NEVADA IRRIGATION DISTRICT
Grass Valley, California

DS CANAL FLUME REPLACEMENT PROJECT

PRELIMINARY REVIEW AND INITIAL STUDY

Respectfully Submitted by
Tonia M. Tabucchi Herrera, Assistant Engineer
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<th>Description</th>
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<tr>
<td>amsl</td>
<td>above mean sea level</td>
</tr>
<tr>
<td>ARB</td>
<td>California Air Resources Board</td>
</tr>
<tr>
<td>BMPs</td>
<td>best management practices</td>
</tr>
<tr>
<td>CCR</td>
<td>California Code of Regulations</td>
</tr>
<tr>
<td>CEQA</td>
<td>California Environmental Quality Act</td>
</tr>
<tr>
<td>CESA</td>
<td>California Endangered Species Act</td>
</tr>
<tr>
<td>CFGC</td>
<td>California Fish and Game Code</td>
</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
</tr>
<tr>
<td>CNNDDB</td>
<td>California Natural Diversity Database</td>
</tr>
<tr>
<td>CNEL</td>
<td>community noise equivalent level</td>
</tr>
<tr>
<td>CNPS</td>
<td>California Native Plant Society</td>
</tr>
<tr>
<td>CO</td>
<td>carbon monoxide</td>
</tr>
<tr>
<td>County</td>
<td>Nevada County</td>
</tr>
<tr>
<td>CRLF</td>
<td>California red-legged frog</td>
</tr>
<tr>
<td>CWA</td>
<td>Clean Water Act</td>
</tr>
<tr>
<td>DB</td>
<td>Decibel</td>
</tr>
<tr>
<td>DBA</td>
<td>A-Weighted Decibel</td>
</tr>
<tr>
<td>DFG</td>
<td>California Department of Fish and Game</td>
</tr>
<tr>
<td>District</td>
<td>Nevada Irrigation District</td>
</tr>
<tr>
<td>DPM</td>
<td>diesel particulate matter</td>
</tr>
<tr>
<td>EPA</td>
<td>U.S. Environmental Protection Agency</td>
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<tr>
<td>ESA</td>
<td>federal Endangered Species Act</td>
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<td>ESA</td>
<td>Environmentally Sensitive Area</td>
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<td>General Plan</td>
<td>Nevada County General Plan</td>
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<tr>
<td>IS</td>
<td>Initial Study</td>
</tr>
<tr>
<td>Ldn</td>
<td>day-night sound level</td>
</tr>
<tr>
<td>Leq</td>
<td>equivalent sound level</td>
</tr>
<tr>
<td>Lmin and Lmax</td>
<td>minimum and maximum sound levels</td>
</tr>
<tr>
<td>MBTA</td>
<td>Migratory Bird Treaty Act</td>
</tr>
<tr>
<td>MCAB</td>
<td>Mountain Counties Air Basin</td>
</tr>
<tr>
<td>MND</td>
<td>Mitigated Negative Declaration</td>
</tr>
<tr>
<td>NAHC</td>
<td>Native American Heritage Commission</td>
</tr>
<tr>
<td>NO2</td>
<td>nitrogen dioxide</td>
</tr>
<tr>
<td>NSAQMD</td>
<td>Northern Sierra Air Quality Management District</td>
</tr>
<tr>
<td>O3</td>
<td>ozone</td>
</tr>
<tr>
<td>PM10</td>
<td>particulate matter 10 microns in diameter or less</td>
</tr>
<tr>
<td>PM2.5</td>
<td>particulate matter 2.5 microns in diameter or less</td>
</tr>
<tr>
<td>RA</td>
<td>Residential Agriculture</td>
</tr>
<tr>
<td>RWQCB</td>
<td>Regional Water Quality Control Board</td>
</tr>
<tr>
<td>SO2</td>
<td>sulfur dioxide</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>SR</td>
<td>State Route</td>
</tr>
<tr>
<td>SWPPP</td>
<td>Storm Water Pollution Protection Plan</td>
</tr>
<tr>
<td>UBC</td>
<td>Uniform Building Code</td>
</tr>
<tr>
<td>USACE</td>
<td>U.S. Army Corps of Engineers</td>
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<tr>
<td>USFWS</td>
<td>U.S. Fish and Wildlife Service</td>
</tr>
<tr>
<td>USGS</td>
<td>U.S. Geological Survey</td>
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I. PROJECT LOCATION

The proposed project is located in unincorporated Nevada County (County), northeast of Grass Valley (Figure 1). Most of the construction sites occur on private property near Banner Mountain Trail Road, Big Blue Road, Gold Flat Road, and Apple Orchard Road, as shown in Figure 2.

II. PROJECT DESCRIPTION

This proposed project consists of the replacement of eight existing elevated wood-supported metal flumes along the Nevada Irrigation District (District) DS Canal with steel supported elevated 72-inch pipe flumes. The existing flumes connect the DS Canal, where it spans natural drainages, to provide gravity flow along the course of the canal. The flumes proposed for replacement are generally located between the DS Canal's intersections with Banner Mountain Trail (to the east) and Banner Lava Cap Road (to the west) (Figure 2). Flume #13 is proposed to be replaced in its current alignment, requiring a short-term canal outage while construction takes place. Flumes #14, 15, 16, 17, 18, 19, and 23 are currently scheduled to be constructed parallel to the existing facilities, on the downslope side, and will require a brief canal outage while they are being connected.

The two purposes of the proposed project are to increase the capacity of the canal system to convey raw water and to improve system reliability. The proposed project consists of the following activities:

1. Replace the existing open metal flumes along the DS Canal with 72" diameter steel pipe. The flumes to be replaced are #13–19 and 23.

2. Construct new steel support structures, “bents,” with concrete footings astriding drainages to carry the new pipe flumes.

3. Realign and line short portions of the DS Canal to improve the entry to and exits from the new pipe flumes to reduce eddying and erosion potential.

4. This facility provides raw water for irrigation and treatment for domestic use. It is necessary to replace this facility to provide a reliable water supply.

THE DISTRICT convened an Architectural Review (Design) Ad Hoc Committee of several adjoining property owners to discuss the proposed project and to provide input in the design of the flumes.

Construction

THE DISTRICT plans to begin and complete proposed project activities during 2007–2009, beginning in summer 2007 and ending in spring 2009. Construction would occur simultaneously at multiple flume sites. This would be a design/build project. The contractor would be responsible for both design of the flume replacement and its construction.
design of the proposed project has not been completed at this time. The basic steps of the proposed project will consist of:

1. vegetation removal and site preparation, including tree removal where necessary;
2. flume and entrance and exit concrete headwalls construction;
3. connection of the new flume to existing canal;
4. removal of the old flume; and
5. site restoration.

The lengths of the flumes being replaced vary. The design has been developed to minimize the aesthetic impact of the new flumes and, to some extent, recreate the look of the existing flumes and bents. Work at each flume will consist of the following:

- **Flume 13**: minor level of clearing (brush removal); pioneering of access route through private property; replacement of flume in existing alignment.
- **Flume 14**: medium level of clearing (brush and some tree removal); possibly accessing from North Canal Road; parallel alignment of flume to the south of existing flume.
- **Flume 15**: medium level of clearing; accessing from berm; alignment of flume to the north of existing flume; existing bridge may be eliminated by extending the flume.
- **Flume 16**: medium level of clearing; accessing from north and south inlets with minor pioneering; alignment of flume to the north of existing flume; existing bridge may be eliminated by extending the flume.
- **Flume 17**: minor level of clearing; accessing from berm; alignment of flume to the north of existing flume.
- **Flume 18**: minor level of clearing; accessing to be determined; alignment of flume to the north of existing flume.
- **Flume 19**: major level of clearing (removal of large trees); accessing to be determined; alignment of flume to north of existing flume.
- **Flume 23**: minor level of clearing; accessing from adjoining private yard; alignment of flume to the north of existing flume.

The District has 60-foot wide easements along the DS Canal. New flume alignments may require obtaining new permanent easements. At the same time, existing easements that are no longer needed as a result of realigning the flumes will be quitclaimed to the affected property owners. As a result, no new net additional private property would be needed. Where necessary for access or staging areas, the District will obtain temporary easements during the construction period.

**Table 1** lists the types of equipment that may be used to construct the proposed project. Not all the equipment would be necessarily used or stored at any one given construction site; however, because work would be underway simultaneously at multiple sites along the
Figure 2
Project Vicinity
canal, multiple machines may be in operation at the same time. Material delivery trucks and concrete trucks would be at the site on a transitory basis.

**Table 1.** Types of Equipment That May Be Used to Construct the Proposed Project

<table>
<thead>
<tr>
<th>Equipment Type</th>
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<tbody>
<tr>
<td>Track excavator</td>
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<tr>
<td>Track backhoe/loader</td>
</tr>
<tr>
<td>Concrete pumper</td>
</tr>
<tr>
<td>Concrete delivery truck</td>
</tr>
<tr>
<td>Truck and trailer for delivery of pipe and steel trestle</td>
</tr>
<tr>
<td>Water truck</td>
</tr>
<tr>
<td>Pickup trucks</td>
</tr>
<tr>
<td>Welding machine</td>
</tr>
<tr>
<td>Fuel/oil service truck</td>
</tr>
<tr>
<td>Air compressor</td>
</tr>
<tr>
<td>Small crane</td>
</tr>
<tr>
<td>Drilling rig for cast-in-place footings</td>
</tr>
<tr>
<td>Highlead</td>
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</tbody>
</table>

During the construction period, access to the work area will vary depending on the locations of the flumes. Equipment and workers generally will access the flumes along the existing canal berm from the nearest road. Construction equipment will use existing roads and rights-of-way to reach the sites, except as noted above, and will not require the creation of any new permanent access roads. Staging areas will be located near each flume and the access. The actual work area will be approximately 40 feet wide.

Workers are expected to drive to the site each day in light trucks or personal vehicles. The number of trips will depend on the number of workers at any given time at the particular flume site. Although the actual number of trips will vary depending on the length and/or height of each flume, approximately 10 tractor trailer truck trips will occur at each of the flume sites to deliver materials during the construction period.

Construction activities would normally occur on weekdays, excluding holidays, between 7:00 a.m. and 7:00 p.m. If necessary, work may also take place on Saturdays.

To the extent possible, the design of and work on the flumes will utilize approaches that minimize the need to create access areas for large machinery. These may include:

- a. use of the high lead technique for removing downed timber rather than using a skidder (a high lead is an elevated cable that allows timber to be lifted and pulled away from where it is downed without the need to drag the cut logs);

- b. use of a concrete pumper to minimize the need for truck access to footings and other concrete fixtures;

- c. pulling pipe across the bents rather than using a large crane;
d. application of the AWWA M-11 manual to the design of the pipeline, to allow maximum span and avoid the need to work in creeks; and

e. use of drilled, cast-in-place bent footings where feasible to minimize the need for excavation.

Best Management Practices: The District will require its construction contractor to implement the following best management practices (BMPs) as part of the proposed project to minimize and avoid potential impacts on environmental resources. Where applicable, the commitments will be clearly identified on the construction drawings and in the specifications. During construction, the contractor will be responsible for implementing BMPs in a timely manner.

The Contractor, on behalf of the District, will incorporate the following BMPs into the proposed project.

1. Construction activities shall be limited to a designated work area (including the work corridor and staging area). The work area will be clearly identified on the construction drawings and will be staked and flagged prior to initiation of construction activities.

2. The Underground Service Alert will be contacted 48 hours before construction to allow underground utilities to identify the location of their underground facilities, thus greatly reducing the possibility of interruption in utility services.

3. All open trenches shall be filled or covered each night to protect pedestrian and vehicles, and avoid entrapment of wildlife.

4. Construction will proceed with a Storm Water Pollution Prevention Plan (SWPPP). If adverse weather conditions threaten the transport of disturbed soils off site, additional temporary erosion control measures shall be immediately installed. Soil disturbance shall cease if weather conditions worsen and increase the likelihood of transporting soil off site.

5. Where possible, the proposed project will be designed to minimize the need to remove mature trees during construction. Any activities that may occur in the dripline of trees shall be minimized to the best extent possible, and temporary exclusion fencing installed to limit access. All areas disturbed during construction will be re-seeded using a mixture of native grass seeds, as recommended by the Nevada County Resource Conservation District.

6. Construction will be restricted to the hours between 7 a.m. and 7 p.m. on weekdays and Saturdays. All work will be in compliance with applicable noise ordinances.

7. All construction equipment must have sound-control devices no less effective than those provided on the original equipment. No equipment shall have an unmuffled exhaust system.

8. Additional noise-reducing measures shall be implemented as appropriate, including but not limited to:
   a. locating stationary construction equipment away from homes,
   b. limiting equipment (i.e., construction equipment and trucks) idling to 5 minutes or less, rescheduling construction activity, and
   c. notifying nearby residents 48 hours in advance of construction.
9. To reduce potential contamination by spills, no refueling, storage, servicing, or maintenance of equipment shall be performed within 50 feet of sensitive environmental resources. No refueling or servicing shall be done without absorbent material or drip pans underneath to contain spilled fuel. Any fluids drained from the machinery during servicing shall be collected in leak-proof containers and taken to an appropriate disposal or recycling facility. If such activities result in spillage or accumulation of a product on the soil, the contaminated soil shall be assessed and disposed of properly. Under no circumstances will contaminated soils be added to a spoils pile.

10. All maintenance materials (i.e., oils, grease, lubricants, antifreeze, and similar materials) shall be stored at offsite staging areas. If these materials are required during field operations, they shall be placed in a designated area away from site activities and sensitive resources.

11. Construction equipment exhaust emissions shall not exceed Northern Sierra Air Quality Management District (NSAQMD) Rule 202 Visible Emission limitations. Rule 202 stipulates:

   a. A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three (3) minutes in any one (1) hour which is:

      A. As dark or darker in shade as that designated as No. 1 on the Ringlemann Chart, as published by the United States Bureau of Mines, or

      B. Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection (A) of this section.

