

Appendix A

Napa Berryessa Resort Improvement District Wastewater Treatment System Upgrade and Expansion – Mitigated Negative Declaration

RESOLUTION NO. 2012-12 (NBRID)

**RESOLUTION OF GOVERNING BOARD OF THE NAPA BERRYESSA
RESORT IMPROVEMENT DISTRICT, ADOPTING A MITIGATED
NEGATIVE DECLARATION RELATING TO WASTEWATER TREATMENT
SYSTEM UPGRADE AND EXPANSION**

WHEREAS, the Napa Berryessa Resort Improvement District (the “District”) is a special district of the State of California organized under the Resort Improvement District Law (Public Resources Code Section 13000 *et seq.*) for the provision of water and sewer service in an unincorporated portion of the County of Napa; and

WHEREAS, over the past several years, the District has suffered deterioration of its infrastructure, which has resulted in negative action by the Regional Water Quality Control Board mandating repair and replacement of its facilities; and

WHEREAS, the District has planned improvements to its wastewater treatment system upgrade and expansion (the “Project”); and

WHEREAS, the District is authorized to levy assessments and incur bonded indebtedness (Public Resources Code Sections 13073, 13150); and

WHEREAS, the District has completed assessment proceedings to finance infrastructure repair and replacement; and

WHEREAS, the District is has received conditional approval by the United States Department of Agriculture (USDA) for a Rural Development loan to be repaid through the assessment; and

WHEREAS, USDA requires certain federal certifications, reports and other documents to satisfy the conditions of the loan; and

WHEREAS, an Initial Study was prepared for the Project pursuant to California Environmental Quality Act (CEQA) and it was determined that a Mitigated Negative Declaration should be prepared; and

WHEREAS, on October 10, 2012, a Notice of Intent to Adopt a Mitigated Negative Declaration was circulated for comment from October 11, 2012 through November 9, 2012; and

WHEREAS, the required public notice has been given relating to actions to be taken by the Board with respect to the Mitigated Negative Declaration:

NOW, THEREFORE, BE IT RESOLVED that in accordance with the provisions of the California Environmental Quality Act, the Board of Directors of the Napa Berryessa Resort Improvement District makes the following findings and takes the following actions:

1. The above recitals are true and correct.

2. The Initial Study/ Final Mitigated Negative Declaration (MND) for the Project, attached as Exhibit A, has been completed in accordance with the requirements of the California Environmental Quality Act, Public Resources Code sections 21000 *et seq.* ("CEQA") and California Code of Regulations, Title 14, sections 15000 *et seq.* ("CEQA Guidelines").
3. Certifies that the Initial Study/ Final MND was prepared, published, circulated, and reviewed in accordance with the requirements of CEQA and the CEQA Guidelines, that the Initial Study and Final MND is adequate, accurate, objective, and complete; and has been independently analyzed by the Board, and the final report together with the comments and the response to comments reflects the Board's own independent judgment (Pub. Res. Code 21082.1).
4. Pursuant to CEQA Guidelines sections 15074, and consistent with the findings set forth above in support of its approval of the Project, the Board finds that on the basis of the whole record before it, that there is no substantial evidence in the record that the project will have a significant effect on the environment.
5. Adopts the Mitigation Monitoring and Reporting Program, as set forth in the attached Exhibit B of this Resolution pursuant to Pub. Res. Code section 21081.6 and CEQA Guideline section 15074, and in support of approval of the Project, to ensure implementation of all reasonably feasible mitigation and other measures identified in the MND; that these mitigation measures are fully enforceable conditions of the Project and shall be binding on the District and all other affected parties; that these mitigation measures reduce all environmental impacts of the project to a less than significant level.
6. The Board directs that, pursuant to CEQA Guideline section 15075, staff immediately file a Notice of Determination be filed with the County Clerk of Napa County and with the State Office of Planning and Research.
7. Pursuant to CEQA Guidelines section 15074(c), the custodian of the documents and other materials that constitute the record of proceedings upon which the Board has based its decision is the Napa County Conservation, Development and Planning Department located at 1195 Third Street, Suite 210, Napa, California 94559. (Pub. Resources Code 21081.6(a)(2).)


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THE FOREGOING RESOLUTION WAS DULY AND REGULARLY ADOPTED by the Governing Board of the District, at a regular meeting of the Napa Berryessa Resort Improvement District held on the 13th day of November, 2012, by the following vote:

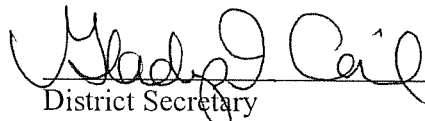
AYES:	DIRECTORS	WAGENKNECHT, LUCE, DODD, DILLON, and CALDWELL
NOES:	DIRECTORS	NONE
ABSENT:	DIRECTORS	NONE



KEITH CALDWELL, Chairman of the Board
of Directors of the Napa Berryessa Resort
Improvement District

ATTEST:

Secretary of the Board of Directors of the
Napa Berryessa Resort Improvement District

By: 

District Secretary


APPROVED AS TO FORM
Office of District Legal Counsel

By: *Janice D. Killion*

Date: October 19, 2012

**APPROVED BY THE NAPA
BERRYESSA RESORT
IMPROVEMENT DISTRICT BOARD
OF DIRECTORS**

Date: November 13, 2012

Processed by: 

Deputy Clerk of the Board

**COUNTY OF NAPA
PLANNING, BUILDING, & ENVIRONMENTAL SERVICES DEPARTMENT
1195 THIRD ST., ROOM 210
NAPA, CA 94559
(707) 253-4417**

**Initial Study Checklist
(form updated September 2010)**

1. **Project title:** Napa Berryessa Resort Improvement District Wastewater Treatment System Upgrade and Expansion
2. **Property owner:** Napa Berryessa Resort Improvement District (NBRID) (**Figure1 & 2**)
3. **County Contact person and phone number:** Kelli Cahill, Planner III (707) 265-2325, kelli.cahill@countyofnapa.org
4. **Project location and APN:** Upper Northeast Napa County, east of Steel Canyon Road at its intersection with Trailer Park Road; APN 019-220-028, 019-220-038, & 019-550-004
5. **Project sponsor's name and address:** Napa Berryessa Improvement District
c/o Kevin Berryhill, Engineering Manager – Water Resources
1195 Third Street, Rm 201, Napa CA 94559
6. **General Plan description:** Agricultural Watershed and Open Space (AWOS)
7. **Zoning:** Agricultural Watershed (AW)
8. **Description of Project.**

In direct response to the California Regional Water Quality Control Board (Regional Board), and fines issued to the Napa Berryessa Resort Improvement District (District) for release of approximately 10 million gallons of treated wastewater to Lake Berryessa, the District has proposed improvements to its wastewater treatment facility. Project improvements, include:

- **Pond Expansion** – expand the capacity of the pond system from the existing tailwater pond, which is currently 1.3 million gallons to a total of 22.3 million gallons. A total of three ponds are planned to be built to attain the maximum capacity due to site conditions. A berm was designed to split the previously examined two ponds system (MND dated June 21, 2012) for the creation of an additional pond. The proposed project was designed to meet regulatory constraints and to provide additional operational flexibility. The existing tailwater pond will be expanded for additional total pond system storage volume.

The ponds will receive approximately 33.4 million gallons of treated wastewater annually at full-build out. During a 100 year storm conditions, this increase to a total of 39.2 million gallons counting inflow and infiltration, stormwater into the ponds, and evaporation out of the ponds. The pond will have a synthetic liner to protect groundwater quality. Minimal aeration will be provided in the ponds in order to inhibit weed and algal growth (see **Figure 3**).

- **Pond Pump Station Improvements** – change to the utilities to allow for filling of the new pond system from the wastewater treatment plant (WWTP). The existing pump house will be relocated to allow for irrigation of the existing spray fields fed from the new ponds. Electrical power from PG&E will also be bought into the area to improve reliability over the existing diesel powered system.
- **Enhance Compliance Action, Sewer Lift Station Upgrades** – The project proposes improvements to the existing lift stations to improve reliability to convey effluent to the ponds. The project would include the update of two existing lift stations at Red Rock Lane and Woodhaven Court that were originally installed in the 1960s. The existing pneumatic ejector style pumps will be replaced with solids handling submersible pumps. Electrical upgrades and rehabilitation of the existing sumps would also occur at the same time. The project would enhance the integrity of the sumps and decrease downtime due to availability of parts and maintenance required with aging pneumatic lift station components.
- **Concurrently, the WWTP and WTP improvements are planned, including:** WWTP Treatment System upgrade – upgrade the facility from a secondary treated effluent quality to tertiary level, by installing a membrane bioreactor style package treatment plant system. The system would be sized to handle average and peak storm water conditions. The WWTP flow path will be reconfigured to allow for the existing ponds near the WWTP to be used for equalization during storm flow conditions.

- **WWTP Screen Improvements** – replacement of the existing manual bar screen with a Rotating Drum Screen. The screen basket will be a cylindrical shape, inclined from the horizontal, open at one end. Activation of the rotating screen basket will be automatically initiated at a preset liquid level differential. The screen basket will use a perforated plate with a hole diameter of 6 millimeters (or 0.25 inches).
- **Sewer Collection System Repairs** – point repairs of various critical sections as defined in the Larry Walker Associates (LWA) report dated October 2011. This would consist of 15 priority repair areas listed. Point repairs would consist of evacuation and repair of the line replacement in kind, to reduce the amount of inflow and infiltration seen by the WWTP.
- **Water Treatment Plant (WTP) Treatment System Upgrade** – upgrade of the facility to meet the California Department of Public Works Health (CDPH) guidelines for surface water treatment. This would be accomplished by installing a Roberts Filter style package treatment plant system. A dual train system would be installed to provide redundancy. The system would be sized to handle average and peak potable demand conditions, which will reduce backwash from the existing system that is currently forwarded to the WWTP.
- **WTP Building Upgrade** – a new building will be built to house the new water treatment equipment since the existing facility is undersized. A pre-manufactured metal building is planned for the site, which will house the existing chemical feed system that will be relocated from its existing site.
- **WTP Backwash Pump Station Upgrade** – the existing pond system will be abandoned and replaced with an above ground tank, which will allow for positive capture of generated wastewater and eliminate storm water contributions to the backwash system. A new force main will be established to allow for pumping of the backwash water to the WWTP.

9. **Describe the environmental setting and surrounding land uses.**

The proposed project site is within lands of the District that are located at 1465 Steele Canyon Road on the south shore of Lake Berryessa, and approximately 6.0 miles east of the intersection of Steele Canyon Road with State Route 128. The property is presently fenced horse pasture with private lands surrounding the holding consisting of oak woodland and grassland. The project site is located at an elevation approximately 600 feet above mean sea level that drains by sheet flow into a seasonal unnamed tributary to Lake Berryessa located within the project footprint. Additionally, there is a blue-lined stream located directly north of the project site currently bisected by the existing tailwater pond, which will be decommissioned in place.

The blue-lined stream runs through sprayfield Zone 1 and the collection ditch join on the south side of the collection pond. When the spray field is in operation, a coffer dam located within the blue-lined stream will be closed, currently forcing flow into the tailwater pond. It is proposed to isolate the existing tailwater pond and stream to direct only tailwater return to the new storage ponds. When sprayfield Zones 2-4 are not in operation, for example during wet weather, the coffer dam will continue to be opened allowing flow in the blue-lined stream to bypass the tailwater system and continue its natural flow course offsite. The modification to the collection ditch and coffer dam, if removed as part of the tailwater pond decommissioning, that removal will be addressed as part of a Department of Fish and Game 1602 Streambed Alteration Agreement.

Napa Berryessa Resort Improvement District

The District was created in 1965 with the intention of serving existing residences and a proposed resort community. The District wastewater treatment plant (WWTP) currently serves the Berryessa Highlands subdivision, supporting 343 dwelling units with the potential to support up to approximately 562 lots pending upgrades to the existing wastewater treatment system infrastructure. Lupine Shores, formerly known as Steele Park Resort, is not currently sending wastewater to the District, as construction of this new resort is still in the development phase. The District managed portion of the sewer collection system serves the Berryessa Highlands subdivision only. The Lupine Shores portion of the collection system will be privately managed by the Bureau of Reclamation (BOR) Concessionaire.

The District under Waste Discharge Requirement (WDR) Order 95-173 issued by the California Regional Water Quality Control Board (Regional Board), allows the treatment and disposal of a monthly average flow of 50,000 gallons of treated water per day to four sprayfields. According to the Regional Board the District has been in violation with the WDR since at least 1995. The majority of the violations are due to a lack of storage and disposal capacity. Additionally, as a constraint of the system capacity, significant discharges of wastewater to Lake Berryessa have been reported. In response the Regional Board issued a cease and desist order in 1996 (CDO 96-232) and again in 2006 (CDO R5-2006-0113) to provide an enforcement schedule for the District to construct improvements to prevent wastewater overflows. Due to capacity deficits, the 2006 CDO included a sewer connection restriction.

In 2010, the District and the Regional Board were in open discussions, as the District had failed to comply with the CDOs issued, following the discharge of approximately 1.4 million gallons of treated effluent to Lake Berryessa from January through June 2010. The proposed project is in response to recent CDO R5-2010-0101.

Collection System

Wastewater is collected from the Berryessa Highlands development through a series of gravity sewers, lift stations, and force mains. Within the Berryessa Highlands collection system, there are four lift stations, approximately 5.2 miles of gravity sewer lines, 1.2 miles of force main, and approximately 100 manholes. Two of the lift stations were each designed to serve one cul de sac, both of which could not flow by gravity to the collection system. One of the other two lift stations serves only a portion of the subdivision. The fourth lift station serves an area to the south of the WWTP. Wastewater flows in an 8-inch gravity line into the plant from the system with influent flows entering the plant at a manhole located on the northeast corner of the WWTP control building.

The sewer collection system (including all the lift stations) at the former Steele Park Resort (now known as Lupine Shores resort) is privately owned and operated by the resort owners, and are not part of the existing or proposed wastewater treatment facility. Wastewater collected from the former resort system was pumped to the WWTP with an influent lift station located adjacent to the effluent pump station.

Wastewater Treatment Plant

The existing District WWTP has been in operation since 1968 and is located on the west side of Steele Canyon Road, and is sized to treat an average dry weather flow of up to 175,000 gallons per day (gpd). The WWTP is an extended aeration activated sludge plant consisting of a single inlet structure, two aeration basins, two rectangular clarifiers and three effluent holding ponds. One of the effluent ponds serves as a chlorine contact basin. Chlorinated effluent is pumped to a remote spray field located to the southeast of the plant (see **Figure 2**). A 6-inch force main is used to convey the effluent to spray field for disposal. The 6-inch force main is over 5,500 feet long and terminates in an existing 50,000 gallon storage tank. The storage tank is located on the top of the ridge to provide necessary head pressure for the spray field. The disposal area is located on the hillside below the tank and divided into four spray field zones totaling approximately 60 acres.

The aeration basins are equipped with a flow split structure, each of which is 36-feet long by 25.5 feet wide with a water depth of 13 feet (approximately 89,266 gallons in volume for each basin). Aeration is provided by a set of swing-type retractable diffusers located along the center dividing wall between the aeration basins. The coarse bubble diffusers are submerged 11 feet below the water surface to provide both aeration for biological treatment and mixing to keep the solids in suspension. Aeration air is supplied by three positive displacement Roots types blowers, each rated at a 140-325 standard cubic feet per minute (scfm) at a corresponding speed of 972-1853 revolutions per minute (RPM). The blowers are driven by electric motors and are housed in the control building. The system was designed for two duty blowers and one standby. The level in the aeration basin is controlled by a sharp-crested weir located on the outlet of each basin. Aeration basin effluent flows through an outlet channel and is split between two rectangular clarifiers.

Sludge from the clarifiers and the first aeration basin is wasted into the second, unused aeration basin, which acts as the initial sludge dewater step for the plant. The solids are decanted to remove a portion of the water before a polymer feeding system, and sludge feed pump is used to pump the sludge into a sludge dewatering container (Geo-Tube) for dewatering and drying. Once dried, the sludge in the Geo-Tube is disposed of at an approved landfill site.

The effluent channel is used for chlorination and flow monitoring, which is accomplished by using a sodium hypochlorite feed system. The flow is measured by a 90 degree v-notch weir equipped with an ultrasonic level sensor, where the effluent channel flow runs by gravity to the effluent ponds. The effluent ponds serve as a chlorine contact basin and as a wet well for the effluent pumps. The effluent ponds are open basins lined with gunite and a membrane liner. Each pond has an estimate capacity of approximately 370,000 gallons.

Effluent Disposal

A 6 inch effluent pipe transport water from the ponds at the WWTP to an effluent pump station located in a ravine to the south at an elevation of 516 feet above mean sea level. This elevation allows the use of split case centrifugal pumps with a flooded suction. The pump station has two pumps, the first is a 75 horse power (hp) pump rated at 325 gpm, and the second pump is a 100 hp rate at 425 gpm. Effluent is pumped through the 6 inch pipeline to a 50,000 gallon tank at a site approximately one mile away. The tank is located at an elevation of 1,041 msl, and are controlled by a level sensor in the effluent ponds.

The 6 inch steel effluent pipe from the effluent pump station to the spray field storage tank is approximately 5,500 feet long with an elevation of approximately 500 feet msl. The pipeline is located in the center of Steele Canyon Road for approximately 2,600 feet after leaving the WWTP site, at which point, the pipeline follows the spray field pond access road for another 1,400 feet to a location on the east side of the spray field runoff collection pond. From this point, the pipeline heads in an easterly direction up the hill through the spray field to the effluent storage tank.

The effluent storage tank is used as a head tank to provide gravity flow and the necessary pressure for the spray fields. There is a single 10 inch effluent pipe from the tank running to the four separate spray field zones, which are controlled with manual isolation valves. Zone 1 is the farthest to the north, and spans an intermittent stream that runs to the south of the collection pond. A low berm lies between the northern part of Zone 1 and the stream, channeling runoff from this section to the west and into the collection pond directly through a drainage culvert (known as the tailwater return) at the location indicated on wastewater storage pond improvement plans (see **Figure 3**).

The blue-lined stream drains the southern half of Zone 1, the northern portion of Zone 2, and offsite areas further up the hill. Zone 2 is directly to the south of Zone 1, the northern half drains into the blue-lined stream and the southern half drains down to the tailwater collection ditch that runs along the western edge of each zone. Zone 3 is directly to the south of Zone 2 and all of Zone 3 drains into the collection ditch. Zone 4 is the farthest south and also drains into the collection ditch.

The collection ditch gathers all runoff from Zones 2-4 and conveys it to the southern side of the collection pond. Valves are located along the collection ditch in the disposal area to allow flows to exit the collection ditch and run out of the disposal area. This allows for runoff from areas south of each valve to be diverted from the runoff collection system. When the spray field system is in operation, these gate valves are closed.

10. **Other agencies whose approval is required** (e.g., permits, financing approval, or participation agreement).

State Agency

- Department of Fish and Game (R)
- San Francisco Bay Regional Water Quality Control Board (R)

Federal Agency

- Bureau of Reclamation (R)
- U.S. Army Corp of Engineers (R)

ENVIRONMENTAL IMPACTS AND BASIS OF CONCLUSIONS:

The conclusions and recommendations contained herein are professional opinions derived in accordance with current standards of professional practice. They are based on a review of the Napa County Environmental Resource Maps, other sources of information listed in the project file, any comments received, conversations with knowledgeable individuals, the preparer's personal knowledge of the area, and site inspections. Other sources of information used in the preparation of this Initial Study include site specific studies conducted by the applicant and filed by the applicant, as described below.

- Tom Origer and Associates, March 29, 2012, A Cultural Resources Survey
- Tom Origer and Associates, September 4, 2012, A Cultural Resources Survey
- Kjeldsen Biological Consulting, June 7, 2012, Biological Assessment
- Kjeldsen Biological Consulting, September 2012, Biological Assessment

All documents used in the preparation of this Initial Study are available in the Napa County Department of Planning, Building, & Environmental Services (PBES) permanent files for review and are incorporated herein by reference.

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 MITIGATED 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.

Signature

October 10, 2012

Date

Hillary Gitelman, Director

Printed Name

Planning, Building & Environmental Services

For

ENVIRONMENTAL CHECKLIST FORM

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

a-c. The District is located within and adjacent to the Berryessa Highlands subdivision and Lupine Shores Resort off Steele Canyon Road. The District is located in the northeast area of the County east of the Steele Canyon Arm of Lake Berryessa. Views from the project site are open space consisting primarily of rolling hills, grassland, and oak woodland. The site is not visible from any residences within the vicinity, including the Berryessa Highlands subdivision; however, the site is visible from neighboring properties to the west. The properties are undeveloped, except for an easement that accesses the project site. Based on the topography, the project site is not anticipated to impact visual resources, to either local residences or nearby roadways. This impact would be considered less than significant.

d. The proposed project would not result in a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Therefore, there is no impact.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FOREST RESOURCES¹. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land as defined in Public Resource Code Section 12220(g), timberland as defined in Public Resource Code Section 4526, or timberland zoned Timberland Production as defined in Government Code Section 51104(g)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use in a manner that will significantly affect timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, or other public benefits?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

¹ "Forest Land" is defined by the state as "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits." (Public Resource Code Section 12220(g)) The Napa County General Plan anticipates and does not preclude conversion of some "forest land" to agricultural use, and the program-level EIR for the 2008 General Plan Update analyzed the impacts of up to 12,500 acres of vineyard development between 2005 and 2030, with the assumption that some of this development would occur on "forest land". In the analysis specifically, and in the County's view generally, the conversion of forest land to agricultural use would constitute a potentially significant impact only if there were resulting significant impacts to sensitive species, biodiversity, wildlife movement, sensitive biotic communities listed by the California Department of Fish and Game, water quality, or other environmental resources addressed in this checklist.

a-b. Based on review of the Napa County Environmental Resource Mapping (Department of Conservation Farmland 2008), the project site is not located within an area mapped on Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Nor is the property covered by a Williamson Act Contract. The parcels are currently owned by private parties, with the exception of APN 019-220-038 which is owned by the District. The other two parcels provide access to the site. Additionally, the District is currently in negotiations with the property owners to acquire only those lands where the project is proposed. The proposed project would not result in the conversion of mapped farmland to a non-agricultural use.

c-e. As previously mentioned, the project does not propose the conversion of forest land or farmland to a non-forest or non-agricultural use, nor would the project conflict with existing zoning that would result in a significant impact to timber aesthetics (refer to Section I Aesthetics), fish and wildlife, biodiversity (refer to Section IV, Biological Resources), water quality (refer to Section XI, Hydrology and Water Quality), recreation (refer to Section XV, Recreation) or other public benefits. There is no impact.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion:

a-e. Napa County, (county surrounding proposed project area), is located in the San Francisco Bay Air Basin (SFBAB), where air quality is monitored and regulated by the Bay Area Air Quality Management District (BAAQMD). Air quality in the SFBAB is heavily influenced by weather conditions, particularly climate and wind patterns. Summers in the SFBAB are hot and dry in the inland areas, and winters are typically cool and wet. In summer, a northwest wind originates off the coastline and is drawn inland and over the lower portions of the San Francisco Peninsula, carrying pollutants from the San Francisco area. The mountains that surround Lake Berryessa are effective barriers to the prevailing northwesterly winds, but an up-valley wind frequently develops during warm summer afternoons which draw air from the San Pablo Bay. The wind patterns and topography contribute to the buildup of high concentrations of emitted pollutants in the Bay Area (BAAQMD 1999).

The U.S. Environmental Protection Agency (EPA) and the State have designated National and California Ambient Air Quality Standards, respectively, to protect public health and welfare. The California standards are more stringent than the national standards. Because of the buildup of high concentrations of pollutants, Napa County is designated as nonattainment for ozone under the national standards and is designated nonattainment for ozone, fine particle pollution (PM_{2.5}), and respirable particulate matter (PM₁₀) under the California standards. The nonattainment status means that air quality exceeds the national or California standards.

Air quality is monitored at one location in Napa County: the Napa-Jefferson Avenue monitoring station, approximately 15 miles south of Lake Berryessa. This monitoring station records measurements for ozone (hourly) and PM₁₀. Occasionally during hot summer afternoons, ozone concentrations approach and sometimes exceed the California standard. According to monitoring data from 2007-2009, Napa County experienced one day that exceeded the California one-hour standard (California Air Resources Board 2009). The highest PM concentrations occur in the winter, particularly during evening and nighttime hours. The County experienced one day that exceeded the California PM₁₀ measured standard between 2007 and 2009. The federal standards were not exceeded during that monitoring period.

In Napa County, the primary sources of pollutants are motor vehicles, combustion products from fuel, consumer products, wood smoke, and construction-related dust (BAAQMD 2000). Sensitive receptors to air pollutants in or near the proposed project area, include recreationists and Reclamation staff. However, motorized vehicles and machinery would be used temporarily during trail construction, and all other activities within the immediate vicinity would be recreational in nature within an area approximately 24,000 acres in size. Air quality impacts associated with the proposed project would result from construction-related emissions, including dust and vehicle emissions, and increased vehicle traffic to recreate on the proposed trail. Construction activities would result in the temporary generation of reactive organic gases, (contributing to ozone),

oxides of nitrogen, and PM₁₀ emissions from site preparation and compaction and from motor vehicle exhaust associated with construction equipment and employee commute trips.

Major earthmoving will last between 2 and 3 months, with the remaining pipeline, pond liner, electrical and mechanical work being conducted over a additional 2 to 3 months. During earthmoving work, the primary equipment used will be a scraper and bulldozer, with the excavation work being done by an excavator and dump truck. The fine grading work will be done by motor graders, and the compaction by a compactor. Once earthwork has been completed, the equipment will include a backhoe and possibly a boom truck. During construction, crews are anticipated to work 10 hours a day, Monday through Friday, with the possibly Saturday work depending on weather. Emissions from the equipment, and dust from ground disturbance, in combination with motor vehicle exhaust, would be minimal and localized and would not affect the air quality of the greater SFBAB or contribute substantially to Napa County's existing nonattainment status. BMP's would be used to control and minimize the amount of dust from construction activities.

An increase in mobile source emissions from construction-related activities would contribute greenhouse gas emissions and, incrementally, to global climate change; however, given the size and scope of the construction, the project is the emissions associated with the proposed project by itself would not cause a noticeable impact to global climate change (also refer to Section VII, Greenhouse Gas Emissions).

