparian forest and sparsely vegetated ditches and levees.	Not expected to occur; no suitable habitat present and project site is outside species range.
San Pablo song sparrow *Melospiza melodia samuelenis* (year around)	--	CSC	Tidal salt marshes.	Known to occur in marsh habitat along the Napa River south of project site. No suitable habitat on the project site.
Tricolored blackbird *Aegelaius tricolor* (breeding)	--	CSC	Nest in dense cattails and tules, riparian scrub, and other low, dense vegetation; forage in grasslands and agricultural fields.	Could occur in marsh habitat adjacent to project site. No suitable habitat on project site.

Table 9
Special-Status Wildlife Species with the Potential to Occur on the Beckstoffer Project Site or Vicinity

Species	Listing Status		Habitat	Potential for Occurrence
	Fed.	State		
Yellow-headed blackbird *Xanthocephalus xanthocephalus* (breeding)	--	CSC	Nest in marshes; forage in marshes and surrounding grasslands and agricultural fields.	Could occur in marsh habitat adjacent to project site. No suitable habitat on project site.
Mammals				
Suisun shrew *Sorex ornatus sinuosus*	--	CSC	Tidal salt and brackish marshes with low, dense cover.	Known to occur in extensive marsh habitat south of the project site. No suitable habitat on the project site.
Big free-tailed bat *Nyctinomops macrotis*	--	CSC	Roosts primarily in rock crevices, but sometimes roosts in buildings, caves, and tree cavities.	Not expected to roost onsite; no potential roosting structures are present.
Pallid bat *Antrozous pallidus*	--	CSC	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats. Roosts in oak hollows, rock crevices, caves, bridges or buildings.	Not expected to roost onsite; no potential roosting structures are present.
Salt marsh harvest mouse *Reithrodontomys raviventris*	FE	CE CFP	Saline emergent wetlands.	Known to occur in extensive salt marsh habitat south of the project site. No suitable habitat on the project site.
American Badger *Taxidea taxus*	--	CSC	Drier open shrub, forest, and herbaceous habitats with friable soils.	Not expected to occur; no suitable habitat present.

U.S. Fish and Wildlife Service (USFWS) Federal Listing Categories:
FE Federal Endangered
FT Federal Threatened
FD Federal Delisted
FSC Federal Species of Concern

California Department of Fish and Game (DFG) State Listing Categories:
CE California Endangered
CT California Threatened
CSC California Species of Special Concern
CFP California Fully Protected

collection is approximately 1.5 miles upstream from the project site. As concluded by Serpa in 1992, and based on a 1994 DFG memorandum, that portion of Huichica Creek adjacent to the Beckstoffer project site did not support any known or potential habitat for California freshwater shrimp in 1994 (Hunter 1994)[19].

California black rail, California clapper rail, salt-marsh common yellow throat, San Pablo song sparrow, salt-marsh harvest mouse, and Suisun shrew are all species that are associated with marsh habitats in the San Francisco Bay region. California black rail mostly inhabits salt marshes bordering the larger bays; California clapper rail inhabits saltwater and brackish marshes; salt-marsh common yellow throat

resides in both fresh and salt water marshes of the region; San Pablo song sparrow resides in salt marshes along the north side of San Francisco and San Pablo Bays; salt-marsh harvest mouse occupies the saline emergent wetlands of San Francisco Bay and its tributaries; and Suisun shrew occurs in the tidal marshes of the northern shores of San Pablo and Suisun Bays. There are records for all of these species within the project vicinity (CNDDB 2004), and suitable habitat is present for all of these species in the marsh habitats located adjacent to the Beckstoffer POU. All of these species are expected to occur in the marsh habitats located south of the project site, including the Napa-Sonoma Marshes Wildlife area, adjacent to the southern border of the Beckstoffer POU, and the Fagen Slough Ecological Reserve that is within 1 mile east of the POU. There is no suitable habitat for these species on the project site.

The valley elderberry longhorn beetle is dependent upon blue elderberry shrubs for both food and reproduction. Although no elderberry shrubs were observed in the mixed riparian forest habitat along the western border of the project site adjacent to Huichica Creek during the EDAW November 2004 reconnaissance-level survey, the survey was not intensive enough to dismiss the potential for their occurrence. Further, because elderberry shrubs are deciduous, they are more difficult to identify without their leaves during reconnaissance-level surveys performed during the winter.

The California red-legged frog requires a variety of habitat elements with aquatic breeding areas typically located within a matrix of riparian and upland dispersal habitats. Breeding sites of the California red-legged frog include freshwater habitats such as pools and backwaters within streams and creeks, ponds, marshes, springs, and lagoons. Additionally, California red-legged frogs frequently breed in artificial impoundments such as stockponds[20].

The project site is within the historical and current range of California red-legged frog. However, the project site is not located within the area proposed for designation by the USFWS as critical habitat for California red-legged frog. The nearest designated area to the project site is Unit 11, the American Canyon Unit, located southeast of the junction of Highways 12/121 and 29/121 and extending to Interstate 680. The project site is also not located within a core area designated for recovery actions in the USFWS Recovery Plan for California red-legged frogs[12]. The project site is located between the boundaries of the Fagan Creek-Jameson Canyon-Lower Napa River core area, west of the project site, and the Petaluma Creek-Sonoma Creek core area, east of the project site. There are 13 records of California red-legged frogs in the project vicinity between 1993 and 2004, but 12 of the 13 records are located at least 10 miles from the project site (CNDDB 2004) near the intersection of Highway 37 and Highway 121 and near the cities of Vallejo and Cordelia.

The three project reservoirs (Cabral Reservoir #1, Cabral Reservoir #2, and Las Amigas Reservoir) under Applications 29852, 30252, and 30253 could support California red-legged frog because they provide a perennial water source, two of the three reservoirs support some riparian vegetation, no introduced aquatic predators were observed in the reservoirs during the EDAW November 2004 reconnaissance-level survey, and the project is located near two core areas for California red-legged frog (see discussion below). Foothill yellow-legged frog inhabits streams and is not expected to occur in the reservoirs.

The lower portion of Huichica Creek adjacent to the project site could support California red-legged frog and foothill yellow-legged frog because the stream supports riparian habitat and may support some perennial aquatic habitat. During the EDAW November 2004 survey, the creek was mostly dry with the exception of an approximately 30-foot x 10-foot pool located 50 feet downstream of the vineyard diversion pump (POD #5). This pool was either a remnant of spring flows or was created by runoff from a recent fall rainstorm. The reconnaissance-level survey did not include observation of the entire portion of Huichica Creek adjacent to the project site; therefore, the presence of other potential perennial pools cannot be dismissed.