12. The following required NSAQMD measures shall be implemented to control emissions from construction activities.

   a. Alternatives to open burning of vegetative material shall be used unless otherwise deemed infeasible by the District. Among suitable alternatives are chipping, mulching, or conversion to biomass fuel.

   b. Adequate dust control measures shall be implemented in a timely and effective manner during all phases of proposed project development and construction.

   c. All material excavated, stockpiled, or graded should be sufficiently watered, treated or covered, to prevent fugitive dust from leaving property boundaries and causing a public nuisance or a violation of an ambient air standard. Watering should occur at least twice daily with complete site coverage, preferably in the mid-morning and after work is completed each day.

   d. All areas (including unpaved roads) with vehicle traffic should be watered or have dust palliatives applied, as necessary, for regular stabilization of dust emissions.

   e. All onsite vehicles should be limited to a speed of 15 mph on unpaved roads.

   f. All land clearing, grading, earth moving or excavation activities on a project shall be suspended as necessary when winds are expected to exceed 20 mph.

   g. All material transported off site will be either sufficiently watered or securely covered to prevent a public nuisance.
h. Temporary traffic control shall be provided during all phases of the construction to improve traffic flow as deemed appropriate by local transportation agencies and/or Caltrans.

i. Construction activities should be scheduled to direct traffic flow to off-peak hours as much as practicable.

j. All inactive portions of the construction site should be covered, seeded, or watered until a suitable cover is established.

k. The lead agency will be responsible for applying County-approved non-toxic soil stabilizers (according to manufacturer’s specifications) to all inactive construction areas (previously graded areas which remain inactive for 96 hours) in accordance with the local grading ordinance. Acceptable materials that may be used for chemical stabilization of soils include petroleum resins, asphaltic emulsions, acrylics and adhesives that do not violate Regional Water Quality Control Board or California Air Resource Board standards.

13. Construction shall comply with the best management practices set out in the Northern Sierra Air Quality Management District’s Rule 226 Dust Control. All grading operations will be suspended if fugitive dust exceeds Rule 226 Dust Control limitations. This consists of “visible dust of such opacity as to obscure an observer’s view to a degree equal to or greater than an opacity of 20%, for a period or periods aggregating more than three (3) minutes in any one (1) hour.” (The provisions of the Air District’s Rule 226 are attached to this Initial Study [IS]).

The following discretionary actions are required by the District for project implementation:

- adoption of Mitigated Negative Declaration (MND) and Mitigation Monitoring Program by the District’s Board of Directors;
- approval of final engineering designs.

Use by Other Agencies: This Initial Study/Mitigated Negative Declaration (IS/MND) may also be used by the following local, state, and federal agencies responsible for issuing permits and approvals that may be needed to proceed with the proposed project:

- Northern Sierra Air Quality Management District—compliance with rules concerning fugitive dust (including incorporating all control measures required by the District’s rules) and control of fine particulate matter from construction activities.
- Central Valley Regional Water Quality Control Board—water quality certification. Section 401 of the Clean Water Act (CWA) requires that the discharge of dredged or fill material into waters of the United States does not violate state water quality standards.
- U.S. Army Corps of Engineers (USACE)—CWA Section 404 Nationwide Permit authorization will be required if fill material is placed into the unnamed drainages, potential tributaries to waters of the U.S at Flumes No. 15, 16, and 23.
- California Department of Fish and Game (DFG)—a streambed alteration agreement under Section 1602 of the California Fish and Game Code (CFG) may be required for the pipeline crossing of the unnamed drainages at Flumes No. 15, 16, and 23.
III. Preliminary Review

A preliminary review indicates the following conditions.

1. The proposed action constitutes a project within the meaning of Section 3 of the District’s California Environmental Quality Act (CEQA) guidelines (District Resolution 94-13).

2. The proposed project is not a Ministerial Project under Section 5 of the District’s CEQA guidelines.

3. The proposed project is not an Emergency Project under Section 5 of the District’s CEQA guidelines.

4. The proposed project does not constitute a feasibility or planning study under Section 5 of the District’s CEQA guidelines.

5. The proposed project is not categorically exempt under Section 6 of the District’s CEQA guidelines.

6. The proposed project does not involve another public agency that is the lead agency.

IV. Preliminary Findings

The District’s Staff, having undertaken and completed a preliminary review of the DS CANAL FLUME REPLACEMENT PROJECT, has made the following determinations.

1. This proposed project is discretionary and is not otherwise exempt.

2. The District is the agency with primary responsibility for approval of the proposed project and is, therefore, the Lead Agency.

3. An IS has been undertaken for the purpose of ascertaining whether the proposed project may have a significant effect on the environment.

V. Initial Study

This IS was prepared under supervision of Tonia M. Tabucchi Herrera, Assistant Engineer

This IS has indicated that:

A. Environmental Setting

The proposed project is located in the Sierra foothills at an elevation ranging from approximately 2700 to 3100 feet. The proposed project area is characterized by an overstory of mixed coniferous vegetation typical of the Sierra Nevada foothill region. The proposed project area is comprised of rural low-density residential development. The District provides raw water service to this area from the DS Canal starting at the Scotts Flat Reservoir and terminating at Wolf Creek. Area residences are on septic tanks. Depending on location, potable water service is provided by private wells or the District.
B. Zoning

Pursuant to Government Code Section 53091, the District is exempt from conforming to building and zoning regulations when the proposed project facility is for production, generation, storage, or transmission of water.

The proposed project area is divided into eight construction sites. Zoning in the proposed project area falls into several zoning types. There are three rural residential/residential agriculture zoning types: R1-1.5 (flume 23) and RA-1.5 (flumes 19, 18, and 17), RA-5 (flumes 16, 15, 14, 13). Per the County’s zoning regulations, the Residential Agriculture (RA) designation allows low-density, single-family dwellings and other dwelling unit types that fit in with the rural character of the area. The minimum parcel size in the R1-1.5 and RA-1.5 classifications is 1.5 acres, and RA-5 has a minimum of 5 acre-parcels, where neither a public water nor a public sewer system is available.

C. Environmental Evaluation

See Attachment A.

D. Staff Recommendations

Staff shall submit an Environmental Impact Assessment to the NID’s Board of Directors for their concurrence. Said assessment shall read as follows:

"The Nevada Irrigation District’s staff, having undertaken and completed an IS of this proposed project in accordance with Section 9 of the District’s Resolution number 94-13 entitled, 'Adopting Guidelines Implementing the California Environmental Quality Act, Effective March 9, 1994', for the purpose of ascertaining whether the proposed project might have a significant effect on the environment, has reached the following conclusion: The proposed project would not have a significant effect on the environment; therefore, a negative declaration should be prepared."

Signed  
Tonia M. Tabucchi Herrera,  
Assistant Engineer  
May 3, 2007  

Recommendation Approved  
Gary King, Chief Engineer  
May 4, 2007
ATTACHMENT A
NEVADA IRRIGATION DISTRICT

ENVIRONMENTAL CHECKLIST FORM
## Setting

Nevada County is part of the Sierra Nevada mountain range. The western two-thirds of the county are characterized by rolling foothills that form a transition zone between the Sacramento Valley and the mountains. The eastern third of the county consists of the exposed granite and steep terrain that characterizes the mountains of the Sierra Nevada range. In general, the county provides beautiful views of rolling foothills, valleys, and mountains along with the forests, green meadows, and wetlands that are unique to this area.

The proposed project area is situated in a mixed coniferous forest that is dominated by Sugar Pine, California Black Oak and Ponderosa Pine. Several residential parcels and accompanying residences adjoin the canal where flumes will be installed.

Also contributing to the aesthetic value of the county is the aggregate appearance of the structures that comprise the cities, towns, and suburban areas. Scenic preservation is accomplished by such measures as scenic highways, establishment of open spaces, public forests, and agricultural zoning. The work areas for this proposed project are not near any city or town and, because the canal generally runs behind residences and not along any road, readily visible from only a limited number of residences.

## Discussion of Impacts

a. Based on a review of the Nevada County General Plan (General Plan) (originally adopted in 1996), the proposed project is not located on or adjacent to a scenic vista and does not provide a view of a scenic vista. Therefore, there is no impact.

b. The proposed project involves the replacement of existing flumes with closed pipe flumes and associated steel support structures. Construction would involve in-place or parallel placement of new flumes and structures and would not involve the removal of significant scenic trees, rock outcroppings, or historic buildings. The construction area is not near a scenic highway. Therefore, there would be no impact.
c. Project construction impacts would create temporary visual disturbances from staged construction equipment and partially constructed pipelines. These impacts on the existing visual character are considered minor because of the short-term nature of the construction activities and the relatively small area that would be affected. No trees, rock outcroppings, or historic buildings would be damaged as a result of the proposed project. Therefore, this impact is considered less than significant.

d. The proposed project would not involve the installation of any new lighting or create an increased source of glare. Construction activities would normally occur on weekdays and Saturdays between 7:00 am and 7:00 pm. Because project construction would occur during daytime hours, no nighttime lighting would be necessary, nor would project operation require nighttime lighting. No impacts associated with additional lighting or glare would occur as a result of implementing the proposed project.
2. AGRICULTURE RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the proposed project:

<table>
<thead>
<tr>
<th>Impact Evaluation Options</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporation</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

Setting

Limited agriculture exists in and around the proposed project area. The rural residential zoning allows for some agriculture, but there is little land allotted for that use.

According to the California Department of Conservation’s Map of Important Farmland in California, this area is not designated Prime Farmland or Farmland of Statewide Importance.

Discussion of Impacts

a. The proposed project involves the construction of suspended flumes and associated steel support structures. The existing flumes have a 60-foot easement on either side, and the proposed project would not require any net additional easements. Land use, and in particular agricultural uses, would not substantially change as a result of project operation. It would not convert any farmland to non-agricultural use. Therefore, it would have no impact.

b. According to the Division of Land Resource Protection website, the proposed project would not conflict with a Williamson Act contract. Therefore, it would have no impact.

c. The proposed project would not involve any other changes to the environment that would result in the conversion of farmland to non-agricultural use. For example, it would not affect delivery of irrigation water to District customers. Therefore, it would have no impact.
3. **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 proposed project:

<table>
<thead>
<tr>
<th>Impact Level</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporation</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Conflict with or obstruct implementation of the applicable air quality plan?</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>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 that exceed quantitative thresholds for ozone precursors)?</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>d. Expose sensitive receptors to substantial pollutant concentrations?</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>e. Create objectionable odors affecting a substantial number of people?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Setting**

Nevada County exhibits large variations in terrain and consequently exhibits large variations in climate. The western portions of the county slope gradually, with deep river canyons running from southwest to northeast toward the crest of the Sierra Nevada Range. East of the divide, the slope of the Sierra is steeper, but river canyons are relatively shallow. Elevations range from about 200 feet at the southwest corner of the County to 9,143 feet at Mt. Lola on the crest of the Sierra.

The topography of the county strongly affects temperature and rainfall distributions. The warmest areas are found at the lower elevations along the west side of the county, while the coldest average temperatures are found at the highest elevations. Average annual precipitation generally increases with altitude, ranging from about 30 inches in the western portions of the county to over 60 near the crest of the mountains. East of the crest of the Sierra, annual precipitation drops off rapidly, diminishing to about 30 inches at the eastern end of the county.

The prevailing wind direction over the county is westerly. However, the terrain of the area has a great influence on local winds, so that wide variability in wind direction can be expected. Afternoon winds are generally channeled up-canyon, while nighttime winds generally flow down-canyon. Winds are, in general, stronger in spring and summer and lighter in fall and winter.

Periods of calm winds and clear skies in fall and winter often result in strong, ground-based inversions forming in mountain valleys. These layers of very stable air restrict the dispersal of pollutants, trapping these pollutants near the ground, representing the worst conditions for local air pollution occurring in the county.
The proposed project area lies within the county, which is located within the Mountain Counties Air Basin (MCAB). Air quality is determined primarily by the type and amount of contaminants emitted into the atmosphere, the size and topography of the MCAB and its meteorological conditions. State and federal criteria pollutant emission standards have been established for six pollutants: carbon monoxide (CO), ozone ($O_3$), particulate matter (PM10 [particulate matter 10 microns in diameter or less] and PM2.5 [particulate matter 2.5 microns in diameter or less]), nitrogen dioxide ($NO_2$), sulfur dioxide ($SO_2$), and lead.

The air quality management agencies of direct importance in Nevada County include the U.S. Environmental Protection Agency (EPA), California Air Resources Board (ARB), and the NSAQMD. Within the MCAB, the NSAQMD is responsible for ensuring that state and federal emission standards (Table 2 below) are not violated. The NSAQMD develops and enforces air quality regulations for non-vehicular sources, issues permits, participates in air quality planning, and operates a regional air-quality monitoring network. In addition, the NSAQMD is also responsible for implementing strategies for air quality improvement and recommending mitigation measures for new growth and development.

The ARB has classified Nevada County as a non-attainment area for the ozone and PM10 standards and an unclassified area for the CO and PM2.5 standards. The EPA has designated Nevada County as an unclassified/attainment area for the 1-hour ozone standard. For the 8-hour ozone standard, the EPA has designated the western portion of the county as a Subpart 1 non-attainment area; the eastern portion of the county is designated as an unclassified/attainment area. The EPA has designated the county as being an unclassified/attainment area for the PM10, PM2.5, and CO standards.

The existing air quality conditions in the proposed project area can be characterized by monitoring data collected in the region. The nearest air quality monitoring station is located at the Litton Building monitoring station in Grass Valley, which is located approximately 4 miles from the proposed project area. Table 3 summarizes air quality monitoring data from the Grass Valley monitoring station for the last three years that complete data is available (2003–2005). As indicated in Table 3, the Grass Valley monitoring station has experienced occasional violations of the state and federal 1-hour and federal 8-hour ozone standards during the 3-year monitoring period for which complete data is available.