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

Kjeldsen Biological Consulting (Kjeldsen) conducted a biological reconnaissance during one floristic season in 2012². The survey area included search of the proposed development area for sensitive plant species identified by the California Department of Fish and Game (CDFG) Natural Diversity Database (CNDDDB) and the California Native Plant Society database (CNPS), which list all state and federally listed species, and locally important species. The study considered the direct and indirect impacts of the proposed project on vegetative communities, wildlife habitats, specials-status plant and animal species, aquatic resources, and wildlife movement corridors. The following discussion details Kjeldsen's site reconnaissance, findings and recommends:

- a. Special Status Plants: The project proposes earthmoving activities associated with the expansion of the District wastewater treatment facility to include three new effluent ponds, and the expansion of the existing tailwater pond within an area approximately 10.9 acres, including the conversion of grassland and oak woodland. The biologist identified the potential presence of 32 plant species through the CNDDDB search, and two plant communities on-site, generally consisting of oak woodland and grassland. The biologist conducted a botanical survey and habitat assessment beginning March 28, April 27, May 22, June 6, and again on August 20, 2012.

² Kjeldsen Biological Consulting, Biological Resource Survey – Probst Family Vineyard, September 2, 2009

The botanical survey was conducted identifying and recording all species on the site and in the near proximity. Transects through the proposed project site were made methodically by foot. Transects were established and scrutinized to cover topographic and vegetation variations within the study area. The open nature of the site, historic and ongoing agricultural practices, namely horse pasture, and small size of the proposed development footprint facilitated the biologists field studies. The site reconnaissance for identifying special-status plant species, plants were identified in the field or reference material was collected, when necessary, for verification using laboratory examination with binocular microscope and reference materials. Herbarium specimens from plants collected on the project site were made when relevant. All plants observed, both living and remains from last season's growth were recorded in field notes. There were no special status plant species observed within the study area.

Special Status Animals: The biologist identified the potential presence of 12 animal species through the CNDDDB search. According to Kjeldsen, there is a lack of suitable habitat present for listed animal species. However, the biological survey consisted of surveying the area with binoculars and walking the perimeter of the project site. Existing site conditions were used to identify habitat, which could potentially support special status species. Animals were identified in the field by observation, signs or calls. Additionally, trees were surveyed to determine whether occupied by nesting raptors. Surveys consisted of scanning tress on the property with binoculars searching for nest or bird activity. The study area was walked looking for droppings or nest scatter from nests that may be present that were not observable by binoculars. Potential bat habitat was surveyed for within 200 feet of the proposed project, by looking for roosting habitat, rock outcrops, crevasses, and evidence of roosting. Finally, aerial photographs were reviewed by the Kjeldsen to determine habitat surrounding the site and the potential for wildlife movement and corridors from adjoining properties.

Special-Status Bird, Bat, and Raptor Species: Although the biological resource survey did not identify suitable habitat for breeding and/or nesting special status bird species within the project area, the project will implement standard mitigation for raptors and bats. Noise generated through grading and ground disturbing activities has the potential to affect resources adjacent to the project site for special-status bird species. Potential impacts resulting from temporary and intermittent increase in noise levels may cause nest abandonment and death of young or loss of reproductive potential at active nests located near project activities. Napa County policies limit grading and vegetation removal to non-winter months (April 1 through October 15). In the event that earthmoving and/or grading activities that may be conducted during the identified breeding seasons of special status bird species associated with implementation of project should implement the following mitigation measures to ensure that species located within the vicinity of the proposed project development are not adversely impacted during the breeding seasons, the following measure will reduce potential impacts to a less than significant level.

Mitigation Measure BIO-1

The owner/applicant shall implement the following bat avoidance measures prior to the commencement of vegetation removal and earthmoving (construction) activities:

- A qualified biologist shall conduct a habitat assessment for potential suitable bat habitat within six months of project activities. If the habitat assessment reveals suitable habitat, a qualified biologist shall conduct a presence/absence survey during peak activity periods. If bats are found to be present during peak activity periods, the qualified biologist shall submit an avoidance plan to the County and California Department of Fish and Game (DFG) for approval. The avoidance plan should evaluate the length of time disturbance, equipment noise and type of habitat present at the Project site. In the event the bat avoidance measures required by DFG result in a reduction or modification of project boundaries, the plan shall be revised by the applicant/engineer and submitted to the County.

Mitigation Measure BIO-2

The owner/applicant shall conduct the following raptor and bird preconstruction survey(s) prior to the commencement of vegetation removal and earthmoving (construction) activities:

- For earth-disturbing activities occurring between February 1 through August 31, a qualified wildlife biologist shall conduct preconstruction surveys for special status birds and their nests within 500-feet of earthmoving activities. The preconstruction survey shall be conducted no more than 14 days prior to vegetation removal and ground disturbing activities are to commence (surveys should be conducted a minimum of 3 separate days during the 14 days prior to disturbance).
- If active nests are found during preconstruction surveys, a 300-foot no-disturbance buffer will be created around active raptor nests and a 50-foot buffer zone shall be created around the nests of all other birds during the breeding/nesting season or until it is determined by a qualified biologist that all young have fledged. These buffer zones may be modified in coordination with DFG based on existing conditions at the project site. Buffer zones shall be fenced with temporary construction fencing and remain in place until the end of the breeding season or until young have fledged.
- If a 15 day or greater lapse of project-related work occurs during the breeding season, another bird preconstruction survey and consultation with DFG will be required before project work can be reinitiated.

Oak Woodlands: As mentioned, the project site consists of grassland and oak woodland. The project proposes the conversion of 6 acres of oak woodland to three effluent ponds, and the expansion of the existing tailwater pond for storage and disposal of treated wastewater. Although the over all loss would only represent less than a 2% loss, much of the oak woodland proposed for removal represent riparian habitat and habitat

connectivity to upstream and downstream resources. Pursuant to General Plan Policy CON-24, where complete avoidance is not feasible, oak woodlands shall be preserved or enhanced through restoration and replant at a 2:1 ratio on a per acre basis. To offset the loss of 6 acres of oak woodland and riparian habitat (also refer to section b) below), the following mitigation shall reduce potential impacts to a less than significant level.

Mitigation Measure BIO-3

Development of the proposed project would convert 6 acres of oak woodland habitat, which could result in an adverse impact to biological resources. The following measure shall be implemented to offset the loss of oak woodland:

An Oak Woodland Avoidance and Management Areas shall be developed by a qualified biologist, including identification of enhancement areas onsite, planting and other enhancement activities, and submitted to the Napa County Planning, Building, & Environmental Services Department for review prior to implementation.

Preservation and Enhancement

Direct impacts to 6 acres of oak woodlands onsite would be mitigated through the preservation and enhancement of 12.0 acres of onsite oak woodland habitat, pursuant to General Plan Policy CON-24. This policy recommends the preservation or enhancement of similar habitat through the replanting of oak woodland at a 2:1 ratio, on a per-acre basis. In consultation with County Planning, the applicant shall hire a qualified biologist or ecologist to develop an enhancement plan to replant oak woodlands within suitable habitat identified onsite, totaling 12.0 acres. At a minimum the enhancement plan shall include planting guidelines, planting survival rate of 80% or greater over a 3-5 year period, and monitoring and reporting program to be submitted to the County annually. Once the enhancement plan has been approved by the County, implementation shall be initiated within the 3 years of completion of the proposed project.

Avoidance

All trees proposed for retention that are located adjacent to the proposed project site shall be avoided, including any trees with trunks located outside the project boundary that have driplines that extend into the proposed project area. Prior to any earthmoving activities, construction fencing (or equivalent barricades) shall be placed at minimum distance of 5 feet outside the outboard driplines of the trees to be retained for the duration of earthmoving and construction activities associated with the project. The placement of such fencing shall be inspected and its location by Napa County prior to commencing any ground disturbing activity. No disturbance, including grading, placement of fill material, storage of equipment, etc. shall occur with the driplines of those trees to be retained for the duration of construction activities.

- b. **Riparian Habitat or other Sensitive Natural Communities:** Based on a site visit, personal communication with the Department of Fish and Game and review of the Biological Report, staff observed an unnamed seasonal drainage, tributary to Lake Berryessa located within the footprint of the proposed project that is considered a Water of the US, with associated riparian habitat consisting of oak woodland (refer to section a above and Mitigation Measure BIO-3). Approximately 730 linear feet of the drainage will be modified by piping the existing drainage, and constructing the proposed ponds over the top, altering the drainage pattern and removing vegetation. Modification of streams or waterways is regulated under several federal and state statutes, including section 404 of the federal Clean Water Act and Section 1600 under the Fish and Game code. Section 404 of the Clean Water Act authorizes the Secretary of the Army, acting through the Army Corp of Engineers to issue permits regulating the filling or modification of streams or waterways, including those defined as Waters of the US. Under similar circumstances where waters were filled or modified, the Army Corp of Engineers has considered a variety of methods to ensure mitigation of impacts provide adequate compensation for the loss of physical and biological functions and services within a project area. To address impacts, at a minimum the Corp will require mitigation at a 1:1 ratio of functional units lost. In this case, approximately 730 linear feet of Waters of the US that would require replacement or enhancement within an existing impaired watercourse onsite or an approved off-site location.

Additionally, during our site visit, DFG indicated that consultation with Army Corp be conducted in additional mitigation that would offset the loss of riparian habitat and Waters of the US. Although the drainage would still flow, the pattern would be altered through the pipe the drainage and removal of vegetation resulting in a potentially significant impact and in conflict with General Plan Policy CON-14, which states projects shall be required to offset possible loss of riparian habitat through mitigation when avoidance is determined to be infeasible or replacement of habitat either onsite or at an approved off-site location; therefore, proposed Mitigation Measure BIO-3 above requiring the avoidance, preservation, and enhancement of oak woodland in combination with the following mitigation would reduce the potential impact to a less than significant level.

Mitigation Measure BIO-4

Development of the proposed project could result in indirect and direct impacts to Waters of the US:

To ensure that all Waters of the U.S that could be directly or indirectly impacted by the project have been identified, the applicant's biologist shall delineate all Waters of the U.S. within the project site proposed for disturbance and surrounding buffers. The biologist shall consult with the US Army Corp Engineers prior to the modification of identified channel, including surrounding vegetation within 30 feet of the high water mark of jurisdictional Waters of the U.S. A Section 1602 Lake and Streambed Alteration Agreement (LSAA) shall be obtained from CDFG prior to construction activities that alter the bed or bank of streams.

The compensatory mitigation for the modification of Waters of the US shall be implemented onsite through the enhancement and replacement of the blue lined stream located northeast of the project site, to its original path through the decommissioning of the existing tailwater pond. Replacement shall be a minimum of 1:1 in kind in consultation with US Army Corp of Engineers and CDFG prior to altering the bed or bank of a stream.

- b. **Wetlands:** No wetlands or potential wetlands have been identified within the project site (Kjeldson, 2012). Additionally, no wetlands or wetland indicators were found to be present through field visits. It is anticipated that this project would have no impact on federally protected or potentially sensitive wetlands.
- c. **Wildlife Movement and Habitat Fragmentation:** The project site and the surrounding holding has minimal cattle fencing, and does not appreciably obstruct movement from offsite resources onto the project site. Many of the existing corridors will remain undisturbed and allow for continued wildlife movement, unobstructed by the project. However, the project as mention will fragment the unnamed intermittent drainage by piping the drainage underneath the proposed ponds. The drainage is relatively dry for much of the year, and does not provide the same quality of riparian habitat as that of the blue-lined stream located north of the project site. The project area following installation of the ponds is unlikely to obstruct potential wildlife movement to or from the site. The remaining oak woodland, open space, and unnamed blue-lined stream identified to the north provide a more suitable wildlife corridor.

Implementation of the proposed project through will not result in significant changes in the overall loss of habitat for local wildlife. Additionally, the surrounding habitat and topography is such that there are extensive areas of similar habitat as that which will be removed. There has been no evidence identified that would indicate any significant impacts to on-site or off-site biological resources. Therefore, it is not anticipated that the proposed project will interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, nor will it impede the use of native wildlife nursery sites.

- d. **Potential Conflicts with Local Policies:** The project proposes design features previously mentioned in **Sections IV a-d** above, do not conflict with local goals and policies as identified in the Napa County General Plan (see **Section X – Land Use and Planning**). The proposed project and erosion control measures reduce potential impacts to a less than significant level.
- f. The project does not interfere with any Habitat Conservation Plans (HCPs), natural community conservation plans or similar plans because there are no such plans applicable to the site.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
V.	CULTURAL RESOURCES. Would the project:				
	a) Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	c) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion:

- a-d. A cultural reconnaissance of the project site was conducted by Tom Origer & Associates (TOA) and report prepared, dated September 4, 2012, including an archival search at the Northwest Information Center at Sonoma State University (NWIC File No. 12-200). Archival research found two additional studies conducted within the Lake Berryessa area. No cultural resources, ethnographic sites, or historic buildings were recorded within a mile of the project site. During site reconnaissance conducted by TOA on August 28, 2012, there were no archaeological or prehistoric-era archaeological sites found within the study area. No historical resources were identified by the Historic Resources layer of the Napa County Resource maps³. However, several older vehicles are present onsite, including one registered historical vehicle. Pursuant to the California Register definition of resource types, these vehicles could be eligible for the California Register. No known historic structures exist within the proximity of the project and, moreover, no existing structures would be affected by the proposed project. The area has not been identified as a historically significant site. The project does not propose to alter any buildings, bridges, or other potentially significant structures. In the event that the vehicle should be abandoned onsite, a plan for appropriate treatment of the vehicles should be developed to ensure their

³ Napa County Environmental Sensitivity Maps: Archaeological Sites, Archaeological Sensitive Areas and Historic Sites layers

preservation. The project is anticipated to have a less than significant impact to cultural resources through the implementation of the following mitigation measures.

Mitigation Measure CR-1

In the event the vehicles identified onsite are not removed prior to pond construction, the project proponent shall consult a professional archaeologist regarding the appropriate treatment of the vehicles to ensure their preservation either onsite or an offsite located to be chosen by the archaeologist.

Mitigation Measure CR-2

- In accordance with CEQA Subsection 15064.5(f), should any previously unknown historic or prehistoric resources, including but not limited to charcoal, obsidian or chert flakes, grinding bowls, shell fragments, bone, pockets of dark, friable solids, glass, metal, ceramics, wood or similar debris, be discovered during grading, trenching or other on-site excavation(s), earth work within 100-feet of these materials shall be stopped until a professional archaeologist certified by the Registry of Professional Archaeologists (RPA) has had an opportunity to evaluate the significance of the find and suggest appropriate mitigation(s), as determined necessary.
- If human remains are encountered the Napa County Coroner shall be informed to determine if an investigation of the cause of death is required and/or if the remains are of Native American origin. Pursuant to Public Resources Code Section 5097.98, if such remains are of Native American origin the nearest tribal relatives as determined by the State Native American Heritage Commission will be contacted to obtain recommendations for treating or removal of such remains, including grave goods, with appropriate dignity.
- All persons working on-site shall be bound by contract and instructed in the field to adhere to these provisions and restrictions.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VI. 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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

- a The project site could experience potentially strong ground shaking and other seismic related hazards based on the number of active faults in the San Francisco Bay region. The project proposes the construction, maintenance and operation of two effluent ponds associated with the District wastewater treatment system; it does not include the construction of new residences or other facilities (i.e. enclosed areas where people

can congregate) that would be subject to seismic forces. Additionally, the project would not result in a substantial increase in the number of people to the site. Therefore, the potential for the proposed project to expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving fault rupture, ground shaking, liquefaction, and landslides would be less than significant. Additional information supporting this conclusion is identified below:

- i) There is one active fault that has been mapped directly to the west of the project site within the holding. This fault and other within the San Francisco Bay region may result in earthquakes with a magnitude of 6.0 or greater in the future. The conversion of grassland and oak woodland to the proposed ponds would result in minor alterations to the geologic setting. Bauer Associates (Bauer) are working to field verify the location of the fault through continuous trenching; however, the exact location of the fault is unknown. During trenching, Bauer has located traces, to fully evaluate the activity, orientation, and offset of the fault through additional trenching. However, assuming worst case scenario, the fault or a trace of the fault if located within the project site, Bauer has developed recommendations to reduce the risk of rupture due to ground shaking that will mitigate potential risks to a less than significant level.

Mitigation Measure GEO-1

The applicant in consultation with the geotechnical engineer shall implement the following mitigation to reduce the risk of rupture due to ground shaking:

- All areas to be graded shall be cleared of vegetation, and stripped of the upper soils containing root growth and organic matter.
 - Areas to receive fill should be prepared by identifying and removing weak soils for their full depth, exposing firm bedrock materials. Excavations should be prepared by cutting level keyways and benches extending into appropriate materials as determined by the geotechnical engineer.
 - If isolated deeper zones of soft, saturated, dry (shrinkage cracks), highly porous or organic soils are encountered during excavation and recompaction, the soils should be removed to expose firm soils. The depth and extent of excavation and overexcavation should be determined by the geotechnical engineer.
 - Exposed soils should be scarified to a minimum depth of 6 inches, moisture conditioned to at least 4 percent above optimum moisture content and compacted to at least 90 percent relative compaction. Relative compaction refers to the in-place dry density of soils expressed as a percentage of the maximum dry density of the same soil, as determined by ASTM D1557-09 (Standard test method for laboratory compaction characteristics of soil using modified effort). Optimum moisture content is the water content (percentage of dry weight) corresponding to the maximum dry density.
 - If grading is performed during the winter or spring seasons, even higher groundwater must be anticipated. Severe groundwater conditions may result in the need for dewatering, placement of stabilization fabrics, and/or placement of ballast rock to achieve stable excavation bottoms.
 - The onsite soils should be suitable for reuse as general fill provided that: 1) all rock sizes greater than 6 inches in largest dimension and perishable materials are removed, and 2) the fill materials area approved by the geotechnical engineer prior to use. Imported fill, if required, should be free of organic matter, non-expansive and should be approved by the geotechnical engineer prior to use.
 - Fill should be placed in thin lifts (normally 6 to 8 inches depending on compaction equipment), uniformly moisture conditioned to at least 2 percent above optimum moisture content, and compacted to at least 90 percent relative compaction. Where fills are placed in the vicinity of active faulting, as determined by the geotechnical engineer, reinforcing of the fill will be required per the project plans. The upper 6 inches of subgrade surfaces should be compacted to at least 95 percent relative compaction in vehicle traffic areas.
 - Cut and fill slopes should be constructed no steeper than 2:1. Exterior fill and cut slopes should be planted with erosion resistant vegetation, or protection from erosion by other measures upon completion of grading. Ground cover should be maintained on the slopes to ensure stability.
- ii) The subject parcel is located in an area that is subject to moderate seismic ground shaking potential (<http://gis.abag.ca.gov/Website/shakingpotential/index.html>) and the proposed project does not include construction of any new residences or enclosed areas where people can congregate.
 - iii) The project area is not in an area subject to high liquefaction potential: liquefaction potential is identified to be low to very low (Napa County GIS: Liquefaction Layer).
 - iv) Landslides have not been identified within the project area (Napa County GIS: Landslide Layers).
- b. The USDA Soils Survey of Napa County (1978) identified one soil classification underlying the proposed ponds associated with this project. The soil type is composed of the Bressa-Dibble Complex (series 114 & 115), typically associated with 30-75% slopes. The Bressa-Dibble Complex is well drained, comprised of moderately deep soils over weathered sandstone with medium to rapid runoff, and moderately slow permeability. Potential erosion and soil loss associated with earthmoving, excavation, trenching, and subsequent operation and maintenance of the proposed ponds would be controlled through the implementation of the erosion control measures and Best Management Practices (BMPs) required by the Stormwater Quality Management Plan (SQMP), Napa County Stormwater Ordinance (Napa County Code Section 16.28), as required by the Napa County Public Works Grading Permit Application process. A list of BMPs shall be provided prior to approval, including a description and details showing the location and implementation regime as specified by the SWPPP.

The construction and installation of the ponds would involve earthmoving activities and vegetation removal within the proposed project area. Pursuant to Section 18.108.070.L of the County Code (Erosion Hazard Areas) earthmoving activities cannot be performed from October 15th to April 1st of the proceeding year; therefore, they would take place during the dry season when rain storms are less likely, resulting in negligible erosion and sedimentation during project installation. Potential erosion and soil loss associated with the construction of the ponds would be controlled through the implementation of BMPs within the SQMP required by the Regional Board for construction projects. Therefore, potential impacts associated with soil erosion, soil loss, and sedimentation as a result of the construction activities related to proposed site improvements would be less than significant.

- c. As stated above in Section VI(a), there is no presence of landslides within the subject parcel. A Grading Permit is required, in addition to permanent erosion control measures or BMP, which would adequately address any potential soil instability. This project would not result in significant events of on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse.
- d. The project would not be located on expansive soils⁴. Therefore, no impacts are anticipated
- e. The project proposes the construction of two affluent ponds that will be lined to prevent the ponds from leaking. In addition to the increased capacity of the system to prevent discharge of treated wastewater from entering Lake Berryessa in accordance with the Regional Board's Cease and Desist Order R5-2010-0101. The ponds have been fully engineered, and do not propose septic tanks or alternative wastewater disposal systems. Therefore there will be no impact.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate a net increase in greenhouse gas emissions in excess of applicable thresholds adopted by the Bay Area Air Quality Management District or the California Air Resources Board which may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with a county-adopted climate action plan or another applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion:

- a-b. Napa County has prepared a Revised Draft Climate Action Plan (October 31, 2011), which is currently under public review. The proposed Climate Action Plan (CAP) quantifies and provides baseline inventory of green house gas (GHG) emissions from all sources in unincorporated Napa County as of 2005 and proposes emission reduction measures designed to reduce emissions to 1990 levels by 2020, consistent with the goal of California Assembly Bill (AB) 32 from 2006. Although the plan is not required by State law, the Bay Area Air Quality Management District (BAAQMD) has concluded that development projects that are consistent with a "qualified" CAP would not result in "significant" GHG emissions in the context of the California Environmental Quality Act (CEQA). Preparation and adoption of a Climate Action Plan was included as action item in the Napa County General Plan, adopted in June of 2008. Additional information on the Draft CAP can be obtained at the County Administrative Offices or the County Website <http://www.countyofnapa.org/CAP/>. On January 18, 2012, the Napa County Planning Commission recommend adoption of the Revised Draft CAP to the County Board of Supervisor, as well as using the emissions checklist in the draft CAP, on a trial basis, to determine potential GHG emissions associated with at project

The draft CAP suggests that development projects reduce their "Business as Usual" emissions by 38%. The CAP if adopted would require new vineyard projects on slopes over 5% to: a) calculate the GHG emissions associated with their project using the worksheet included in the draft CAP; b) implement "best practices" such as mulching rather than burning debris, using cover crops, etc.; and c) implement one or more other measures to reduce or off-set one-time construction emissions by 38%. Since the CAP is not formally adopted, it is not considered a significance threshold for CEQA purposes. However as noted above the checklist has been utilized, in part, to determine potential GHG emissions associated with the proposed project (**Tables 4 and 5**).

The project is a 10.9 acre conversion, including the conversion of 6 acres of oak woodland for the construction of three effluent ponds, the expansion of the existing tailwater pond, and associated with an existing wastewater treatment facility, which when comparing the area to similar conversion projects within the county would not result in significant contributions to GHG. One time (or "construction") emissions associated with a similar conversion such as a vineyard development includes the carbon that is lost when site vegetation (including any woody debris and downed wood) is removed and soil is ripped in preparation for planting. One time or "construction" emissions also include energy

⁴ Napa County Resource Maps: Soils layer.

used to prepare the site, including any equipment and worker vehicles (see **Section XVI, Transportation/Traffic**, for anticipated number of construction trips).

Ongoing emissions from the proposed project would be modest when compared to one time ("construction") emissions (as discussed below), and a quantitative estimate would require many assumptions about what would happen during the next 100 years on site under "project" and "no project" conditions (e.g. the life expectancy of the proposed vineyard and existing site vegetation, incidences of disease and fire, etc.).

Carbon Dioxide (CO₂) is the greenhouse gas whose concentration is being most affected directly by human activities (i.e. is the principal greenhouse gas being emitted by human activities) and also serves as the reference to compare all other greenhouse gases: sources of carbon emissions include forest clearing, land-use changes and biomass burning (http://www.climatechange.ca.gov/glossary/letter_c.html). Equivalent Carbon Dioxide (CO₂e) is the most commonly reported type of GHG emission and a way to get one number that represents total emissions from all the different greenhouse gases (BAAMD CEQA Air Quality Guidelines, June 2010), in this case carbon dioxide (CO₂). Carbon is converted to carbon dioxide equivalents (CO₂e) by multiplying the carbon total by 44/12 (or 3.67), which is the ratio of the atomic mass of a carbon dioxide molecule to the atomic mass of a carbon atom (<http://www.ncasi2.org/COLE/index.html>).

As a comparison, three large vineyard projects were recently analyzed to determine annual emissions associated with changes in carbon sequestration on site.⁵ Assumptions varied, yet the analyses all concluded that the change in annual sequestration, even for vineyards of over 150 acres, was no more than around 300 metric tons of Carbon Dioxide equivalents (MT CO₂e) per year. This is equivalent to the energy used annually by about 19 households in Napa County, and well below the threshold of 1,100 MT CO₂e that BAAQMD has defined as significant for CEQA purposes when considering land development projects. As noted in **Section III (Air Quality)**, while the BAAQMD's thresholds of significance established by the May 2011 BAAQMD CEQA Guidelines⁶ have been set aside pending further CEQA review and re-adoption, they continue to represent the levels at which a project's individual emissions could result in potentially significant project level and cumulative impacts. Since in this case, the proposed earthmoving work is much smaller than 150-acre vineyard development, its ongoing annual emissions associated with loss of sequestration are expected to be much less than 300 MT CO₂e per year. Additionally, one study included vehicular equipment emissions associated with construction and ongoing operation. It was anticipated that vehicular and equipment related emissions associated with construction of an approximate 150-acre vineyard would be approximately 405 metric tons of carbon (or approximately 1,485 MT CO₂e) and ongoing vineyard operation emissions associated with vehicles and equipment would be approximately 24 metric tons of carbon per year (or approximately 88 MT CO₂e per year): resulting in approximately 9.9 MT CO₂e of vehicular and equipment emissions per acre of vineyard development (1,485 CO₂e divided by 150-acres) and approximately 0.59 MT CO₂e of vehicular and equipment emissions per acre of vineyard associated with ongoing operation (88 CO₂e divided by 150-acres). Based on these calculations it is anticipated that equipment related emissions associated with construction of the proposed 10.9 acre conversion to three effluent ponds and the expansion of the existing tailwater pond, would be approximately 107.9 MT CO₂e (10.9-acres times 9.9 MT CO₂e) and on-going vehicular and equipment emissions would be approximately 6.4 MT CO₂e per year (10.9-acres times 0.59 MT CO₂e); also see **Table 5**.