The northwestern pond turtle is found in slow-moving aquatic habitats, such as ponds, marshes, streams, and irrigation ditches. Northwestern pond turtles use submerged or emergent vegetation for foraging and require logs or other objects for basking. During the spring and summer, pond turtles nest in upland habitats adjacent to aquatic sites that provide a suitable thermal and hydric environment for incubation of the eggs. There are seven records of northwestern pond turtle within 5 miles of the project site (CNDDB 2004). These records occur south of the cities of Sonoma and Napa and near Napa junction. The reservoirs in the POU provide foraging habitat for pond turtle, but basking sites are scarce and the upland areas surrounding the reservoirs do not support suitable nesting habitat for this species because they are disturbed by vineyard maintenance activities. However, northwestern pond turtle could temporarily occur in the ponds. Expansion of Cabral Reservoir # 2 and Las Amigas Reservoir would result in an increase in foraging habitat for northwestern pond turtles because it would convert cultivated vineyards to aquatic habitat. The lower reach of Huichica Creek was dry during the EDAW November 2004 survey, and large deep pools that would pond water through summer months appear to be lacking. Therefore, northwestern pond turtle, a species that requires permanent or nearly permanent water sources, is not expected to nest in this area but may temporarily occur during winter and spring flows.

White-tailed kite forage in open grasslands, meadows, marshes, and agricultural fields that are near isolated trees or small woodland patches that provide perching and nesting areas. White-tailed kite may forage adjacent to the POU but it is not expected to nest. The adjacent marshes provide good-quality foraging opportunities for this species, but the short bushy willow trees in the riparian habitat along Huichica Creek do not provide suitable nesting habitat and there are no trees present in the reservoir expansion areas or elsewhere on the project site. Where construction would occur along Huichica Creek, no trees would be removed and thus no nesting habitat.

Although not all raptors are considered special-status species, they are a sensitive biological resource protected under Section 3503.5 of the California Fish and Game Code, which prohibits take or destruction of raptors, including their nests and eggs. Common raptor species, such as red-tailed hawk and American kestrel, may forage on the POU but are not expected to nest within the POU because there are no suitable nesting sites.

Tricolored blackbirds are colonial nesting birds that nest in dense emergent or riparian vegetation and primarily forage in grasslands, pastures, and agricultural fields. There are four records of tricolored blackbird nesting in the project vicinity (CNDDB 2004). In addition, the proximity of the POU to local marsh habitat increases the likelihood that tricolored blackbird could forage on the project site. However, the open water habitat and small isolated clumps of tule and cattail of Las Amigas Reservoir provide only marginal habitat for this species because nesting substrate (i.e., tule and cattail) is limited and tricolored blackbird is not expected to nest in the POU.

Yellow-headed blackbirds nest in marshes with tall emergent vegetation. This species has a very restricted breeding range consisting primarily of the Central Valley and northeastern California. However, nesting in Huichica Creek Wildlife Area was documented in 1992 (Shuford and Gardali 2008)[21] and this species could nest in the extensive marsh habitats south and east of the project site. There is no suitable habitat for yellow-headed blackbird on the project site.

Special-Status Fish Species

One special-status anadromous fish species is known to occur in Huichica Creek within the project area. The Central California Coast steelhead has been federally listed by NMFS (formerly NOAA Fisheries) as Threatened under the FESA (62 FR 43938, August 18, 1997). Designated critical habitat for steelhead includes the drainages of San Francisco and San Pablo Bays (65 FR 7764, February 16, 2000). This species is not listed as Threatened or Endangered under CESA.

The project site includes three PODs. One of the PODs (#5 – diversion to offstream storage) is on Huichica Creek, which provides limited suitable spawning or rearing habitat for this species. The two other PODs are on unnamed stream tributaries that do not discharge into Huichica Creek. One watercourse discharges into Mud Slough and the other discharges into Napa Slough. A DFG biologist confirmed that the unnamed tributaries do not provide habitat functions for fish species during a subsequent site visit (Gray, pers. comm., 2009)[22]. The unnamed streams are intermittent, and have no suitable habitat to attract or provide habitat functions for steelhead or other native fish species. Consequently, steelhead production from the project site and downstream is limited to Huichica Creek. Downstream of the project site, Huichica Creek flows into Hudeman Slough, thence Napa Slough, thence Sonoma Creek, thence San Pablo Bay. Spawning and rearing habitat has been determined to be limited in Huichica Creek downstream of the project site (Hanson Environmental 2003).[23] The primary benefit of winter and spring flows in Huichica Creek at the project site is to aid in fish migration and passage.

Anadromous fish spend their adult lives in the ocean and return to freshwater to spawn. Steelhead adults migrate through Huichica Creek to upstream spawning habitat in the late fall and winter. Juvenile steelhead typically rear 1-3 years in freshwater. Consequently, juvenile steelhead may be in the Napa River and Sonoma Creek basins year-round. The greatest limiting factor to steelhead production in the Huichica Creek basin and similar coastal watersheds is the summer low-flow period. During low flows, available habitat can be substantially reduced, predation rates high, competition for food increased, thermal stress increased resulting from higher water temperatures, habitat connectivity lost, and the number of steelhead ultimately becoming adults determined. While limiting factors vary, low summer and fall streamflow is a substantial limiting factor for steelhead in the Huichica Creek basin within Napa County.

In 2002, NMFS and DFG developed Draft Guidelines for Maintaining Instream Flows to Protect Fisheries Resources Downstream of Water Diversions in Mid-California Coastal Streams (DFG-NMFS Draft Guidelines), dated June 17, 2002. The DFG-NMFS Draft Guidelines were recommended for use by permitting agencies (including the State Water Board), planning agencies, and water resources development interests when evaluating proposals to divert and use water from northern California coastal streams. The DFG-NMFS Draft Guidelines apply to projects located in the geographic area of Sonoma, Napa, Mendocino, and Marin Counties, and portions of Humboldt County. The DFG-NMFS Draft Guidelines recommend that terms and conditions be included in new water right permits for small diversions to protect fishery resources in the absence of site-specific biologic and hydrologic assessments. The DFG-NMFS Draft Guidelines, in large part, recommend:

1. Assessing the cumulative impacts of multiple diversion projects on downstream fisheries habitat by calculating the Cumulative Flow Impairment Index (CFII) to estimate the cumulative effects of existing and pending projects in a watershed of interest;
2. Limiting new water right permits to diversions during the winter period (December 15 through March 31) when stream flows are generally high;
3. Providing a minimum bypass flow downstream of diversions not less than the February Median Flow as calculated at the points of diversion;
4. That new storage ponds be constructed offstream and that permitting of new or existing onstream storage ponds be avoided; and
5. Where appropriate, water diversions be screened in accordance with NMFS and DFG screening criteria.

Discussion

Question a)

Special-Status Plant Species

No impacts to freshwater marsh or annual grassland habitat would occur as a result of implementation of this project and therefore there would be no impacts to special-status plant species that are associated with these community types.

The Applicant requests appropriation and diversion of an additional 79 af of water per year from the three PODs, only one of which (POD #5) is associated with Huichica Creek. Under a worst-case scenario, the Applicant could withdraw all of the 79 af from POD #5 on Huichica Creek. This action could affect the amount of water available to the riparian habitat on Huichica Creek downstream of POD #5 and could, therefore, impact special-status plant species if they are present in the riparian plant community. Impacts to special-status plant species are considered potentially significant without mitigation. Implementation of the bypass flow and other permit conditions below, in conjunction with other permit conditions herein, would reduce all potential impacts to special-status plants to less-than-significant levels. No impacts to special-status plant species would result from replacing the pump structure at POD #5 because this area is highly disturbed and supports only ruderal (i.e., weedy) vegetation.