Sensitive receptors are defined as locations where people reside or where members of the population that are particularly sensitive to the effects of air pollutants (i.e., children, the elderly, hospital patients, and people with illnesses) are located. Sensitive receptors in the vicinity of the proposed project area include scattered single-family residences located throughout the proposed project area and along the project pipeline alignment. In some locations, residences are located within 500 feet of the pipeline alignment.
### Table 2. Ambient Air Quality Standards Applicable in California

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Symbol</th>
<th>Average Time</th>
<th>Standard (parts per million) California</th>
<th>National</th>
<th>Standard (micrograms per cubic meter) California</th>
<th>National</th>
<th>Violation Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone</td>
<td>O₃</td>
<td>1 hour</td>
<td>0.09</td>
<td>NA</td>
<td>180</td>
<td>NA</td>
<td>If exceeded</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8 hours</td>
<td>0.07</td>
<td>0.08</td>
<td>137</td>
<td>157</td>
<td>If exceeded</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NA.</td>
</tr>
<tr>
<td>Carbon monoxide</td>
<td>CO</td>
<td>8 hours</td>
<td>9.0</td>
<td>0.08</td>
<td>10,000</td>
<td>10,000</td>
<td>If exceeded</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 hour</td>
<td>20.0</td>
<td>0.08</td>
<td>23,000</td>
<td>40,000</td>
<td>If exceeded</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>If exceeded</td>
</tr>
<tr>
<td>Nitrogen dioxide</td>
<td>NO₂</td>
<td>8 hours</td>
<td>6</td>
<td>NA</td>
<td>7,000</td>
<td>NA</td>
<td>If equaled or exceeded</td>
</tr>
<tr>
<td>Sulfur dioxide</td>
<td>SO₂</td>
<td>Annual average</td>
<td>NA</td>
<td>0.053</td>
<td>NA</td>
<td>100</td>
<td>If exceeded</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 hour</td>
<td>0.25</td>
<td>NA</td>
<td>470</td>
<td>NA</td>
<td>If exceeded</td>
</tr>
<tr>
<td>Hydrogen sulfide</td>
<td>H₂S</td>
<td>1 hour</td>
<td>0.03</td>
<td>NA</td>
<td>42</td>
<td>NA</td>
<td>If equaled or exceeded</td>
</tr>
<tr>
<td>Vinyl chloride</td>
<td>C₂H₃Cl</td>
<td>24 hours</td>
<td>0.01</td>
<td>NA</td>
<td>26</td>
<td>NA</td>
<td>If equaled or exceeded</td>
</tr>
<tr>
<td>Inhalable particulate matter</td>
<td>PM10</td>
<td>Annual geometric mean</td>
<td>NA</td>
<td>NA</td>
<td>20</td>
<td>NA</td>
<td>If exceeded</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Annual arithmetic mean</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>50</td>
<td>NA.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24 hours</td>
<td>NA</td>
<td>NA</td>
<td>50</td>
<td>150</td>
<td>If exceeded</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>If exceeded</td>
</tr>
<tr>
<td></td>
<td>PM2.5</td>
<td>Annual geometric mean</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>If exceeded</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Annual arithmetic mean</td>
<td>NA</td>
<td>NA</td>
<td>12</td>
<td>15</td>
<td>NA.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24 hours</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>65</td>
<td>NA.</td>
</tr>
<tr>
<td>Sulfate particles</td>
<td>SO₄</td>
<td>24 hours</td>
<td>NA</td>
<td>NA</td>
<td>25</td>
<td>NA</td>
<td>If equaled or exceeded</td>
</tr>
<tr>
<td>Lead particles</td>
<td>Pb</td>
<td>Calendar quarter</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>1.5</td>
<td>NA.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30-day average</td>
<td>NA</td>
<td>NA</td>
<td>1.5</td>
<td>NA</td>
<td>If equaled or exceeded</td>
</tr>
</tbody>
</table>

Notes: All standards are based on measurements at 25°C and 1 atmosphere pressure. National standards shown are the primary (health effects) standards. NA = not applicable.

* The U.S. EPA recently replaced the 1-hour ozone standard with an 8-hour standard of 0.08 part per million. The EPA issued a final rule that revoked the 1-hour standard on June 15, 2005. However, the California 1-hour ozone standard will remain in effect.

Source: California Air Resources Board 2003.
Table 3. Grass Valley Monitoring Station Air Quality Data

<table>
<thead>
<tr>
<th>Pollutant Standards</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum 1-hour concentration (ppm)</td>
<td>0.126</td>
<td>0.128</td>
<td>0.112</td>
</tr>
<tr>
<td>Maximum 8-hour concentration (ppm)</td>
<td>0.111</td>
<td>0.120</td>
<td>0.105</td>
</tr>
<tr>
<td>Number of days standard exceeded&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAAQS 1-hour (&gt;0.12 ppm)</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>CAAQS 1-hour (&gt;0.09 ppm)</td>
<td>11</td>
<td>15</td>
<td>19</td>
</tr>
<tr>
<td>NAAQS 8-hour (&gt;0.08 ppm)</td>
<td>13</td>
<td>20</td>
<td>25</td>
</tr>
<tr>
<td>Particulate Matter (PM10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National&lt;sup&gt;c&lt;/sup&gt; maximum 24-hour concentration (µg/m³)</td>
<td>37.8</td>
<td>32.7</td>
<td>25.1</td>
</tr>
<tr>
<td>National&lt;sup&gt;c&lt;/sup&gt; second-highest 24-hour concentration (µg/m³)</td>
<td>30.8</td>
<td>31.0</td>
<td>24.7</td>
</tr>
<tr>
<td>State&lt;sup&gt;d&lt;/sup&gt; maximum 24-hour concentration (µg/m³)</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>State&lt;sup&gt;d&lt;/sup&gt; second-highest 24-hour concentration (µg/m³)</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>National annual average concentration (µg/m³)</td>
<td>11.8</td>
<td>13.6</td>
<td>13.0</td>
</tr>
<tr>
<td>State annual average concentration (µg/m³)&lt;sup&gt;e&lt;/sup&gt;</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Number of days standard exceeded&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAAQS 24-hour (&gt;150 µg/m³)&lt;sup&gt;f&lt;/sup&gt;</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CAAQS 24-hour (&gt;50 µg/m³)&lt;sup&gt;f&lt;/sup&gt;</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Particulate Matter (PM2.5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National&lt;sup&gt;b&lt;/sup&gt; maximum 24-hour concentration (µg/m³)</td>
<td>17.0</td>
<td>10.0</td>
<td>5.0</td>
</tr>
<tr>
<td>National&lt;sup&gt;b&lt;/sup&gt; second-highest 24-hour concentration (µg/m³)</td>
<td>10.0</td>
<td>9.0</td>
<td>4.0</td>
</tr>
<tr>
<td>State&lt;sup&gt;c&lt;/sup&gt; maximum 24-hour concentration (µg/m³)</td>
<td>17.0</td>
<td>10.0</td>
<td>5.0</td>
</tr>
<tr>
<td>State&lt;sup&gt;c&lt;/sup&gt; second-highest 24-hour concentration (µg/m³)</td>
<td>10.0</td>
<td>9.0</td>
<td>4.0</td>
</tr>
<tr>
<td>National annual average concentration (µg/m³)</td>
<td>4.9</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>State annual average concentration (µg/m³)&lt;sup&gt;d&lt;/sup&gt;</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Number of days standard exceeded&lt;sup&gt;d&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAAQS 24-hour (&gt;65 µg/m³)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Notes:  CAAQS = California ambient air quality standards.
NAAQS = national ambient air quality standards.
NA = insufficient data available to determine the value.

<sup>a</sup> An exceedance is not necessarily a violation.

<sup>b</sup> National statistics are based on standard conditions data. In addition, national statistics are based on samplers using federal reference or equivalent methods.

<sup>c</sup> State statistics are based on local conditions data, except in the South Coast Air Basin, for which statistics are based on standard conditions data. In addition, state statistics are based on California approved samplers.

<sup>d</sup> State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Sources: California Air Resources Board 2006; Northern Sierra Air Quality Management District 2005.

**Discussion of Impacts**

Impacts analyzed in this assessment are limited to construction-related impacts because no emissions are anticipated to result from proposed project operations, as no emission-generating equipment (i.e., pumps and motors) would be used once the pipeline is installed.
a. A project is deemed inconsistent with air quality plans if it would result in population and/or employment growth that exceeds growth estimates included in the applicable air quality plan. Therefore, proposed projects need to be evaluated to determine whether they would generate population and employment growth and, if so, whether that growth would exceed the growth rates included in the relevant air plans.

The proposed project would not induce population or employment growth. The proposed project has been included in the General Plan and has been evaluated in the applicable air quality plan. Consequently, the proposed project would not significantly conflict with or obstruct implementation of the applicable air quality plan, so there is only an incremental contribution by this project to non-attainment of the air quality plan. Therefore, this impact is considered less than significant. No mitigation is required.

b. Construction activities for the proposed project would result in short-term impacts on ambient air quality in the area. Temporary construction emissions would result directly from site clearance, grading, site preparation activities, and indirectly from construction equipment emissions and construction worker commuting patterns. Pollutant emissions would vary daily depending on the level of activity, the specific operations, and the prevailing weather. It is anticipated that construction activities would continue for approximately 9 months, commencing in summer 2007 and ending in spring 2009, with 22 10-hour days of construction per month. Finally, construction activities would normally occur on weekdays, excluding holidays, between 7:00 a.m. and 7:00 p.m. If necessary, work may also take place on Saturdays.

The project proponent has provided a detailed inventory of construction equipment that will be used for the proposed project. This inventory is provided in Table 4. Not all the equipment would necessarily be used or used at a given construction site simultaneously; however, since work will be underway at multiple sites along the canal, multiple machines may be in action at the same time. Material delivery trucks and concrete trucks would be at the site on a transitory basis. Workers are expected to drive to the site each day in light trucks or personal vehicles. The number of trips will depend on the number of workers at any given time at the particular flume site. Although the actual number of trips will vary depending on the length and/or height of each flume, there will be approximately 10 tractor-trailer truck trips at each of the flume sites to deliver materials during the construction period.

To represent a worst-case scenario, this analysis assumes that the excavator, backhoe/loader, crane, drilling rig, welding machine, and air compressor would operate concurrently; five trucks (concrete pumper, concrete delivery truck, pipe and steel trestle delivery truck, water truck, and fuel/oil truck) would operate concurrently; and construction at various flume sites would occur concurrently.
Table 4. Types of Equipment That May Be Used to Construct the Proposed Project

<table>
<thead>
<tr>
<th>Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air compressor</td>
</tr>
<tr>
<td>Auger drill rig</td>
</tr>
<tr>
<td>Concrete delivery truck</td>
</tr>
<tr>
<td>Concrete pump</td>
</tr>
<tr>
<td>Crane, mobile</td>
</tr>
<tr>
<td>Fuel/oil service truck</td>
</tr>
<tr>
<td>Pickup trucks</td>
</tr>
<tr>
<td>Track backhoe/loader</td>
</tr>
<tr>
<td>Track excavator</td>
</tr>
<tr>
<td>Truck and trailer for delivery of pipe and steel trestle</td>
</tr>
<tr>
<td>Water truck</td>
</tr>
<tr>
<td>Welding machine</td>
</tr>
<tr>
<td>Highlead</td>
</tr>
</tbody>
</table>

Construction emissions were analyzed through the URBEMIS2002 model. To estimate construction emissions, URBEMIS2002 analyzes the type of construction equipment used and the duration of the construction period, using average emissions factors over all horsepower classes. Unmitigated project construction emissions are summarized in Table 5, while mitigated project emissions are summarized in Table 6.

Table 5. Emissions from Construction Activities (pounds per day)

<table>
<thead>
<tr>
<th>Project emissions</th>
<th>ROG</th>
<th>NO\textsubscript{X}</th>
<th>CO</th>
<th>PM10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unmitigated</td>
<td>8.8</td>
<td>53.0</td>
<td>64.8</td>
<td>2.1</td>
</tr>
<tr>
<td>Mitigated</td>
<td>8.8</td>
<td>37.3</td>
<td>64.8</td>
<td>0.2</td>
</tr>
<tr>
<td>NSAQMD threshold</td>
<td>137</td>
<td>137</td>
<td>NA</td>
<td>137</td>
</tr>
</tbody>
</table>

Table 5 indicates that the highest emissions associated with construction activities at one flume site would be 53 pounds of NO\textsubscript{X} per day, which is below the NSAQMD’s threshold of 137 pounds per day. Consequently, this impact is considered less than significant. Assuming the same equipment would operate at all flume sites, this would allow construction to occur concurrently at two flume sites. However, implementation of Mitigation Measure AIR-1 would result in daily NO\textsubscript{X} emissions of 37.3 pounds, which would allow construction to occur concurrently at three flume sites.

In addition, the project applicant has committed to incorporating the following BMPs to help minimize air quality impacts during construction activities.
• Construction equipment exhaust emissions shall not exceed NSAQMD Rule 202 Visible Emission limitations. Rule 202 stipulates:
  • A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three (3) minutes in any one (1) hour which is:
    1. As dark or darker in shade as that designated as No. 1 on the Ringlemann Chart, as published by the United States Bureau of Mines, or
    2. Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection (1) of this section.

• Implement the following required NSAQMD control measures to control emissions from construction activities.
  • Alternatives to open burning of vegetative material will be used unless otherwise deemed infeasible by the District. Among suitable alternatives are chipping, mulching, or conversion to biomass fuel.
  • Adequate dust control measures will be implemented in a timely and effective manner during all phases of project development and construction.
  • All material excavated, stockpiled, or graded should be sufficiently watered, treated, or covered to prevent fugitive dust from leaving property boundaries and causing a public nuisance or a violation of an ambient air standard. Watering should occur at least twice daily with complete site coverage, preferably in the mid-morning and after work is completed each day.
  • All areas (including unpaved roads) with vehicle traffic should be watered or have dust palliatives applied, as necessary, for regular stabilization of dust emissions.
  • All onsite vehicles should be limited to a speed of 15 mph on unpaved roads.
  • All land clearing, grading, earth moving or excavation activities on a project will be suspended as necessary when winds are expected to exceed 20 mph.
  • All material transported off site will be either sufficiently watered or securely covered to prevent a public nuisance.
  • Temporary traffic control will be provided during all phases of the construction to improve traffic flow as deemed appropriate by local transportation agencies and/or Caltrans.
  • Construction activities should be scheduled to direct traffic flow to off-peak hours as much as practicable.
  • All inactive portions of the construction site should be covered, seeded, or watered until a suitable cover is established.
  • The District will be responsible for applying County-approved non-toxic soil stabilizers (according to manufacturer's specifications) to all inactive construction areas (previously graded areas which remain inactive for 96 hours) in accordance with the local grading ordinance. Acceptable materials that may be used for chemical stabilization of soils include petroleum resins, asphaltic emulsions, acrylics and adhesives which do not violate Regional Water Quality Control Board (RWQCB) or California Air Resource Board (ARB) standards.
Construction shall comply with the BMPs set out in the NSAQMD’s Rule 226 Dust Control. All grading operations will be suspended if fugitive dust exceeds Rule 226 Dust Control limitations. This consists of “visible dust of such opacity as to obscure an observer’s view to a degree equal to or greater than an opacity of 20%, for a period or periods aggregating more than three (3) minutes in any one (1) hour.”

The BMPs identified above, which the project proponent has committed to follow, would help reduce emissions from construction activities, particularly emissions of fugitive dust. The construction emissions summarized in Table 5 (above) indicate that project emissions would be below the NSAQMD thresholds. Consequently, this impact is considered less than significant.

Mitigation Measure AIR-1 would allow construction activities to occur concurrently at three flume sites, while concurrent construction at two flume sites would be allowed without implementation of Mitigation Measure AIR-1.

**Mitigation Measure AIR-1. Implement Construction Emissions Control Technology.**

The District or their contractor shall provide a plan for approval by NSAQMD, demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, shall achieve a project wide fleet-average 20% NO\textsubscript{X} reduction and 45% particulate reduction compared to the most recent ARB fleet average at time of construction. Control measures available to achieve emissions reductions include, but are not limited to, use of late-model engines, low-emission diesel products, alternative fuels, engine retrofit technology (e.g., diesel particulate matter filters and lean-NO\textsubscript{X} or diesel oxidation catalysts), after-treatment products, and/or other options as they become available.

c. This impact is identified above under discussion “b”. This impact is considered less than significant for concurrent construction at two flume sites. Concurrent construction at three sites would be less than significant with Mitigation Measure AIR-1 implemented.

d. Construction activities would entail the use of diesel equipment that would generate emissions of diesel particulate matter (DPM), which the ARB has categorized as a human carcinogen. The NSAQMD has indicated that they do not have a formal policy regarding health risk associated with exposure to DPM from construction activities (Longmire pers. comm.). However, guidance from the NSAQMD indicates that when construction activities would occur for an extended period of time in close proximity to sensitive receptors, mitigation measures should be implemented to minimize emissions of DPM (Longmire pers. comm.). This impact would be considered potentially significant; however, implementation of Mitigation Measures AIR-1 (above) and AIR-2 would reduce this impact to a less-than-significant level.