Regarding construction emissions associated with vegetation removal and soil preparation the proposed project converted approximately 6.0 acres of oak woodland and 4.9 acres of grassland to three effluent ponds. While there is scientific research remaining to be done before it will be possible to easily and precisely calculate emissions due to vegetation conversion and soil disturbance, there are some tools that allow for a reasonable estimate. These include a Carbon On-Line Estimator (COLE)⁶ and a variety of technical studies of soil and vegetative carbon, including studies specific to the Napa Valley⁷. As mentioned above, utilizing the Green House Gas Emissions Checklist of the Draft CAP and the acreage of the existing vegetation types within the project area, the County has estimated total project site carbon, including soil carbon, to be approximately 2119.3 MT CO₂e (**Table 3**). It should be noted that the estimated carbon stocks for this project have used the most conservative estimates and include 100% of the carbon storage in soils.

Table 3 - Estimated Project Site Carbon Stocks/Storage

Vegetation Type/ Carbon pool	Project Acreage	Carbon Storage/Stock Per Acre (MT C acre)*	Total Carbon Storage in Metric Tons	Total Carbon Storage in MT CO ₂ e
Oak woodland	6.0	95.1	570.6	2094.1 MT CO ₂ e
Grassland	4.9	1.4	6.9	25.2
Total			577.5	2119.3 MT CO₂e

Source: Napa County Draft CAP, October 31, 2011 *Includes 100% of soil carbon stock

Presently there is no scientific agreement about the percentage of carbon that would be lost/emitted from soils through grading, some recent analyses have suggested 20-25% while others have suggested 50%.⁸ Using 50% as a more conservative estimate, the project could result in one time emissions from vegetation removal and soil preparation (i.e. soil ripping) of approximately 1987.4 MT CO₂e as shown in **Table 4**.

⁵ Copies of three studies, together with an "apples to apples" comparison of their findings are included in the project file and are available for review during normal business hours at the Department of Conservation, Development and Planning, 1195 Third Street, Suite 210, Napa, California.

⁶ COLE is a collaborative project produced by the US Forest Service and the National Council for Air and Stream Improvement (NCASI) designed to enable users to analyze forest carbon characteristics anywhere in the US. The estimator can be filtered to use data from plots in Napa County and surrounding areas.

⁷ See the three studies cited earlier.

⁸ See the three studies cited earlier.

Table 4 - Estimated Project Carbon Loss/Emissions Due to Vegetation Removal

Vegetation Type/ Carbon pool	Project Acreage	Carbon Loss/Emission Per Acre (MT C acre)*	Total Carbon Loss in Metric Tons	Total Carbon Loss/ Emission MT CO ₂ e
Oak woodland	6.0	89.6	537.6	1973.0MT CO ₂ e
Grassland	4.9	0.8	3.9	14.4
Total			541.5	1987.4 MT CO₂e

Source: Napa County Draft CAP, October 31, 2011 *Includes 50% soil carbon loss

Based on the above estimates, the proposed project could result in one time construction emissions of up to 2095.3 MT CO₂e and annual on-going emissions associated with pond maintenance and operations of less than 306.4 MT CO₂e (Table 5).

Table 4 - Estimated Project Related GHG Emissions

Construction Emissions in Metric Tons of CO ₂ e		Annual On-Going Emissions in Metric Tons of CO ₂ e	
Vehicles and Equipment	107.9	Vehicles and Equipment	6.4
Vegetation and Soil	1987.4	Loss of Sequestration ¹⁰	<300
Total	2095.3	Total	<306.4

Source: Napa County

Pursuant to Section 15183(a) of the California Code of Regulation (CCR) projects which are consistent with the general plan policies for which an EIR was certified shall not require additional environmental review, except as might be necessary to examine whether there are project-specific effects which are peculiar to the project or its site.

Proposed construction BMPs would further reduce potential GHG air quality impacts associated with construction and ongoing operation of the project. For these reasons, the County does not consider one-time GHG emissions from the proposed development to be a significant impact on a project level basis or to be a "considerable" contribution to the significant unavoidable impact identified in the General Plan EIR.

With regard to ongoing GHG emissions, as described above total annual emissions are anticipated to be much less than 306.4 MT CO₂e per year which is well below the threshold of 1,100 MT CO₂e per year that BAAQMD has defined as significant for CEQA purposes when considering land development projects (BAAQMD CEQA Guidelines May 2011). Therefore, ongoing emissions, including loss of sequestration, due to the proposed project are considered less than significant. Also see the discussion in **Section III (Air Quality)**, for additional discussion and information on air quality impacts.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VIII.	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
f) For a project within the vicinity of a private airstrip, 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wild-land fires, including where wild-lands are adjacent to urbanized areas or where residences are intermixed with wild-lands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

- a-g. The project does not propose the use of chemicals onsite. The proposed ponds are for storage, not treatment, as the treatment occurs at the existing wastewater treatment plant prior to pumping the effluent to the proposed ponds. Due to an increase in system capacity and technology upgrades as a result of the proposed project, chemical use at the wastewater treatment plant is anticipated to be reduced. There is not impact.
- h. The District is predominately surrounded by grassland, shrubland, oak woodland, and rural residential. Natural open spaces such as those found in the vicinity of the project site are subject to heightened wildland fire during the dry season. However, the physical changes to the environmental which comprise this project are limited, as described in the project description. No portion of this project will directly expose people or structures to a heightened risk of wildland fire. Therefore, risks associated with wildland fires from this project would be considered less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

The project site is located within the sub-watershed of the Lake Berryessa – Steele Canyon Arm Drainage, which has not been designated as critical habitat for steelhead. There are three blue-lined streams that traverse the holding, tributary to Capell Creek. Capell Creek flows northeast into Berryessa Lake, and does not enter the Napa River watershed. The District under Waste Discharge Requirement (WDR) Order 95-173 issued by the California Regional Water Quality Control Board (Regional Board), allows the treatment and disposal of a monthly average flow of 50,000 gallons of treated water per day to four sprayfields. According to the Regional Board the District has been in violation with the WDR since at least 1995. The majority of the violations are due to a lack of storage and disposal capacity. Additionally, as a constraint of the system capacity, significant discharges of wastewater to Lake Berryessa have been reported. In 2010, the District and the Regional Board were in open discussions, as the District had failed to comply with previous cease and desist orders, following the discharge of approximately 1.4 million gallons of treated effluent to Lake Berryessa from January through June 2010.

- a. As mentioned previously, the proposed project is in direct response to the Regional Boards cease and desist orders that mandate the District rectify storage and disposal capacity for treated effluent. The project proposes the construction of 2 new effluent ponds with a total capacity of 22.3 million gallons. The ponds will receive approximately 33.4 million gallons of treated effluent annually at a full build out, which will increase the system capacity to 39.2 million gallons accounting for inflow and infiltration, stormwater into the ponds, and evaporation out of the ponds. Additionally, the system will utilize the existing four sprayfields to prevent future discharge of treated effluent downstream to Lake Berryessa. The proposed project has been designed with Best Management Practices (BMPs) to prevent sediment, runoff, and pollutants from leaving the project area. The combination of the engineered design and BMPs are anticipated to ensure that potential impacts to the water quality of the site and to downstream receptors associated with the wastewater treatment system be reduced to less than significant levels.
- b. The project proposes the construction of effluent ponds to store and discharge treated wastewater, and does not propose the use of groundwater; therefore, the project as proposed would not 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. There is no impact.
- c-e. The project site is not located in an area of a planned stormwater drainage system. The project site is not directly served by a stormwater drainage system; however, the project site drains towards the west towards Lake Berryessa. The project proposes to convert non-native grassland and oak woodland to three treated effluent ponds, and expansion of the existing tailwater pond totaling holding capacity of 22.3 million gallons, potentially altering the natural pattern of surface runoff (refer to Section IV, Biological Resources). However, as previously mentioned, in order to comply with the Regional Boards requirements under Cease and Desist Order R5-2010-010, the ponds have been engineered and located within an area to minimize overflow and discharge of treated effluent to downstream resources. The ponds will be managed to prevent overtopping and accidental discharge by monitoring water levels prior to storm events through use of existing sprayfields. Based on the project design and proposed increase capacity of the system, the project is not anticipated to result in a significant impact. Also see the discussion in **subsection f** below regarding impacts related to polluted runoff.
- f. The project would not have an adverse impact on water quality because the SQMP required for construction of the ponds would be designed with BMPs, to keep polluted runoff and sediment from leaving the project area. As discussed in section VII – **Hazard and Hazardous Materials**, the project proposes does not propose the use of chemicals to water within the effluent ponds, as this water has been treated at the existing wastewater treatment facility and pumped to the site for storage and disposal onto existing sprayfields. The project does not anticipate a risk of surface and groundwater contamination; therefore, the effect of the proposed project would result in a less than significant impact on water quality.
- g-j. The project involves the construction of three new treated effluent ponds, and the expansion of the existing tailwater pond. The project will not create housing. The project area is not located within the FEMA Flood Zone; therefore, there would be no impacts within flood hazard areas to people or structures due to flooding. The project area is not located within in a dam or levee failure inundation area (Napa County Sensitivity Maps, Dam/Levee Failure Inundation Areas); therefore, no impacts to people or structures due to dam or levee failure inundation are anticipated. The project site is not located in an area subject to seiche or tsunami (Napa County General Plan - Safety Element. pg. 10-20). The project could cause localized flooding if the retaining walls and levee system failed; however, such system failure is speculative, and potential impacts cannot be fully assessed in this document. There are no structures located downstream of the development area; however, Steele Canyon Road bisects the flow path of an intermittent drainage that would convey water from the ponds to Lake Berryessa in the event of a failure. The moderately sloping hillsides on which the reservoir would be constructed is not anticipated to expose people or improvements to mudflows; therefore, no impacts are anticipated.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

- a. The project would not physically divide an established community. The current uses within the holding consist of open space and a single tailwater pond with four identified sprayfields used for disposal of treated wastewater. The nearest sensitive receptors in the area includes the Berryessa Highlands subdivision, with the nearest residences located over 1,200 feet north project site. There are no impacts anticipated to result from implementation of the project on established communities.
- b. The project complies with applicable sections of the Napa County Code, and has been analyzed for consistency with the 2008 General Plan. The project has been found consistent with General Plan Goals and Policies, including but not limited to the following applicable Conservation Element Policies through implementation of the proposed project, **mitigation measures and standard conditions of approval**:
- The project is consistent with **AG/LU-29**, on parcels which are designated AWOS, governmental uses and existing public utilities shall be allowed to continue operation and be allowed to expand in size only for the purposes of modernizing the facility to meet additional public needs to the extent permitted by law;
 - The project is consistent with **Policies CON-14 and CON-16**, requiring that all discretionary permits avoid impacts to fisheries and wildlife habitat to the maximum extent feasible by requiring evaluation of biological resources and replacement or enhancement where avoidance is infeasible. Section IV, Biological Resource identified the proposed ground disturbing activities has the potential to disturb nesting birds species and roosting bats, and was found to be potentially inconsistent. As well as the removal of oak woodland within riparian habitat; AND,
 - The project is consistent with **Policy CON-24**, requiring the preservation or enhancement of oak woodland at a 2:1 ratio where avoidance is found to be infeasible. Section IV, Biological Resources identified that the proposed removal of 6.0 acres of oak woodland was found to be potentially inconsistent.

The project would be found to be consist with applicable land use plan, policy, or regulation through implementation of the project and proposed mitigation measures.

- c. There are no habitat conservation plans or natural community conservation plans applicable to project site or adjacent parcels. Therefore, no impact would result.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XI. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

- a-b. The project does not take place in the area of a known mineral resource of value to the region or state or within the area of a known mineral resource recovery area (Napa County Baseline Date Report, Figure 2-2 and Map 2-1, Version 1, November 2005: Napa County General Plan

Map, December 2008). Proposed site improvements on the property would not physically preclude future mining activities from occurring. Therefore, no impacts to mineral resources are anticipated.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XII. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

- a. Activities associated with the construction of the three ponds, and the expansion of the existing tailwater pond, include earthmoving and subsequent maintenance and operations could generate noise levels above existing conditions. However, increases in noise levels would be temporary and seasonal, not a long-term permanent increase, and are considered typical for construction activities. Pursuant to Section 18.108.070(L) of the County Code (Erosion Hazard Areas) earthmoving activities cannot be performed from October 15th to April 1st of the proceeding year; therefore, construction is anticipated to be completed during one grading season. Implementation of measures contained within the County Noise Ordinance for construction related noise, such as muffling equipment, and restrictions on the hours of construction activities would minimize the temporary increases in noise; thus, there would be a less than significant impact.
- b. The construction of the three ponds, expansion of the existing tailwater pond, and subsequent operation and maintenance would not result in the generation of excessive groundborne vibration or groundborne noise levels. The neighboring properties are vacant, with the nearest residence located over 1,200 feet to the north. The construction of the ponds would be temporary in nature, concluding full build-out within 3 months of commencement. Therefore, no impacts are expected.
- c. Noise associated with on-going operation and maintenance would not change beyond existing operations. The project is not anticipated to result in a permanent increase in ambient noise levels in the project vicinity. Therefore, there would be no impact.
- d. During site preparation and construction, the use of heavy equipment could result in a temporary increase in ambient noise levels in the vicinity of the project site. The implementation of measures identified in the County's noise ordinance for construction-related noise such as a limitation of hours of construction activity and muffling of equipment would reduce temporary noise impacts to less than significant levels.
- e-f. The project is neither located within an area covered by an airport land use plan, nor is it within two miles of a public, public-use, or private airport. Therefore, no impacts are anticipated.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XIII. 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

a-c. There will be no change in the number of employees required to operate and maintain the existing facility and the proposed expansions. The installations of new ponds are estimated to be constructed and operational within 3 months with approximately ten to twelve workers over the course of construction. Construction will take place daily between 6:30 am to 4:30 pm daily, with the exception of some Saturday work if rain is forecasted. The project would not induce substantial population growth in the area directly or indirectly. No new homes or business, roads or infrastructure are proposed that would induce growth. The project does not displace any housing or people.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. Would the project result in:				
a) Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

a. The expansion of the existing District wastewater treatment plan is not anticipated to result in an increase in the demand for public services and facilities. The expansion is in response to violations in discharge to Lake Berryessa, resulting in cease and desist orders. As previously mentioned, the majority of the violations are due to a lack of storage and disposal capacity. The project would not increase the need for additional public services; no impact to public services would result. The project would not increase the risk of fire and an increased demand for services at the site is not expected. Furthermore, it will not increase the demand for fire or police protection, would not support any residential demand that would place additional burdens on the local schools and parks, and would not require any new or expanded governmental services or facilities. County revenue resulting from property tax increases will help meet the costs of providing public services to the property.

- Fire protection: The project would have no new impact with regards to fire protection services.
- Police protection: The project would not result in any new impacts with regards to police services. The project would not require any additional police services.
- Schools: The project would not require the development of any new schools or adversely impact the service of existing schools.
- Parks: The project would not require the development of any new parks or adversely impact existing parks.
- Other public facilities: There is nothing included in this proposal that indicates any impacts on any other public facilities.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XV.	RECREATION. Would the project:				
	a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

- a-b. The project site does not contain recreational facilities nor does the installation of the proposed effluent ponds include public recreational facilities or require any construction or expansion of recreational facilities. There would be no impact on recreational facilities.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVI.	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 and/or conflict with General Plan Policy CIR-16, which seeks to maintain an adequate Level of Service (LOS) at signalized and unsignalized intersections, or reduce the effectiveness of existing transit services or pedestrian/bicycle facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the Napa County Transportation and Planning Agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	d) Substantially increase hazards due to a design feature, (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	f) Conflict with General Plan Policy CIR-23, which requires new uses to meet their anticipated parking demand, but to avoid providing excess parking which could stimulate unnecessary vehicle trips or activity exceeding the sites capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	g) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

- a. The project would not result in a considerable increase in traffic. The project proposes the use of the existing road off Steele Canyon Road, which is currently the main access point to the property. According to 2002 traffic counts prepared for the County⁹, the Level of Service from Rimrock Drive to State Route 128 operates at a level "A" during daily hours, and during peak hours. There are approximately 1,132 trips per day with a peak traffic volume of $\pm 1,480$ along the 6 mile section of Steele Canyon Road. Traffic contributions of the proposed project would involve the temporary increase in traffic during the construction of the new ponds. However, traffic volumes associated with the proposed project are not anticipated to increase to a level that would diminish the Level of Service beyond existing levels within the area of the project site. Between ten and twelve workers would be needed during construction activities only. Once construction is complete, there will be the same number of employees as are currently working for the District. The expansion of wastewater treatment system and subsequent operations and maintenance would not discernibly change the Level of Service or traffic volumes within the site or on Steele Canyon Road.

⁹ Napa County Baseline Data Report, Transportation Element; traffic database, November 2005 (referenced herein, available for review at the Napa County Conservation, Development & Planning Department or at www.co.napa.ca.us)

- b. The project would not exceed, either individually or cumulatively, the existing level of service. Construction activities would occur during the off-peak hours (i.e. 6:30 a.m. to 4:30 p.m.). The proposed project would not result in changes to the existing Level of Service on Steele Canyon Road.
- c. The project would not have any impact on air traffic patterns.
- d. The project would not result in increased hazards due to design features or incompatible uses. No incompatible uses are proposed or expected to arise from the use of the ponds.
- e. The existing roads would provide adequate emergency access.
- f. The project would not result in inadequate parking capacity. There is adequate room on-site, either on or adjacent to the existing tailwater pond or on existing gravel access roads for vehicles related to earthmoving and operations.
- g. There are no such policies, plans, or programs that are applicable to this project.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVII. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of a new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of a new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

- a. The District is subject to the wastewater treatment requirements of the Regional Water Quality Control Board, and the expansion is in direct response to cease and desist order R5-2010-0101.
- b. The project proposes the expansion of the existing wastewater treatment facility by construction three new effluent ponds, and expansion of the existing tailwater pond for storage and disposal of treated wastewater.
- c. The project will not require or result in the construction of a new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- d. The project does not propose the use of water, only storage. No impact.
- e. As previously mentioned, the project is in direct response to the Regional Board Cease and Desist orders resulting from discharge violations. The majority of the violations are due to a lack of storage and disposal capacity. Additionally, as a constraint of the system capacity, significant discharges of wastewater to Lake Berryessa have been reported. The project generates no wastewater that would require treatment; therefore, it will have no impact on wastewater treatment providers.

- f. Implementation of the project would have no impact on existing landfills because there be no material generated onsite that will not remain onsite. Solid waste generated during construction activities (i.e. broken pipe, fittings, trellis, end posts, etc.) would be negligible.
- g. The California Integrated Waste Management Board is responsible for guaranteeing the proper storage and transportation of solid waste, by providing standards for storage and transportation of solid waste containing toxic materials generated by urban and industrial users. The applicant/owner would be required to compliance with these regulations, to the extent that they apply to agricultural projects, which will ensure that the project would have no impact in this area.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVIII. 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

- a. As discussed in this Initial Study, implementation of the project with the incorporation of identified mitigation measures would not have the potential to degrade the quality of the environment. There is the potential for suitable habitat for sensitive or special status species on the subject property shall be avoided, and where required, a professional biologist shall be present onsite for pre-construction surveys to avoid indirect impacts to habitat and species that could occur within the holding through the implementation of **Mitigation Measure BIO-1, BIO-2, and BIO-3**, would offset the loss or alteration of oak woodland, while **BIO-4** would offset the removal of riparian vegetation and the alteration of the unnamed intermittent stream located within the footprint of the proposed project (**Section IV, Biological Resources**). Additionally, during site reconnaissance during the cultural study, several vehicles were identified onsite that are eligible for the California Register. To ensure their preservation, the implementation of Mitigation Measure CR-1 would ensure appropriate treatment of these resources. Therefore, with the incorporation of identified mitigation measures, the proposed development project would have a less than significant potential to degrade the quality of the environment.
- b. Additionally, the project impacts have been analyzed to determine the potential individual or cumulatively considerable impacts as a result of project implementation. The following areas of analysis were determined to be less than significant. The project does not anticipate the use of lighting at the site that would not create a substantial source of light nor would the periodic glare from vehicles or construction equipment. The potential contribution to temporary and permanent aesthetic impacts associated with the project would be rendered less than cumulatively considerable. The potential contribution to air quality impacts associated with this project would be rendered less than cumulatively considerable as discussed in **Section III – Air Quality**. As discussed in subsection (a) above, the project would result in the loss of oak woodland, minor riparian habitat and the permanent alteration of an unnamed intermittent stream; however, the project proposes mitigation to offset these losses through the replacement and enhancement of like resources within the holding or approved offsite location resulting in a less than cumulatively considerable impact to biological resources. The project is not anticipated to result in significant impacts related to soil loss or sediment production that would adversely impact off-site resources through preparation and implementation of the SQMP, which is required for construction of the proposed ponds that would be designed using BMPs outlined in the New Development and Redevelopment, and Erosion and Sediment Control Field Manual. There is one watercourse located within the project footprint, an unnamed intermittent drainage considered a Waters of the US, as it drains to Lake Berryessa to the west. Approximately 160 feet of these waters will be piped and covered by the proposed ponds, removing riparian vegetation and permanently altering the drainage. As indicated above in subsection a), the project proposes the replacement and/or combination of enhancement onsite through proposed **Mitigation Measures BIO-4**. The project in combination with proposed mitigation would result in a less than cumulatively considerable impact. This project would generate noise levels that are considered normal and reasonable for temporary construction activities. The potential contribution to noise impacts is considered less than cumulatively considerable. Traffic related to construction would not increase by a discernible amount to be considered cumulatively considerable. The effect of the relatively low and off-peak vehicle trips associated with the project is considered less than cumulative

considerable. In conclusion, impacts associated with this project that may be individually limited, but cumulatively considerable, would be less than significant.

- c. The project would not create any environmental effects that would result in substantial adverse impacts on humans, directly or indirectly. No impacts can be expected to occur off-site. Use of the property would be activities at a level of intensity considered normal and reasonable for a site housing three effluent ponds, tailwater pond, and sprayfields associated with an existing wastewater treatment system.

FIGURE:

- Figure 1: Site Vicinity Map
Figure 2: Pond and Utility Equipment Plan

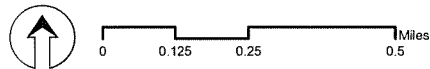
TABLES

- Table 1: Estimated Project Site Carbon Stock/Storage
Table 2: Estimated Project Carbon Loss/Emissions Due to Vegetation Removal
Table 3: Estimated Project Related GHG Emissions

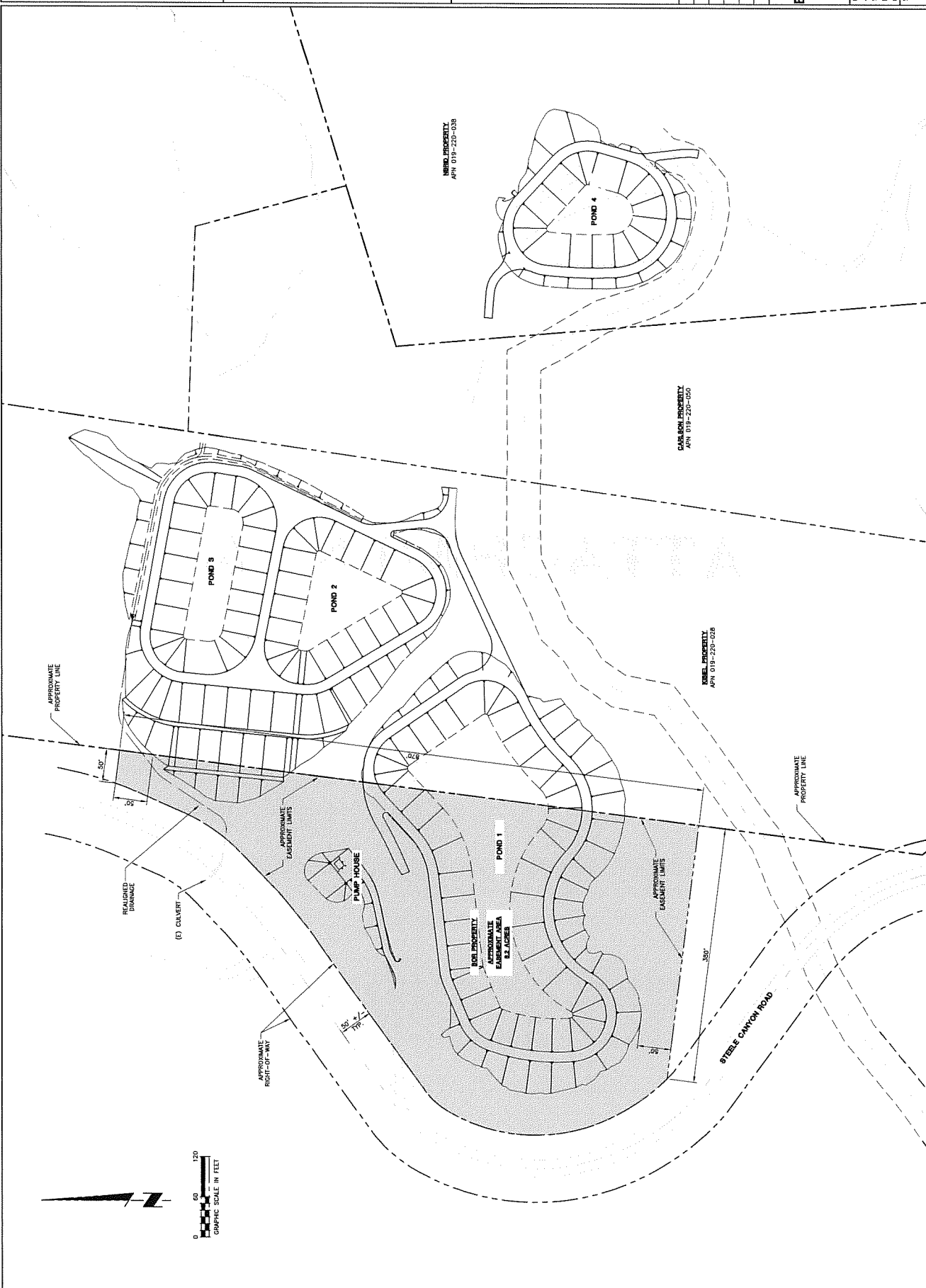
ATTACHMENTS:

- Attachment A: Project Revision Statement
Attachment B: Kjeldsen Biological Consulting, Biological Assessment – Napa Berryessa Resort Improvement District, September 2012

FIGURES



*Napa Berryessa Resort Improvement District
Wastewater Treatment System Upgrade and Expansion*



ATTACHMENT A

PROJECT REVISION STATEMENT

Napa Berryessa Resort Improvement District Wastewater Treatment System Upgrade and Expansion Environmental Review

I hereby revise my request to include the measures specified below:

Mitigation Measure BIO-1

The owner/applicant shall implement the following bat avoidance measures prior to the commencement of vegetation removal and earthmoving (construction) activities:

A qualified biologist shall conduct a habitat assessment for potential suitable bat habitat within six months of project activities. If the habitat assessment reveals suitable habitat, a qualified biologist shall conduct a presence/absence survey during peak activity periods. If bats are found to be present during peak activity periods, the qualified biologist shall submit an avoidance plan to the County and California Department of Fish and Game (DFG) for approval. The avoidance plan should evaluate the length of time disturbance, equipment noise and type of habitat present at the Project site. In the event the bat avoidance measures required by DFG result in a reduction or modification of project boundaries, the plan shall be revised by the applicant/engineer and submitted to the County.