Special-Status Wildlife Species

California freshwater shrimp – As concluded by Serpa in 1992, and based on a 1994 DFG memorandum, the segment of Huichica Creek adjacent to the Beckstoffer project site does not support any known or potential habitat for California freshwater shrimp in 1994 (Hunter 1994)[24]. Consequently, diversions from Huichica Creek for this project site are not expected to adversely affect California freshwater shrimp, and any impacts are considered less than significant.

Black rail, clapper rail, salt-marsh harvest mouse, and other species with similar habitat requirements – In the 1994 memorandum regarding the Beckstoffer Vineyard, DFG reported that water diversions proposed under Applications 29852, 30252, and 30253 would not jeopardize the continued existence of the black rail, clapper rail, and the salt-marsh harvest mouse (Hunter 1994). DFG reported that clapper rail and salt-marsh harvest mouse prefer high salinity conditions and would not be adversely affected by potentially higher salinities that might result from water diversion upstream of the Napa-Sonoma Marsh at the terminus of the Huichica Creek watershed. Surveys for California black rail in the lower portions of Huichica Creek did not document their presence. In addition, DFG noted that the marsh habitat that could support either species of rail or saltmarsh harvest mouse is owned by DFG and would be managed to benefit these species (Hunter 1994). In 1997, the State Water Board confirmed with DFG that diversions requested under Applications 29852, 30252, and 30253 were not likely to adversely impact the salt-marsh harvest mouse, California clapper rail, and California black rail (Stohrer pers. comm., 1997)[25]. The remaining California species of special concern with similar habitat requirements (i.e., salt-marsh common yellow throat, San Pablo song sparrow, and Suisun shrew) are not expected to be adversely affected by the diversions because they require habitat conditions similar to the Threatened and Endangered species mentioned above. Therefore, impacts to California black rail, California clapper rail, salt-marsh common yellow throat, San Pablo song sparrow, salt-marsh harvest mouse, and Suisun shrew are considered less than significant.

Valley elderberry longhorn beetle – The Applicant's requested diversion of water from Huichica Creek is not expected to prevent elderberry shrubs, if they are present, from obtaining the amount of water they require for survival, growth, and reproduction because they would obtain enough water from winter rains and winter and spring creek flows. Therefore, impacts to valley elderberry longhorn beetle and their habitat are considered less than significant.

California red-legged frogs – Because this species could be present in the reservoirs, USFWS may require measures (under FESA) that protect habitat for this species along the reservoirs. Additionally, Huichica Creek could support red-legged frogs and diversions from the creek for this project could adversely affect habitat downstream of the diversion. Therefore, impacts to California red-legged frog in and around Huichica Creek and the project reservoirs are considered potentially significant without mitigation. The bypass flows for protection of anadromous fishes (specified later in this section), the California red-legged frog habitat protection term, and the mandatory endangered species protection term (presented below) would reduce impacts to California red-legged frog along Huichica Creek to a less-than-significant level. The DFG-NMFS Draft Guidelines identify the February Median Flow as an appropriate hydrologic metric for protection of specific flow needs for numerous aquatic biological processes (including both invertebrate and vertebrate production). The bypass flow required for the protection of anadromous fishes in Huichica Creek exceeds the estimated February Median Flow value[26] and therefore, per the DFG-NMFS Draft Guidelines, should be protective of California red-legged frog life stages within Huichica Creek.

For the protection of habitat for the California red-legged frog along the reservoirs and to allow for the growth of riparian vegetation, the following permit term, substantially shall be included in any permit or license issued pursuant to Applications 29852, 30252, 30253, and any amended license issued pursuant to the change petition filed on License 12902. Implementation of the following terms would reduce impacts to a less-than-significant level:

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

  a. *establish and maintain, undisturbed, a 50-foot-wide strip [exact width subject to negotiation with U.S. Fish and Wildlife Service and Department of Fish and Game] of natural upland vegetation around each water storage reservoir. During replanting, no vines shall be replanted within a 50-foot-wide strip to establish the natural vegetation buffer.*

  b. *obtain approval of the U.S. Fish and Wildlife Service, Sacramento Endangered Species Office, and California Department of Fish and Game prior to any reservoir dredging operation. Permittee shall submit to the Deputy Director of the Division of Water Rights evidence of agency approval prior to any future reservoir dredging operations;*

  c. *refrain from disturbing the fringe of emergent (wetland) vegetation in the reservoir during dredging operations;*

  d. *make no introduction of non-native fish species into the reservoir; and*

  e. *consult with the U.S. Fish and Wildlife Service and California Department of Fish and Game should any bullfrogs or non-native fish be discovered at or near the reservoir to develop and implement an acceptable bullfrog eradication program. The eradication program may require periodic draining of the reservoirs.*

  These requirements shall remain in effect as long as water is being diverted under any permit or license issued pursuant to the Applications 25630, 29852, 30252, or 30253.

Northwestern pond turtle – Northwestern pond turtle is not expected to nest in the area because the area surrounding the reservoirs consists of cultivated vineyards. Deep pools adequate to support pond turtles through summer months are lacking from the portion of Huichica Creek that runs through the project site. However, northwestern pond turtle could utilize Huichica Creek during winter and spring flows. The Applicant's request to divert water from Huichica Creek could affect the amount of water available downstream of the diversion and could result in the drying of in-stream pools or flow cessation earlier in the spring or summer. The bypass flows for protection of anadromous fishes (specified later in

this section) are expected to reduce impacts to northwestern pond turtle to a less-than-significant level. Therefore, the diversion of water from Huichica Creek under Applications 29852, 30252, and 30253 is not expected to adversely affect habitat for this species. Thus, impacts to northwestern pond turtle are considered less than significant.

White-tailed kites, raptors, tricolored blackbirds – Nesting habitat does not exist for white-tailed kites, protected raptors, tricolored blackbirds, or yellow-headed blackbirds on the site. Therefore, the requested diversions and expansion of the reservoirs proposed under Applications 29852, 30252, and 30253 are not expected to adversely affect these species. Impacts are considered less than significant.

Special-Status Fish Species

Although natural flows on the two unnamed tributaries on the Beckstoffer property would be modified with the proposed application, no special-status anadromous fish exist in these two unnamed tributaries and there is no potentially suitable habitat. Moreover, the two unnamed tributaries flow into Mud and Napa Sloughs, which are tidally influenced and would be only minimally affected by the proposed project. Consequently, the requested diversion of water from the two unnamed tributaries would have no effect on past, existing, or potentially future steelhead populations related to these unnamed streams.

Steelhead occur in Huichica Creek at the location of the proposed diversion (POD #5). Increased diversions from Huichica Creek associated with the proposed project could have potentially significant effects on steelhead downstream of the project site, and reduce or degrade suitable habitat in Huichica Creek by reducing flows that could be important to maintain water temperatures and habitat quality, and facilitate upstream and downstream migration of adult and juvenile steelhead below and/or at the project site.