**Mitigation Measure AIR-2. Require the Large Diesel-powered Off-road Equipment such as the Excavator, Crane, and Backhoe/Loader to Meet Federal Emissions Standards for Tier 1 or Tier 2.**

The terms of the District contract will provide that the construction contractor shall use off-road equipment that meets federal diesel particulate emissions standards for Tier 1 or Tier 2, or use DPM filters and/or diesel oxidation catalysts to reduce DPM emissions.
Naturally occurring asbestos deposits are located in certain portions of the county, and naturally occurring asbestos may exist in the proposed project area. In order to minimize any potential impacts from the disturbance of naturally occurring asbestos deposits during construction, the project proponent would implement all feasible control measures, as described in Mitigation Measure AIR-3, to reduce asbestos emissions to a less-than-significant level.

**Mitigation Measure AIR-3. Implement ARB Airborne Toxic Control Measures for Naturally Occurring Asbestos.**

The project proponent shall implement all feasible control measures required by the NSAQMD to comply with the requirements listed in the ARB’s Asbestos Airborne Toxic Control Measures for Construction, Grading, Quarrying, and Surface Mining Operations. In order to minimize the impacts to air quality from construction, the District implements BMP’s, as described above in Project Description. Additional specific performance standards would be required by the ARB for their control measures for asbestos. Such measures include, but are not limited to, the following:

13. The NSAQMD is notified in writing at least fourteen (14) days before the beginning of the activity or in accordance with a procedure approved by the District.

14. All the following dust control measures are implemented during any road construction or maintenance activity:

   a. Unpaved areas subject to vehicle traffic must be stabilized by being kept adequately wetted, treated with a chemical dust suppressant, or covered with material that contains less than 0.25 % asbestos;

   b. The speed of any vehicles and equipment traveling across unpaved areas must be no more than 15 mph unless the road surface and surrounding area is sufficiently stabilized to prevent vehicles and equipment traveling more than 15 mph from emitting dust that is visible crossing the project boundaries;

   c. Storage piles and disturbed areas not subject to vehicular traffic must be stabilized by being kept adequately wetted, treated with a chemical dust suppressant, or covered with material that contains less than 0.25% asbestos; and

   d. Activities must be conducted so that no track-out from any road construction project is visible on any paved roadway open to the public.

15. Equipment and operations must not cause the emission of any dust that is visible crossing the project boundaries.

   e. Diesel exhaust from construction activities may generate temporary odors while construction of project improvements is underway. Once construction activities have been completed, these odors would cease. Operation of the proposed project would not generate any odors. There is no impact.
4. BIOLOGICAL RESOURCES. Would the proposed project:

<table>
<thead>
<tr>
<th>Potential Impact</th>
<th>Less Than Significant Impact with Mitigation Incorporation</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Setting

For the purpose of this section, the proposed project area encompasses approximately 1.5 miles of the Nevada Irrigation District DS Canal located approximately 1 mile south of Nevada City (Nevada County) in the northern Sierra Nevada foothill region (Figure 1). The proposed project area is approximately 2,900 feet above mean sea level (amsl) in elevation. The proposed project area includes eight flumes (Flumes 13 through 19 and Flume 23) that span drainages of varying widths as well the berms on either side of the canal (Figure 1).

Methods

Prefield Investigation

To prepare for the field survey, Jones & Stokes biologists reviewed the following existing resource information related to the proposed project to evaluate whether special-status
species or other sensitive biological resources (e.g., wetlands) could occur in the proposed project area:

- California Natural Diversity Database (CNDDB) records search of the French Corral, Nevada City, North Bloomfield, Rough & Ready, Grass Valley, and Chicago Park U.S. Geological Survey (USGS) 7.5-minute quadrangles (California Natural Diversity Database 2006a);
- the California Native Plant Society’s (CNPS’s) 2007 online *Inventory of Rare and Endangered Plants of California*;
- U.S. Fish and Wildlife Service (USFWS) list of endangered, threatened, and proposed species for the French Corral, Nevada City, North Bloomfield, Rough & Ready, Grass Valley, and Chicago Park U.S. Geological Survey (USGS) quadrangles. This list was obtained from the USFWS website (U.S. Fish and Wildlife Service 2007);
- the Nevada County General Plan (adopted 1996); and
- Jones & Stokes file information.

This information was used to develop lists of special-status species and other sensitive biological resources that could be present in the proposed project area (Table 6 below).

**Field Survey**

Following this resource review, Jones & Stokes biologists Joy Nishida and Will Kohn conducted a reconnaissance-level field survey on January 26, 2007. The biologists walked throughout the proposed project area, including the flume replacement areas and along the canal berms. The purpose of the biological field survey was to:

- characterize biological communities and their associated wildlife habitat uses;
- determine if special-status species have the potential to occur in the proposed project area and determine if additional surveys would be required during the appropriate season;
- determine if any potential wetlands or other water features that would qualify as waters of the United States occur in the proposed project area; and
- provide biological resource information to the District and design engineers for their consideration in project design.

**Existing Conditions**

Flumes 13 through 19 are located in the lower montane coniferous forest (mixed conifer series, Sawyer and Keeler-Wolf 1995) biological community. The mixed coniferous forest is dominated by ponderosa pine (*Pinus ponderosa*), incense cedar (*Calocedrus decurrens*), white fir (*Abies concolor*), and Douglas fir (*Pseudotsuga menziesii*). Other tree species common in the proposed project area are California black oak (*Quercus kelloggii*) and madrone (*Arbutus menziesii*). Other common species found in the understory are whiteleaf manzanita (*Arctostaphylos viscida*) and creeping snowberry (*Symphoricarpos mollis*). In disturbed areas, Scotch broom (*Cytisus scoparius*) and hedgehog dogtail (*Cynosurus cristatus*) are present in the open upland areas, such as the berms of the DS Canal, whereas Himalayan blackberry (*Rubus discolor*) is found in more mesic areas in the drainages. Flume 23 is located in the lower montane coniferous forest (black oak series,
Sawyer and Keeler-Wolf 1995) biological community. This habitat at flume 23 is similar to lower coniferous forest habitat identified for flumes 13 through 19, except that black oak is the dominant tree species.

Common wildlife species that occur in these biological communities are western fence lizard (Sceloporus occidentalis), dark eyed junco (Junco hyemalis), mountain chickadee (Parus gambeli), Steller’s jay (Cyanocitta stelleri), northern flicker (Colaptes auratus), olive-sided flycatcher (Contopus borealis), western wood pewee (Contopus sordidulus), hermit thrush (Catharus guttatus), western gray squirrel (Sciurus griseus), and black-tailed deer (Odocoileus hemionus). Mixed coniferous forests provide nesting sites for raptors such as red-tailed hawk (Buteo jamaicensis) and great horned owl (Bubo virginianus). Most of the proposed project area is disturbed from residential development and the District’s maintenance of the canal and berms, which lessen the habitat value. Domestic pets, such as cats and dogs, as well as automobile and pedestrian traffic may reduce wildlife use in the proposed project area.

Most of the drainages below the flumes are v-shaped and consist of a narrow channel with a bed and bank that has intermittent water flow. At the time of the field visit, running water was evident only in the drainages spanned by flumes 15, 16, and 18. It is expected that all the drainages would have intermittent running water during normal rain years. The drainage spanned by flume 16 was the only drainage with a floodplain with riparian vegetation. White alder (Alnus rhombifolia) dominated the canopy with curly dock (Rumex crispus) in the herbaceous layer. Water from a leak from flume 23 flows to a pond with an emergent marsh dominated by cattails (Typha latifolia). This emergent marsh is at the mouth of a pond located below the flume.

**Special-Status Species**

For the purpose of this IS/MND, *special-status species* are defined as the following:

- species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (ESA) (Title 50, Code of Federal Regulations [CFR], Section 17.12 for listed plants, 50 CFR 17.11 for listed animals, and various notices in the Federal Register for proposed species);
- species that are candidates for possible future listing as threatened or endangered under ESA;
- species that are listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (Title 14, California Code of Regulations [CCR], Section 670.5);
- plants listed as rare under the California Native Plant Protection Act of 1977 (California Fish and Game Code, Section 1900 et seq.);
- plants considered by CNPS to be “rare, threatened, or endangered in California”;
- species that meet the definitions of rare or endangered under the State CEQA Guidelines, Section 15380;
- animal species of special-concern to the DFG (California Department of Fish and Game 2006).
Table 6 identifies the special-status plant and wildlife species that could occur in the project region. Based on a review of the CNDDB (2007), none of these species have been previously reported on or within 1 mile of the proposed project area. However, the lack of recorded sightings does not negate the potential for special-status species to occur within the proposed project area if suitable habitat conditions are present. The results for special-status plants and wildlife species are described below.
Table 6. Special-Status Species Identified as Having the Potential to Occur in the Proposed Project Area