Mitigation Measure BIO-2

The owner/applicant shall conduct the following raptor and bird preconstruction survey(s) prior to the commencement of vegetation removal and earthmoving (construction) activities:

- For earth-disturbing activities occurring between February 1 through August 31, a qualified wildlife biologist shall conduct preconstruction surveys for special status birds and their nests within 500-feet of earthmoving activities. The preconstruction survey shall be conducted no more than 14 days prior to vegetation removal and ground disturbing activities are to commence (surveys should be conducted a minimum of 3 separate days during the 14 days prior to disturbance).
- If active nests are found during preconstruction surveys, a 300-foot no-disturbance buffer will be created around active raptor nests and a 50-foot buffer zone shall be created around the nests of all other birds during the breeding/nesting season or until it is determined by a qualified biologist that all young have fledged. These buffer zones may be modified in coordination with DFG based on existing conditions at the project site. Buffer zones shall be fenced with temporary construction fencing and remain in place until the end of the breeding season or until young have fledged.
- If a 15 day or greater lapse of project-related work occurs during the breeding season, another bird preconstruction survey and consultation with DFG will be required before project work can be reinitiated.

Mitigation Measure BIO-3

Development of the proposed project would convert 6 acres of oak woodland habitat, which could result in an adverse impact to biological resources. The following measure shall be implemented to offset the loss of oak woodland:

An Oak Woodland Avoidance and Management Areas shall be developed by a qualified biologist, including identification of enhancement areas onsite, planting and other enhancement activities, and submitted to the Napa County Conservation, Development and Planning Department for review prior to implementation.

Preservation and Enhancement

Direct impacts to 6 acres of oak woodlands onsite would be mitigated through the preservation and enhancement of 12.0 acres of onsite oak woodland habitat, pursuant to General Plan Policy CON-24. This policy recommends the preservation or enhancement of similar habitat through the replanting of oak woodland at a 2:1 ratio, on a per-acre basis. In consultation with County Planning, the applicant shall hire a qualified biologist or ecologist to develop an enhancement plan to replant oak woodlands within suitable habitat identified onsite, totaling 12.0 acres. At a minimum the enhancement plan shall include planting guidelines, planting survival rate of 80% or greater over a 3-5 year period, and monitoring and reporting program to be submitted to the County annually. Once the enhancement plan has been approved by the County, implementation shall be initiated within the 3 years of completion of the proposed project.

Avoidance

All trees proposed for retention that are located adjacent to the proposed project site shall be avoided, including any trees with trunks located outside the project boundary that have driplines that extend into the proposed project area. Prior to any earthmoving activities, construction fencing (or equivalent barricades) shall be placed at minimum distance of 5 feet outside the outboard driplines of the trees to be retained for the duration of earthmoving and construction activities associated with the project. The placement of such fencing shall be inspected and its location by Napa County prior to commencing any ground disturbing activity. No disturbance, including grading, placement of fill material,

storage of equipment, etc. shall occur with the driplines of those trees to be retained for the duration of construction activities.

Mitigation Measure BIO-4

Development of the proposed project could result in indirect and direct impacts to Waters of the US:

To ensure that all waters of the U.S that could be directly or indirectly impacted by the project have been identified, the applicant's biologist shall delineate all Waters of the U.S. within the project site proposed for disturbance and surrounding buffers. The biologist shall consult with the US Army Corp Engineers prior to the modification of identified channel, including surrounding vegetation within 30 feet of the high water mark of jurisdictional Waters of the U.S. A Section 1602 Lake and Streambed Alteration Agreement (LSAA) shall be obtained from CDFG prior to construction activities that alter the bed or bank of streams.

The compensatory mitigation for the modification of Waters of the US shall be implemented onsite through the enhancement and replacement of the blue lined stream located northeast of the project site, to its original path through the decommissioning of the existing tailwater pond. Replacement shall be a minimum of 1:1 in kind in consultation with US Army Corp of Engineers and CDFG prior to altering the bed or bank of a stream.

Mitigation Measure CR-1

In the event the vehicles identified onsite are not removed prior to pond construction, the project proponent shall consult a professional archaeologist regarding the appropriate treatment of the vehicles to ensure their preservation either onsite or an offsite located to be chosen by the archaeologist.

Mitigation Measure CR-2

- In accordance with CEQA Subsection 15064.5(f), should any previously unknown historic or prehistoric resources, including but not limited to charcoal, obsidian or chert flakes, grinding bowls, shell fragments, bone, pockets of dark, friable solids, glass, metal, ceramics, wood or similar debris, be discovered during grading, trenching or other on-site excavation(s), earth work within 100-feet of these materials shall be stopped until a professional archaeologist certified by the Registry of Professional Archaeologists (RPA) has had an opportunity to evaluate the significance of the find and suggest appropriate mitigation(s), as determined necessary.
- If human remains are encountered the Napa County Coroner shall be informed to determine if an investigation of the cause of death is required and/or if the remains are of Native American origin. Pursuant to Public Resources Code Section 5097.98, if such remains are of Native American origin the nearest tribal relatives as determined by the State Native American Heritage Commission will be contacted to obtain recommendations for treating or removal of such remains, including grave goods, with appropriate dignity.
- All persons working on-site shall be bound by contract and instructed in the field to adhere to these provisions and restrictions.

Mitigation Measure GEO-1

The applicant in consultation with the geotechnical engineer shall implement the following mitigation to reduce the risk of rupture due to ground shaking:

- All areas to be graded shall be cleared of vegetation, and stripped of the upper soils containing root growth and organic matter.
- Areas to receive fill should be prepared by identifying and removing weak soils for their full depth, exposing firm bedrock materials. Excavations should be prepared by cutting level keyways and benches extending into appropriate materials as determined by the geotechnical engineer.
- If isolated deeper zones of soft, saturated, dry (shrinkage cracks), highly porous or organic soils are encountered during excavation and recompaction, the soils should be removed to expose firm soils. The depth and extent of excavation and overexcavation should be determined by the geotechnical engineer.
- Exposed soils should be scarified to a minimum depth of 6 inches, moisture conditioned to at least 4 percent above optimum moisture content and compacted to at least 90 percent relative compaction. Relative compaction refers to the in-place dry density of soils expressed as a percentage of the maximum dry density of the same soil, as determined by ASTM D1557-09 (Standard test method for laboratory compaction characteristics of soil using modified effort). Optimum moisture content is the water content (percentage of dry weight) corresponding to the maximum dry density.
- If grading is performed during the winter or spring seasons, even higher groundwater must be anticipated. Severe groundwater conditions may result in the need for dewatering, placement of stabilization fabrics, and/or placement of ballast rock to achieve stable excavation bottoms.
- The onsite soils should be suitable for reuse as general fill provided that: 1) all rock sizes greater than 6 inches in largest dimension and perishable materials are removed, and 2) the fill materials area approved by the geotechnical engineer prior to use. Imported fill, if required, should be free of organic matter, non-expansive and should be approved by the geotechnical engineer prior to use.

- Fill should be placed in thin lifts (normally 6 to 8 inches depending on compaction equipment), uniformly moisture conditioned to at least 2 percent above optimum moisture content, and compacted to at least 90 percent relative compaction. Where fills are placed in the vicinity of active faulting, as determined by the geotechnical engineer, reinforcing of the fill will be required per the project plans. The upper 6 inches of subgrade surfaces should be compacted to at least 95 percent relative compaction in vehicle traffic areas.
- Cut and fill slopes should be constructed no steeper than 2:1. Exterior fill and cut slopes should be planted with erosion resistant vegetation, or protection from erosion by other measures upon completion of grading. Ground cover should be maintained on the slopes to ensure stability.

I understand and explicitly agree that with regards to all California Environmental Quality Act, Permit Streamlining Act, and Subdivision Map Act processing deadlines, this revised application will be treated as a new project, filed on the date this project revision statement is received by the Napa County Conservation, Development and Planning Department. For purposes of Section 66474.2 of the Subdivision Map Act, the date of application completeness shall remain the date this project was originally found complete.



October 9, 2012

Signature of Owner(s)

Date

Phillip M. Miller, PE District Engineer
Print Name

Napa Berryessa Resort Improvement District

1. The first step in the process of creating a new product is to identify a market need. This involves conducting market research to determine what consumers are looking for and what problems they are trying to solve. Once a market need has been identified, the next step is to develop a concept for a product that addresses that need.

2. The second step is to create a prototype of the product. This involves building a physical model of the product that can be used to test the concept and gather feedback from potential customers. The prototype should be as close to the final product as possible, but it should also be simple enough to build and test quickly.

ATTACHMENT B

BIOLOGICAL ASSESSMENT

Napa Berryessa Resort Improvement District

Wastewater Storage Ponds

1465 Steel Canyon Road

Napa County, CA



Prepared

For

Summit Engineering Inc.

463 Aviation Blvd. Ste 200

Santa Rosa, CA 95403

By

Kjeldsen Biological Consulting

923 St. Helena Ave.

Santa Rosa, CA 95404

September 2012

BIOLOGICAL ASSESSMENT

Napa Berryessa Resort Improvement District

Wastewater Storage Ponds

1465 Steel Canyon Road

Napa County, CA

PROJECT NAME:

Napa Berryessa Resort Improvement District
Wastewater Storage Ponds
1465 Steele Canyon Road
Napa, CA

SITE PLAN:

Summit Engineering, Inc.
463 Aviation Boulevard Suite 200
Santa Rosa, CA 95403
707-527-0775

REPORT PREPARED BY:

Kjeldsen Biological Consulting
923 St. Helena Ave.
Santa Rosa, CA 95404
(707) 544-3091
kjeldsen@sonic.net

PERIOD OF STUDY:

August 2012

BIOLOGICAL ASSESSMENT

Napa Berryessa Resort Improvement District

Wastewater Storage Ponds

1465 Steel Canyon Road

Napa County, CA

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	Table II.	Analysis of “Target” Special-status animal species.

APPENDIX A	Plants and Animals Observed on or near the Project Site
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APPENDIX B	Definitions and Regulatory Requirements
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APPENDIX C	CNPS Special Status-species Listed for the Project Quadrangle and Surrounding Quadrangles
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BIOLOGICAL ASSESSMENT

Napa Berryessa Resort Improvement District

Wastewater Storage Ponds

1465 Steel Canyon Road

Napa County, CA

Executive Summary

This study was conducted at the request of Summit Engineering, Inc as agents for the Napa Berryessa Resort Improvement District (NBRID). This study and report are provided as background biological studies necessary for securing permits from Napa County Conservation, Development and Planning Department for the proposed project.

The proposed project site and study area is located at 1465 Steele Canyon Road on the south shore of Lake Berryessa (APN 019-220-038, 060). The NBRID serves the residences of Berryessa Highlands. The project site is adjacent to an existing NBRID tail water pond and spray field. New storage water ponds are proposed within an oak woodland grassland ridge below the existing tail water pond. The study site is within the Lake Berryessa USGS Quadrangle.

The project proposes the development of three new treated effluent wastewater holding ponds (approximate 10.9-acres footprint) that are essential for compliance and operation of the NBRID wastewater treatment system. The proposed wastewater effluent ponds are down slope from an existing spray field. Pond one is sized for approximately 11.3 MGAL, pond two 4.2 MGAL, pond three 4.2 MGAL, and existing tailwater pond four 2.8 MGAL.

The purpose of the study and report is to identify biological resources that may be impacted by the proposed project.

Findings:

- We found no evidence that would indicate that the proposed project would negatively impact any of the special-status species known for the region. No special-status species known for the Quadrangle, surrounding Quadrangles or the County were identified on the project site nor did the project sites contain vegetation associates, habitat or edaphic conditions which would support special-status species;
- A portion of the project footprint will require tree removal. The tree removal (approximate 6-acres) will consist mainly of Blue Oaks (*Quercus douglasii*), Interior Live Oak (*Quercus wislizeni*), Valley Oak (*Quercus lobata*) and Ghost Pine (*Pinus sabiniana*);

- The project footprint will impact a drainage that is definable as “Waters of the U.S.” This will require a 1600 permit from the California Department of Fish and Game (DFG), U.S. Army Corps of Engineers (ACOE) permit, and water quality certificate from the Regional Water Quality Control Board;
- The vegetation on the site consists of Blue Oak Woodland in a Savanna like stand with Semi-natural Grassland ground cover (at present a portion of the project site is used for equipment storage and horse pasture);
- There are no sensitive plant communities, habitat, or sensitive biotic communities listed by DFG or Napa County associated with the project;
- The project footprint will not impact any vernal pools or seasonal wetlands;
- The proposed project will not substantially interfere with native resident fish, migratory fish, resident or migratory wildlife species, wildlife corridors, and or wildlife nursery sites.
- No raptor nests or significant bat nesting or roosting habitat was observed on the site or in the vicinity of the project;
- The project as proposed will not result in any significant adverse biological impacts off site provided standard construction practices and erosion control management are implemented during and following construction;
- There is no need for additional protocol-level wildlife surveys as per U.S. Fish and Wildlife; and
- It is concluded that further seasonal biological studies are unwarranted. The flora and fauna observed on the study site and property included as an appendix.

Recommendations

The project should comply with the Oak Woodlands Preservation Act (PRC Section 21083.4) regarding oak woodland preservation to conserve the integrity and diversity of oak woodlands, and retain, to the maximum extent feasible, existing oak woodland.

Trees surrounding the project to be retained should be provided with exclusionary fencing. Fencing should be at a minimum of four feet in height and clearly marked to prevent inadvertent encroachment by heavy machinery. Fencing should be installed either at the edge of the trees drip-line, or at the edge of the construction zone. All fencing should be in place prior to any site grading and prohibit all access to fenced areas.

Pond # 3 will impact a seasonal drainage that meets the definition of a “Waters of the State”. Consultation and permits are required from the Department of Fish and Game, U.S. Army Corps of Engineers, and Regional Water Quality Control Boards for the project impacts.

For ground disturbing activities occurring during the breeding season (February 15 to August 31), a qualified wildlife biologist should conduct pre-construction surveys of all potential nesting habitat for birds within 500 feet of earthmoving activities. Surveys should be conducted within 14 days prior to tree removal and or ground-breaking activities on the project site. If active bird nests are found during preconstruction surveys the project applicant should consult and obtain approval for appropriate buffers with the California Department of Fish and Game prior to tree removal and or ground-breaking activities or until it is determined that all young have fledged.

BIOLOGICAL ASSESSMENT

Napa Berryessa Resort Improvement District

Proposed Wastewater Effluent Ponds

Napa County, CA

A PROJECT

A.1 Introduction

This study was conducted at the request of Summit Engineering, Inc as agents for the Napa Berryessa Resort Improvement District (NBRID). This study and report are provided as background biological studies necessary for securing permits from Napa County Conservation, Development and Planning Department for the proposed project.

A.2 Project Location

The proposed project site and study area are located at 1465 Steele Canyon Road on the south shore of Lake Berryessa (APN 019-220-038, and 060). The NBRID serves the residences of Berryessa Highlands. The project site is adjacent to an existing NSBRID tail water pond and spray field. New storage water ponds are proposed for an oak woodland grassland ridge above the tail water pond and in a swale below the tail water pond. The study site is within the Lake Berryessa USGS Quadrangle. Plate I provides a site and location map of the property. Plate III provides an aerial photograph of the property.

A.3 Project Description

The project proposes the development of three new treated effluent wastewater holding ponds (approximate 10.9-acres footprint) that are essential for compliance and operation of the NBRID wastewater treatment system. Three new ponds are planned, due to site conditions that will allow for the calculated capacity needs. The existing treatment pond will also be expanded. The ponds will have a synthetic liner to protect groundwater quality. The three new proposed wastewater effluent ponds are down slope from an existing spray field. Pond one is sized for approximately 11.3 MGAL, pond two 4.2 MGAL, pond three 4.2 MGAL, and existing tailwater pond to be expanded pond four 2.8 MGAL. The attached Site Plan Plate V illustrates the project.

A.4 Purpose

The purpose of this report is to:

- Determine the presence of or potential for special-status animals or plants,

- Identify the existence of habitat which could support special-status animals or plants,
- Identify biological resources within the footprint of project site,
- Delineate any wildlife movement corridors within and across the property,
- Determine if there is a need for additional protocol-level wildlife surveys
- Assess the impacts of the proposed project on any on-site or off-site biological resources, and,
- Identify any State or Federal permits required by the proposed project.

A.5 Definitions

Definitions used in this report are attached in Appendix B.

B SURVEY METHODOLOGY

B.1 Project Scoping

The scoping for the project considered location, type of habitat and vegetation types present on the property or associated with potential special-status plant species known for the Quadrangles, surrounding Quadrangles the County or the region. Our scoping also considered records in the most recent version of the Department of Fish and Game California Natural Diversity Data Base (DFG CNDDB Rare Find-3) and the California Native Plant Society (CNPS) Electronic Inventory of Rare or Endangered Plants. "Target" special-status species are those listed by the State, the Federal Government or the California Native Plant Society or considered threatened in the region. Our scoping is also a function of our familiarity with the local flora and fauna as well as previous projects on other properties in the area.

Section 15380 of the California Environmental Quality Act [CEQA (September, 1983)] has a discussion regarding non-listed (State) taxa. This section states that a plant (or animal) must be treated as Rare or Endangered even if it is not officially listed as such. If a person (or organization) provides information showing that a taxa meets the State's definitions and criteria, then the taxa should be treated as such. Tables I and II present target special-status species (see also Appendix C).

B.2 Field Survey Methodology

Our study was made by walking transects through and around the project site. Our fieldwork focused on locating target organisms or suitable habitat for target organisms, or indications that such habitat exists on the site. Surveys for the exact site of current project plans were conducted on August 20, 2012 with two personnel. Surveys were conducted on March 28, April 27, May 22, and June 6, 2012 in the area looking at adjacent areas similar vegetation and habitats.

Plants Field surveys were conducted recording identifying all species on the site and in the near proximity. Transects through the proposed project sites were made methodically by foot. Transects were established and scrutinized to cover topographic and vegetation variations within the study area. The Intuitive Controlled approach calls for the qualified surveyor to conduct a survey of the area by walking through it and around its perimeters, and closely examining portions where target species are especially likely to occur.

The open nature of the site, historic and on going agricultural practices (horse pasture), and small size of the proposed development footprint facilitated our field studies.

The fieldwork for identifying special-status plant species is based on our knowledge and many years of experience in conducting special-status plant species surveys in the region. Plants were identified in the field or reference material was collected, when necessary, for verification using laboratory examination with a binocular microscope and reference materials. Herbarium specimens from plants collected on the project site were made when relevant. Voucher material for selected individuals is in the possession of the authors. All plants observed (living and/or remains from last season's growth) were recorded in field notes.

Typically, blooming examples are required for identification however; it is not the only method for identifying the presence of or excluding the possibility of rare plants. Vegetative morphology and dried flower or fruit morphology, which may persist long after the blooming period, may also be used. Skeletal remains from previous season's growth can also be used for identification. Some species do not flower each year or only flower at maturity and therefore must be identified from vegetative characteristics. Algae, fungi, mosses, lichens, ferns, Lycopphyta and Sphenophyta have no flowers and there are representatives from these groups that are now considered to be special-status species, which require non-blooming identification. For some plants unique features such as the aromatic oils present are key indicator. For some trees and shrubs with unique vegetative characteristics flowering is not needed for proper identification. The vegetative evaluation as a function of field experience can be used to identify species outside of the blooming period to verify or exclude the possibility of special-status plants in a study area.

Habitat is also a key characteristic for consideration of special-status species in a study area. Many special-status species are rare in nature because of their specific and often very narrow habitat or environmental requirements. Their presence is limited by specific environmental conditions such as: hydrology, microclimate, soils, nutrients, interspecific and intraspecific competition, and aspect or exposure. In some situations special-status species particularly annuals may not be present each year and in this case one has to rely on skeletal material from previous years. A site evaluation based on habitat or environmental conditions is therefore a reliable method for including or excluding the possibility of special-status species in an area.

Animals Our field techniques consisted of surveying the area with binoculars and walking the perimeter of the project site. Existing site conditions were used to identify habitat, which could potentially support special status species. Animals were identified in the field by their sight, sign, or call. All animal life was recorded and is presented in Appendix A.

Trees were surveyed to determine whether occupied raptor nests were present within the proximity of the project site (i.e., within a minimum 500 feet of the areas to be disturbed). Surveys consisted of scanning the trees on the property with binoculars searching for nest or bird activity. Our search was conducted from the property and by walking under existing trees looking for droppings or nest scatter from nests that may be present that were not observable by binoculars. Potential bat breeding habitat was surveyed for within 200 feet of the proposed project, by looking for roosting habitat rock outcrops, crevasses, and evidence of roosting.

Aerial photos were reviewed to look at the habitat surrounding the site and the potential for wildlife movement, or wildlife corridors from adjoining properties onto or through the site.

Wetlands The project site was reviewed to determine from existing environmental conditions with a combination of vegetation, soils, and hydrologic information if seasonal wetlands were present. Wetlands were evaluated using the ACOE's three-parameter approach: Vegetation, Hydrology, and Soils.

Tributaries to Waters of the US are determined by the evaluation of continuity and "ordinary high water mark." The ordinary high water mark of the creek was determined based on the top of scour marks and high flow impacts on vegetation.

B.3 Qualifications of Field Investigators

Chris K. Kjeldsen, Ph.D., Botany, Oregon State University, Corvallis, Oregon. He has over forty years of professional experience in the study of California flora. He was a member of the Sonoma County Planning Commission and Board of Zoning (1972 to 1976). He has over thirty years of experience in managing and conducting environmental projects involving impact assessment and preparation of compliance documents, Biological Assessments, DFG Habitat Assessments, DFG Mitigation projects, ACOE Mitigation projects and State Parks and Recreation Biological Resource Studies. Experience includes conducting special-status species surveys, jurisdictional wetland delineations, general biological surveys, 404 and 1600 permitting, and consulting on various projects. He taught Plant Taxonomy at Oregon State University and numerous botanical science and aquatic botany courses at Sonoma State University including sections on wetlands and wetland delineation techniques. He has supervised numerous graduate theses, NSF, DOE and local agency grants and served as a university administrator. He has a valid DFG collecting permit.

Daniel T. Kjeldsen, B. S., Natural Resource Management, California Polytechnic State University, San Luis Obispo, California. He spent 1994 to 1996 in the Peace Corps managing natural resources in Honduras, Central America. His work for the Peace Corps in Central America focused on watershed inventory, mapping and the development and implementation of a protection plan. He has over ten years of experience in conducting Biological Assessments, DFG Habitat Assessments, ACOE wetland delineations, wetland rehabilitation, and development of and implementation of mitigation projects and mitigation monitoring. He has received 3.2 continuing education units MCLE 27 hours in Determining Federal Wetlands Jurisdiction from the University of California Berkeley Extension. Attended Wildlife Society Workshop Falconiformes of Northern California Natural History and Management California Tiger Salamander 2003, Natural History and Management of Bats Symposium 2005, Western Pond Turtle Workshop 2007, and Western Section Bat Workshop 2011. Laguna Foundation and The Wildlife Project Rare Pond Species Survey Techniques 2009. A full resume is available upon request

C BIOLOGICAL SETTING

The property is located in Napa within the inner North Coast Range Mountains, a geographic subdivision of the larger California Floristic Province (Hickman 1993) which is strongly influenced by the Pacific Ocean. The region is in climate Zone 14 "Ocean influenced Northern and Central California" characterized as an inland area with ocean or cold air influence. The climate of the region is characterized by hot, dry summers and cool, wet winters, with precipitation that varies regionally from less than 30 to more than 60 inches per year. This climate regime is referred to as a "Mediterranean Climate." The average annual temperature ranges from 45 to 90 degrees Fahrenheit. The variations of abiotic conditions including geology results in a high level of biological diversity per unit area in the region. The site is further modified by the proximity to Lake Berryessa which as a large body of water has an influence on local microclimate conditions.

The existing site conditions consist of fallow grasslands and oak woodlands, which are further described below. The site is fenced and is at present a horse pasture and equipment storage. Figures 1 to 9 below illustrate the site conditions and the project areas.

The property is at an elevation of approximately 600 feet. The study area drains by sheet flow into a seasonal unnamed tributaries of Lake Berryessa.

C.1 Site Description and Biological Resources Evaluation Area

Our survey focused on the project footprint and immediate surrounding habitat. The aerial photo illustrates the site (Plate III) and the photographs that follow further document existing conditions of the project sites.