The proposed project requests diversions in Huichica Creek from October 15 to April 30, which is beyond the December 15 to March 31 diversion season preferred by DFG and NMFS. Existing projects in the Huichica Creek watershed divert approximately 39% of the estimated annual unimpaired runoff (State Water Board 2000). This value exceeds the DFG/NMFS threshold of 5%. Under CEQA, this level of impairment could represent a potentially "substantial adverse effect" on steelhead and, therefore, the cumulative flow-related impacts to Huichica Creek are considered to be potentially significant without mitigation.

DFG and NMFS typically require additional site-specific studies for CFIIs over 10%. To provide information on specific streamflows suitable for steelhead migration within Huichica Creek, a reconnaissance-level field survey was performed by Hanson Environmental (2003)[27] to assess stage-discharge relationships at various locations along the Huichica Creek corridor between the DFG Preserve located near the confluence with the San Francisco Bay, upstream to Highway 121, and into the private property above. The study focused on identifying flow-passage relationships, physical migration barriers, and overall habitat value. The results of the study, titled "Huichica Fish Passage Report", found that spawning and rearing habitat was limited in the segment of creek downstream of Highway 121 to San Pablo Bay and, therefore, was focused on migration habitat functions. As a result, information provided in the study was used in consultation with DFG and NMFS to develop proposed flow management criteria for water diversion operations that would provide suitable conditions within the creek for adult steelhead migration.

On June 17, 2009, DFG notified Division staff of their intent to conditionally dismiss the DFG protest against the proposed project. In the letter, DFG states that, "DFG understands that the Applicant has requested an expanded season of diversion from October 15 through April 30 under WA 30252 & 30253, and November 1 through April 30 under A29852. In DFG's opinion, the proposed bypass flow of 15.5 cfs will be sufficient to keep all life stages of fish in good condition during both the early fall and late spring, as well as, the originally proposed winter season. Therefore, the expanded season of

diversion will not have an adverse effect on sensitive resources if the Applicant abides by the agreed to Protest dismissal terms." As terms of the dismissal, DFG's states that the Applicant must comply with existing terms and conditions in the State Water Board permits or licenses for diversion, maintain a 15.5 cfs bypass as measured at the specified gage in Huichica Creek, implement a plan in consultation with DFG to restore a minimum of 1,000 linear-feet of bank restoration in Napa Slough, Mud Slough or Huichica Creek, and obtain a Lake and Streambed Alteration Agreement. The above-described analyses and actions constitute a site-specific study prepared in consultation with, and approved by DFG and NMFS. The Applicant has agreed to the foregoing terms. Based on the minimum bypass flow term, the proposed project could make diversions up to the requested amounts from Huichica Creek without causing significant adverse impacts to any steelhead life stage, or population in Huichica Creek. In order to protect sensitive habitats on the project site and for the protection of special-status species, the following additional permit term, substantially as follows shall be included in any water right permits or licenses, issued pursuant to Applications 29852, 30252, 30253 and any amended license issued pursuant to the change petition filed on License 12902:

- *This permit does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code section 2050 to 2097) or the federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). If a "take" will result from any act authorized under this water right, the Permittee shall obtain authorization for an incidental take prior to construction or operation of the project. Permittee shall be responsible for meeting all requirements of the applicable Endangered Species Act for the project authorized under this permit.*

Question b)

Limited freshwater marsh is present at the edge of Cabral Reservoir #1 and Las Amigas Reservoir. The two unnamed streams on the site are very small and do not currently (or appear to have historically) support riparian or wetland vegetation. Huichica Creek adjacent to the project site does support a riparian community.

Riparian vegetation provides important habitat for many wildlife and plant species. Riparian vegetation also provides ecosystem functions and water quality benefits including shade and cover; inputs of large woody debris; minimization of erosion potential; filtration of sediment, nutrients, and pesticides; and maintenance of channel form and complexity. Existing buffer widths (width between developed area and banks) along Huichica Creek vary with some areas of vineyard and related access roads located within 30 to 50 feet of the banks. The width of riparian vegetation along the segment of Huichica Creek adjacent to the project site is substantially larger than those segments that are both upstream and downstream of the project site. Riparian vegetation is dominated by tree and shrub species in some areas and herbaceous grass species in others.

While there is a tremendous amount of valuable information derived from scientific research studies regarding determining the effective widths of stream buffers, there is a wide range of buffer widths that have been identified to achieve specific ecosystem functions. The wide variability in guidance can be attributed to the protection of different functions, as well as, local site conditions such as soil type, topography, and precipitation, and the size of the active channel. Even with complete knowledge of a given site, criteria for determining the appropriate widths are not well established (Fischer, et. al. 2000)[28]. Ultimately, it is important to rely on professional judgment along with relevant guidance in making the final determination.

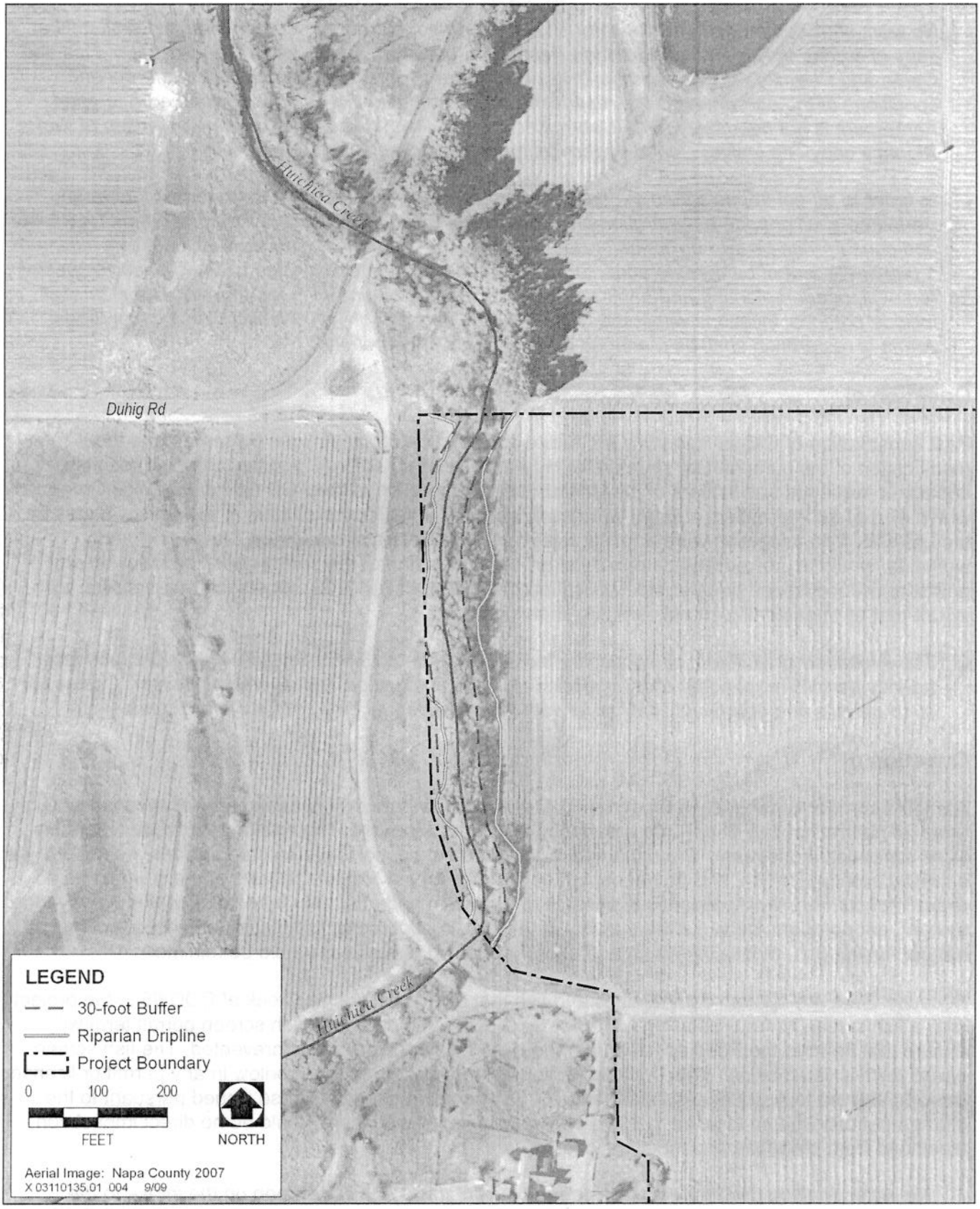
The Sonoma County Water Agency flood control manual (1983)[29] provides guidance for setback buffers on natural waterways of a minimum of 30 feet from the top of bank to maintain bank stability. In the case of the waterways having earthen bank slopes steeper than 2.5 horizontal to 1 vertical (2.5:1), the setback shall be increased to provide width for not less than 2.5:1 from the existing toe of the bank,