<table>
<thead>
<tr>
<th>Common and Scientific Name</th>
<th>Statusa Fed/State/Other</th>
<th>Distribution</th>
<th>Preferred Habitats</th>
<th>Known and Potential Occurrence in the Proposed Project Area</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Invertebrates</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valley elderberry</td>
<td>T/–</td>
<td>Riparian and oak woodland habitats below 3,000 feet throughout the Central Valley and surrounding foothills</td>
<td>Riparian and oak savanna habitats with elderberry shrubs, which are the host plant</td>
<td>None—no known occurrences within 5 miles of proposed project area (CNDDB, 2006b). Elderberry shrubs not present within proposed project area.</td>
</tr>
<tr>
<td>longhorn beetle <em>Desmocerus californicus dimorphus</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Amphibians</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>California red-legged frog <em>Rana aurora draytonii</em></td>
<td>T/SSC</td>
<td>Found along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehama County to Fresno County</td>
<td>Permanent and semipermanent aquatic habitats, such as creeks and coldwater ponds, with emergent and submergent vegetation and riparian species along the edges; may estivate in rodent burrows or cracks during dry periods</td>
<td>Moderate—closest occurrences 4 miles northeast of the proposed project area (CNDDB 2006b). Suitable habitat is present within the proposed project area.</td>
</tr>
<tr>
<td>Foothill yellow-legged frog <em>Rana boylii</em></td>
<td>–/SSC</td>
<td>Klamath, Cascade, North Coast, South Coast, and Transverse Ranges; through the Sierra Nevada foothills to Kern County</td>
<td>Creeks or rivers in woodlands or forests with rock and gravel substrate and low overhanging vegetation along the edge; usually found near riffles with rocks and sunny banks nearby</td>
<td>None—closest occurrence 4 miles southeast of proposed project area (CNDDB 2006b). No suitable habitat within the proposed project area.</td>
</tr>
<tr>
<td><strong>Reptiles</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>California horned lizard <em>Phrynosoma coronatum frontale</em></td>
<td>–/SSC</td>
<td>Sacramento Valley, including foothills, south to southern California; Coast Ranges south of Sonoma County; below 4,000 feet in northern California</td>
<td>Grasslands, brushlands, woodlands, and open coniferous forest with sandy or loose soil; requires abundant ant colonies for foraging</td>
<td>Moderate—several occurrences within 5 miles of proposed project area. Closest occurrences 2 miles west of the project area (CNDDB 2006b). Suitable habitat is present within the project area along canal levees.</td>
</tr>
<tr>
<td>Northwestern pond turtle <em>Clemmys marmorata marmorata</em></td>
<td>–/SSC</td>
<td>Occurs from the Oregon border of Del Norte and Siskiyou Counties south along the coast to San Francisco Bay, inland through the Sacramento Valley, and on the western slope of Sierra Nevada</td>
<td>Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests</td>
<td>Moderate—no known occurrences within 5 miles of proposed project area (CNDDB 2006b). Suitable habitat occurs in pond adjacent to Flume 23.</td>
</tr>
<tr>
<td>Common and Scientific Name</td>
<td>Status* Fed/State/Other</td>
<td>Distribution</td>
<td>Preferred Habitats</td>
<td>Known and Potential Occurrence in the Proposed Project Area</td>
</tr>
<tr>
<td>--------------------------------</td>
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<td>------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Bald eagle</strong> <em>Haliaeetus leucocephalus</em></td>
<td>T/E</td>
<td>Nests in Siskiyou, Modoc, Trinity, Shasta, Lassen, Plumas, Butte, Tehama, Lake, and Mendocino Counties and in the Lake Tahoe Basin; reintroduced into central coast; winter range includes the rest of California, except the southeastern deserts, very high altitudes in the Sierra Nevada, and east of the Sierra Nevada south of Mono County</td>
<td>In western North America, nests and roosts in coniferous forests within 1 mile of lakes, reservoirs, streams, or the ocean</td>
<td>None—potential winter visitor; no recorded occurrences within 5 miles of the proposed project area (CNDDB 2006b). No suitable nesting or foraging habitat is present in the project area.</td>
</tr>
<tr>
<td><strong>Cooper’s hawk</strong> <em>Accipiter cooperii</em></td>
<td>~/SSC</td>
<td>Throughout California except high altitudes in the Sierra Nevada. Winters in the Central Valley, southeastern desert regions, and plains east of the Cascade Range</td>
<td>Nests in a wide variety of habitat types, from riparian woodlands and digger pine-oak woodlands through mixed conifer forests</td>
<td>Moderate—no recorded occurrences within 5 miles of the proposed project area (CNDDB 2006b); however, suitable nesting and foraging habitat occurs in mixed conifer forest in the proposed project area.</td>
</tr>
<tr>
<td><strong>Northern goshawk</strong> <em>Accipiter gentilis</em></td>
<td>~/SSC</td>
<td>Permanent resident in the Klamath and Cascade Ranges, in the north Coast Ranges from Del Norte County to Mendocino County, and in the Sierra Nevada south to Kern County. Winters in Modoc, Lassen, Mono and northern Inyo Counties</td>
<td>Nests and roosts in the older stands of red fir, Jeffrey pine, ponderosa pine, lodgepole pine, Douglas fir, and mixed coniferous forests.</td>
<td>None—no occurrences within 5 miles of the proposed project area (CNDDB 2006b). No suitable nesting habitat in proposed project area.</td>
</tr>
<tr>
<td><strong>Sharp-shinned hawk</strong> <em>Accipiter striatus</em></td>
<td>~/SSC</td>
<td>Permanent resident in the Sierra Nevada, Cascade, Klamath, and north Coast Ranges at mid elevations and along the coast in Marin, San Francisco, San Mateo, Santa Cruz, and Monterey Counties. Winters over the rest of the state except at very high elevations</td>
<td>Dense canopy ponderosa pine or mixed-conifer forest and riparian habitats</td>
<td>Moderate—no recorded occurrences within 5 miles of the proposed project area (CNDDB 2006b); however, suitable nesting and foraging habitat occurs in mixed conifer forest in the proposed project area.</td>
</tr>
<tr>
<td>Common and Scientific Name</td>
<td>Status*</td>
<td>Distribution</td>
<td>Preferred Habitats</td>
<td>Known and Potential Occurrence in the Proposed Project Area</td>
</tr>
<tr>
<td>---------------------------</td>
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<td>--------------</td>
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<td>----------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Mammals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pacific fisher <em>Martes pennanti pacifica</em></td>
<td>C/SSC</td>
<td>Coastal mountains from Del Norte County to Sonoma Counties, east through the Cascades to Lassen County, and the Sierra Nevada south to Kern County</td>
<td>Late successional coniferous forests and montane riparian habitats</td>
<td>None—no known occurrences within 5 miles of proposed project area (CNDDB 2006b). Suitable habitat is not present within proposed project area.</td>
</tr>
<tr>
<td><strong>Plants</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stebbin’s morning-glory <em>Calystegia stebbinsii</em></td>
<td>E/E/1B.1</td>
<td>Northern Sierra Nevada foothills with reported occurrences in El Dorado and Nevada Counties</td>
<td>Gabbro or serpentinite soils in chaparral openings, cismontane woodland between 185 and 730 meters (605 to 2,400 feet) elevation. Blooming period is April–July</td>
<td>None—closest occurrence approximately 5 miles southwest of the proposed project area. Suitable habitat and elevations are not present in the proposed project area.</td>
</tr>
<tr>
<td>Brandgee’s clarkia <em>Clarkia biloba ssp. brandegeae</em></td>
<td>–/-1B.2</td>
<td>Butte, El Dorado, Nevada, Placer, and Yuba Counties.</td>
<td>Chaparral, cismontane woodland, often on roadcuts between 225 and 915 meters (970 to 2,910 feet) elevation. Blooming period is May–July</td>
<td>Low—closest occurrence approximately 2 miles northwest of the proposed project area. Marginal habitat is present in the proposed project area.</td>
</tr>
<tr>
<td>Norris’ beard-moss <em>Didymodon norrisii</em></td>
<td>–/-2.2</td>
<td>Scattered occurrences in Contra Costa, Colusa, Humboldt, Lake, Madera, Monterey, Nevada, San Benito, Santa Cruz, Tehama, Tulare, and Tuolumne Counties; Oregon</td>
<td>Intermittently wet areas in rock outcrops in cismontane woodland, lower montane coniferous forest between 600 and 1,700 meters (1,970 to 5,580 feet) elevation</td>
<td>None—closest occurrence approximately 2 miles northwest of the proposed project area. Suitable habitat is not present in the proposed project area.</td>
</tr>
<tr>
<td>Pine Hill flannelbush <em>Fremontodendron decumbens</em></td>
<td>E/R/1B.2</td>
<td>Pine Hill area in El Dorado County, Grass Valley vicinity in Nevada County, Yuba County</td>
<td>Rocky gabbro or serpentinite soils in chaparral, cismontane woodland between 425 and 760 meters (1,395 to 2,500 feet) elevation. Blooming period is April–July</td>
<td>None—closest occurrence approximately 2 miles southwest of the proposed project area. Suitable habitat is not present in the proposed project area, which is out of elevational range for the species.</td>
</tr>
<tr>
<td>Butte County fritillary <em>Fritillaria eastwoodiae</em></td>
<td>–/-3.2</td>
<td>Sierra Nevada foothills from Shasta to El Dorado Counties</td>
<td>Chaparral, cismontane woodland, and openings in lower montane coniferous forest. Sometimes grows on serpentine between 50 and 1,500 meters (165 to 4,935 feet) elevation. Blooming period is March–May</td>
<td>Moderate—closest occurrence approximately 5 miles northwest of proposed project area. Suitable habitat is present in the proposed project area.</td>
</tr>
<tr>
<td>Common and Scientific Name</td>
<td>Status Fed/State/Other</td>
<td>Distribution</td>
<td>Preferred Habitats</td>
<td>Known and Potential Occurrence in the Proposed Project Area</td>
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</tbody>
</table>
| **Red-anthered rush**  
*Juncus marginatus*  
var. *marginatus* | –/-/2.2 | Northern Sierra Nevada foothills in Nevada County; Arizona and elsewhere | Marshes and swamps between 820 and 1,000 meters (2700 to 3,280 feet) elevation. Blooming period: July | Moderate—closest occurrence approximately 5 miles east of the proposed project area. Suitable habitat is present in the project area. |
| **Dubious pea**  
*Lathyrus sulphureus*  
var. *argillaceus* | –/-/3 | Klamath Ranges, North Coast Ranges, Sierra Nevada in Nevada County; Placer, Shasta, and Tehama Counties | Cismontane woodland, lower and upper montane coniferous forest between 150 and 305 meters (490 to 1,000 feet) elevation. Blooming period: April | None—possibly occurs in Nevada County. Suitable habitat is present in proposed project area but project area is outside the known elevation range for the species. |
| **Cantelow’s lewisia**  
*Lewisia cantelovii* | –/-/1B.2 | Canyons of the Sacramento River, North and Middle Forks of the Feather River, and Yuba River | Mesic, granitic, sometimes serpentine seeps in broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest between 385 and 1,370 meters (1,260 to 4,300 feet) elevation. Blooming period is May–October | Moderate—closest occurrence approximately 5 miles northwest of the proposed project area. Suitable habitat is present in the proposed project area. |
| **Bog club-moss**  
*Lycopodiella inundata* | –/-/2.2 | Humboldt and Nevada Counties; Nevada, Idaho, Oregon, Washington | Coastal bogs and fens, mesic areas in lower montane coniferous forest, lake margins between 5 and 1,000 meters (15 to 1,640 feet) elevation. Fertile period: September | Low—closest occurrence over 5 miles northwest of proposed project area. Marginal habitat is present in the proposed project area. |
| **Elongate copper-moss**  
*Mielichhoferia elongata* | –/-/2.2 | Sierra Nevada from Nevada to Fresno Counties; Coast Ranges from Humboldt to Santa Cruz Counties | Cismontane woodland in vernally moist areas, metamorphic rock between 500 and 1,300 meters (1,640 to 4,265 feet) elevation | None—closest occurrence possibly within 5 miles of proposed project area. Suitable habitat is not present in the proposed project area. |
| **Follett’s monardella**  
*Monardella follettii* | –/-/1B.2 | Nevada and Plumas Counties | Lower montane coniferous forest on rocky, serpentine soil between 600 and 2,000 meters (1,970 to 6,560 feet) elevation. Blooming period is June–September | None—closest occurrence approximately 3 miles southwest of the proposed project area. Suitable habitat is not present in the proposed project area. |
<table>
<thead>
<tr>
<th>Common and Scientific Name</th>
<th>Status&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Distribution</th>
<th>Preferred Habitats</th>
<th>Known and Potential Occurrence in the Proposed Project Area</th>
</tr>
</thead>
</table>
| Cedar Crest popcorn-flower  
*Plagiobothrys glyptocarpus var. modestus* | –/–/3 | Nevada County near Grass Valley | Cismontane woodland, moist grassland between 90 and 1,000 meters (295 to 3,280 feet) elevation. Blooming period is April–June | None—closest historic occurrence possibly within 3 miles south of the proposed project area. Suitable habitat is not present in the proposed project area. |
| Brownish-beaked rush  
*Rhynchospora capitellata* | –/–/2.2 | Scattered occurrences in northwestern California and northern Sierra Nevada foothills | Mesic areas in lower and upper montane coniferous forest, meadows and seeps, freshwater marshes and swamps between 455 and 2,000 meters (1,490 to 6,560 feet) elevation. Blooming period is July–August | Moderate—closest occurrence approximately 4 miles southwest of the proposed project area. Suitable habitat is present in the proposed project area. |
| Scadden Flat checkerbloom  
*Sidalcea stipularis* | –/E/1B.1 | Two occurrences near Scadden Flat, Nevada County | Freshwater seep, wet meadow, montane freshwater marshes and swamps between 700 and 730 meters (2,300 to 2,400 feet) elevation. Blooming period is July–August | None—closest occurrence approximately 4 miles southwest of proposed project area. Suitable habitat and elevations are not present in the proposed project area. |

<sup>a</sup> Status definitions:

**Federal**

- **E** = listed as endangered under the federal Endangered Species Act.
- **T** = listed as threatened under the federal Endangered Species Act.
- **C** = species for which USFWS has sufficient information on biological vulnerability and threat(s) to support issuance of a proposed rule to list, but issuance of the proposed rule is precluded.
- **−** = no listing.

**State**

- **E** = listed as endangered under the California Endangered Species Act.
- **SSC** = species of special concern in California.
- **FP** = fully protected under the California Fish and Game Code.
- **−** = no listing.

**California Native Plant Society (CNPS)**

- **1B** = List 1B species: rare, threatened, or endangered in California and elsewhere.
- **2** = List 2 species: rare, threatened, or endangered in California, but more common elsewhere.
- **3** = List 3 species: plants about which more information is needed to determine their status.
Table 6. Continued

Threat Code Extensions

1 = seriously endangered in California (over 80% of occurrences threatened-high degree and immediacy of threat).
2 = fairly endangered in California (20-80% occurrences threatened).

b Under petition for federal listing under the ESA. Species under petition are required to be actively considered by USFWS for elevation to proposed endangered or threatened status.

The determinations of the potential for each species to occur are generally based on the following criteria:

Low: The project area is within the species range and suitable habitat for the species occurs in the project vicinity but was not identified in the project area.

Moderate: The project area is within the species range and suitable habitat for the species is present in the project area, but there are no records for the species in the project vicinity.

High: The project area is within the species range and suitable habitat for the species is present in the project area, and there are one or more records of the species in the project vicinity or the species was observed in the project area or in the project vicinity.
Special-Status Plants. A review of existing information and CNDDB records from a 5-mile radius around the proposed project area resulted in the identification of six special-status species that have the potential to occur in the proposed project area (Table 6):

- Brandegee’s clarkia (*Clarkia biloba* ssp. *brandegeae*),
- Butte County fritillary (*Fritillaria eastwoodiae*),
- red-anthered rush (*Juncus marginatus* var. *marginatus*),
- Cantelow’s lewisia (*Lewisia cantelowii*),
- bog club-moss (*Lycopodiella inundata*), and
- brownish-beaked rush (*Rhynchospora capitellata*).

Other special-status plant species that have been identified to be within 5 miles of the proposed project area are either out of elevational range or have specific microhabitat requirements that are not present in the project area (e.g., rock outcrops).

Two special-status plant species, Brandegee’s clarkia and bog club-moss, were identified as having a low potential to occur. As discussed below, the proposed project area is within the species’ ranges and marginally suitable habitat conditions are present.

- Brandegee’s clarkia typically grows in chaparral and cismontane woodland habitats, often in roadcuts at elevations between 225 meters (740 feet) and 915 meters (3,000 feet) amsl. The steep slopes devoid of vegetation in the drainages would provide marginally suitable habitat for Brandegee’s clarkia.
- Bog club-moss occurs in mesic areas in lower montane coniferous forest, lake margins, and coastal bogs and fens between 5 meters (15 feet) and 1,000 meters (3,280 feet) amsl. The closest occurrence for bog club-moss is over 5 miles from the proposed project area but marginally suitable habitat is present within the drainages.

Four special-status plant species—Butte County fritillary, red-anthered rush, Cantelow’s lewisia, and brownish-beaked rush—were identified as having a moderate potential to occur in the proposed project area because the project area is within the species’ range, records of occurrences are within 5 miles of the project area, and suitable habitats for the species are present.

- Butte County fritillary occurs in openings in lower montane coniferous forest, chaparral, and cismontane woodland, sometimes on serpentine, between the elevations of 50 meters (165 feet) and 1,500 meters (4,935 feet) amsl. Openings throughout the proposed project area are potential habitat for Butte County fritillary.
- Red-anthered rush typically occurs in marshes and swamps between 820 meters (2,700 feet) and 1,000 meters (3,280 feet) amsl. The marsh near flume 23 is potential habitat for red-anthered rush.
- Cantelow’s lewisia occurs in mesic areas in lower montane coniferous forest, coastal bogs, and fens and lake margins between the elevations of 5 meters (15 feet) and 1,000 meters (3,280 feet) amsl. Potential habitat for Cantelow’s lewisia occurs in the drainages and the pond margin near flume 23.
Brownish-beaked rush occurs in lower and upper montane coniferous forest, meadows and seeps, freshwater marshes, and swamps between the elevations of 455 meters (1,500 feet) and 2,000 meters (6,560 feet) amsl. The drainages and marsh near flume 23 are potential habitat for brownish-beaked rush.

**Riparian Habitat.** Only one drainage in the proposed project area supported riparian habitat. The drainage at flume 16 has a narrow channel with a floodplain that extends to the toe of the slope on each side of the drainage. White alder is the dominant tree species in the floodplain. Sparse patches of Himalayan blackberry also occur in the floodplain and along the slopes of the drainage. Riparian woodland is considered by DFG to be a sensitive habitat.

**Waters of the United States.** Potential jurisdictional wetlands were identified at flume site 16 and the emergent marsh at flume site 23 during the Jones & Stokes field visit. Other potential waters of the United States that occur in the proposed project area are the ponds near flume site 23. Although the ponds are artificial features that have been constructed in an upland, they could be considered “waters of the United States” by the USACE. It is possible that these features intercept a natural drainage and convey water to another water of the United States. If these features intercept and connect to waters of the United States (including wetlands), they would likely be considered waters of the United States by the USACE. The connection would be evaluated as part of a wetland delineation that will be conducted and submitted to the USACE to determine the jurisdictional status.

**Special-Status Wildlife.** Based on a review of the existing information; including CNDDB records, USFWS special-status species list, and knowledge of the proposed project area, biologists identified ten special-status wildlife species as having potential to occur in the region (Table 6). Following the field survey and based on existing habitat conditions, the following five species were considered to have moderate potential to occur in the proposed project area:

- California red-legged frog (CRLF) (*Rana aurora draytonii*),
- California horned lizard (*Phrynosoma coronatum frontale*),
- Northwestern pond turtle (*Clemmys marmorata marmorata*),
- Cooper’s hawk (*Accipiter cooperii*), and
- Sharp-shinned hawk (*Accipiter striatus*).