The vegetation of California has been considered to be a mosaic with major changes present from one area to another often with distinct vegetation changes within short distances. The variation in vegetation is a function of topography, geology, climate and biotic factors. It is generally convenient to refer to the vegetation associates on a site as a plant community or alliance. Typically plant communities or vegetation alliances are identified or characterized by the dominant vegetation form or plant species present. There have been numerous community classification schemes proposed by different authors using different systems for the classification of vegetation. A basic premise for the designation of plant communities, associations or alliances is that in nature there are distinct plant populations occupying a site that are stable at any one time (climax community is a biotic association, that in the absence of disturbance maintains a stable assemblage over long periods of time). There is also evidence that vegetation on the site is part of a continuum without well-defined boundaries. There is no agreement as to which system of nomenclature to use for describing plant communities.

Biotic Communities integrate the concept of assemblages of plants and animals in a discrete area of the landscape associated with particular soils climate and topographic conditions.

The Plant Community on the parcel would be classified by the California Native Plant Society (CNPS) and Department of Fish and Game California Natural Diversity Data Base (CNDDB) as: Valley and Foothill Grassland and Cismontane Woodland.

In general terminology one would refer to the habitat on the project site as Agricultural Grazing Lands or Ruderal Grassland and Oak Woodland with a ruderal grassland understory. In the sections below the vegetation and habitat on the project site is further categorized with the new system of vegetation classification by Sawyer et al (2009). A Manual of California Vegetation Second Edition classifies the vegetation on the project sites as Grassland Semi-natural Stands with Herbaceous Layer and a *Quercus douglasii* Woodland Alliance. This classification is the presently preferred system that over time will replace existing classification systems.

Vegetation mapping of the property and project site (Plate IV) uses Grassland Semi-Natural Stand and *Quercus douglasii* Woodland Alliance.

Grassland Semi-Natural Herbaceous Stand with Herbaceous Layer (Annual Grasslands or Valley and Foothill Grassland)

This stand is the understory of the Oak Woodlands within the proposed project footprint. It is apparent that the property and project site has had a long history of agricultural use and appears to have been grazed for decades. Experts conclude that native grasslands in California are among the most endangered ecosystem in the United States. Due in most part to historical land use and introduced non-native grasses and herbs, it is estimated that less than 1% of our state's original grasslands remain.

Semi-Natural Herbaceous Grasslands are a result of decades of agriculture and the introduction of non-native grasses and herbs. Sawyer uses the term "Semi-natural Stands to refer to non-native introduced plants that have become established and coexist with native species. This includes what can be termed weeds, aliens, exotics or invasive plants in agricultural and nonagricultural settings. The Semi-natural Herbaceous Stands cannot be mapped due to the small size but if one searches the site one can find small patches of the following;

Avena (barbata, fatua) Semi-Natural Herbaceous Stands Wild oats grasslands. *Avena barbata* or *A. fatua* is dominant or co-dominant in the herbaceous layer. Emergent trees and shrubs may be present at low cover. Herbs <1.2 m; cover is open to continuous. Stands are present in waste places, rangelands, and openings in woodlands. The membership rules require *Avena ssp.* to be > 75% relative cover; other non-native <5% absolute cover, if present, in the herbaceous layer. *Avena* species are cool-season, annual grasses from Eurasia. These annual grasslands are common in the region.

Bromus diandrus Semi-Natural Herbaceous Stands Annual brome grassland; (Membership Rules *Bromus diandrus* >60% relative cover with other non-natives in the herbaceous layer). *Bromus diandrus* is dominant or co-dominant with non-native in the herbaceous layer. Emergent trees and shrubs may be present at low cover Herbs <75 cm tall are intermittent to continuous. Ripgut brome is an annual grass from Eurasia. This alliance accounts for the largest acreage of grassland vegetation in cismontane California. Stands in our area contain *Aria caryophylla*, *Cynosurus echinatus*, *Dichelostemma multiflorum*, *Erodium botrys*, *Limnanthes douglasii*, *Taeniantherum caput-medusae*, and *Baccharis pilularis* shrubs.

Cynosurus echinatus Semi-Natural Herbaceous Stands Annual Dogtail Grasslands; (Membership Rules *Cynosurus echinatus* >50% relative cover with other non-natives in the herbaceous layer.

Cynosurus echinatus is dominant or co-dominant with other non-natives in the herbaceous layer. Emergent Trees and shrubs may be present. Herbs < 50cm; cover is intermittent to continuous. Native plants associated with *Cynosurus echinatus* stands include *Achaatherum lemmonii*, *Bromus carinatus*, *Danthonia californica*, *Elymus glaucus*, *Eschscholzia californica*, *Hemizonia congesta*, *Lotus micranthus*, *Lupinus bicolor* and *Madia* ssp. Non-native plants include *Aira caryophyllea*, *Avena* ssp., *Bromus hordeaceus*, *Bromus tectorum*, *Erodium* ssp., *Poa pratensis*, *Rumex acetosella*, *Taeniantherum caput-medusae*, and *Taraxacum officinale*.

Lolium perenne Semi-Natural Herbaceous Stands Perennial Rye Grass Field; (Membership Rules *Lolium perenne* > %50 relative cover, native plants < 15% relative cover). *Lolium perenne* is a non-native grass from Europe introduced into temperate regions throughout the world. It is an annual or a perennial, cool-season bunch grass.

Woodland Alliance (Cismontane Woodland)

Woodland Alliances are characterized by a dominant tree overstory and different degrees of understory development. The project woodland alliance appears to be of a relatively mature Blue Oak age class with very little regeneration. The lack of a varied age class of canopy species is apparently a result of modified fire regime and historic land use as pasturelands. The shrub understory is limited to a few living and dead manzanita. The herbaceous layer is limited presumably to grazing.

Quercus douglasii Woodland Alliance Blue Oak Woodland; *Quercus douglasii* is dominant or co-dominant tree in the canopy with *Aesculus californica*, *Pinus sabiniana*, *Quercus agrifolia*, *Q. lobata* and *Q. wislizeni* (Membership Rules *Quercus douglasii* > 50% relative cover in the tree canopy; other hardwoods or conifers may be > 30% relative cover in the tree canopy). Trees > 20 m; with conifers < 35 m. Shrub layer is sparse to intermittent. Herbaceous layer is sparse or grassy, and forbs are present seasonally. *Quercus douglasii* is a deciduous, drought and flood tolerant tree that grows to 20 m in height. The canopy is intermittent to continuous or savanna-like. The alliance establishes in varied stands and form one of the most extensive and conspicuous vegetation types in the state.

The Department of Fish and Game Wildlife and Habitat Data Analysis Branch Vegetation Classification and Mapping Program List of California Terrestrial Natural Communities Recognized by The DFG California Natural Diversity Database September 2003 edition and the DFG Vegetation Classification and Mapping Program List of California Vegetation Alliances October 22, 2007, classify the project site respectively as Broad Leafed Upland Tree Dominated - # 70.000.00 and further described as Blue Oak Woodland (*Quercus douglasii*) - # 71.020.00 and specifically as Blue Oak Woodland-Coast Live Oak/Grass - # 71.020.01 and as *Quercus douglasii*: Alliance: California Level of # 71.020.00, with a Global Alliance of # 614 and with a rarity of G 4 S4 (=global and state as common enough to not be of concern).



Figure 1. Blue Oak Woodlands on the project site of Pond One.



Figure 2. Northwest end of the ridge where Pond One will be located.



Figure 3. Southeast end of the ridge proposed for Pond One.



Figure 4. Storage area that is part of the site for Pond One.



Figure 5. Grasslands and Oak Woodlands where Pond Two will be located.



Figure 6. Drainage that flows through footprint of Pond Three.



Figure 7. View upslope of the site for Ponds Two and Three.



Figure 8. View upslope of the drainage that bisects Pond Three.



Figure 9. Location of Pump House Pad, which is part of the project.

C.2 Surrounding Biological Resources

The aerial photograph Plate III, illustrates the site and the surrounding environment. The environmental setting of the project site consists of:

- On the north side of the project – Open undeveloped Semi-natural Grasslands, and Oak Woodlands;
- On the east side of the project – Oak Woodlands, NBRID holding pond and Spray Field;
- On the south side of the project – Open undeveloped, Oak Woodlands; and
- On the west side of the project – Steele Valley Road, Semi-natural Grasslands, Oak Woodlands, and Lake Berryessa.

C.3 Napa County Defined Drainage

The project site is traversed by a seasonal unnamed drainage that is a tributary to Lake Berryessa.

Napa County Defined Drainage definition is a watercourse designated by a solid line or dash and three dots symbol on the largest scale of the United States Geological Survey maps most recently published, or any replacement to that symbol, and or any watercourse which has a well-defined channel with a depth greater than four feet and banks steeper than 3:1 and contains hydrophilic

vegetation, riparian vegetation or woody-vegetation including tree species greater than ten feet in height.

The drainage does not appear on the U.S.G.S. Topographic Map as a blue line, and it does not meet the definition of Napa County Drainage. This drainage does have bed and bank and connectivity to Lake Berryessa and, therefore is within the jurisdiction of DFG and ACOE as “Waters of the State”.

D RESULTS AND FINDINGS

The results and findings discussed below are based on our on-site field review and background materials available for the project.

D.1 Special-Status Species

A map from the DFG CNDDDB for the records of special-status species known for proximity of the project is shown on Plate II. These taxa listed as well as those listed in Appendix C constitute “Target Species” or Organisms that are part of the scoping for the project site and property. Species listed in Appendix C are those that are within the Quadrangle and surrounding Quadrangles. Reference sites were reviewed as part of our scoping for some of the “Target” Organisms.

Tables I and II below provide a list of potential “target” species that are known to occur (DFG CNDDDB- 5 mile search) and the results of our field studies. The table includes an analysis / justification for concluding absence as supported by our fieldwork.

Table I. Analysis of special-status plants. The taxa included in the table are selected based on the habitat present and the DFG CNDDDB records for the area of the project (see also Appendix C and Plate II).

Common Name	Scientific Name	Plant Habitat Association	Flower Period	Found on or Around Project Site	Justification For Negative Findings
Napa False Indigo	<i>Amorpha californica</i> var <i>napensis</i>	Cismontane Woodland	April-July	No	Requisite habitat absent on the site or in the immediate vicinity.
Clara Hunt’s Milk-Vetch	<i>Astragalus clarianus</i>	Cismontane Woodland, Valley and Foothill Grassland	March-April	No	Requisite micro-habitat, edaphic requirements, native vegetation associates and exposure not present.
Jepson’s Milk-Vetch	<i>Astragalus rattanii</i> var. <i>jepsonianus</i>	Cismontane Woodland, Valley and Foothill Grassland	April-June	No	Requisite habitat absent on the site or in the immediate vicinity.
Narrow-anthered California Brodiaea	<i>Brodiaea californica</i> var. <i>leptandra</i>	Broadleaved upland forest, chaparral, elevation 110-915 meters	May-July	No	Requisite habitat and vegetation associates absent on the site or in the immediate vicinity.

Common Name	Scientific Name	Plant Habitat Association	Flower Period	Found on or Around Project Site	Justification For Negative Findings
Rincon Ridge Ceanothus	<i>Ceanothus confusus</i>	Chaparral	Feb-March	No	Requisite habitat and vegetation associates absent on the site or in the immediate vicinity
Calistoga Ceanothus	<i>Ceanothus divergens</i>	Chaparral serpentinite	Feb-March	No	Not known for area. Requisite habitat and vegetation associates absent on the site or in the immediate vicinity.
•Holly-leaved Ceanothus	<i>Ceanothus purpureus</i>	Chaparral	Feb-June	No	Requisite habitat and vegetation associates absent on the site or in the immediate vicinity.
Pappose Tarplant	<i>Centromadia (=Hemizonia) parryi</i> ssp. <i>rudis</i>	Grasslands	May-July	No	Requisite habitat and vegetation associates absent on the site or in the immediate vicinity.
•Serpentine Cryptantha	<i>Cryptantha clevelandii</i> var. <i>dissita</i>	Chaparral serpentinite	April-June	No	Requisite habitat and vegetation associates absent on the site or in the immediate vicinity
•Dwarf Downingia	<i>Downingia pusilla</i>	Wetlands	March-May	No	Requisite aquatic habitat absent on the site or in the immediate vicinity.
Green's Narrow-leaved Daisy	<i>Erigeron greenei</i>	Chaparral serpentinite	May-Sept.	No	Requisite slope exposure, edaphic habitat and vegetation associates absent on the site or in the immediate vicinity.
Loc Lomond Button-celery	<i>Eryngium constancei</i>	Vernal Pools	April-June	No	Requisite edaphic habitat absent on the site or in the immediate vicinity precludes presence.
•Two-carpellate Western Flax	<i>Hesperolinon bicarpellatum</i>	Chaparral Serpentinite	May-July	No	Edaphic habitat not present.
•Brewer's Western Flax	<i>Hesperolinon breweri</i>	Chaparral Serpentinite	May-July	No	Edaphic habitat not present.

Common Name	Scientific Name	Plant Habitat Association	Flower Period	Found on or Around Project Site	Justification For Negative Findings
•Tehama County Western Flax	<i>Hesperolinon tehamense</i>	Chaparral Serpentine	May-July	No	Requisite edaphic habitat absent on the site precludes presence
California Black Walnut	<i>Juglans hindsii</i>	Riparian	April-May	No	Species not observed.
Contra Costa Goldfields	<i>Lasthenia conjugens</i>	Vernal Pools	March-June	No	Requisite aquatic habitat absent on the site or in the immediate vicinity.
Colusa Layia	<i>Layia septentrionalis</i>	Cismontane Woodland, Valley and Foothill Grassland, Serpentine	April-May	No	Requisite edaphic habitat absent on the site or in the immediate vicinity.
•Jepson's leptosiphon	<i>Leptosiphon jepsonii</i> = <i>Linanthus jepsonii</i>	Chaparral, cismontane woodland usually volcanic	April-May	No	Requisite habitat and vegetation associates absent on the site or in the immediate vicinity.
Cobb Mt. Lupine	<i>Lupinus sericatus</i>	Chaparral, Cismontane Woodland	March-June	No	Requisite habitat absent on the site or in the immediate vicinity.
Mt. Diablo Cottonweed	<i>Micropus amphibolus</i>	Cismontane Woodland	March-May	No	Requisite habitat absent on the site or in the immediate vicinity.
•Robust Monardella	<i>Monardella villosa</i> ssp. <i>globosa</i>	Chaparral	June-July	No	Absence of typical habitat and vegetation associates.
Baker's Navarretia	<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Cismontane Woodland, Valley and Foothill Grassland	May-July	No	Requisite micro-habitat absent on the site or in the immediate vicinity.
•Few Flowered Navarretia	<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	Vernal pools	May-June	No	Requisite aquatic habitat absent on the site or in the immediate vicinity.
Gairdner's Yampah	<i>Perideridea gairdneri</i> ssp. <i>gairdneri</i>	Cismontane Chaparral, Valley foothill grassland, vernal pools	June – October	No	Requisite mesic habitat absent on the site or in the immediate vicinity.

Common Name	Scientific Name	Plant Habitat Association	Flower Period	Found on or Around Project Site	Justification For Negative Findings
Calistoga Popcorn-flower	<i>Plagiobothrys strictus</i>	Valley and Foothill Grassland, Vernal Pools, Alkaline Areas Near Thermal Springs	March-June	No	Requisite mesic edaphic habitat absent on the site or in the immediate vicinity.
Napa Bluegrass	<i>Poa napensis</i>	Valley and Foothill Grassland, Alkaline Areas	May-Aug	No	Requisite edaphic habitat absent on the site or in the immediate vicinity precludes presence.
•Keck's Checkerbloom	<i>Sidalcea kecki</i>	Grass Slopes	April-May	No	Historic grazing of site precludes presence.
Marsh Checkerbloom	<i>Sidalcea ssp. hydrophila</i>	Meadows, Riparian Forests	July-Aug	No	Requisite mesic habitat absent on the site or in the immediate vicinity.
Green Jewel-flower	<i>Streptanthus hesperidis</i>	Chaparral, cismontane woodland serpentinite	May-June	No	Requisite edaphic habitat and vegetation associates absent on the site or in the immediate vicinity.
Showy Indian Clover	<i>Trifolium amoenum</i>	Grassland	April-June	No	Previous site use has eliminated potential for this species.
Oval-leaved Viburnum	<i>Viburnum ellipticum</i>	Chaparral, Cismontane Woodland, Coniferous Forest	May-June	No	Requisite habitat absent on the site or in the immediate vicinity.

- Indicates taxa that are known to occur within five miles of the project site (Plate II).

As shown in the table above the potential special-status plant species recorded for the proximity of the project sites can with a high degree of certainty be eliminated from potential for the project sites based on the lack of hydrology, edaphic (soil conditions) and historic use of the site with concurrent introductions of non-native weed species as well as our findings as a result of our field surveys. As shown in Appendix A the majority of the species present within the project footprint are introduced non-native species that are a result of decades of grazing.

Table II. Analysis of special-status animals. The taxa included in the table are selected based on the habitat present and the DFG CNDDDB records for the area of the project (see also Appendix C, and Plate II).

Common Name	Scientific Name	Habitat	Potential for Project Site	Observed on or Around Project Site	Justification for Negative Findings
Great Egret (Nesting)	<i>Agretta thula</i>	Slow moving water or ponds	No	No	Species not observed. Lack of nesting habitat.
Pallid Bat	<i>Antrozous pallidus</i>	Roosts in buildings and overhangs	May fly over	No	No, lack of habitat.
Townsend's Western Big-eared Bat	<i>Corynorhinus townsendii townsendii</i>	Cliffs caves, old buildings	May fly over	No	Lack of habitat.
• Valley Elderberry Longhorn Beetle	<i>Desmocerus californicus dimorphus</i>	Larva Require Elderberry Plants	No	No	Lack of Elderberry Plants
White-Tailed Kite	<i>Elanus leucurus</i>	Nests in tall trees near water	May fly over	No	Lack of habitat.
Western Pond Turtle	<i>Emys marmorata</i>	Slow moving water or ponds	No	No	Potential in existing pond. Species was not observed.
• American Peregrine Falcon	<i>Falco peregrinus anatum</i>	Nests on cliffs	No	No	Lack of requisite habitat.
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Nests in tall trees near water	May fly over	No	Lack of nesting habitat.
Purple Martin	<i>Progne subis</i>	Open Woodland, towns, barns	Potential	No	Species was not observed.
Northern Spotted Owl	<i>Strix occidentalis caurina</i>	Conifer Woodlands	No	No	Lack of habitat.
• Foothill Yellow-legged Frog	<i>Rana boylei</i>	Slow moving streams, deep pools, and ponds.	No	No	Species was not observed in drainage around existing pond.
• California Red-legged Frog	<i>Rana draytonii</i>	Creeks, Rivers with Permanent Flowing Water.	No	No	Pond contained large bull frog populations. No RLF observed.

• Indicates taxa that are known to occur within five miles of the project site (see Plate II).

In the sections below species with the potential to be impacted by the proposed project are discussed in more detail.

***Emys marmorata* (Western Pond Turtle).** The pond turtle is found throughout California and is listed by the State as a Species of Concern. Suitable habitat consists of any permanent or nearly permanent body of water or slow moving stream with suitable refuge, basking sites and nesting sites. Refuge sites include partially submerged logs or rocks or mats of floating vegetation. Basking sites can be partially submerged rocks or logs, as well as shallow-sloping banks with little or no cover. Nesting occurs adjacent to aquatic habitat in upland areas with proper soil moisture content for egg development. No turtles were observed in the wastewater pond on the project site. The grassland and oak woodland habitat below the wastewater pond would not have suitable potential nesting habitat for this species.

***Rana draytonii* (California Red-legged Frog)** The California red-legged frog inhabits permanent or nearly permanent water sources (quiet streams, marshes, and reservoirs). They are highly aquatic and prefer shorelines with extensive vegetation. Low potential habitat exists in the existing treatment pond. Large populations of bull frogs and lack of any vegetation for potential egg attachment limits this pond as potential habitat. The shallow ephemeral drainage channel would also provide poor habitat for this species. There is one known occurrence within five miles of the project site. Critical habitat for this species is not present on the project site.

***Rana boylei* (Foothill Yellow-Legged Frog)** are found in or near rocky streams with riffles and sunny banks in a variety of habitats from sea level to approximately 6,300 feet elevation. Yellow-legged frogs require shorelines with dense, overhanging vegetation such as willow trees. Typically found associated with drainages with permanent water. The project site does not contain habitat for this species.

We did not find any suitable habitat for special-status animal species that are known for the Quadrangle surrounding Quadrangles or for the region associated with the proposed project. The present conditions of the project site are such that there is little reason to expect the occurrence of any special-status animal species within the footprint of the project.

Listed animals are unlikely to utilize habitat at the project site because of the lack of any significant roosting habitat for bats, the absence of suitable aquatic habitat, and the historic use of the property.

D.2 Sensitive Biotic Communities

The Napa County Baseline Data Report defines Biotic communities as the characteristic assemblages of plants and animals that are found in a given range of soil, climate, and topographic conditions across a region. Sensitive biotic communities in the County were identified using a two-step process for the Napa County Baseline Data Report. The two steps were:

1. An existing list of sensitive biotic communities prepared by the California Department of Fish and Game (DFG) (2003a) was first reviewed by senior Jones & Stokes biologists, and those communities that may occur in the County were identified. Because the community names in the DFG list (2003a) did not correspond directly with the names used in the Land Cover Layer, a

determination was made as to which land cover types on the Land Cover Layer correspond to the communities on the DFG list.

2. The aerial extent of each land cover types mapped in the County was generated from the land cover layer. Those biotic communities with an areal extent of less than 500 acres in the County (approximately 0.1% of the County) were identified. These communities were discussed with local experts and their conservation importance established. Those that were not already on the original DFG list and that were determined to be worthy of conservation were added to the list.

The Napa County Baseline Data Report as well as the California Department of Fish and Game Natural Diversity Data Base (DFG CNDDDB) lists recognized Sensitive Biotic Communities. The Napa County Baseline Data Report lists twenty-three communities which are considered sensitive by DFG due to their rarity, high biological diversity, and/or susceptibility to disturbance or destruction. The CNDDDB communities in Napa County are the following:

- Serpentine bunchgrass grassland,*
- Wildflower field (located within native grassland),*
- Creeping ryegrass grassland,*
- Purple Needlegrass grassland,*
- One-sided bluegrass grassland,*
- Mixed serpentine chaparral,*
- McNab cypress woodland,*
- Oregon white oak woodland,*
- California bay forests and woodlands,*
- Fremont cottonwood riparian forests,*
- Arroyo willow riparian forests,*
- Black willow riparian forests,*
- Pacific willow riparian forests,*
- Red willow riparian forests,*
- Narrow willow riparian forests,*
- Mixed willow riparian forests,*
- Sargent cypress woodland,*
- Douglas-fir-ponderosa pine forest (old-growth),*
- Redwood forest,*
- Coastal and valley freshwater marsh,*
- Coastal brackish marsh,*
- Northern coastal salt marsh, and*
- Northern vernal pool.*

Napa County biotic communities of limited distribution that are sensitive include:

- Native grassland; Tanbark oak alliance; Brewer willow alliance; Ponderosa pine alliance;*
- Riverine, lacustrine, and tidal mudflats; and Wet meadow grasses super alliance.*

The grasslands within the footprint of the project do not consist of any of the sensitive grassland communities listed by the County Baseline Data Report or DFG. The vegetation map also illustrates the location of the different alliance on the property.

Native Grassland - Indicators of native grassland which are present around the project site include blue wild rye (*Elymus glauca*). The densities/abundance/cover of this species is such that it does not indicate significant persistent native grassland. The project will not impact any significant populations of native grasslands.

The DFG CNDDDB search shows that the Northern Vernal Pool is the only sensitive plant community for the region. Vernal Pools are a unique habitat known for the region. There are no vernal pools associated with the project site. There are no DFG Sensitive Communities or Napa County Sensitive Biotic Communities present on or near the project site.

D.3 Biological Resources

Distinct biological resources that are limited in nature include, wetlands, Waters of the US, riparian corridors or riparian vegetation, tree and vegetation layers, vegetation diversity, drainages, creeks, springs and seeps provide seasonal water that will support wildlife as well as distinct assemblages of plants that require high moisture.

Seasonal Wetland generally denotes areas where the soil is seasonally saturated and/or inundated by fresh water for a significant portion of the wet season, and then seasonally dry during the dry season. To be classified as “Wetland,” the duration of saturation and/or inundation must be long enough to cause the soils and vegetation to become altered and adapted to the wetland conditions. Varying degrees of pooling or ponding, and saturation will produce different edaphic and vegetative responses. These soil and vegetative clues, as well as hydrological features, are used to define the wetland type. Seasonal wetlands typically take the form of shallow depressions and swales that may be intermixed with a variety of upland habitat types. Seasonal wetlands fall under the jurisdiction of the U.S. Army Corps of Engineers (ACOE).

The existing Tailwater Pond (labeled as Pond 4) will be expanded. This pond is filled with treated wastewater and can be filled with overflow from the irrigation field. Since this pond is filled by artificial means and does not collect any surface water and would dry out by turning off of pumps and closing a valve, therefore it would not be considered ACOE jurisdictional.

There are no seasonal wetlands associated with the project footprint.

“Waters of the State” include drainages, which are characterized by the presence of definable bed and bank that meet ACOE, and RWQCB definitions and or jurisdiction.

“Tributaries to Waters of US” include drainages, which are characterized by the presence of definable bed and bank that meet ACOE, and RWQCB definitions and or jurisdiction

The unnamed seasonal tributary of Lake Berryessa within the footprint of the project is considered “Waters of State” and “Tributary to Waters of the US”.

Riparian Vegetation is by all standards considered sensitive. Riparian Vegetation functions to control water temperature regulate nutrient supply (biofilters), bank stabilization, rate of runoff, wildlife habitat (shelter and food), release of allochthonous material, release of woody debris which functions as habitat and slow nutrient release, and protection for aquatic organisms. Riparian

vegetation is also a moderator of water temperature has a cascade effect in that it relates to oxygen availability.

The Drainage referenced above has trees and shrubs that by definition has overhanging vegetation which provide shade and there for is considered “riparian” by DFG.

Trees – The project proposed to remove approximate 6-acres of Oak Woodlands. Tree removal by the project will consist primarily of Blue Oaks, and Ghost Pines.

D.4 Wildlife Habitat and Wildlife Corridors

Natural areas interspersed with developed areas are important for animal movement, increasing genetic variation in plant and animal populations, reduction of population fluctuations, and retention of predators of agricultural pests and for movement of wildlife and plant populations. Wildlife corridors have been demonstrated to not only increase the range of vertebrates including avifauna between patches of habitat but also facilitate two key plant-animal interactions: pollination and seed dispersal. Corridors also preserve watershed connectivity. Corridor users can be grouped into two types: passage species and corridor dwellers. The data from various studies indicate that corridors should be at least 100 feet wide to provide adequate movement for passage species and corridor dwellers in the landscape.