plus the 30-foot-wide minimum setback. Because the guidance was developed for Sonoma County, which has coastal watersheds that have similar attributes (e.g., ephemeral tributary streams with similar vegetated basins) to watersheds in Napa County, the setback guidance could theoretically be appropriately applied (with site-specific confirmation provided during the site visit conducted by EDAW biologists) to the proposed project. Other resources that provide similar setback determination guidance and ecological justification for varying site specific attributes, conditions, functions, and values include NHI 2002,[30] Robbins 2002,[31] and Peterson et al. 1992.[32]

Based on relevant guidance provided by scientific literature, a setback buffer that incorporates a varying width (with minimum setback) shall be applied to all vineyard replanting. The buffer is designed to protect existing riparian vegetation, provide vegetated filter strips, and to promote and encourage the recruitment of native riparian shrub and tree species. Mitigation incorporated within permit terms below that address stream setback buffers would reduce potential new impacts to riparian habitat to a less-than-significant level. Additionally, the minimum bypass flow permit term (see below) to protect special-status fish would also protect existing riparian vegetation and promote the natural regeneration of riparian vegetation in the future. An additional term that proposes development and implementation of erosion control measures is provided below to minimize erosion potential and sediment inputs into downstream water bodies. For the protection of riparian habitat along Huichica Creek, the following permit term, substantially shall be included in any permit or license issued pursuant to Applications 29852, 30252, 30253 and any amended license issued pursuant to the change petition filed on License 12902 (see **Figure 3**, below). In conjunction with the 1,000 feet of riparian restoration that the Applicant would conduct, implementation of the following permit terms, substantially as follows, would reduce impacts to a less-than-significant level.

- *For the protection of riparian habitat along Huichica Creek, Permittee shall establish a setback of at least 30 feet along the creek for any new vineyard planting or vineyard replant. The stream setback shall be measured from the top of the bank on both sides of the stream. In areas where existing riparian vegetation extends beyond 30 feet from the top of bank, the setback shall be extended to the riparian vegetation dripline as shown in Figure 3 of the Initial Study document. Figure 3 establishes a minimum setback requirement which may be extended or otherwise altered per any Department of Fish and Game approved restoration plan associated with Applications 25630, 29852, 30252, and/or 30253. No activity shall occur within the setback area, including, but not limited to, grading, herbicide spraying, paved roads, fencing, storage areas, and irrigation, with the exception of occasional equipment access necessary for continued operation of the vineyard. Permitted equipment access shall be limited to only necessary activities with efforts to minimize disturbance of vegetation and soils. Additionally, annual mowing of grasses to reduce fire hazard will be allowed in a 20-foot wide area adjacent to vineyards, provided that rooted vegetative cover is maintained year-round in mowed areas. The setback area shall be protected from disturbance to promote and encourage the recruitment of native riparian shrub and tree species. Planting of native riparian species is also encouraged to provide additional protection to the stream system.*

  For areas where existing agriculture encroaches on the buffer, the Permittee shall develop and implement an erosion control plan designed to stabilize stream banks and the adjacent corridor to minimize erosion potential and sediment inputs into the stream channels. Prior to diversion and use of water, Permittee shall submit an erosion control plan, approved by the County of Napa, to the Deputy Director for Water Rights.



Source: Napa County 2002

Stream Setback **Figure 3**

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

- *In order to off-set impacts from expansion of the existing reservoirs on the unnamed tributaries, Permittee shall provide a restoration plan to the California Department of Fish and Game for review and concurrence prior to diversion or use of water. The restoration plan shall include, at a minimum, 1,000 linear-feet of bank restoration, including but not limited to, activities such as invasive species removal, riparian planting and bank stabilization using bioengineering techniques. The plan shall include potential locations within the Napa Slough, Mud Slough, or Huichica Creek watersheds. Areas of restoration shall be managed and protected in perpetuity.*

Question c)

Past construction of Cabral Reservoir #2, future construction of Las Amigas Reservoir and the modification of the pump/intake structure at Huichica Creek could have resulted or would result in impacts to wetlands and Waters of the United States. Operation of the POD (#5) at Huichica Creek would disrupt an intermittent stream, which is considered jurisdictional Waters of the United States by the USACE. If no mitigation were applied, this impact on Waters of the United States, including wetlands, would be considered potentially significant. Inclusion of the permit condition below in any permit or license issued pursuant to Applications 29852, 30252, 30253, substantially as follows, will insure that all impacts to wetlands are less than significant.

- *The Permittee shall obtain all necessary federal (including USACE Section 404), state, and local agency permits required by other agencies prior to construction and diversion of water. Copies of such permits and approvals shall be forwarded to the Deputy Director for Water Rights.*

Question d)

A wildlife corridor is generally a topographical/landscape feature or movement area that connects two areas of natural habitat. The POUs are mostly developed vineyard. The existing permitted reservoirs were constructed onstream. The unnamed streams do not support riparian communities, do not provide a habitat corridor for fish, and do not contribute to downstream habitat. Therefore, there would be no direct impacts from the Applicant's expansion of onstream and offstream reservoirs, water conveyance system, or operations because the majority of the construction being proposed does not affect much natural habitat (i.e., mostly vineyard) and, therefore, any direct effects would be minimal.