**Other Protected Species.** Non-special-status migratory birds and raptors have the potential to nest in trees and shrubs throughout and adjacent to the proposed project area. Although these species are not considered special-status wildlife species, their occupied nests and eggs are protected by California Fish and Game Code Sections 3503 and 3503.5 and the Migratory Bird Treaty Act (MBTA) (50 CFR 10 and 21).

**Regulatory Setting**

This section summarizes the federal, state, and local plans, policies, and laws relevant to biological resources in the project region.
Federal

Endangered Species Act
The federal Endangered Species Act (ESA) protects fish and wildlife species and their habitats that have been identified by the USFWS as threatened or endangered. *Endangered* refers to species, subspecies, or distinct population segments that are in danger of extinction through all or a significant portion of their range. *Threatened* refers to those likely to become endangered in the near future.

Section 7: Endangered Species Act Authorization Process for Federal Actions
Section 7 provides a means for authorizing take of threatened and endangered species by federal agencies. It applies to actions that are conducted, permitted, or funded by a federal agency. Under Section 7, the federal agency conducting, funding, or permitting an action (the federal lead agency) must consult with USFWS, as appropriate, to ensure that the proposed action will not jeopardize endangered or threatened species or destroy or adversely modify designated critical habitat. If a proposed action “may affect” a listed species or designated critical habitat, the lead agency is required to prepare a biological assessment evaluating the nature and severity of the expected effect. In response, USFWS issues a biological opinion, with a determination that the proposed action either:

- may jeopardize the continued existence of one or more listed species (jeopardy finding) or result in the destruction or adverse modification of critical habitat (adverse modification finding), or
- will not jeopardize the continued existence of any listed species (no jeopardy finding) or result in adverse modification of critical habitat (no adverse modification finding).

The biological opinion may stipulate discretionary “reasonable and prudent” alternatives. If the proposed action would not jeopardize a listed species, USFWS issues an incidental take statement to authorize the proposed project.

If the proposed project would result in potential significant impacts on CRLFs, USACE, as the federal lead agency, would be required to submit a biological assessment for USFWS review, in compliance with Section 7, as described above.

Section 9: Endangered Species Act Prohibitions
Section 9 prohibits the take of any wildlife species federally listed as endangered. Take of threatened species also is prohibited under Section 9, unless otherwise authorized by federal regulations.¹ *Take*, as defined by ESA, means “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” *Harm* is defined as “any act that kills or injures the species, including significant habitat modification.” In addition, Section 9 prohibits removing, digging up, cutting, and maliciously damaging or destroying federally listed plants on sites under federal jurisdiction.

Migratory Bird Treaty Act
The MBTA (16 USC 703) enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the Soviet Union and authorizes the U.S. Secretary of the

¹In some cases, exceptions may be made for threatened species under Section 4[d]. In such cases, USFWS or the National Marine Fisheries Service issues a “4[d] rule” describing protections for the threatened species and specifying the circumstances under which take is allowed.
Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC 703; 50 CFR 21; 50 CFR 10). Most actions that result in taking or in permanent or temporary possession of a protected species constitute violations of MBTA. USFWS is responsible for overseeing compliance with MBTA.

**Clean Water Act**

**Section 404: Permits for Fill Placement in Waters and Wetlands.**

Section 404 regulates the discharge of dredged and fill materials into waters of the United States. *Waters of the United States* refers to oceans, bays, rivers, streams, lakes, ponds, and wetlands, including:

- areas within the ordinary high water mark (OHWM) of a stream, including nonperennial streams with a defined bed and bank and any stream channel that conveys natural runoff, even if it has been realigned, and
- seasonal and perennial wetlands.

Waters of the United States are subject to Section 404 of the Clean Water Act and are regulated by the USACE. 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.

**Section 401: Water Quality Certification.**

Under Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate, or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with Section 401.

**Fish and Wildlife Coordination Act**

The Fish and Wildlife Coordination Act requires consultation with USFWS when the waters of any stream or other body of water are proposed, authorized, permitted, or licensed to be impounded, diverted, or otherwise controlled or modified under a federal permit or license.

**State**

**Section 1600: Streambed Alteration Agreements**

DFG has jurisdictional authority over wetland resources associated with rivers, streams, and lakes under Sections 1600–1607. DFG has the authority to regulate all work under the jurisdiction of the State of California that would substantially divert, obstruct, or change the natural flow of a river, stream, or lake; substantially change the bed, channel, or bank of a river, stream, or lake; or use material from a streambed.

In practice, DFG marks its jurisdictional limit at the top of the stream or lake bank or the outer edge of the riparian vegetation, where present, and sometimes extends its jurisdiction to the edge of the 100-year floodplain. Because riparian habitats do not always support
wetland hydrology or hydric soils, wetland boundaries, as defined by CWA Section 404, sometimes include only portions of the riparian habitat adjacent to a river, stream, or lake. Therefore, jurisdictional boundaries under Section 1600 may encompass a greater area than those regulated under CWA Section 404.

DFG enters into a streambed alteration agreement with an applicant and can impose conditions on the agreement to ensure that no net loss of wetland values or acreage will be incurred. The streambed or lakebed alteration agreement is not a permit, but a mutual agreement between DFG and the applicant.

**California Department of Fish and Game Code**
CFG 3503 prohibits the killing of birds or the destruction of bird nests. CFG 3503.5 prohibits the killing of raptor species and destruction of raptor nests. Many bird species could potentially nest in the proposed project area or vicinity and their nests would be protected under these sections of the CFGC.

**Discussion of Impacts**

**Impact Mechanisms**
Biological resources could be directly or indirectly impacted during construction activities associated with the proposed project.

- Direct impacts refer to impacts that could cause harm or death to individuals or the removal of important habitat during construction.
- Indirect impacts refer to impacts that could reduce survival or reproduction of individuals after construction ceases.

Impacts on biological resources fall into three categories: temporary, short-term, and long-term.

- A temporary impact would occur only during construction or subsequent restoration.
- A short-term impact would last from the time of construction ceases to 3 years after construction or subsequent restoration.
- A long-term impact would last longer than 3 years after construction or subsequent restoration. In some cases, a long-term impact could be considered a permanent impact.

The following types of activities could result in impacts to biological resources.

- Trimming and removal of trees.
- Excavation activities during removal of existing flumes and installation of new flumes.
- Temporary stockpiling and sidecasting of soil, construction materials, or other construction waste.
- Soil compaction, dust, and water runoff from construction sites.
- Degradation of water quality in adjacent wetlands resulting from construction runoff containing petroleum products.
Increased short-term construction-related noise and road mortality from equipment traveling on canal levees.

Repairing the leak at Flume 23, which flows through emergent marsh and ponds adjacent to flume.

Ground disturbance and vegetation removal during construction-related activities such as grading, clearing, placing of fill material, movement of construction vehicles, the creation of temporary construction staging areas, temporary access roads, and construction of support structures, bents, and concrete footings for the flumes.

These impact mechanisms were used to assess project-related impacts on biological resources in the proposed project area. Construction activities associated with the proposed project and described above could result in temporary or permanent impacts on biological resources in the proposed project area. All potential impacts would be either less than significant or reduced to less than significant by the implementation of mitigation measures.

**Biological Resources Checklist**

a. The proposed project could have potentially significant impacts on special-status plant and wildlife species either directly or through habitat modifications; however, implementation of the mitigation measures described below would reduce impacts to less-than-significant levels. The six special-status plant species are Brandegee’s clarkia, Butte County fritillary, red-anthered rush, Cantelow’s lewisia, bog club-moss, and brownish-beaked rush; and the five special-status wildlife species are CRLF, California horned lizard, northwestern pond turtle, Cooper’s hawk, and sharp-shinned hawk.

Although no special-status plant species were observed in the proposed project area during the January 25, 2007, field visit; this visit was conducted when these species would not necessarily be evident and identifiable. Similarly, no special-status wildlife species have been documented in the proposed project area, but suitable habitat occurs in the project area. The canal berms provide suitable habitat for California horned lizards; openings in the coniferous forests provide habitat for Butte County fritillary; large trees throughout the proposed project area provide suitable nesting habitat for Cooper’s hawks and sharp-shinned hawks; drainages provide suitable habitat for Brandegee’s clarkia, bog club-moss, Cantelow’s lewisia, brownish-beaked rush; the emergent marsh and pond adjacent to flume 23 provide suitable habitat for red-anthered rush, Cantelow’s lewisia, brownish-beaked rush, and northwestern pond turtles; and drainages, marsh, and pond adjacent to flume 23 provide potential habitat for CRLF.

**Impact a-1: Potential Impacts to Special-Status Plants.**

The proposed project, specifically the replacement of the proposed flumes, could potentially affect, either directly or indirectly through habitat modifications, special-status plant species. Impacts would include the disturbance or the direct removal of the plants during excavation activities, during the removal of existing flumes, and during construction-related activities such as grading; clearing; placing of fill material; movement of construction vehicles; the creation of temporary construction staging areas and temporary access roads; and the construction of support structures, bents, and concrete footings for the flumes. Repairing the leak at flume 23 could cut off the water supply to the adjacent emergent marsh and pond, affecting habitat for special-status plant species. Because these plants are
considered special-status species, this impact could be considered a significant impact; however, implementation of Mitigation Measures BIO-1 and BIO-2 would reduce this impact to less-than-significant level.

Mitigation Measure BIO-1: Conduct Focused Surveys for Special-Status Plant Species.
A qualified biologist shall conduct a focused survey for the following potentially occurring special-status plant species during the appropriate blooming season prior to initial ground disturbance to determine presence or absence of these species in the proposed project area:

- Butte County fritillary—March through May
- Brandegee’s clarkia and Cantelow’s lewisia—May through July
- Red-anthered rush, brownish-beaked rush, and bog club-moss—July

Mitigation Measure BIO-2: Avoid and Minimize Impacts on Special-Status Plant Species.
If the special status-status plant species are present in the proposed project area, the project proponent shall implement the following measures to avoid or minimize impacts on special-status plant species.

- Redesign or modify the project to avoid direct and indirect impacts on special-status plant species, if feasible.
- Protect special-status plant species in and near the proposed project area by installing environmentally sensitive area (ESA) fencing (orange construction barrier fencing) around special-status plant populations. The ESA fencing shall be installed at least 20 feet from the edge of the population where feasible. Where special-status plant populations are located in wetlands, silt fencing shall also be installed. The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced ESA.

Impact a-2: Potential Loss or Disturbance of Aquatic and Upland Habitat for California Red-Legged Frog during Construction.

Construction activities in drainages could potentially result in the temporary disturbance of upland and aquatic habitats for federally listed CRLF. Repairing the leak at flume 23, which supplements water to an adjacent emergent marsh and pond, could result in indirect impacts to CRLF through the permanent loss of potential aquatic and breeding habitat for CRLF. The temporary and permanent loss of aquatic habitat and the temporary disturbance to upland habitat, loss of individual CRLF, and the disruption of movement during the breeding season could result in the substantial reduction of the local population. As a result, this impact would be considered potentially significant, however implementation of Mitigation Measure Bio-3 and Bio-4 would reduce this impact to a less-than-significant level.
Mitigation Measure BIO-3: Determine Whether California Red-Legged Frogs Occur in the Proposed Project Area.

The District shall retain a qualified biologist to prepare a site assessment. The biologist shall implement USFWS’ Revised Guidance on Site Assessment and Field Surveys for the California Red-legged Frog—August 2005 in all suitable aquatic habitat and surrounding areas (U.S. Fish and Wildlife Service 2005).

The biologist shall first prepare and submit a site assessment for USFWS to determine whether there is potential for CRLFs to occur in aquatic and upland habitat in the proposed project area.

If USFWS determines that suitable habitat for CRLF does not occur in the proposed project area, this mitigation measure is satisfied. Under this determination, implementation of Mitigation Measure BIO-3 would reduce this impact to less than significant.

However, if USFWS determines that suitable habitat for CRLF does occur in the proposed project area, the District can either assume presence or conduct protocol-level surveys to determine presence or absence.

If the District decides to pursue protocol-level surveys, they must conform to USFWS guidelines. The guidelines recommend that up to eight surveys be conducted to determine the presence of CRLF in the proposed project area. Two day surveys and four night surveys are recommended during the breeding season (January through June); and one day and one night survey is recommended during the non-breeding season (July 1 through September 30). Each survey must take place at least 7 days apart and at least one survey must be conducted prior to August 15. The survey period must conducted be over a minimum period of 6 weeks. If CRLF are identified at any time during the survey, no additional surveys will be necessary. Any CRLF identified during the survey will be mapped and documented as part of the public record.

If the District assumes presence of CRLF or CRLF are identified during protocol-level surveys, then a Biological Opinion authorizing incidental take, as described above under federal Endangered Species Act, must be obtained from the USFWS prior to the start of construction activities. Implementation of Mitigation Measure BIO-4 would reduce impacts to less-than-significant levels.

Mitigation Measure BIO-4: Avoid or Minimize Impacts to California Red-Legged Frogs by Protecting Frog Populations during Construction.

If CRLF are determined or assumed to be present under the conditions defined above, the District or its contractor shall implement the following measures before and during construction activities occurring within areas of suitable habitat as indicated by USFWS to minimize both direct and indirect impacts on CRLFs. USFWS may determine additional avoidance, minimization, and compensation requirements during the Section 7 process.

- Obtain a USFWS-approved biologist to conduct a preconstruction survey immediately preceding any construction activity that occurs in CRLF habitat or any activity that may result in take of the species. The USFWS-approved biologist will carefully search all obvious potential hiding spots for CRLFs and...
the perimeter of any aquatic habitat. In the event that a CRLF is found during
the preconstruction survey, the biologist will implement minimization and
avoidance measures identified in the Biological Opinion.

- Prepare an erosion and sediment control plan that will include measures to
prevent impacts wetlands and aquatic habitat outside of the proposed project
area. Tightly woven natural fiber netting or similar material will be used for
erosion control or other purposes in the project site to ensure that CRLFs are
not trapped. This limitation will be communicated to the contractor through
use of special provisions included in the bid solicitation package. Coconut
coir matting is an acceptable erosion control material. No plastic
monofilament matting will be used for erosion control.

- Limit access routes to proposed project area and the size of staging and work
areas to the minimum necessary to achieve the project goals. Clearly mark
routes and boundaries of the access roads prior to initiating
construction/grading.

- Enclose all food and food-related trash in sealed trash containers at the end
of each workday and remove it completely from the construction site once
every 3 days.

- No pets will be allowed on the construction site.

- Maintain a speed limit of 15 miles per hour on dirt roads.

- Maintain all equipment so that there will be no leakage of automotive fluids
such as fuels, oils, and solvents. Any fuel or oil leaks will be cleaned up
immediately and disposed of properly.

- Store all hazardous materials such as fuels, oils, solvents, etc., in sealable
containers in a designated location that is at least 200 feet from the drainages
or other aquatic habitats. All fueling and maintenance of vehicles and other
equipment will occur at least 200 feet these areas.