The non-native grassland and ruderal habitat at the site does not provide much habitat value for wildlife. Very few burrows were observed, but small mammals and songbirds most likely utilize these habitats at the site for foraging and cover. There were no significant wildlife corridors identified through the site.

The project as proposed will not negatively impact any migratory corridors or migratory fish on or off site provided standard erosion control measures are implemented.

D.5 Raptor Nests, Bird Rookeries, Bat Roosts, Wildlife Dens or Burrows

Raptors were observed in the area although no raptor nests were identified during our survey. We found no indications of nesting raptors on the property or in the near vicinity of the project sites. We did not observe any nests, whitewash or nest droppings, perching associated with the project site.

No bird rookeries were present on the property or within the project footprint. No raptor nests or whitewash from nests was observed.

The site does not contain any significant natural roosting habitat for bat species (i.e. mines, caves, riparian woodlands). Mature oaks on the property have the potential to support limited roosting habitat. Construction activities associated with the proposed project will not significantly impact or disturbed bat roosting habitat.

No evidence of bat roosting was observed.

Very few burrows were observed, but small mammals and songbirds likely utilize habitats on the project site for foraging and cover.

No significant wildlife dens or burrows were observed.

D.6 Unique Species that are Endemic, Rare or Atypical for the Area

The flora and fauna present are typical for grazed grasslands and woodlands of region. We found no evidence that would indicate the proposed project footprint would impact any unique species or local endemic populations.

There were no unique species, endemic populations of plants or animals or species that are rare or atypical for the area present on the project site.

D.7 Habitat Fragmentation

The proposed project will remove a small portion of Oak Woodlands habitat in relation to the surrounding habitat and area. Removal of this habitat will not significantly impact wildlife in the area.

The project will not result in significant habitat fragmentation.

D.8 Cumulative Biological Effects

Cumulative biological effects are the result of incremental losses of biological resources within a region. The site location, historic development and use of the area within the footprint of the project negate the potential for cumulative biological resource effects. The project development is proposed for an area of the property that has had a long historic use. There is nothing to indicate that there will be any cumulative biological impacts of the project.

There is no evidence that any negative cumulative biological effects will result from the proposed project.

D.9 State and Federal Permits Needed

The drainage within the footprint of Pond # 3 meets the definition of “Waters of the State” and also “Tributary to Waters of the US.” Permit applications from DFG, ACOE and the RWRCB will need to include appropriate habitat mitigation for impact to the seasonal drainage including the removal of overhanging canopy along the drainage

Impacts to the seasonal unnamed drainage within the footprint of Pond # 3 will require permits.

The existing Tailwater Pond does not collect any surface water and would dry out by turning off of pumps and closing a valve, therefore it would not be considered ACOE jurisdictional. This pond is devoid of vegetation along its banks and does not provide habitat for native species, therefore would not be within DFG’s jurisdiction.

E. RECOMMENDATIONS

E.1 Significance

The significance of potential impacts is a function of the scope and scale of the proposed project within the existing Federal, State and Local regulations and management practices. The determination of significance of impacts to biological resources consists of an understanding of the project as proposed and an evaluation of the context in which the impact may occur. The extent and degree of any impact on-site or off-site must be evaluated consistent with known or expected site conditions. Therefore, the significance of potential impacts is assessed relevant to a site-specific scale and the larger regional context.

The project's effect on onsite or regional biological resources is considered to be significant if the project results in:

- Alteration of unique characteristics of the area, such as sensitive plant communities and habitats (i.e. serpentine habitat, wetlands, riparian habitat);
- Adverse impacts to special-status plant and animal species;
- Adverse impacts to important or vulnerable resources as determined by scientific opinion or resource agency concerns (i.e. sensitive biotic communities, special status habitats; e.g. wetlands);
- Loss of critical breeding, feeding or roosting habitat; and
- Interference with migratory routes or habitat connectivity.

E.2 Potential Impacts and Recommendations

The property and project site conditions are such that there is no reason to expect any impacts to special-status species on-site or off-site provided standard construction practices are utilized and the erosion control plan is implemented.

The project must comply with Napa County SWPPP requirements to ensure that best management practices are adopted in order to minimize the amount of sediment and other pollutants leaving the site during construction activities.

The project as proposed will impact "Waters of the State" and will require consultation and permits from the Army Corps of Engineers (ACOE), Department of Fish and Game (DFG), and Regional Water Quality Control Board (RWQCB) will be required.

The project will remove approximately +/- 6-acres of native Oak trees. The project must comply with the Oak Woodlands Preservation Act (PRC Section 21083.4) regarding oak woodland preservation to conserve the integrity and diversity of oak woodlands, and retain, to the maximum extent feasible, existing oak woodland communities.

Trees surrounding the project to be retained should be provided with exclusionary fencing. Fencing should be at a minimum of four feet in height and clearly marked to prevent inadvertent encroachment by heavy machinery. Fencing should be installed either at the edge of the trees

dripline, or at the edge of the construction zone. All fencing should be in place prior to any site grading and prohibit all access to fenced areas.

No raptor nests were observed during any of the site visits. There is still the potential for raptors to nest in the area. Although no raptor nests were observed raptors have the potential to begin nesting at the site. If raptors move into the site close to construction activities there is the potential to disturb them during nesting.

For ground disturbing activities occurring during the breeding season (February 15 to August 31), a qualified wildlife biologist should conduct pre-construction surveys of all potential nesting habitat for birds within 500 feet of earthmoving activities. Surveys should be conducted within 14 days prior to tree removal and or ground-breaking activities on the project site. If active bird nests are found during preconstruction surveys the project applicant should consult and obtain approval for appropriate buffers with the California Department of Fish and Game prior to tree removal and or ground-breaking activities or until it is determined that all young have fledged.

All project construction activities must be limited to the project footprint. Best Management Practices including silt and erosion control measures must be implemented to protect off-site movement of sediment and dust during and post construction. Best Management Practices must be implemented throughout the construction period such as retaining ground cover litter, monitoring for invasive species, providing mulch for bare ground and standard erosion and dust control.

F. SUMMARY

The project as proposed will impact “Waters of the State” state and federally protected waters as defined by Section 404 of the Clean Water Act through direct filling (Proposed Pond #3).

The existing Tailwater Pond does not collect any surface water and would dry out by turning off of pumps and closing a valve, therefore it would not be considered ACOE jurisdictional. This pond is devoid of vegetation along its banks and does not provide habitat for native species, therefore would not be within DFG’s jurisdiction.

The proposed project will impact a drainage, which is considered a sensitive natural community, and regulated by California Department of Fish and Game (CDFG). The project will result in the loss of riparian habitat along the section of the drainage that will be re-routed around the project.

The project will remove approximately 6-acres of oak woodlands.

We find that the proposed project with proper erosion control measures will not:

- 1) Have an effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies or regulations, or by the CDFG or USFWS. There is no habitat for special status plants or animal species on the proposed project site. Site present conditions and history of use reasonably precludes presence of any special-status species on the project site.
- 2) No sensitive biotic communities or Napa County biotic communities of limited distribution are present on the project site.
- 3) Interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- 4) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan provided the loss of riparian habitat on the unnamed tributary within Pond Three is mitigated.

We conclude that the proposed project with the implementation of standard construction practices, appropriate permits from agencies for impact to “Waters of the State” will not result in any significant adverse biological impacts to the environment.

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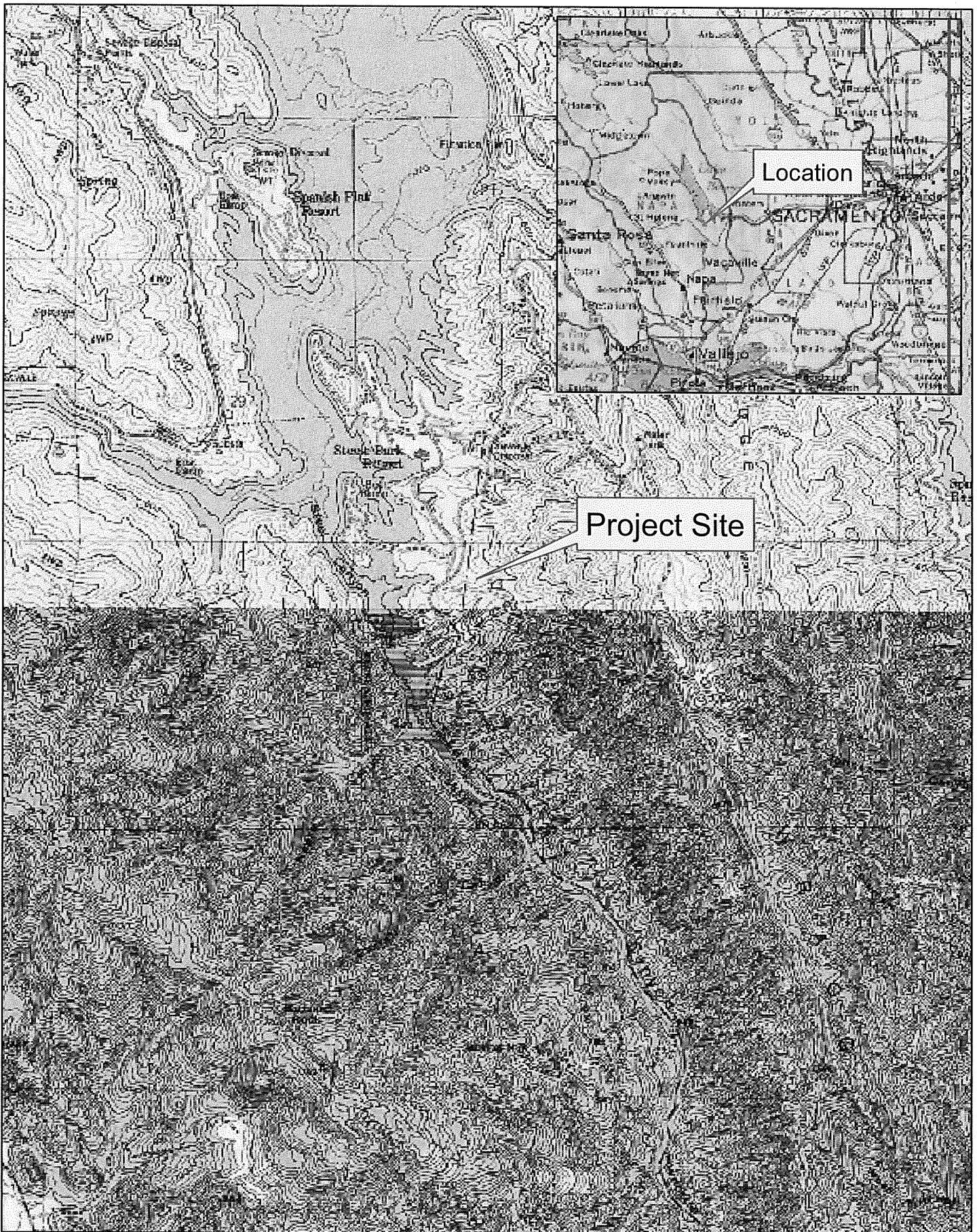
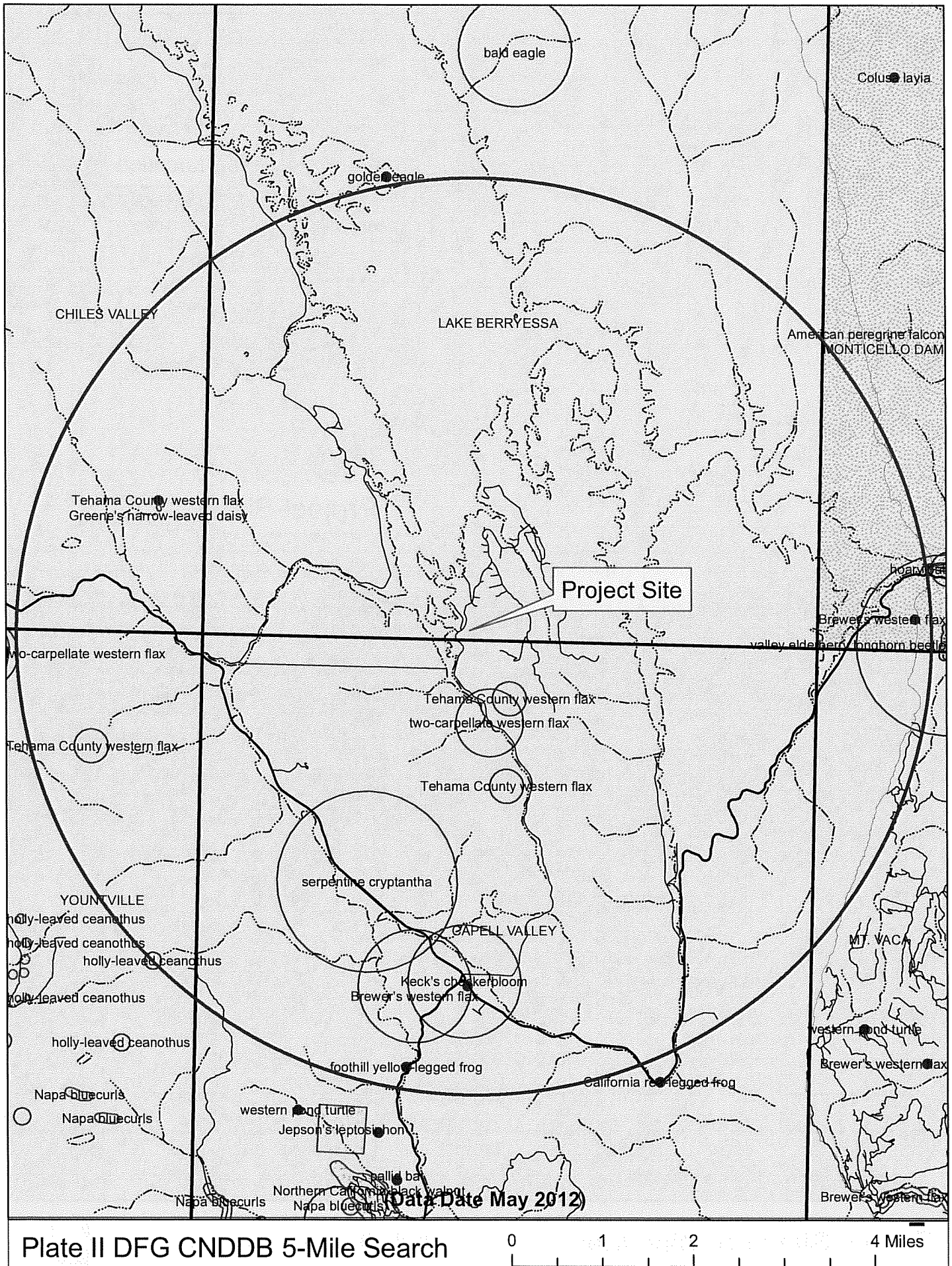


Plate I. Site / Location Map

(Lake Berryessa Quadrangle)





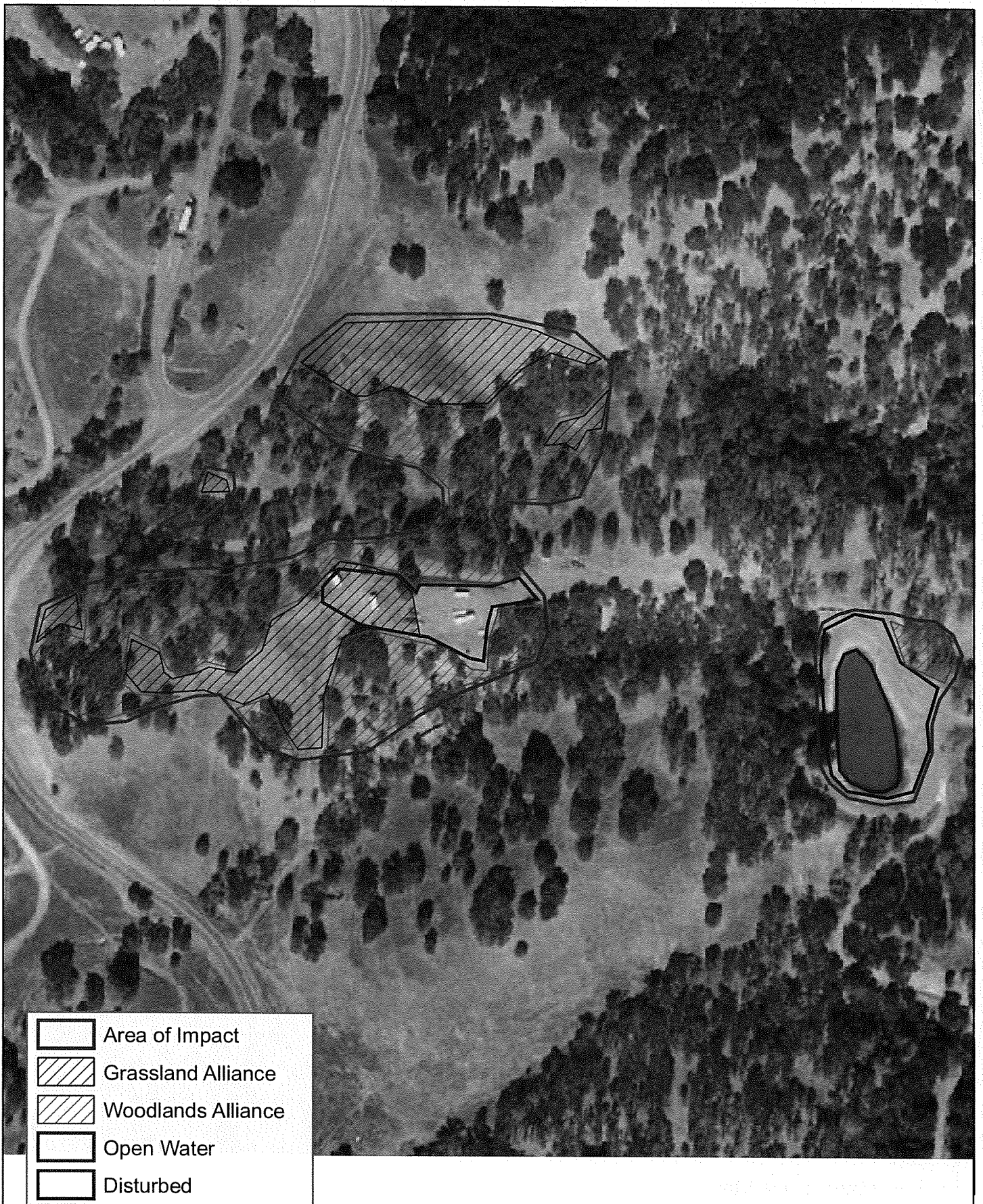
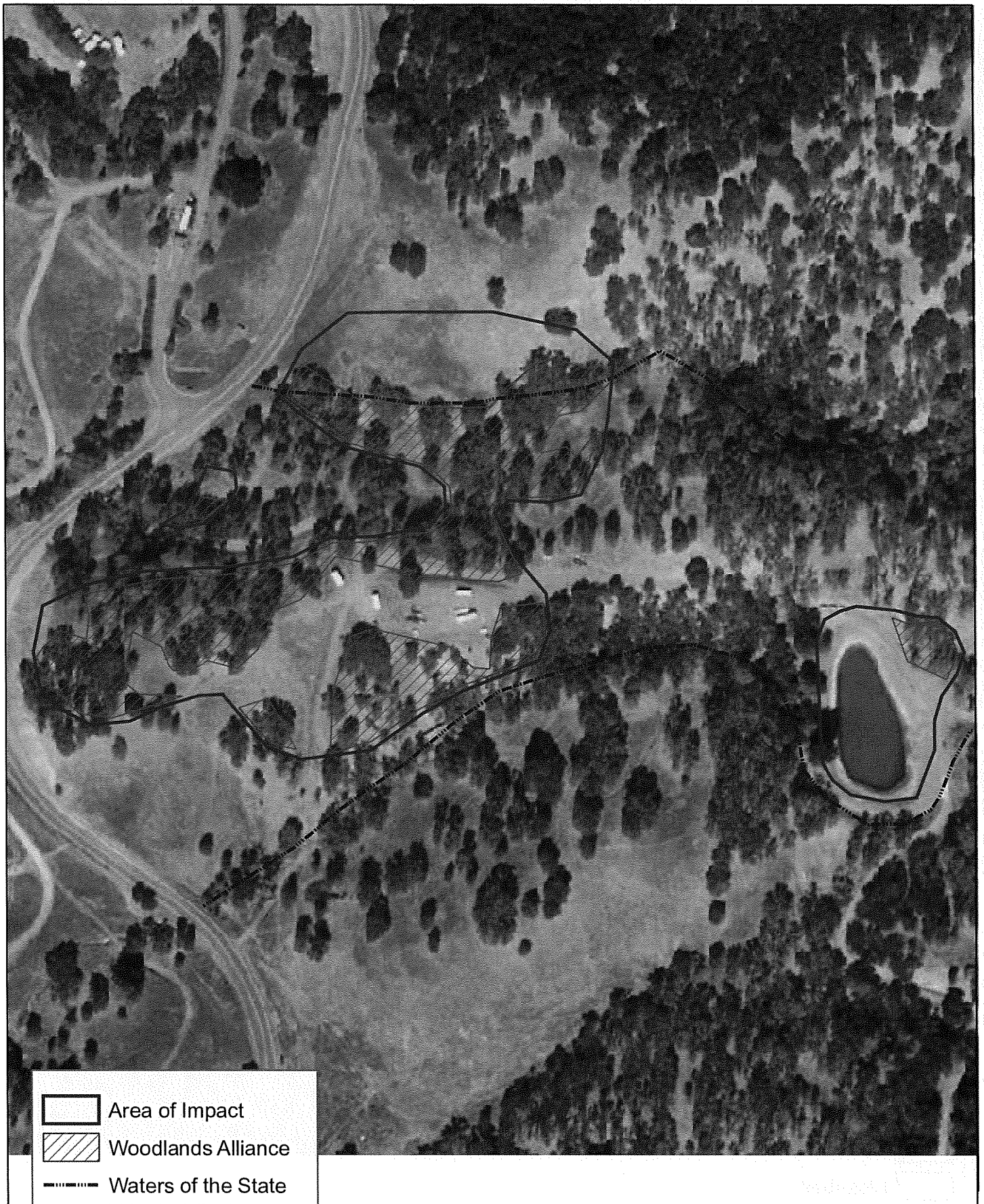


Plate III. Aerial Photo / Vegetation Map



APPENDIX A

Plants and Animals Observed Associated With The Project Site

PLANTS

The nomenclature for the list of plants found on the project site and the immediate vicinity follows: Brodo, Irwin M., Sylvia Duran Sharnoff and Stephen Sharnoff, 2001, for the lichens; Arora -1985, for the fungi; S Norris and Shevrock - 2004, for the mosses; and Baldwin, B.G., D.H. Goldman, D.J.Keil, R.Patterson, T.J.Rosati, and D.H.Wilkins, editors, 2012 - for the vascular plants.. The plant list is organized by major plant group.

Habitat type indicates the general associated occurrence of the taxon on the project site or in nature.

Abundance refers to the relative number of individuals on the project site or in the region.