Because there are riparian communities and fish that occur in Huichica Creek at POD #5 in the project site, a fish screen is required using NMFS or DFG screening criteria. A fish screen permit term will ensure that harm to the listed species from requested water diversions is prevented. The fish screen permit term is listed below. With implementation of the permit term listed below in any permit or license issued pursuant to Applications 29852 and 30253 and any amended license issued pursuant to the change petition filed on License 12902, substantially as follows, there would be no direct impacts on steelhead from proposed project diversions:

- *No water shall be diverted under this permit except through a fish screen on the intake to the diversion structure, satisfactory to meet the physical and operational specifications of the California Department of Fish and Game and the National Marine Fisheries Service to protect Steelhead Trout, Coho Salmon, and Chinook Salmon listed as endangered or threatened under the California*

Endangered Species Act (Fish and Game Code section 2050 to 2098) and the federal Endangered Species Act (16 U.S.C.A. section 1531 to 1544). Construction, operation, and maintenance costs of the required facility are the responsibility of the Permittee.

Because instream flows are critical for maintaining riparian communities and fish migration and passage in Huichica Creek downstream, mechanisms for ensuring that bypass flows would be maintained and permitted rates of diversion would not be exceeded are needed for the proposed project. This impact is considered less than significant with implementation of permit terms listed above for the protection of fish and wildlife for any permit or license issued pursuant to Applications 29852, 30252, 30253, 25630.

Question e)

The permit applications do not conflict with any local policies or ordinances protecting biological resources. Therefore, no impact would occur.

Question f)

The POU is not within any area subject to an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. Therefore, the project would not conflict with any plans and no impact would occur.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
5. AGRICULTURAL RESOURCES:				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) 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 use?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion

Question a)

Construction of the proposed project features is limited to a small, existing utility maintenance corridor adjacent to Huichica Creek and agricultural areas surrounding existing reservoirs. The area is currently not farmed or used for agriculture. There would be no conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use. There would be no impact.

Question b)

The existing zoning in the project area is for agricultural use and the project would continue use of the project area for agricultural use, so there would be no conflict. There would be no impact.

Question c)

There are no other changes anticipated due to the proposed project that would result in the conversion of Farmland to non-agricultural use. There would be no impact.

	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 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 or working in the project area to excessive noise levels?	☐	☐	☐	☒

Environmental Setting

The project site is located in southern Napa County, approximately 4 miles southwest of the intersection of State Highways 12 and 29. The nearest existing noise-sensitive land uses (e.g., residences, hospitals, libraries, schools, convalescent homes) in the vicinity include single family residences surrounding the project site, the closest of which is approximately 1,400 feet west of Cabral Reservoir #2 and approximately 500 feet north of POD #5. The closest receptor to Las Amigas Reservoir is located approximately 850 feet north. The existing noise environment within the project vicinity is primarily influenced by agricultural operations and local roadway traffic.

The Napa County General Plan Community Character Element has set noise standards for land use compatibility as 75 dBA (A-weighted decibel) L_{eq} (equivalent noise level) for agricultural land uses including the project area and 55 dBA CNEL (community noise equivalent level) for single family residential areas (e.g., the nearest sensitive receptors) (County of Napa 2008[33]). Napa County has also adopted noise regulations within the County Code of Ordinances, specifically Chapter 8.16: Noise Control Regulations (County of Napa 1984[34]). The noise ordinance has a declaration of policies,

definitions, exemptions, measurement criteria, and the authority to enforce noise ordinance violations. Policy 8.16.080-2(a), presented below, is relevant to this project:

Construction or Demolition (a) Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between the hours of seven p.m. and seven a.m., such that the sound there from creates a noise disturbance across a residential or commercial real property line, except for emergency work of public service utilities or by variance issued by the appropriate authority.

Discussion

Question a)

Short-Term Construction Source Noise

Activities analyzed at the project site would include expanding Cabral Reservoir #2, expanding Las Amigas Reservoir, and construction associated with POD #5. Typical equipment for these types of activities may include dozers, scrapers, a compactor, and work crews using hand tools. Noise levels from these types of equipment operating simultaneously would be approximately 87 dBA at 50 feet, as indicated in **Table 10**.

Based on the noise levels resulting from construction activities at reservoir expansion locations (Cabral #1, #2, and Las Amigas) and a typical noise-attenuation rate of 6 dBA per doubling of distance, exterior noise levels at noise-sensitive receptors located within 1,775 feet of reservoir expansion activities could exceed 55 dBA CNEL (Napa County standard for single-family residences). The nearest receptor to Cabral Reservoir #2 is located 1,400 feet southwest and to Las Amigas Reservoir is located 850 feet north. These receptors would likely be exposed to noise above applicable standards.

Table 10
Construction-Equipment Noise Levels

Type of Equipment	Noise Level in dBA at 50 feet
Dozer	85.0
Scraper	85.0
Compactor	80
Maximum Hourly Combined Noise Level	87.0

Source: Modeling conducted by EDAW (FHWA 2006[35])

Activities at POD #5 would include expanding the existing pipeline and relocating the water intake pump. No heavy equipment would be used in implementing this project feature and therefore no excessive noise would be created. The nearest sensitive receptor to POD #5 is located 500 feet south.

Noise levels from on-site heavy-duty construction equipment would exceed standards set by Napa County (see discussion above and **Table 10**). However, Napa County noise regulations provide exceptions for construction noise, allowing construction activities to exceed applicable noise standards when construction takes place during daytime hours (i.e., between 7:00 a.m. and 7:00 p.m.). Although the proposed project does not include nighttime construction, there is the potential for morning construction to begin prior to time limitations identified in the applicable noise regulations. Thus, if construction activities were to occur before 7:00 a.m. or after 7:00 p.m., project activities could violate standards established in the local general plan or noise ordinance, or if construction equipment is not properly equipped with noise control devices, construction-generated source noise could result in

annoyance and/or sleep disruption to occupants of the nearby existing noise-sensitive land uses and create a substantial temporary increase in ambient noise levels in the project vicinity. As a result, this impact is considered potentially significant.

Implementation of the following permit terms in any permit or license issued pursuant to Applications 29852, 30252, 30253, substantially as follows, would reduce short-term construction source noise to a less-than-significant level:

- *All project construction activities shall be conducted between 7:00 a.m. and 7:00 p.m.*
- *To minimize overall construction noise, construction equipment shall be properly maintained and equipped with appropriate noise control features, such as mufflers, in accordance with manufacturers' specifications.*

Long-Term Operational Source Noise

Long-term operation of the project would not include any new major stationary or mobile noise sources. After reservoir expansion and pump relocation, noise levels would be the same as under existing conditions. Thus, since no long-term increase in noise levels would occur, exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards would not occur. This impact is less than significant.

Question b)

Construction activities have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and operations involved. Vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. **Table 11** displays vibration levels for typical construction equipment potentially associated with this project.