- Upon completion of the project, all areas subject to temporary ground
disturbances, including storage and staging areas and temporary roads, will
be recontoured if necessary, and revegetated to promote restoration of the
area to preproject conditions. An area subject to “temporary” disturbance
means any area that is disturbed during the project but that after project
completion will not be subject to further disturbance and has the potential to
be revegetated. Appropriate methods and plant species used to revegetate
such areas should be determined on a site-specific basis in consultation with
revegetation experts.

- The District will continue to provide water to pond adjacent to flume 23 at a
rate necessary to sustain current habitat value.

**Impact a-3: Potential Impacts to California Horned Lizard.**

A review of the CNDDB (2006) indicated several California horned lizard occurrences near
the proposed project area. This species could occur along the canal berms and
construction activities along these berms, especially driving, could potentially result in direct
mortality. The number of California horned lizards that could be affected is not known, but it
is anticipated to be low because the impact would be temporary. Therefore, this impact would be considered less than significant and no mitigation is required.

**Impact a-4: Potential Impacts to Northwestern Pond Turtles.**

The pond and emergent marsh adjacent to flume 23, which receives water from a leak at the flume spill structure, may provide habitat for northwestern pond turtles. Construction activities are not anticipated to impact northwestern pond turtles. There is suitable aquatic habitat within the proposed project area that would not be affected by the proposed project, this impact is considered to be less than significant. Therefore, this impact would be considered less than significant and no mitigation is required.

**Impact a-5: Potential Impacts to Nesting Special-Status Raptor and Non-Special-Status Migratory Birds.**

Construction activities such as tree and shrub removal and trimming, excavation, and grading within or directly adjacent to the project area could result in direct impacts to nesting habitat for special-status raptors, Cooper’s hawk, and sharp-shinned hawk as well as nesting habitat for a number of common migratory birds and raptors, such as American kestrel, red-shouldered hawk, red-tailed hawk, and great-horned owl.

Removing or causing the abandonment of active nests (with eggs or young) violates California Fish and Game Code 3503 and 3503.5 and the MBTA and would be considered significant. Implementation of Mitigation Measures BIO-5 would reduce this impact to a less than significant level.

**Mitigation Measure BIO-5: Conduct Tree and Shrub Trimming and Removal Activities during the Nonbreeding Season for Cooper’s Hawk, Sharp-Shinned Hawk, and Non-Special-Status Migratory Birds and Raptors or Retain a Qualified Biologist to Conduct a Nesting Bird Survey before Tree Removal Activities.**

To avoid removing any active Cooper’s hawk, sharp-shinned hawk, or other non-special status bird and raptor nests, tree and shrub trimming and removal activities shall be conducted during the nonbreeding season for these species (generally between August 16 and February 28).

If tree and shrub trimming and removal activities are conducted during nesting season (generally between March 1 and August 15), a preconstruction survey shall be conducted by a qualified biologist to determine whether there are active nests present. The survey will be conducted no more than 14 days prior to construction. If the biologist determines that the area surveyed does not contain any active nests, trimming and removal activities can commence without any further mitigation.

If an active migratory bird or raptor nest is discovered during the nesting survey, a no-disturbance buffer will be established around the nest to avoid disturbance of destruction of the nest. The distance around the no-disturbance buffer will be determined by the biologist in coordination with DFG and will depend on the level of noise or construction activity, the level of ambient noise in the vicinity of the nest, and line-of-sight between the nest and disturbance. The no-disturbance
buffer will remain in place until after the nesting season (March 1 through August 15) or until the biologist determines that the young have fledged.

b. Below is a summary of potentially significant impacts and mitigation measures which reduce them to a less-than-significant level.

**Impact b-6: Potential Impacts to Riparian Habitat.**

The replacement of the proposed flumes could potentially affect, either directly or through habitat modifications, the riparian habitat identified in the drainage. Impacts would include the disturbance or the direct removal of the plants during construction-related activities such as grading; clearing; placing of fill material; movement of construction vehicles; the creation of temporary construction staging areas and temporary access roads; and the construction of support structures, bents, and concrete footings for the flumes. Construction-related activities could result in long-term degradation of riparian woodland, fragmentation or isolation of an important wildlife habitat, or disruption of natural wildlife movement corridors. Riparian habitats are considered by DFG to be sensitive habitats; thus, the impact would be considered significant. Implementation of Mitigation Measures BIO-6 and BIO-7 would reduce this impact to less-than-significant levels.

**Mitigation Measure BIO-6: Avoid or Minimize Disturbance of Riparian Habitats.**

To the extent possible, the project proponent shall avoid impacts on riparian habitats by implementing the following measures.

- Redesign or modify the project to avoid direct and indirect impacts on riparian habitats, if feasible.
- Protect riparian habitats that occur in or near the proposed project area by installing ESA fencing at least 20 feet from the edge of the riparian vegetation where feasible. Depending on site-specific conditions, this buffer may be narrower or wider than 20 feet to protect the area from erosion. The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language stating that construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities are prohibited within the fenced ESA.
- Minimize the potential for long-term loss of riparian vegetation in the project area by trimming vegetation rather than removing the entire shrub where feasible. Shrub vegetation shall be cut at least 1 foot above ground level to leave the root systems intact and allow for more rapid regeneration. Cutting shall be limited to a minimum area necessary within the construction zone. This type of removal shall be allowed only for shrub species. To protect migratory birds, no removal of woody riparian vegetation shall be allowed between March 15 and September 15 if active nests are present, as required under the MBTA.

**Mitigation Measure BIO-7: Compensate for the Loss of Riparian Habitat.**

If it is determined by a state or federal agency that riparian habitat is permanently removed as part of the proposed project, the project proponent shall compensate for the permanent loss of riparian vegetation to ensure no net loss of habitat.
functions and values. Compensation ratios shall be based on site-specific information and determined through coordination with state and federal agencies (including DFG, USFWS, NOAA Fisheries, and USACE). Compensation shall be provided at a minimum ratio of 3 acres restored, acquired, or created for every 1 acre removed. Compensation may include restoration/creation, off-site restoration, acquisition, or mitigation credits (or a combination of these elements). The project proponent shall develop and implement a restoration and monitoring plan that describes how riparian habitat shall be enhanced or recreated, then monitored over a minimum period of time, as determined by the appropriate state and federal agencies.

c. Below is a summary of potentially significant impacts and mitigation measures which reduce them to a less-than-significant level.

Impact c-7: Potential Impacts to Waters of the United States

Impacts may include the disturbance or the loss of waters of the United States during construction-related activities including grading; clearing; placing of fill material; movement of construction vehicles; the creation of temporary construction staging areas and temporary access roads; and construction of support structures, bents, and concrete footings for the flumes. Wetlands and other waters of the United States could be affected through direct removal, filling, hydrological interruption, alteration of bed and bank, and other construction-related activities. Adjacent ponds, adjacent wetlands, and the unnamed drainages that the canal crosses could be considered “waters of the United States” by the USACE. However, the USACE would need to determine whether the canal, ponds, unnamed drainages, and wetlands qualify as waters of the United States. Segments of the existing canal will be redirected and extended where the proposed flume replacements are installed. Placement of this fill material into ponds, wetlands, and the unnamed drainages would be considered a significant impact. Also, this impact could result in long-term degradation of a sensitive plant community, fragmentation or isolation of an important wildlife habitat, and disruption of natural wildlife movement corridors. This impact would be considered potentially significant; however, implementation of Mitigation Measures BIO-8, BIO-9, and BIO-10 would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-8: Identify and Delineate Waters of the United States, Including Wetlands.

The project proponent shall retain a wetlands consultant to identify areas that could qualify as waters of the United States, including wetlands. Potential wetlands shall be identified using both the USACE and USFWS/DFG definitions of wetlands. USACE jurisdictional wetlands shall be delineated using the methods outlined in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987). The jurisdictional boundary for other waters of the United States shall be identified based on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris; or other appropriate means that consider the characteristics of the surrounding area (33 CFR 328.3[e]).

This information shall be mapped and documented in wetland delineation reports and submitted to the USACE for verification. This project lies within the
boundaries of the USACE’s Sacramento District and delineation reports shall include all information to meet their revised minimum standards.

**Mitigation Measure BIO-9: Avoid or Minimize Disturbance of Waters of the United States, Including Wetland Communities.**

To the extent possible, the District or their contractor shall avoid or minimize impacts on wetlands and other waters of the United States by implementing the following measures.

- Redesign or modify the proposed project to avoid direct and indirect impacts on wetland habitats, if feasible.
- Protect wetland habitats that occur near the proposed project area by installing ESA fencing at least 20 feet from the edge of the wetland. Depending on site-specific conditions and permit requirements, this buffer may be wider than 20 feet to prevent erosion and sedimentation impacts on wetland habitats. The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language stating that construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities are prohibited within the fenced ESA. All protective measures will remain in place until all construction activities near the resource have been completed and shall be removed immediately following construction activities.
- Retain construction inspectors to inspect routinely the protected areas to ensure that protective measures are in place and effective.
- Avoid construction activities in saturated or ponded wetlands during the wet season (spring and winter) to the maximum extent possible. Where such activities are unavoidable, use protective practices, such as padding or vehicles with balloon tires.
- Where determined necessary by resource specialists, use geotextile cushions and other materials (e.g., timber pads, prefabricated equipment pads, or geotextile fabric) in saturated conditions to minimize damage to the substrate and vegetation.
- Stabilize immediately exposed slopes and stream banks on completion of installation activities. Restore other waters of the United States in a manner that encourages vegetation to reestablish to its preproject condition and reduces the effects of erosion on the drainage system.
- Stabilize banks in highly erodible stream systems using a nonvegetative material that binds the soil initially and breaks down within a few years. If the project engineers determine that more aggressive erosion control treatments are needed, use geotextile mats, excelsior blankets, or other soil stabilization products.
- Remove in a manner that minimizes disturbance of the drainage bed and bank any trees, shrubs, debris, or soils that are inadvertently deposited during construction below the OHWM of drainages.
Promptly complete all construction-related activities to minimize their duration and resulting impacts.

These measures shall be incorporated into contract specifications and implemented by the construction contractor. In addition, the project proponent shall ensure that the contractor incorporates all permit conditions into construction specifications.

**Mitigation Measure BIO-10: Compensate for the Loss of Wetland Habitat.**

If wetlands are filled or disturbed as part of the proposed project, the project proponent shall compensate for the loss of wetland habitat to ensure no net loss of habitat functions and values. Compensation ratios shall be based on site-specific information and determined through coordination with state, federal, and local agencies (including DFG, USFWS, and the USACE) as part of the permitting process for the project.

d. The proposed project would not 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. Therefore, there is no impact and no mitigation is required.

e. The project proponent is proposing to avoid the removal of and minimize (to the extent possible) the disturbance of the roots of landmark trees or other native trees that are subject to the Nevada County General Plan (Objective 1.11, Policy 1.17, Policy 13.4H, Objective 13.7, and Policy 13.8). However, the project proponent may determine during the final engineering phase that the removal of individual trees or disturbance activities within the root zone may be necessary. Nevada County acknowledges the value of native trees and has adopted Objective 1.11, Policy 1.17, Policy 13.4H, Objective 13.7, and Policy 13.8, which seek to preserve native trees wherever possible.

**Impact e-8: Potential Impacts to Landmark Trees.**

On January 11, 2007, a fax sent to the District from A. Spinella of T & S Construction presented results of an evaluation of trees in the proposed project area for the District that could be affected by construction activities, including one landmark black oak measuring 36 inches diameter at breast height (dbh). A landmark tree is defined as any oak 36 inches dbh or greater. According to the fax, the actual number of trees to be removed is unknown but is estimated to be approximately 74. Even with recommended care, trees may be prone to failure and future removal may be necessary.

Implementation of Mitigation Measures BIO-11 and BIO-12 would ensure that the proposed project would reduce this potential impact to a less-than-significant level.

**Mitigation Measure BIO-11: Install Temporary Construction Fencing or Flagging to Protect Trees.**

Where practical, the District will require the contractor to install a 4-foot-tall, brightly colored (usually yellow or orange), synthetic mesh high visibility exclusionary fence surrounding the trees’ root zone. The fence shall be staked 10 feet on center maximum spacing, with 5-foot steel “T” posts, 2 inch by 2 inch square or greater than 2-inch diameter wood posts. The exclusionary area shall be under the tree’s branched canopy and extending out to the tree’s longest...
dripline radius as a circle. Where excavation will be within the root protection zone, the fencing shall be 2 feet away from the trench and extend around the rest of the canopy of the tree from that point. The fencing shall be maintained and not removed until the completion of excavation. Whenever possible, include as many trees that are to be saved into one fenced exclusionary critical root zone (the longest dripline measurement as the radius of a circle plus 20%). The fencing may be removed once the District completes the flume installation and back fills the trenches. If fencing is not practical due to access or traffic limitations, orange flagging around tree trunks will act as a visual indicator for tree protection.

No construction activity, including grading, shall be allowed until this condition is satisfied. The fencing or flagging acts as an indicator to the contractor to exercise care with the fenced or flagged area.

The temporary construction fencing or flagging and a note reflecting this condition shall be shown on the design plans.

**Mitigation Measure BIO-12: Mulch below Trees after Trenching.**
The District will require the contractor to mulch the area under trees with pine needles or a fine shredded redwood bark (up to 4-6 inches) to hold moisture in the root system. Mulching right up to the trunks should be avoided, as this will cause the trunks to be more prone to rot.

f. **The proposed project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan because the proposed project does not occur within an area covered by any of these types of plans. Therefore, there is no impact and no mitigation is required.**
5. CULTURAL RESOURCES. Would the proposed project:

<table>
<thead>
<tr>
<th>Potential Impact</th>
<th>Less Than Significant Impact</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?</td>
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</tr>
<tr>
<td>c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</td>
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<tr>
<td>d. Disturb any human remains, including those interred outside of formal cemeteries?</td>
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</tbody>
</table>

Introduction and Methods

Efforts to identify cultural resources located within or adjacent to the project area consisted of conducting a records search, contacting the Native American Heritage Commission (NAHC) and Native American representatives, and conducting an intensive pedestrian cultural resources survey of the proposed project area.

A records search was conducted on February 27, 2007 at the North Central Information Center of the California Historical Resources Information System, located at California State University, Sacramento. Records consulted include previous studies, previously recorded resources, historic literature, historic maps, and Government Land Office maps.

On February 14, 2007, Jones & Stokes staff sent a letter to the California Native American Heritage Commission, requesting a search of their Sacred Lands database and a list of local Native American representatives who may have information about potential cultural resources within the proposed project area.

A Jones & Stokes architectural historian conducted a survey of the canal system in May 2006. A Jones & Stokes archaeologist conducted a pedestrian survey of the proposed project area on February 12, 2007.