MAJOR PLANT GROUP

Family

Genus	Habitat Type	Abundance
Common Name		

NCN = No Common Name, * = Non-native, @= Voucher Specimen

FUNGI

Basidiomycota- Club Fungi

POLYPORACEAE

<i>Trametes versicolor</i> Turkey Tail	Woodlands on Dead Wood	Common
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TREMELLALES

<i>Exidia glandulosa</i> Black Witch's Butter	Woodland on Dead Wood	Occasional
<i>Tremella foliacea</i> Brown Witch's Butter	Woodland on Dead Wood	Occasional

MOSSES

MINACEAE

<i>Alsia californica</i> (W.J.Hooker&Arnott) Sullivant NCN	On Trees	Common
<i>Bryum capillare</i> Hedw. NCN	Ruderal	Common
<i>Homalothecium nuttallii</i> (Wilson) Jaeger NCN	Epiphytic on Trees	Common
<i>Orthotrichum lyellii</i> Hook & Tayl. NCN	Woodlands, Upper Canopy	Common
<i>Scleropodium touretii</i> (Brid.) L Koch. NCN	Woodlands	Common

LICHENS

FOLIOSE

<i>Flavoparmelia caperata</i> (L.) Hale NCN	On Oaks	Common
<i>Flavopunctilia flaventor</i> (Stirt.) Hale NCN	On Oaks	Common

MAJOR PLANT GROUP**Family**

Genus	Habitat Type	Abundance
Common Name		

NCN = No Common Name, * = Non-native, @ = Voucher Specimen

Melanelia disjuncta (Erichsen) Essl. On Bark Common
NCN

Parmelia sulcata Taylor On Oaks Common
NCN

Phaeophyscia hispidula (Ach.) Essl. On Bark, Rocks Common
NCN

Physcia adscendens (Fr.) H. Olivier On Oaks Common
NCN

Physcia tenella (Scop.) DC. On Oaks Common
NCN

@*Physconia enteroxantha* (Nyl.) Poelt On Bark of Oaks or On Rocks Common
Yellow Edged Frost Lichen

Xanthoria polycarpa (Hoffm.) Rieber On Oaks Young Twigs Common
NCN

Xanthoparmelia mexicana (Gyeln.) Hale On Rocks Common
NCN

FRUTICOSE

Cladonia ssp. On Soil Common
NCN

Cladonia coniocrata (Flörke) Spreng. On Soil Occasional
Common Powderhorn

Cladonia pyxidata (L.) Hoffm. On Soil Occasional
NCN

Evernia prunastri (L.) Ach. On Oaks Common
NCN

Ramalina farinacea (L.) Ach. On Oaks Common
NCN

Ramalina menziesii Taylor non Tuck. On Oaks Common
NCN

Teloschistes chrysophthalmus (L.) Th. Fr. On Oaks Common
NCN

CRUSTOSE

Buellia disciformis (Fr.) Mudd On Rocks, Tree Limbs Common
NCN

Leconora muralis (Schreb.) Rabenh. On Rocks Common
NCN

@*Lepraria lobificans* Nyl. On Blue Oak Bark Occasional
NCN

Leicidia atrobrunnea (Ramond ex Lam. & DC.) Schaer. On Rocks Common
NCN

MAJOR PLANT GROUP**Family**

Genus	Habitat Type	Abundance
Common Name		

NCN = No Common Name, * = Non-native, @= Voucher Specimen

<i>Ochrolechia orgonensis</i> H. Magn.	On Bark	Common
NCN		
<i>Pertusaria armara</i> (Ach.) Nyl.	On Oaks	Common
NCN		

VASCULAR PLANTS FERNS**PTERIDACEAE**

<i>Pellaea andromedifolia</i> (Kaulf.) Fee	Woodlands	Occasional
Coffee Fern		

VASCULAR PLANTS DIVISION CONIFEROPHYTA--GYMNOSPERMS**PINACEAE**

<i>Pinus sabiniana</i> Douglas	Dry Ridges	Occasional
Digger Pine, Gray or Foothill Pine		

VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS**CLASS--DICOTYLEDONAE- TREES****EUDICOTS****FAGACEAE Oak Family**

<i>Quercus douglasii</i> Hook.&Arn.	Woodlands	Common
Blue Oak (Hybridizes with	<i>Q. garryana</i> and <i>Q. lobata</i>	
<i>Quercus wislizenii</i> A.D.C.	Woodlands	Occasional
Interior Live Oak		
<i>Quercus lobata</i> Nee.	Valley Grasslands	Common
Valley Oak		

JUGLANDACEAE Walnut Family

* <i>Juglans nigra</i> L.	Ruderal Escape	Common
Black Walnut		

MYRTACEAE Myrtle family

* <i>Eucalyptus globulus</i> Labill	Ruderal Escape	Occasional
Blue Gum		

PLATANACEAE Sycamore Family

<i>Platanus racemosa</i> Nutt.	Dry Stream Beds	Occasional
Western Sycamore		

SALICACEAE Willow Family

<i>Populus fremontii</i> S.Watson ssp. <i>fremontii</i>	Riparian	Occasional
Fremont Cottonwood		

<u>MAJOR PLANT GROUP</u>		
Family		
Genus	Habitat Type	Abundance
Common Name		

NCN = No Common Name, * = Non-native, @= Voucher Specimen

VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS

CLASS--DICOTYLEDONAE-SHRUBS AND WOODY VINES

EUDICOTS

ERICACEAE Heath Family

Arctostaphylos glandulosa ssp. *glandulosa* Chaparral-Near Coast Common
Eastwood Manzanita-Glaucous Leaf

ROSACEAE Rose Family

Adenostoma fasciculatum Hooker&Arn. Shrub/Scrub Common
Chamise
Cercocarpus betuloides Nutt. var. *betuloides* Shrub/Scrub, Chaparral Common
Mountain-mahogany
Heteromeles arbutifolia (Lind.) M. Rome. Shrub/Scrub Common
Christmas Berry, Toyon

VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS

CLASS--DICOTYLEDONAE-HERBS

EUDICOTS

APIACEAE (Umbelliferae) Carrot Family

Sanicula crassicaulis DC. Woodlands Common
Pacific Sanicle
**Torilis arvensis* (Huds.) Link Grasslands Woodlands Common
Hedge-parsley

ASTERACEAE (Compositae) Sunflower Family

Achillea millefolium L. Ruderal Common
Yarrow
Calycadenia micrantha (R.L.Carr&G.D. Carr Grassland Open Hillsides Common
Small-flowered Calycadenia
**Carduus pycnocephalus* L. subsp. *pycnocephalus* Woodlands Common
Italian Thistle
**Centaurea solstitialis* L. Grasslands, Ruderal Common
Yellow Star Thistle
**Cirsium vulgare* (Savi) Ten. Grasslands, Ruderal Common
Bull Thistle
**Hypochaeris glabra* L. Ruderal Common
Cat's Ear
**Hypochaeris radicata* L. Ruderal Common
Harry Cat's Ear
Madia exigua (Sm.) A.Gray Grasslands Common
Threadstem Madia, Tarweed
**Logifia gallica* (L.) Cros&Germ Ruderal Grasslands Occasional
Herba Impa, Daggerleaf Cottonrose (= *Filago gallica*)

MAJOR PLANT GROUP		
Family		
Genus	Habitat Type	Abundance
Common Name		

NCN = No Common Name, * = Non-native, @= Voucher Specimen

<i>Micropus californicus</i> var. <i>californicus</i> Fisch.&C.A.Mey	Grasslands, On Roads	Occ.
Slender Cottonweed		
* <i>Senecio vulgaris</i> L.	Ruderal	Occasional
NCN		
* <i>Taraxacum officinale</i> F.H.Wigg	Ruderal	Common
Dandelion		
BORAGINACEAE Borage or Waterleaf Family		
<i>Amsinckia menziesii</i> (Lehm) Nelson&Macbr.	Grasslands	Occasional
Rancher's Fireweed		
BRASSICACEAE Mustard Family		
* <i>Brassica nigra</i> (L.) Koch	Ruderal	Common
Black Mustard		
* <i>Cardamine hirsuta</i> L.	Ruderal	Common
Bitter-cress		
* <i>Sisymbrium officinalis</i> L.	Ruderal, Grasslands	Common
Hedge Mustard		
CARYOPHYLLACEAE Pink Family		
* <i>Silene gallica</i> L.	Ruderal/Grasslands/oak Woodlands	Common
Small Flower Catchfly Windmill Pink		
* <i>Stellaria media</i> (L.) Vill.	Ruderal	Common
Chickweed		
EUPHORBIACEAE Spurge Family		
<i>Croton setigerus</i> Hook.	Ruderal	Common
Turkey Mullein, Dove Weed (= <i>Eremocarpus setigerus</i>)		
FABACEAE (Leguminosae) Legum Family		
<i>Lathyrus vestitus</i> Nutt. var. <i>vestitus</i>	Woodlands	Occasional
Hillside Pea		
* <i>Lotus corniculatus</i> L.	Grasslands, Ruderal	Common
Birdfoot Trefoil		
<i>Lupinus bicolor</i> Lindl.	Grassland	Common
Miniature lupine		
* <i>Medicago arabica</i> (L.) Huds	Ruderal	Common
Spotted Bur Clover		
* <i>Medicago polymorpha</i> L.	Ruderal, Grasslands	Common
California Bur Clover		
* <i>Trifolium campestre</i> Schreb.	Grasslands	Common
Hop-clover		
* <i>Trifolium hybridum</i> L.	Ruderal	Common
Alsike Clover		
* <i>Vicia sativa</i> L. subsp. <i>nigra</i>	Grasslands, Ruderal	Common
Narrow Leaved-vetch		

<u>MAJOR PLANT GROUP</u>		
Family		
Genus	Habitat Type	Abundance
Common Name		

NCN = No Common Name, * = Non-native, @= Voucher Specimen

GENTIANACEAE Gentianaceae Family

Centaurium muehlenbergii (Griseb.) Mans. Ruderal/Woodlands Common
Centaury

GERANIACEAE Geranium Family

**Erodium botrys* (Cav.) Bertol. Grasslands Common
Broadleaf Filaree, Long-beaked Filaree
**Geranium dissectum* L. Grasslands Common
Common Geranium
**Geranium molle* L. Grasslands Common
Dove's Foot Geranium

MONTIACEAE Miner's lettuce Family

Calandrinia ciliata Ruiz& Pav. DC. Grasslands Common
Red Maids
Claytonia perfoliata Willd. ssp. *perfoliata* Woodlands, Riparian Common
Miners Lettuce

OROBANCHACEAE Broomrape Family

Cordylanthus pilosus A. Gray subsp. *pilosus* Oak Woodland Occasional
NCN

PHRYMACEAE Lopseed Family

Mimulus guttatus DC. Riparian Common
Common Monkey Flower

PLANTAGINACEAE Plantain Family

Plantago erecta E. Morris Grassland, Open Woodland Common
California Plantain

POLEMONIACEAE Phlox Family

Gilia tricolor Benth. Grasslands Occasional
Birds Eyes
Leptosiphon bicolor Nutt. Grassland, Chaparral- Open Areas Occasional
NCN (= *Linanthus*)

POLYGONACEAE Buckwheat Family

Persicaria lapathifolia (L.) Gray Moist Areas Common
Willow Weed (= *Polygonum*)
**Rumex acetosella* L. Ruderal Common
Sheep Sorrel
**Rumex crispus* L. Ruderal Common
Curly Dock

RANUNCULACEAE Buttercup Family

Ranunculus californicus Benth. Grasslands, Woodlands Common
Buttercup
**Ranunculus muricatus* L. Grasslands, Ruderal Occasional
Pickle-fruited Buttercup

MAJOR PLANT GROUP**Family**

Genus	Habitat Type	Abundance
Common Name		

NCN = No Common Name, * = Non-native, @= Voucher Specimen

RUBIACEAE Madder Family

Galium aparine L. Woodlands, Riparian, Ruderal Common
Goose Grass

Galium porrigens Dempster Grasslands, Woodlands Common
Climbing Bedstraw

VERBENACEAE Vervain Family

Verbena lasiostachys Link.var. *lasiostachys* Riparian, Ruderal Occasional
Verbena

VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS**CLASS--MONOCOTYLEDONAE-GRASSES****POACEAE Grass Family**

**Aira caryophylla* L. Grassland Common
Silver European Hairgrass

**Avena barbata* Link. Grasslands Common
Slender Wild Oat

**Briza minor* L. Grasslands, Ruderal Common
Small Quaking Grass

Bromus carinatus Hook& Arn.var. *carinatus* Grasslands, Woodlands, Ruderal Common
California Brome

**Bromus diandrus* Roth Ruderal, Grasslands Common
Ripgut Grass

**Bromus hordeaceus* L. Grasslands Common
Soft Chess, Blando Brome

**Bromus madritensis* L. ssp. *rubens* Grasslands, Ruderal Common
Foxtail Chess

**Cynosurus echinatus* L. Ruderal Common
Hedgehog, Dogtail

**Elymus caput-medusae* L. Grasslands Common
Medusahead (= *Taeniantherum caput-medusae*)

**Festuca bromoides* L. Ruderal, Moist Flats become Dry Common
Six-weeks Fescue (= *Vulpia bromoides*)

Festuca microstachys Nutt. Grasslands, Ruderal Common
NCN (= *Vulpia microstachys*)

**Festuca perennis* (L.) Columbus& Sm. Grasslands Common
Perennial Rye Grass (= *Lolium multiflorum*, *L. perenne*)

Hordeum depressum (Scribn.&Sm.) Rydb Grasslands Occasional
Low Barley

**Poa annua* L. Grasslands Common
Annual Bluegrass

MAJOR PLANT GROUP**Family**

Genus	Habitat Type	Abundance
Common Name		

NCN = No Common Name, * = Non-native, @= Voucher Specimen

**Polypogon monspeliensis* (L.) Desf. Wetlands Common
Rabbitfoot Grass, Annual Beard Grass

VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS**CLASS--MONOCOTYLEDONAE--SEDGES AND RUSHES****JUNCACEAE**

Juncus bufonius L.var. *bufonius* Ruderal Moist Areas, Grasslands Common
Toad Rush

VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS**CLASS--MONOCOTYLEDONAE--HERBS****AGAVACEAE** Centuray Plant Family

Chlorogalum pomeridianum (DC.) Kunth var. *pomeridianum* Woodlands, Grasslands
Soap Plant Common

LILIACEAE Lily Family

Calochortus superbus Howell Grasslands Occasional
Supurb Mariposa Tulip

THEMIDACEAE Brodiaea Family

Dichelostemma capitatum (Benth.) Wood Grasslands, Open Woodlands Occasional
Blue Dicks

Dichelostemma congestum (Sm) Kunth Grasslands Occasional
Forked Tooth Ookow

Triteleia laxa Greene Grasslands Occasional
Ithuriel's Spear

Fauna Species Observed in the Vicinity of the Project Site

The nomenclature for the animals found on the project site and in the immediate vicinity follows: Mc Ginnis –1984, for the fresh water fishes; Stebbins -1985, for the reptiles and amphibians; and Udvardy and Farrand – 1998, for the birds; and Jameson and Peeters -1988 for the mammals.

AMPHIBIA AND REPTILIA

ORDER

Common Name	Genus	Observed
ANURA		
Tree Frog	<i>Hyla regilla</i>	X
Bullfrog	<i>Rana catesbeiana</i>	X
Western Toad	<i>Bufo boreas</i>	X

AMPHIBIA AND REPTILIA

ORDER

Common Name	Genus	Observed
SQUAMATA		
Western Fence Lizard	<i>Sceloporus occidentalis</i>	X

AVES

ORDER

Common Name	Genus	Observed
AVES		
Acorn Woodpecker	<i>Melanerpes formicivorus</i>	X
Black Phoebe	<i>Sayornis nigricans</i>	X
California Quail	<i>Callipepla californica</i>	X
Killdeer	<i>Charadrius vociferus</i>	X
Red-shouldered Hawk	<i>Buteo lineatus</i>	X
Rufous-sided Towhee	<i>Pipilo erythrophthalmus</i>	X
Wild Turkey	<i>Meleagris gallopavo</i>	X

MAMMALS

ORDER

Common Name	Genus	Observed
CARNIVORA		
Coyote	<i>Canis latrans</i>	Scat

CERVIDAE

Black-tailed Deer

Odocoileus hemionus

Sight

RODENTIA

Dusky-footed Wood Rat

Neotoma fuscipes

Den

APPENDIX B

Definitions (Not all are relevant to this project)

Absolute Cover. The percentage of ground covered by the vertical projection of the plant crowns of a species or defined set of plants as viewed from above. The absolute cover of herbaceous plants includes any standing (attached to a living plant, and not lying on the ground) plant parts, whether alive or dead; this definition excludes litter and other separated plant material. The cover may include mosses, lichens and recognizable cryptogamic crusts.

Best Management Practices. Best management practices represent the construction or agricultural practices that are consistent with regulatory laws or industry standards which are prudent and consistent with site conditions.

Confidence Interval. The California Department of Fish and Game (DFG) California Natural Diversity Data Base (CNDDB) uses map polygon projections for indicating potential for occurrence of special-status plant populations around a recorded occurrence.

Critical Habitat. Critical habitat is by definition a designated by U.S. Fish and Wildlife Service as essential for the existence of a particular population of species. The U.S. Fish and Wildlife Service designates critical habitat for special-status species as an area or region within which a species may be found. "Critical habitat" is defined as areas essential for the "conservation" of the species in question.

Habitat Fragmentation. The issue of habitat fragmentation is of concern locally, nationally, and globally. The term habitat fragmentation refers to the loss of connections within the biosphere such that the movement, genetic exchange, and dispersal of native populations is restricted or prevented. Anthropogenic habitat fragmentation can be the result of a road construction, logging, agriculture, or urban growth. The practice of retaining or planning for "Corridors" is an attempt to address this issue. Corridors that allow movement of wildlife through and around a site include stream and riparian areas and also areas that connect two or more sites of critical wildlife habitat.

Habitat Types. Habitat types are used by DFG to categorize elements of nature associated with the physical and biological conditions in an area. These are of particular importance for the wildlife they support, and they are important as indicators of the potential for special-status species.

Relative Cover. A measure of the cover of a species in relation to that of other species within a set area or sample of vegetation. This is usually calculated for species that occur in the same layer (stratum) of vegetation, and this measure can be calculated across a group of samples.

Riparian Corridor. Riparian corridors can be defined as the stream channel between the low-water and high-water marks plus the terrestrial landscape above the high water-mark (where

vegetation may be influenced by elevated water tables or extreme flooding and by the ability of the soils to hold water; Naiman, et. al. 1993).

Riparian Corridor or Riparian Ecosystem. Riparian ecosystems occupy the ecotone between upland and lotic aquatic realms. Riparian corridors can be defined as the stream channel between the low- and high-water marks plus the terrestrial landscape above the high water-mark (where vegetation may be influenced by elevated water tables or extreme flooding and by the ability of the soils to hold water; Naiman, et. al. 1993).

Ruderal Habitat. Ruderal habitat is characterized by disturbance and the establishment and dominance of non-native introduced weed species. Ruderal plant communities are a function of or result of agricultural or logging practices. This habitat is typically found along graded roads, erosional surfaces or sites influenced by agricultural animal populations.

Sensitive Habitat. DFG Natural Diversity Data Base uses environmentally sensitive plant communities for plant populations that are rare or threatened in nature. Sensitive habitat is defined as any area in which plant or animal life or their habitats are either rare or especially valuable and any area which meets one of the following criteria: (1) habitats containing or supporting "rare and endangered" species as defined by the State Fish and Game Commission, (2) all perennial and intermittent streams and their tributaries, (3) coastal tide lands and marshes, (4) coastal and offshore areas containing breeding or nesting sites and coastal areas used by migratory and resident water-associated birds for resting areas and feeding, (5) areas used for scientific study and research concerning fish and wildlife, (6) lakes and ponds and adjacent shore habitat, (7) existing game and wildlife refuges and reserves, and (8) sand dunes. Sensitive Habitat also includes wetlands and tributaries to "Waters of the US" as defined by the Corps of Engineers (ACOE) and DFG seasonal streams DFG.

Serpentinite. Serpentinite or serpentine consists of ultramafic rock outcrops that due to the unique mineral composition support a unique flora often of endemics. Kruckeberg, 1984, indicates that the taxonomy and evolutionary responses to serpentines include "1) taxa endemic to serpentine, 2) local or regional indicator taxa, largely confined to serpentine in parts of their ranges, 3) indifferent or "bodenvag" taxa that range on and off serpentine, and 4) taxa that are excluded from serpentine." Serpentine outcrops or serpentinites support numerous special-status plant taxa.

Special-status Species. Special-status organisms are plants or animals that have been designated by Federal or State agencies as rare, endangered, or threatened. We have also included plant species listed by the CNPS as "target organisms." The target species for the Quadrangle are discussed below. Section 15380 of the California Environmental Quality Act [CEQA (September, 1983)] has a discussion regarding non-listed (State) taxa. This section states that a plant (or animal) must be treated as Rare or Endangered even if it is not officially listed as such. If a person (or organization) provides information showing that a taxa meets the State's definitions and criteria, then the taxa should be treated as such.

Standard Agricultural Practices. Standard agricultural practices are best management practices which are prudent as applied in the agricultural industry such as the use of regulated pesticides, methods of and timing of weed control, appropriate fertilizer application, irrigation

management, frost protection, erosion control and soil conservation and management, and dust control among other practices.

Streams. The DFG definition of stream is a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports wildlife, fish, or other aquatic life. This includes watercourses having a surface or subsurface flow that support or have supported riparian vegetation. DFG's jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife.

Target organisms. Special-status species that are listed by: the California Department of Fish and recorded in the Natural Diversity Data Base for the Quadrangle and surrounding Quadrangles of the project site; the California Native Plant Society for the habitat present on the project site Quadrangle and surrounding Quadrangles; Federal Endangered and Threatened Species that Occur in the U.S.G.S. 7 1/2 Minute Quadrangle; our experience with the local flora and fauna; any species identified by local individuals that are considered to be rare in the region; and DFG Five Mile radius CNDDDB Rarefind 3 search (See Plate II).

Wetlands. Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Many surface waters and wetlands in California meet the criteria for waters of the United States, including intermittent streams and seasonal lakes and wetlands.

Vernal Pools. Vernal pools are a type of seasonal wetland distinct for California and the western US. Typically they are associated with seasonal rainfall or "Mediterranean climate" and have a distinct flora and fauna, an impermeable or slowly permeable substrate and contain standing water for a portion of the year. They are characterized by a variable aquatic and dry regime with standing water during the spring plant growth regime. They have a high degree of endemism of flora and fauna.

Federal Regulations

Federal Endangered Species Act Pursuant to the federal Endangered Species Act (ESA), the U.S. Fish and Wildlife Service (FWS) and the National Oceanic and Atmospheric Administration (NOAA), have authority over projects that may affect the continued existence of a species that is federally listed as threatened or endangered. Section 9 of ESA prohibits the take of a federally listed species; take is defined, in part, as killing, harming, or harassment and includes habitat modification or degradation where it actually results in death or injury to wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering.

Section 404 of the Clean Water Act Section 404 of the Clean Water Act establishes a requirement to obtain a permit before any activity that involves any discharge of dredged or fill material into "waters of the United States," including wetlands. Waters of the United States include navigable waters of the United States, interstate waters, all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries.

Army Corps of Engineers (ACOE) regulates and issues 404 permits for activities that involve the discharge of dredged or fill materials into waters of the United States. A Water Quality Certification 401 permit must also be obtained from the appropriate state agency stating that the fill is consistent with the state's water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Board to the nine Regional Water Quality Control Boards (RWQCBs).

State Regulations

California Endangered Species Act Pursuant to the California Endangered Species Act (CESA) and Section 2081 of the Fish and Game Code, a permit from Department of Fish and Game (DFG) is required for projects that could result in the take of a state listed threatened or endangered species. Under CESA, "take" is defined as an activity that would directly or indirectly kill an individual of a species, but the definition does not include "harm" or "harass," as the ESA does. As a result, the threshold for a take under CESA is higher than that under the ESA.

California Fish and Game Code Section 1600 – Lake and Streambed Alteration Permit. All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by DFG pursuant to Section 1600 of the California Fish and Game Code. Section 1600 states that it is unlawful for any person, government agency, state, local, or any public utility to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake or deposit or dispose of waste, debris, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake without first notifying DFG of such activity.

Porter-Cologne Water Quality Control Act Under the Porter-Cologne Water Quality Control Act, "waters of the state" fall under the jurisdiction of the RWQCB. Under the act, the RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control non-point and point sources of pollution to achieve and maintain these standards. Projects that affect wetlands or waters must meet waste discharge requirements of the RWQCB, which may be issued in addition to a water quality certification or waiver under Section 401 of the Clean Water Act.

Napa County Ordinances, Conservation Regulations, and other Programs 1.1 Napa County Conservation Regulations (Chapter 18.108)

Napa County Code 18.108 includes conservation regulations such as requirements for standard erosion control measures, provisions for intermittent or perennial streams, and requirements for use of erosion hazard areas. This section of the code also defines streams and provides setbacks for grading and land clearing for agricultural development.

The general purpose of the Conservation Regulations is to ensure the continued long-term viability of county agricultural resources by protecting county lands from excessive soil loss (i.e., surface erosion, soil particle detachment and movement) which if unprotected could threaten local

water quality and quantity and lead ultimately to loss of economic productivity (18.108.010) and possible decreased water quality in receiving waters.

Napa County Code

The following pertains to stream setbacks and tree and riparian vegetation protection provisions excerpted from Napa County Zoning Code, namely the Conservation Regulations, Chapter 18.108.

Section 18.108.100 – Erosion Hazard Areas; Vegetation Preservation and Management

Napa County Code 18.108.100 may require the following conditions when granting a discretionary permit for activities on slopes greater than 5 percent:

- Existing vegetation shall be preserved to the maximum extent feasible. Vegetation shall not be removed if necessary for erosion control or preservation of habitat for threatened or endangered species.
- An approved erosion control plan (ECPA) permit or grading permit is required for the grading associated with the removal of trees or tree stands measuring six inches in diameter (dbh) or larger. Replacement of removed protected trees located outside of the approved project boundary may be required. Trees to be avoided by project activities shall be protected through fencing or other methods during construction.

Section 18.108.025 – General Provisions, Intermittent/Perennial Streams

This section of the County code establishes stream setbacks for earthmoving activities and grading for all new developments, including agricultural and residential developments, and for replanting of existing vineyards when replanting occurs outside of the existing vineyard footprint and when the project would require a grading permit pursuant to the California Building Code. Under Section 18.108.030 a stream means any of the following:

- A watercourse designated by a solid line or dash and three dots symbol on the largest scale of the United States Geological Survey maps most recently published, or any replacement to that symbol.
- Any watercourse which has a well-defined channel with a depth greater than 4 feet and banks steeper than 3:1 (horizontal to vertical bank ratio) and contains hydrophilic (i.e. water adapted) vegetation, riparian vegetation or woody vegetation including tree species.
- Those watercourses listed in Resolution No. 94-16 and incorporated herein by reference.

Setbacks included in the Code range from 35 to 150 feet and are dependent on the slope of the terrain parallel to the top of bank of the stream, with wider setbacks required on steeper slopes. Where the outboard dripline of upper canopy vegetation is located outside the setback required by the slope steepness, the setback will extend to the outboard dripline. Re-vegetation of portions of the streamside setbacks may be required as a part of an erosion control plan.

Section 18.108.027 – Sensitive Domestic Water Supply Drainages

This section of the County code requires the maintenance/preservation of 60% tree canopy cover and 40% of shrubby and herbaceous cover present as of 1993 as part of land uses involving ground disturbance in sensitive domestic water supply drainages.

Ground-disturbing activities in the County's Domestic Water Supply Drainages are only allowed to take place during the dry season, between April 1 and September 1 of each year. Installation of winterization measures may take place during other times of the year, but must be in place by September 15 of any given year.

Napa County's Domestic Water Supply Drainages include the entire watershed areas associated with the following reservoirs:

Kimball Reservoir Drainage, Rector Reservoir Drainage, Milliken Reservoir Drainage, Bell Canyon Reservoir Drainage, Lake Hennessey Drainage including Friesen Lakes, Lake Curry Drainage, and Lake Madigan Drainage

In these Sensitive Domestic Water Supply Drainages concentration of runoff will, wherever feasible, be avoided. Those drainage facilities and outfalls that unavoidably must be installed are required to be sized and designed to handle the runoff from a one-hundred-year storm event without failure or unintentional bypassing. If a project will increase delivery of sediment or other pollutants from a drainage into a public water supply (reservoir) by more than 1% on an individual project basis or by more than 10% on a cumulative basis, the project will not be approved until a public hearing on the matter has been held and a use permit has been issued. A geotechnical report specifying the depth and nature of the soils and bedrock present and the stability of the area potentially affected by the project or project runoff is required for any project located in a Sensitive Domestic Water Supply Drainage.

Section 18.108.070 – Erosion Hazard Areas–Use Requirements

This section of the code stipulates that uses permitted within erosion hazard areas, those portions of land having slopes over five percent (5%), must include temporary and/or permanent erosion control measures in conformance with the County's National Pollution Discharge Elimination System (NPDES) General Permit on file with the state (i.e., a suite of Best Management Practices to eliminate, control and or minimize sediment/soil particle detachment and transport). The section further requires erosion control plan approval for agricultural earthmoving activity on lands having slopes greater than 5%, and establishes grading deadlines (i.e., a winter shutdown period).