Table 11
Typical Construction-Equipment Vibration Levels

Equipment	PPV at 25 feet (in/sec)[1]	Approximate L_v at 25 feet[2]
Small Bulldozer (Backhoe)	0.003	58

[1] Where PPV is the peak particle velocity
[2] Where L_v is the velocity level in decibels (VdB) referenced to 1 microinch/second and based on the root mean square (RMS) velocity amplitude.
Source: FTA 2006: Chapters 10 and 12[36]

According to the Federal Transit Administration (FTA), vibration levels associated with the use of small bulldozers (similar to a backhoe) are approximately 0.003 inches per second (in/sec) peak particle velocity (PPV) and 58 in velocity level (L_v) in decibels (VdB referenced to 1 microinch per second [µin/sec] and based on the root mean square [RMS] velocity amplitude) at 25 feet, as shown in **Table 11**. Using FTA's recommended procedure for applying a propagation adjustment to these reference levels, predicted worst-case vibration levels of approximately 0.00 in/sec PPV and 12 VdB at the nearest sensitive residence to heavy equipment operations (850 feet) could occur from use of small heavy equipment. These vibration levels would not exceed the California Department of Transportation's (Caltrans) recommended standard of 0.2 in/sec PPV (Caltrans 2002: 11[37]) with respect to the prevention of structural damage for normal buildings or the FTA's maximum-acceptable vibration standard of 80 VdB (FTA 2006: Chapters 10 and 12[38]) with respect to human annoyance for residential

uses. Thus vibration and groundborne noise resulting from the project would not expose persons to levels exceeding the recommendations of Caltrans and FTA. The long-term operations of the project would not include any vibration sources. This would be a less-than-significant impact.

Question c)

As discussed in a) above, long-term operation of the project would not include any new stationary or mobile noise sources. There would be no impact.

Question d)

As discussed in a) above, Napa County has adopted a noise ordinance for which construction-generated noise levels are limited to between 7:00 a.m. and 7:00 p.m. Nevertheless, if construction activities were to occur during the more noise-sensitive nighttime and early morning hours, or construction equipment was not properly equipped with noise control devices, construction-generated source noise could result in annoyance and/or sleep disruption to occupants of the nearby existing noise-sensitive land uses (e.g., residences) and create a substantial temporary increase in ambient noise levels in the project vicinity. As a result, this impact is considered potentially significant.

Implementation of permit terms listed above would reduce short-term construction source noise to a less-than-significant level.

Questions e, f)

The project area is not located within 2 miles of an airport land use plan or a public airport, or in the vicinity of private airport. Napa County Airport is located approximately 3 miles southeast of the project site. Given the distance from these airports and the fact that the project does not include the development of any noise-sensitive receptors, the project would not expose people residing or working on the project site to excessive noise levels. The project would have no impact from aircraft source noise.

	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?	☐	☐	☐	☒

Discussion

Question a)

The proposed project does not sit within an existing community, it is proposed within an existing agricultural area. There is no physical division of an existing community. There would be no impact.

Question b)

The proposed project is consistent with agency jurisdictions of the project regarding environmental effects. There would be no impact.

Question c)

The proposed project does not conflict with a habitat conservation plan or natural community conservation plan.

	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 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?	☐	☐	☐	☒

Discussion

Questions a, b)

The proposed project would not involve substantial construction outside of the existing area currently used for agriculture, and thus would have no direct or indirect effect on known mineral resources or any delineated mineral resource recovery sites or access to known mineral resources or to state residents.

	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 one-quarter 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 Section 65962.5, and, as a result, would it create a significant hazard to the public or 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 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?	☐	☐	☐	☒

Discussion

Questions a, b)

The proposed project does not involve construction which would result in adverse impacts related to hazards and/or hazardous materials. Only minor farming equipment would be used onsite and no off-site hauling is anticipated. In addition, there are no hazards anticipated from ongoing project operations. There would be no foreseeable potential for an accidental or routine release of hazardous materials. There would be no impact.

Question c)

There is no school within 0.25 mile of the proposed project site. There would be no impact.

Question d)

The proposed project is not located on a site listed as a site containing hazardous materials. There would be no impact.

Questions e, f)

The proposed project is not within 2 miles of an airport or a private airstrip. There would be no impact.

Question g)

The proposed project occurs within an existing agricultural use area on private land. Therefore, it would not interfere with an adopted emergency response plan or emergency evacuation plan. There would be no impact.

Question h)

The proposed project would not increase the risk of wildland fires or expose people or structures to the risk of wildland fires. There would be no impact.

	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 (for example, by proposing new homes and businesses) or indirectly (for example, 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?	☐	☐	☐	☒

Discussion

Question a)

The proposed project would have no direct or indirect effect on population growth in any area. There would be no impact.

Questions b, c)

No displacement of housing or people would occur as part of the project. No impacts on population growth or increased housing would occur as a result, either directly or indirectly of the proposed project. There would be no impact.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
11. TRANSPORTATION/TRAFFIC. Would the project:				
a) Cause an increase in traffic which 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) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) 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?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Result in inadequate parking capacity?	☐	☐	☐	☒
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒

Discussion

Questions a–g)

No traffic increase or traffic hazards are anticipated as a result of the proposed project. As a result, there would be no impact.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
12. PUBLIC SERVICES.				
a) 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 ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Discussion

Question a)

The proposed project would not generate a need for new or physically altered governmental facilities, and thus no impacts on public services would be associated with the proposed project.

	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 effects?	☐	☐	☐	☒
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 effects?	☐	☐	☐	☒
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 which 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?	☐	☐	☐	☒

Discussion

Questions a–g)

The proposed project would not require any changes in local utility systems. Therefore, the project would not affect any local utility providers and would be in compliance with all applicable local regulations and requirements. There would be no impact.

	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 which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Discussion

Questions a–d)

The proposed project would not substantially alter existing views at the project site or the surrounding area, only an existing feature increasing to replace another existing feature (i.e., reservoir taking the place of vineyard). This would not degrade the quality of the aesthetics of the area because the post-project conditions would be similar to the pre-project conditions; thus, there would be no impacts or less-than-significant impacts to visual resources.

	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 pursuant to §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?	☐	☐	☐	☒

Discussion

Questions a–d)

Research into cultural resource issues for the proposed permit applications consisted of a record search of pertinent cultural resource information and field research of the project footprint (Study Area), conducted by the State Water Board in June 1994. All findings were reported in the Cultural Resources Survey Report (Soule 1998)[39] and are on file at the State Water Board.

Prior to conducting fieldwork, the State Water Board conducted a records search at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS). A summary of a past investigation directly related to the Study Area is presented in **Table 12** below and a copy is on file with Applications 29852, 30252, and 30253 and Petition to Change License 12902 (Application 25630).

Table 12
Summary of Previous Investigations

Report Title and Location	Author and Date
Negative Archeological Survey Report Application 29852 (C. Mondavi & Sons). Report on file at the Division of Water Rights, State Water Resources Control Board. Sacramento, CA.	Soule (1992)
Cultural Resource Survey Report Applications 30255 and 30253 (Beckstoffer Vineyards). Report on file at Division of Water Rights, State Water Resources Control Board, Sacramento, CA.	Soule (1998)

The previous investigation conducted by Soule in 1991 (see Soule 1992)[40] inventoried the point of diversion located on Huichica Creek (POD#5), the proposed enlargement of Cabral Reservoir #2, and a connecting pipeline between POD#5 and Cabral Reservoir #2. Subsequent investigations conducted by the State Water Board (Soule 1998) involved an intensive pedestrian-level reconnaissance of

approximately 50 acres located west of Cabral Reservoir #2 and adjacent to Huichica Creek, and intuitive survey of the remaining 250 acres. This investigation included the 296-acre POU, the proposed Las Amigas Reservoir and POD, onstream storage at Cabral Reservoir #1, and the point of diversion east of Huichica Creek. Although located within the survey area, farm buildings situated south of Los Amigos Road were not assessed for significance because they would not be affected by the proposed project. Neither of these studies resulted in the identification of cultural resources that would be affected by the proposed project.