Additionally, this section, together with Chapter 18.108.100, limits the removal of vegetation in erosion hazard areas to only that necessary to accommodate the proposed project, sets conditions for the preservation and/or replacement of trees in excess of six inches in diameter, and requires projects to have no adverse affect on sensitive, rare, threatened or endangered plants or animal or their habitats as designated by state or federal agencies with jurisdiction, and mapped on the County's environmental sensitivity maps.

Section 18.108.075 – Requirements for Structural Erosion Control Measures

This section establishes erosion control requirements for structural developments (anything built or constructed on, above, or below the surface of the land), and requires the submission of Evidence of Erosion Control Measures, and the incorporation of such measures in all applicable building, grading, septic, or other required plans or plot plans submitted for County approval. This section of the County Code is carried out through the NPDES program administered through the Napa County Department of Public Works.

Section 18.108.135 – Oversight and Operation Requirements

Maintenance and monitoring is a requirement of any erosion control plan and is the ultimate responsibility of the property owner. Section 18.108.135 requires that maintenance and monitoring be implemented for any erosion control plan and includes the following components:

- Implementation of the ECP measures must be overseen by the preparer of the ECP.
- The property owner must provide weekly inspections of the control measures between October 1st and April 1st of each year, as well as during rainfall events, to assure the measures are installed properly and are effective in controlling offsite sediment transport, and to implement whatever actions are needed to keep them functioning properly.
- The property owner must implement a permanent, on-going self-monitoring program of the groundcover conditions and erosion control facility operations. The groundcover monitoring shall conform to the NRCS standards for determining rangeland conditions.
- The property owner must submit to the County an Annual Erosion Control Plan Operation Status Report that specifies the groundcover conditions and how the erosion control measures are operating. The report shall specify the proposed management and cultural measures to be used the following year to return or maintain the ground cover in optimal condition and any other remedial actions necessary to restore the disturbed areas in such a manner to minimize erosion and resultant sedimentation.

Specific actions are required under Napa County Code 18.108.135 in the event of existing or pending erosion control measure failures. These actions include:

- Issuance of notification to the County;
- Implementation of temporary measures to stabilize the situation;
- Modification of the temporary measures, if necessary, within 24-hours of receipt of County comment on the adequacy of temporary measures;
- Submit an engineered plan for measures needed to permanently correct the problem within 96 hours of the discovery;
- Submit a plan for clean-up of the damage done with and engineer's estimate of the cost of cleanup;
- Submit, if necessary, a modified plan and cost estimate for the problem within 48 hours of receipt of County comments on the adequacy of the plan;
- Pay the County the cost of review within 48 hours of request;

- Post a security in the amount of 100 percent of the total cost to correct the problem and cleanup the damage;
- Insure the final correction and cleanup plans are implemented within 96 hours of its approval.

Finally, to assure the erosion control measures are adequately in place, the County may perform annual inspections of the project site, after the first major storm event of each winter and until the project has been completed and stable for three years. During these inspections, County staff may require that remedial actions be implemented where non-functioning or ineffective measures are identified. Additionally, once the project has been deemed complete, random site inspections by County staff may also occur with the same consequences.

APPENDIX C

California Native Plant Society Electronic Inventory

California Department of Fish and Game Rare Find Three Special-status species for the Quadrangle and Surrounding Quadrangles

U.S. Fish and Wildlife Federal Endangered and Threatened Species that Occur in or may be affected by Projects is the Quadrangle
















Inventory of Rare and Endangered Plants

v7-12aug 8-10-12

Status: search results - Mon, Sep. 10, 2012 16:15 c

Your Quad Selection: Lake Berryessa (515C) 3812252, Mount Vaca (499A) 3812241, Capell Valley (499B) 3812242, Chiles Valley (516D) 3812253, Walter Springs (516A) 3812263, Yountville (500A) 3812243, Monticello Dam (515D) 3812251, Esparto (515A) 3812261, Brooks (515B) 3812262

scientific	common	family	CNPS
<u>Astragalus claranus</u>	Clara Hunt's milk-vetch	Fabaceae	List 1B.1
<u>Astragalus rattanii</u> var. <u>jepsonianus</u>	Jepson's milk-vetch	Fabaceae	List 1B.2
<u>Brodiaea leptandra</u>	narrow-anthered brodiaea	Themidaceae	List 1B.2
<u>Calochortus pulchellus</u>	Mt. Diablo fairy-lantern	Liliaceae	List 1B.2
<u>Calycadenia micrantha</u>	small-flowered calycadenia	Asteraceae	List 1B.2
<u>Ceanothus purpureus</u>	holly-leaved ceanothus	Rhamnaceae	List 1B.2
<u>Cryptantha dissita</u>	serpentine cryptantha	Boraginaceae	List 1B.2
<u>Downingia pusilla</u>	dwarf downingia	Campanulaceae	List 2.2
<u>Erigeron greenei</u>	Greene's narrow-leaved daisy	Asteraceae	List 1B.2
<u>Fritillaria pluriflora</u>	adobe-lily	Liliaceae	List 1B.2
<u>Gilia capitata</u> ssp. <u>tomentosa</u> 	woolly-headed gilia	Polemoniaceae	List 1B.1
<u>Hesperolinon bicarpellatum</u>	two-carpellate western flax	Linaceae	List 1B.2

<u>Hesperolinon breweri</u> 	Brewer's western flax	Linaceae	List 1B.2
<u>Hesperolinon serpentinum</u> 	Napa western flax	Linaceae	List 1B.1
<u>Hesperolinon tehamense</u> 	Tehama County western flax	Linaceae	List 1B.3
<u>Juglans hindsii</u> 	Northern California black walnut	Juglandaceae	List 1B.1
<u>Lasthenia conjugens</u> 	Contra Costa goldfields	Asteraceae	List 1B.1
<u>Layia septentrionalis</u> 	Colusa layia	Asteraceae	List 1B.2
<u>Leptosiphon jepsonii</u> 	Jepson's leptosiphon	Polemoniaceae	List 1B.2
<u>Limnanthes vinculans</u> 	Sebastopol meadowfoam	Limnanthaceae	List 1B.1
<u>Navarretia leucocephala</u> ssp. <u>pauciflora</u> 	few-flowered navarretia	Polemoniaceae	List 1B.1
<u>Navarretia rosulata</u> 	Marin County navarretia	Polemoniaceae	List 1B.2
<u>Penstemon newberryi</u> var. <u>sonomensis</u> 	Sonoma beardtongue	Plantaginaceae	List 1B.3
<u>Sidalcea keckii</u> 	Keck's checkerbloom	Malvaceae	List 1B.1
<u>Streptanthus hesperidis</u>	green jewel-flower	Brassicaceae	List 1B.2
<u>Trichostema ruygtii</u> 	Napa bluecurls	Lamiaceae	List 1B.2

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Scientific Name - Lake Berryessa and Surrounding Quadrangles

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 <i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020			G2G3	S2	SC
2 <i>Ambystoma californiense</i> California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	SC
3 <i>Andrena blennospermatis</i> Blennosperma vernal pool andrenid bee	IIHYM35030			G2	S2	
4 <i>Andrena macswaini</i> An andrenid bee	IIHYM35040			G1G3	S1S3	
5 <i>Antrozous pallidus</i> pallid bat	AMACC10010			G5	S3	SC
6 <i>Aquila chrysaetos</i> golden eagle	ABNKC22010			G5	S3	
7 <i>Ardea alba</i> great egret	ABNGA04040			G5	S4	
8 <i>Ardea herodias</i> great blue heron	ABNGA04010			G5	S4	
9 <i>Astragalus rattanii</i> var. <i>jepsonianus</i> Jepson's milk-vetch	PDFAB0F7E1			G4T3	S3	1B.2
10 <i>Athene cunicularia</i> burrowing owl	ABNSB10010			G4	S2	SC
11 <i>Brodiaea leptandra</i> narrow-anthered brodiaea	PMLIL0C022			G2G3	S2S3.2	1B.2
12 <i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070		Threatened	G5	S2	
13 <i>Calycadenia micrantha</i> small-flowered calycadenia	PDAST1P0C0			G2G3	S2S3.2	1B.2
14 <i>Calyptidium pulchellum</i> Mariposa pussypaws	PDPOR09060	Threatened		G1	S1	1B.1
15 <i>Ceanothus purpureus</i> holly-leaved ceanothus	PDRHA04160			G2	S2	1B.2
16 <i>Cryptantha dissita</i> serpentine cryptantha	PDBOR0A0H2			G2	S2	1B.2
17 <i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	IICOL48011	Threatened		G3T2	S2	
18 <i>Downingia pusilla</i> dwarf downingia	PDCAM060C0			G2	S2	2.2
19 <i>Elanus leucurus</i> white-tailed kite	ABNKC06010			G5	S3	
20 <i>Emys marmorata</i> western pond turtle	ARAAD02030			G3G4	S3	SC
21 <i>Erigeron greenei</i> Greene's narrow-leaved daisy	PDAST3M5G0			G2	S2	1B.2
22 <i>Falco mexicanus</i> prairie falcon	ABNKD06090			G5	S3	
23 <i>Falco peregrinus anatum</i> American peregrine falcon	ABNKD06071	Delisted	unknown code...	G4T3	S2	

Selected Elements by Scientific Name - Lake Berryessa and Surrounding Quadrangles

California Department of Fish and Game
Natural Diversity Database
Report Generated: 09/10/2012 10:02:00 AM
Report Title: Selected Elements by Scientific Name - Lake Berryessa and Surrounding Quadrangles

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
24 <i>Fritillaria pluriflora</i> adobe-lily	PMLIL0V0F0			G3	S3	1B.2
25 <i>Haliaeetus leucocephalus</i> bald eagle	ABNKC10010	Delisted	Endangered	G5	S2	1B.2
26 <i>Hesperolinon bicarpellatum</i> two-carpellate western flax	PDLIN01020			G2	S2.2	1B.2
27 <i>Hesperolinon breweri</i> Brewer's western flax	PDLIN01030			G2	S2	1B.2
28 <i>Hesperolinon tehamense</i> Tehama County western flax	PDLIN010C0			G2	S2	1B.3
29 <i>Icteria virens</i> yellow-breasted chat	ABPBX24010			G5	S3	SC
30 <i>Juglans hindsii</i> Northern California black walnut	PDJUG02040			G1	S1.1	1B.1
31 <i>Lasiurus blossevillei</i> western red bat	AMACC05060			G5	S3?	SC
32 <i>Lasiurus cinereus</i> hoary bat	AMACC05030			G5	S4?	
33 <i>Lasthenia conjugens</i> Contra Costa goldfields	PDAST5L040	Endangered		G1	S1	1B.1
34 <i>Layia septentrionalis</i> Colusa layia	PDAST5N0F0			G2	S2.2	1B.2
35 <i>Leptosiphon jepsonii</i> Jepson's leptosiphon	PDPLM09140			G2	S2	1B.2
36 <i>Leptosiphon serrulatus</i> Madera leptosiphon	PDPLM09130			G1?	S1?	1B.2
37 <i>Limnanthes vinculans</i> Sebastopol meadowfoam	PDLIM02090	Endangered	Endangered	G1	S1	1B.1
38 <i>Lupinus citrinus</i> var. <i>citrinus</i> orange lupine	PDFAB2B103			G2T2	S2.2	1B.2
39 <i>Mimulus gracilipes</i> slender-stalked monkeyflower	PDSCR1B1C0			G2G3	S2S3	1B.2
40 <i>Myotis evotis</i> long-eared myotis	AMACC01070			G5	S4?	
41 <i>Myotis yumanensis</i> Yuma myotis	AMACC01020			G5	S4?	
42 <i>Navarretia leucocephala</i> ssp. <i>pauciflora</i> few-flowered navarretia	PDPLM0C0E4	Endangered	Threatened	G4T1	S1	1B.1
43 <i>Navarretia rosulata</i> Marin County navarretia	PDPLM0C0Z0			G2?	S2?	1B.2
44 <i>Northern Vernal Pool</i>	CTT44100CA			G2	S2.1	
45 <i>Penstemon newberryi</i> var. <i>sonomensis</i> Sonoma beardtongue	PDSCR1L483			G4T1	S1.3	1B.3
46 <i>Phalacrocorax auritus</i> double-crested cormorant	ABNFD01020			G5	S3	
47 <i>Rana boylei</i> foothill yellow-legged frog	AAABH01050			G3	S2S3	SC

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Scientific Name - Lake Berryessa and Surrounding Quadrangles

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
48 <i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened		G4T2T3	S2S3	SC
49 <i>Riparia riparia</i> bank swallow	ABPAU08010		Threatened	G5	S2S3	
50 <i>Sidalcea keckii</i> Keck's checkerbloom	PDMAL110D0	Endangered		G1	S1	1B.1
51 <i>Streptanthus hesperidis</i> green jewel-flower	PDBRA2G510			G2	S2	1B.2
52 <i>Trichostema ruygtii</i> Napa bluecurls	PDLAM220H0			G2	S2	1B.2

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office

**Federal Endangered and Threatened Species that Occur in
or may be Affected by Projects in the
LAKE BERRYESSA (515C)
U.S.G.S. 7 1/2 Minute Quad**

Database last updated: September 18, 2011

Report Date: September 10, 2012

Listed Species

Invertebrates

Desmocerus californicus dimorphus-valley elderberry longhorn beetle (T)

Syncaris pacifica-California freshwater shrimp (E)

Fish

Hypomesus transpacificus-delta smelt (T)

Oncorhynchus tshawytscha-Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense-California tiger salamander, central population (T)

Rana draytonii-California red-legged frog (T)

Birds

Strix occidentalis caurina-northern spotted owl (T)

Key:

- (E) Endangered - Listed as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

**Napa Berryessa Improvement District
Wastewater Treatment System Upgrade and Expansion
Mitigation Monitoring and Reporting Program**

Potential Environmental Impact	Adopted Mitigation Measure	Monitoring and Reporting Actions and Schedule	Implementation	Monitoring	Reporting & Date of Compliance/Completion
IMPACT IV-a): Biological Resources. The project would have the potential to affect bat species.	MITIGATION MEASURE BIO-1: The owner/applicant shall implement the following bat avoidance measures prior to the commencement of vegetation removal and earthmoving (construction) activities: <ul style="list-style-type: none"> o A qualified biologist shall conduct a habitat assessment for potential suitable bat habitat within six months of project activities. If the habitat assessment reveals suitable habitat, a qualified biologist shall conduct a presence/absence survey during peak activity periods. If bats are found to be present during peak activity periods, the qualified biologist shall submit an avoidance plan to the County and California Department of Fish and Game (DFG) for approval. The avoidance plan should evaluate the length of time disturbance, equipment noise and type of habitat present at the Project site. In the event the bat avoidance measures required by DFG result in a reduction or modification of project boundaries, the plan shall be revised by the applicant/engineer and submitted to the County 	Applicant/owner shall implement Measure BIO-1 by adhering to the mitigation measures set forth by having a professional biologist conduct a habitat assessment for bats.	P	CD, CDFG	PC, CPI Date Complete: ___/___/___

Potential Environmental Impact	Adopted Mitigation Measure	Monitoring and Reporting Actions and Schedule	Implementation	Monitoring	Reporting & Date of Compliance/Completion
<p>IMPACT IV-a): Biological Resources.</p> <p>The project has the potential to disturb raptor and passerine birds.</p>	<p>Mitigation Measure BIO-2</p> <p>The owner/applicant shall conduct the following raptor and bird preconstruction survey(s) prior to the commencement of vegetation removal and earthmoving (construction) activities:</p> <ul style="list-style-type: none"> For earth-disturbing activities occurring between February 1 through August 31, a qualified wildlife biologist shall conduct preconstruction surveys for special status birds and their nests within 500-feet of earthmoving activities. The preconstruction survey shall be conducted no more than 14 days prior to vegetation removal and ground disturbing activities are to commence (surveys should be conducted a minimum of 3 separate days during the 14 days prior to disturbance). If active nests are found during preconstruction surveys, a 300-foot no-disturbance buffer will be created around active raptor nests and a 50-foot buffer zone shall be created around the nests of all other birds during the breeding/nesting season or until it is determined by a qualified biologist that all young have fledged. These buffer zones may be modified in coordination with DFG based on existing conditions at the project site. Buffer zones shall be fenced with temporary construction fencing and remain in place until the end of the breeding season of until young have fledged. If a 15 day or greater lapse of project-related work occurs during the breeding season, another bird preconstruction survey and consultation with DFG will be required before project work can be reinitiated. 	<p>Applicant/owner shall implement Measure BIO-2 by adhering to the mitigation measures set forth by requiring that a professional biologist conduct a preconstruction survey prior to construction.</p>	P	CD, CDFG	<p>PC</p> <p>Date Complete: ___/___/___</p>

Potential Environmental Impact	Adopted Mitigation Measure	Monitoring and Reporting Actions and Schedule	Implementation	Monitoring	Reporting & Date of Compliance/Completion
<p>IMPACT IV-a): Biological Resources.</p> <p>The project has the potential to impact oak woodlands.</p>	<p>Mitigation Measure BIO-3</p> <p>Development of the proposed project would convert 6 acres of oak woodland habitat, which could result in an adverse impact to biological resources. The following measure shall be implemented to offset the loss of oak woodland:</p> <p>An Oak Woodland Avoidance and Management Areas shall be developed by a qualified biologist, including identification of enhancement areas onsite, planting and other enhancement activities, and submitted to the Napa County Planning, Building, & Environmental Services Department for review prior to implementation.</p> <p><i>Preservation and Enhancement</i></p> <p>Direct impacts to 6 acres of oak woodlands onsite would be mitigated through the preservation and enhancement of 12.0 acres of onsite oak woodland habitat, pursuant to General Plan Policy CON-24. This policy recommends the preservation or enhancement of similar habitat through the replanting of oak woodland at a 2:1 ratio, on a per-acre basis. In consultation with County Planning, the applicant shall hire a qualified biologist or ecologist to develop an enhancement plan to replant oak woodlands within suitable habitat identified onsite, totaling 12.0 acres. At a minimum the enhancement plan shall include planting guidelines, planting survival rate of 80% or greater over a 3-5 year period, and monitoring and reporting program to be submitted to the County annually. Once the enhancement plan has been approved by the County, implementation shall be initiated within the 3 years of completion of the proposed project.</p> <p><i>Avoidance</i></p>	<p>Applicant/owner shall implement Measure BIO-3 by adhering to the mitigation measures set forth by requiring that a professional biologist to prepare an oak woodland enhancement plan.</p>	P	CD, CDFG	<p>PC</p> <p>Date Complete: <u> </u>/<u> </u>/<u> </u></p>

Potential Environmental Impact	Adopted Mitigation Measure	Monitoring and Reporting Actions and Schedule	Implementation	Monitoring	Reporting & Date of Compliance
	<p>All trees proposed for retention that are located adjacent to the proposed project site shall be avoided, including any trees with trunks located outside the project boundary that have driplines that extend into the proposed project area. Prior to any earthmoving activities, construction fencing (or equivalent barricades) shall be placed at minimum distance of 5 feet outside the outboard driplines of the trees to be retained for the duration of earthmoving and construction activities associated with the project. The placement of such fencing shall be inspected and its location by Napa County prior to commencing any ground disturbing activity. No disturbance, including grading, placement of fill material, storage of equipment, etc. shall occur with the driplines of those trees to be retained for the duration of construction activities.</p>				
<p>IMPACT IV-b): Biological Resources.</p> <p>The project has the potential to impact Waters of the U.S.</p>	<p>Mitigation Measure BIO-4 Development of the proposed project could result in indirect and direct impacts to Waters of the U.S.</p> <p>To ensure that all Waters of the U.S that could be directly or indirectly impacted by the project have been identified, the applicant's biologist shall delineate all Waters of the U.S. within the project site proposed for disturbance and surrounding buffers. The biologist shall consult with the US Army Corp Engineers prior to the modification of identified channel, including surrounding vegetation within 30 feet of the high water mark of jurisdictional Waters of the U.S. A Section 1602 Lake and Streambed Alteration Agreement (LSAA) shall be obtained from CDFG prior to construction activities that alter the bed or bank of streams.</p> <p>The compensatory mitigation for the modification of Waters</p>	<p>Applicant/owner shall implement Measure BIO-4 by adhering to the mitigation measures set forth by requiring that a professional biologist to clearly delineate all Waters of the U.S. and consult with USACE prior to channel modification.</p>	<p>P</p>	<p>CD, USACE, CDFG</p>	<p>PC</p> <p>Date Complete: ____/____/____</p>

Potential Environmental Impact	Adopted Mitigation Measure	Monitoring and Reporting Actions and Schedule	Implementation	Monitoring	Reporting & Date of Compliance
	of the US shall be implemented onsite through the enhancement and replacement of the blue lined stream located northeast of the project site, to its original path through the decommissioning of the existing tailwater pond. Replacement shall be a minimum of 1:1 in kind in consultation with US Army Corp of Engineers and CDFG prior to altering the bed or bank of a stream.				
IMPACT V Cultural Resources. The project has the potential to disturb historic resources identified by the archaeologist.	Mitigation Measure CR-1 In the event the vehicles identified onsite are not removed prior to pond construction, the project proponent shall consult a professional archaeologist regarding the appropriate treatment of the vehicles to ensure their preservation either onsite or an offsite located to be chosen by the archaeologist.	Applicant/owner shall implement Measure CR-1 by adhering to the mitigation measures set forth throughout the duration of ground disturbing activity.	P	CD	CPI Date Complete: ___/___/___
IMPACT V Cultural Resources. The project has the potential to affect archaeological, unique paleontological resource and human remains.	Mitigation Measure CR-2 The owner shall implement the following elements to avoid disturbance to archaeological, unique paleontological resource and human remains: <ul style="list-style-type: none"> In accordance with CEQA Subsection 15064.5(f), should any previously unknown historic or prehistoric resources, including but not limited to charcoal, obsidian or chert flakes, grinding bowls, shell fragments, bone, pockets of dark, friable solids, glass, metal, ceramics, wood or similar debris, be discovered during grading, trenching or other on-site excavation(s), earth work within 100-feet of these materials shall be stopped until a professional archaeologist certified by the Registry of Professional Archaeologists (RPA) has had an opportunity to evaluate the significance of the find and suggest appropriate mitigation(s), as determined necessary. 	Applicant/owner shall implement Measure CR-2 by adhering to the mitigation measures set forth throughout the duration of ground disturbing activity.	P	CD	CPI Date Complete: ___/___/___

Potential Environmental Impact	Adopted Mitigation Measure	Monitoring and Reporting Actions and Schedule	Implementation	Monitoring	Reporting & Date of Compliance/Completion
	<ul style="list-style-type: none"> If human remains are encountered the Napa County Coroner shall be informed to determine if an investigation of the cause of death is required and/or if the remains are of Native American origin. Pursuant to Public Resources Code Section 5097.98, if such remains are of Native American origin the nearest tribal relatives as determined by the State Native American Heritage Commission will be contacted to obtain recommendations for treating or removal of such remains, including grave goods, with appropriate dignity. All persons working on-site shall be bound by contract and instructed in the field to adhere to these provisions and restrictions. 				
IMPACT VI-aj): Geology & Soils. The project has the potential to be impacted by ground shaking	<p>Mitigation Measure GEO-1 The applicant in consultation with the geotechnical engineer shall implement the following mitigation to reduce the risk of rupture due to ground shaking:</p> <ul style="list-style-type: none"> All areas to be graded shall be cleared of vegetation, and stripped of the upper soils containing root growth and organic matter. Areas to receive fill should be prepared by identifying and removing weak soils for their full depth, exposing firm bedrock materials. Excavations should be prepared by cutting level keyways and benches extending into appropriate materials as determined by the geotechnical engineer. If isolated deeper zones of soft, saturated, dry (shrinkage cracks), highly porous or organic soils are encountered during excavation and recompaction, the soils should be removed to expose firm soils. The depth and extent of excavation and overexcavation should be determined by 	Applicant/owner shall implement Measure GEO-1 by adhering to the mitigation measures set forth by requiring consultation with a geotechnical engineer to reduce the risk of rupture due to ground shaking during construction.	P	CD, PE/G	PC Date Complete: _/_/_

Potential Environmental Impact	Adopted Mitigation Measure	Monitoring and Reporting Actions and Schedule	Implementation	Monitoring	Reporting & Compliance/Date of Completion
	<p>the geotechnical engineer.</p> <ul style="list-style-type: none"> Exposed soils should be scarified to a minimum depth of 6 inches, moisture conditioned to at least 4 percent above optimum moisture content and compacted to at least 90 percent relative compaction. Relative compaction refers to the in-place dry density of soils expressed as a percentage of the maximum dry density of the same soil, as determined by ASTM D1557-09 (Standard test method for laboratory compaction characteristics of soil using modified effort). Optimum moisture content is the water content (percentage of dry weight) corresponding to the maximum dry density. If grading is performed during the winter or spring seasons, even higher groundwater must be anticipated. Severe groundwater conditions may result in the need for dewatering, placement of stabilization fabrics, and/or placement of ballast rock to achieve stable excavation bottoms. The onsite soils should be suitable for reuse as general fill provided that: 1) all rock sizes greater than 6 inches in largest dimension and perishable materials are removed, and 2) the fill materials area approved by the geotechnical engineer prior to use. Imported fill, if required, should be free of organic matter, non-expansive and should be approved by the geotechnical engineer prior to use. <ul style="list-style-type: none"> Fill should be placed in thin lifts (normally 6 to 8 inches depending on compaction equipment), uniformly moisture conditioned to at least 2 percent above optimum moisture content, and compacted to at least 90 percent relative compaction. Where fills are placed in the vicinity of active faulting, as determined by the geotechnical engineer, reinforcing of the fill will be required per the project plans. The upper 6 inches of 				

Potential Environmental Impact	Adopted Mitigation Measure	Monitoring and Reporting Actions and Schedule	Implementation	Monitoring	Reporting & Date of Compliance/Completion
	<p>subgrade surfaces should be compacted to at least 95 percent relative compaction in vehicle traffic areas.</p> <ul style="list-style-type: none"> Cut and fill slopes should be constructed no steeper than 2:1. Exterior fill and cut slopes should be planted with erosion resistant vegetation, or protection from erosion by other measures upon completion of grading. Ground cover should be maintained on the slopes to ensure stability. 				