Previous investigations have inventoried a large percentage of the Study Area without finding any cultural resources. However, there is a possibility that subsurface archaeological deposits and/or human remains could be present and accidental discovery could occur. Because the proposed project would not involve major construction activities, paleontological resources would not be affected.

In order to avoid impacts to undiscovered archaeological resources or human remains, the following special permit terms, substantially as follows, shall be included in any permit or license issued pursuant to Applications 29852, 30252, and 30253 and Petition to Change License 12902 (Application 25630). Implementation of the permit conditions below will reduce all impacts to archaeological resources and human remains to less-than-significant levels.

- *Should any buried archeological materials be uncovered during project activities, such activities shall cease within 100 feet of the find. Prehistoric archeological indicators include: obsidian and chert flakes and chipped 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; 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 archeologist 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.*

- *If human remains are encountered, then 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 disturbance within 100 feet of the find shall be halted until the 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.*

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
16. RECREATION.				
a) Would the project 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) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

Questions a, b)

There are no recreation facilities or activities at the privately owned project site. The project would not generate a need for new or expansion of recreational facilities; therefore, no impacts to recreational facilities would occur with implementation of the proposed project. No impacts on recreation facilities would occur as a result of the proposed project.

	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 which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Discussion

Questions a–c)

With the permit terms proposed by the State Water Board and accepted by the Applicant, the overall project would have less-than-significant impacts. Please refer to the earlier sections in this Initial Study for the full texts of the special water right permit terms.

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:

Michael S. Eng 10/22/09

Mike Eng, Project Manager EDAW Date

Reviewed By:

Phillip Crader 10/22/09

Phillip Crader, Manager, Napa River Watershed Unit Date

Steven R. Herrera 10/24/09

Steven Herrera, Manager, Water Right Permitting Section Date

(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).

ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ABAG	Association of Bay Area Governments
Af	acre feet
afa	acre feet pre annum
ARB	California Air Resources Board
BAAQMD	Bay Area Air Quality Management District
BAOS	Bay Area Ozone Strategy
BAOS	Bay Area Ozone Strategy
BMP	Best Management Practices
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAAQS	California ambient air quality standards
Caltrans	California Department of Transportation
CAPs	clean air plans
CCAA	California Clean Air Act
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFII	Cumulative Flow Impairment Index
Cfs	cubic feet per second
CHRIS	California Historical Resources Information System
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CWA	Clean Water Act
dBA	A-weighted decibel
DFG	California Department of Fish and Game
diesel PM	diesel-fueled engines
Division	Division of Water Rights
EPA	U.S. Environmental Protection Agency
FESA	Federal Endangered Species Act
FTA	Federal Transit Administration
GHG	greenhouse gas

in/sec	inches per second
L_{eq}	equivalent noise level
L_v	velocity level in decibels
MEI	Maximally Exposed Individual
Msl	mean sea level
MTC	Metropolitan Transportation Commission
NAAQS	national ambient air quality standards
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NO_X	Oxides of Nitrogen
NPDES	National Pollutant Discharge Elimination System
NWIC	Northwest Information Center
OAP	ozone attainment plans
PM_{10}	respirable particulate matter with an aerodynamic diameter of 10 micrometers or less
$PM_{2.5}$	fine particulate matter
PORD	point of rediversion
POU	Place of Use
PPV	peak particle velocity
RMS	root mean square
SFBAAB	San Francisco Bay Area Air Basin
SO_2	sulfur dioxide
State Water Board	State Water Resources Control Board
SWPPP	Stormwater Pollution and Prevention Plan
TAC	contaminant
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VdB	velocity level in decibels
WAA	water availability analysis

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APPENDIX A

Air Quality Calculations

APPENDIX A

Air Quality Calculations

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Urbemis 2007 Version 9.2.4

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\weirichj\Desktop\Beckstoffer 03110135.01\beckstoffer.urb924

Project Name: Beckstoffer

Project Location: Bay Area Air District

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
Time Slice 7/15/2010-9/15/2010 Active Days: 45	**9.00**	**81.17**	**41.23**	**0.00**	**20.01**	**3.37**	**23.38**	**4.18**	**3.10**	**7.28**	**7,325.72**
Fine Grading 07/15/2010-09/15/2010	9.00	81.17	41.23	0.00	20.01	3.37	23.38	4.18	3.10	7.28	7,325.72
Fine Grading Dust	0.00	0.00	0.00	0.00	20.00	0.00	20.00	4.18	0.00	4.18	0.00
Fine Grading Off Road Diesel	8.96	81.09	39.78	0.00	0.00	3.37	3.37	0.00	3.10	3.10	7,198.33
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.05	0.08	1.45	0.00	0.01	0.00	0.01	0.00	0.00	0.00	127.39

Phase Assumptions

Phase: Fine Grading 7/15/2010 - 9/15/2010 - Reservoir Expansion, Pump House Relocation

Total Acres Disturbed: 4

Maximum Daily Acreage Disturbed: 1

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Plate Compactors (8 hp) operating at a 0.43 load factor for 10 hours per day

2 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 10 hours per day

2 Scrapers (313 hp) operating at a 0.72 load factor for 10 hours per day

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Urbemis 2007 Version 9.2.4

Detail Report for Annual Construction Unmitigated Emissions (Tons/Year)

File Name: C:\Documents and Settings\weirichj\Desktop\Beckstoffer 03110135.01\beckstoffer.urb924

Project Name: Beckstoffer

Project Location: Bay Area Air District

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Annual Tons Per Year, Unmitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
2010	0.20	1.83	0.93	0.00	0.45	0.08	0.53	0.09	0.07	0.16	164.83
Fine Grading 07/15/2010-09/15/2010	0.20	1.83	0.93	0.00	0.45	0.08	0.53	0.09	0.07	0.16	164.83
Fine Grading Dust	0.00	0.00	0.00	0.00	0.45	0.00	0.45	0.09	0.00	0.09	0.00
Fine Grading Off Road Diesel	0.20	1.82	0.90	0.00	0.00	0.08	0.08	0.00	0.07	0.07	161.96
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.87

Phase Assumptions

Phase: Fine Grading 7/15/2010 - 9/15/2010 - Reservoir Expansion, Pump House Relocation

Total Acres Disturbed: 4

Maximum Daily Acreage Disturbed: 1

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Plate Compactors (8 hp) operating at a 0.43 load factor for 10 hours per day

2 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 10 hours per day

2 Scrapers (313 hp) operating at a 0.72 load factor for 10 hours per day