Prehistoric Setting

The proposed project area is located within the Northern Sierra Region, as defined by Moratto (2004). By 1000 BC, the western slope of the Sierra Nevada range was occupied by groups who exhibited both high Sierra and Central Valley traits. Whether the original populations came from the east or the west is unknown. By AD 1500, the architecture, settlement patterns, and material culture of the Central Valley are found throughout the foothills.

When Euroamericans first made their way into the proposed project vicinity, it was occupied by a group known as the Nisenan or Southern Maidu. The ethnographic boundaries of the Nisenan encompass the Yuba and American river drainages. The Nisenan occupied permanent settlements from which specific task groups set out to hunt and collect plant resources. The resource base of the Hill Nisenan consisted primarily of acorn and game.
The acorn crop from the blue (*Quercus douglasii*) and black oaks (*Q. kelloggii*) was so carefully managed that it served as the equivalent of agriculture and could be stored against winter shortfalls in resource abundance. Nisenan settlement locations depended primarily on elevation, exposure, and proximity to water and other resources. Permanent villages were usually located on low rises along major watercourses. Village size ranged from three houses to up to 40 or 50. (Wilson and Towne 1978.)

The Hill Nisenan were little affected by the Euroamerican occupation of California until the Gold Rush which brought prospectors from around the world into their territory. Miners then occupied most of the traditional camp locations along rivers and streams. Destruction of their villages and persecution reduced their numbers and by the late 1930s, few Nisenan remained who could recall the times before Euroamerican contact. Today there are several federally recognized Maidu tribes who are active in community decision-making and planning. (Wilson and Towne 1978.)

**Historic Setting**

**Nevada County** The proposed project area is located in Nevada County, California, east of Nevada City and northeast of the City of Grass Valley, running south to southwest from Red Dog Road to State Route (SR) 20/49. Nevada County was created from portions of Yuba County by an act of the California Legislature in 1851. The Legislature created the county largely to relieve the government of Yuba County from the troubles caused by the large influx of miners entering the region at the time. The county derives its name from its capital city, Nevada City, where the county seat was located in 1851 (Kyle 1990:239; Wells 1880:56).

**Mining** The first ditches in the county were constructed during the Gold Rush for mining purposes. These ditches aimed to bring water to mining claims that were not located near rivers or lakes. The first two were constructed in 1850 and conveyed small amounts of water to mining claims at Coyote Hill and Phelps’ Hill. Larger and more complex ditches and canals were constructed after that. Ultimately, construction reached its peak during the hydraulic mining period, when reservoirs and miles of ditches and flumes were constructed to convey large quantities of water to hydraulic mining operations, including the operation at North Bloomfield, one of the largest such operations in the State (Wells 1880:171-172; Nevada City Nugget 1951:78; Jackson 1967:10-11; Kyle 1990:247).

**Agriculture** Although for much of its history, mining was the mainstay of the county, farming was attempted as early as 1852. In those days, most farming took place near streams, and it appears that major irrigation projects were not undertaken to support agricultural pursuits. In the subsequent decades, as farming expanded and grains, peaches, grapes, vegetables and other crops were planted, irrigation projects were undertaken and canals and ditches were constructed to irrigate the crops. In the 1890s, orchards could be irrigated in nearly every part of the county for as little as 5 dollars per acre. By the twentieth century, many of the ditches and flumes created for mining were adapted for the purposes of irrigating orchards and gardens. It was during this period that an engineer, Frederick Tibbetts, designed the DS canal and flumes for the purposes of irrigation. The first water flow records for the canal date to 1930. (Wells 1880:170; Comstock 2000:12; Kyle 1990:241).
Results

Records Search

The records search results indicate that no cultural resource studies have been conducted within the proposed project area boundaries. A total of four archaeological studies, however, have been conducted within ¼-mile of the proposed project area boundaries. Of these, all four are more than 10 years old. No previously recorded archaeological resources were found within the proposed project area. A total of two historic-era archaeological sites are located within a ¼-mile of the proposed project area. Historic map research was also negative.

Native American Consultation

As of March 6, 2006, no response had been received from the NAHC. (The NAHC typically sends a response within 4 weeks of receiving a request.) When a response is received, Jones & Stokes staff will send letters to the Native American representatives listed by the NAHC, requesting any knowledge they may have regarding potential cultural resources within the proposed project area. The letters will be accompanied by maps detailing the location of each flume on a USGS topographical map.

Survey

An archaeological survey of the proposed project area was conducted on February 12, 2007 by a Jones & Stokes archaeologist. The ground surface around each flume was inspected for indication of archaeological resources. Survey coverage of the project area was 100% and ground visibility was good to excellent. No archaeological resources were found to be located within the proposed project area as a result of the survey. No further survey work is required unless the proposed project area boundaries change to include any unsurveyed area.

Discussion of Impacts

As part of the field survey, the DS Canal and eight flumes (a component of the canal) were recorded. The canal and flumes date to 1927–29 (Nevada Irrigation District 1992). The canal is part of the Deer Creek system and was initially constructed as an irrigation source for agriculture in the area. Currently, the canal provides water to Nevada City and Grass Valley. Originally the DS canal included 24 flumes. Over time, many of the flumes were replaced with pipes. The canal is not historically significant, as it is one of several in the region constructed for irrigation purposes in the early twentieth century. Since its construction, the canal has undergone continual maintenance in the form of scouring and other improvements, which has caused a loss of integrity to the resource. In addition, the removal and or replacement of the flumes, a key component of the canal system, has diminished the integrity of the resource. Because of a lack of historical significance, as well as a loss of integrity, the canal and flumes are not a significant cultural resource for the purposes of CEQA.

a. The DS Canal is more than 50 years old. The canal lacks historical significance because, due to continual maintenance and improvements, the canal system has suffered a lack of integrity. For these reasons the canal and flumes do not qualify as a
significant resource for the purposes of CEQA. Accordingly, there are no historical resources in the proposed project area for the purposes of CEQA. There would be no impact.

b. No archaeological resources were identified or previously recorded in the project area. However, the potential exists for buried archaeological resources to be inadvertently unearthed during project construction, which would be a significant impact. Implementation of Mitigation Measure CR-1 would reduce this impact to a less-than-significant level.

**Mitigation Measure CR-1: Implement Plan to Address Discovery of Unanticipated Buried Cultural or Paleontological Resources.** If buried cultural resources such as chipped or ground stone, midden deposits, historic debris, building foundations, human bone, or paleontological resources are inadvertently discovered during ground-disturbing activities, work shall stop in that area and within 100 feet of the find until a qualified archaeologist or paleontologist can assess the significance of the find and, if necessary, develop appropriate treatment measures in consultation with the District and other appropriate agencies.

c. No paleontological resources were observed or appear likely to be present. It is possible that remains are buried and would be unearthed during construction activities, though this is unlikely. Implementation of Mitigation Measure CR-1 would reduce this impact to a less-than-significant level.

d. No known human remains are located within the project area. However, it is possible that construction activities would result in the discovery of human remains. This potential impact is considered significant. The impact would be reduced to a less-than-significant level by implementation of Mitigation Measure CR-2.

**Mitigation Measure CR-2: Implement Plan to Address Discovery of Human Remains.** If remains of Native American origin are discovered during project construction, it will be necessary to comply with state laws concerning the disposition of Native American burials, which fall within the jurisdiction of the NAHC. If any human remains are discovered or recognized in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

- the Nevada County coroner has been informed and has determined that no investigation of the cause of death is required; and
- if the remains are of Native American origin:
  - the most likely descendants of the deceased Native Americans have made a recommendation to the landowner or person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC 5097.98, or
  - the NAHC has been unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified.
According to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100) and disturbance of Native American cemeteries is a felony (Section 7052). Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the NAHC.
6. GEOLOGY AND SOILS. Would the proposed project:  

<table>
<thead>
<tr>
<th>Impact</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant Impact</th>
<th>Less-than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</td>
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<tr>
<td>(1) 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.</td>
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<tr>
<td>(2) Strong seismic ground shaking?</td>
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<tr>
<td>(3) Seismic-related ground failure, including liquefaction?</td>
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<tr>
<td>(4) Landslides?</td>
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<tr>
<td>b. Result in substantial soil erosion or the loss of topsoil?</td>
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<tr>
<td>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?</td>
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<tr>
<td>d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?</td>
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</table>

Setting

The project site, located in central Nevada County, ranges from relatively shallow slopes in the west to steeper slopes in the east. Elevations in the proposed project area range from 2700–3100 feet amsl. The proposed project area encompasses four geologic units. Mesozoic granitic rocks and Pliocene volcanic rocks (pyroclastic) each make up approximately 40% of proposed the project area. The remainder consists of Jura-Triassic metavolcanic rocks (15%) and Paleozoic marine sedimentary rocks (5%). (Burnett and Jennings 1962)

According to the General Plan (County of Nevada 2003), the western half of the county is classified as a low-severity earthquake zone. However, there are several pre-Quaternary faults and fault zones within a 20-mile radius of the area, including the Spenceville, Gills Hill, Foresthill, Grass Valley, Camel Peak, Ramshorn, Swain Ravine, and Slate Creek faults, and the Melones, Prairie Creek, and Wolf Creek fault zones (California Department of Conservation 1997; International Conference of Building Officials 1997; Jennings 1994). Of all of these faults and fault zones, the Grass Valley fault is the closest to the proposed project area, located within 5 miles of it. Since all of these faults and fault zones are pre-
Quaternary and not within Alquist-Priolo Earthquake Fault Zones, they are not considered a significant factor for inducing strong seismic ground shaking or secondary hazards such as liquefaction or earthquake-induced landslides.

The proposed project area is located within Uniform Building Code (UBC) Seismic Hazard Zone 3. Structures must be designed to meet the regulations and standards associated with Zone 3 hazards. Based on a probabilistic seismic hazard map that depicts peak horizontal ground acceleration values exceeded at a 10% probability in 50 years (California Geological Survey 2006, Cao et al. 2003), the probabilistic peak horizontal ground acceleration for the proposed project area is between 0.1–0.2 g, where one g equals the force of gravity, indicating that the ground-shaking hazard in the proposed project area is low.

Liquefaction is a phenomenon in which the strength and stiffness of a soil is reduced by earthquake shaking or other rapid loading. Poorly consolidated, water-saturated fine sands and silts located within 50 feet of the surface are typically considered the most susceptible to liquefaction. Soils and sediments that are not water-saturated and consist of coarser or finer materials are generally less susceptible to liquefaction (California Division of Mines and Geology, 1997). The project area is mostly underlain by variable sandy and loamy topsoil (Brittan 1975). Based on the sedimentological characteristics of these soils, these materials are not subject to significant liquefaction. Additionally, because the ground-shaking hazard in the proposed project area is low, the susceptibility of soils and sediments to liquefaction is expected to be low. Earthquake-induced landslides in the proposed project area are not considered to be a significant hazard due to low ground shaking hazard in the area.

The Natural Resources Conservation Service mapped the soils in the proposed project area during its survey of the county (Brittan 1975). The majority of the soils at the proposed project site are mapped as mountainous upland soils with slopes ranging from 5–50%. Mapped soil units within the proposed project area include Aiken loam, 9–15% slopes; Hoda sandy loam, 5–15% slopes; Josephine sandy loam, 9–30% slopes, Placer diggings; and McCarthy cobbly loam, 15–50% slopes. Together these map units comprise over 88% of the proposed project area. The remainder of the proposed project area consists of Cohasset cobbly loam, 5–50% slopes (3.5%); Cohasset loam, 15–30% slopes (2.4%); Sites loam, 15–30% slopes (2.6%); Aiken cobbly loam, 30–50% slopes (0.5%); Musick sandy loam, 15–50% slopes (0.3%); water (0.7%), and tailings (0.1%). These soils typically consist of well-drained soils underlain by tilted metasedimentary and metabasic rock. Runoff rates range from medium to rapid and the hazard of erosion ranges from moderate to high, depending on the slope. All mapped soils within the proposed project area have a low to moderate shrink-swell potential and are not considered to be a limiting factor for construction activities.

**Discussion of Impacts**

a. All of the faults and fault zones described above are not within Alquist-Priolo Earthquake Fault Zones, and thus are not considered a significant factor for inducing strong seismic ground shaking or secondary hazards such as liquefaction or earthquake-induced landslides.

1. No active faults are known to exist near the proposed project area. Additionally, the western half of the county is classified as a low-severity earthquake zone. Finally, implementation of the proposed project does not include the development of any
structures that will be inhabited by people, though occasional use would occur due to maintenance activities, and the proposed project has no components or features that will increase exposure of people to fault rupture hazard. Therefore, implementation of the proposed project would not result in an increased exposure of people or structures to fault-rupture hazard, however there is an incremental amount of exposure associated with the proposed project. Accordingly, this impact is considered less than significant, no mitigation is required.

2. As mentioned above, ground-shaking hazard in the proposed project area is low. Additionally, implementation of the proposed project does not include the development of any structures that will be inhabited by people, and has no components or features that will increase exposure of people to ground-shaking hazard. Therefore, implementation of the proposed project would not result in an increased exposure of people or structures to ground-shaking hazard; however, there is an incremental amount of exposure associated with the proposed project. Accordingly, this impact is less than significant.

3. The hazard of liquefaction is low due to the location of the proposed project on stable geologic units, lack of significant ground-shaking hazard, and low water tables in the area. Additionally, implementation of the proposed project does not include the development of any structures that will be used by people, and the project has no components or features that will increase exposure of people to liquefaction hazard. Therefore, implementation of the proposed project would not result in an increased exposure of people or structures to liquefaction hazard. Accordingly, there is no impact.

4. The hazard of landslides is low due to the location of the proposed project on stable geologic units, the lack of ground-shaking hazard, and minimal ground-disturbing activity. Additionally, implementation of the proposed project does not include the development of any structures that will be used by people, and the project has no components or features that will increase exposure of people to landslide hazard. Therefore, implementation of the proposed project would not result in an increased exposure of people or structures to landslide hazard. Accordingly, there is no impact.

b. The proposed project would require only minimal disruption of soils because there will be minimal grading or earthwork associated with this project, with the exception of road maintenance, work/staging areas, and small concrete footings associated with the proposed project. As a provision of the proposed project, the District or its contractor will prepare a SWPPP, which includes plans for erosion and sediment control and would adhere to the County’s grading ordinance. Therefore, this impact is less than significant.

c. The proposed project area is not located on an unstable geologic unit. Accordingly, there is no impact.

d. The proposed project area is not located on soils that are considered expansive and would not create a substantial risk to life or property. Accordingly, there is no impact.
### 7. HAZARDS AND HAZARDOUS MATERIALS

Would the proposed project:  

<table>
<thead>
<tr>
<th>Would the proposed project:</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporation</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>d. Be located on a site that 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?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>e. Result in a safety hazard for people residing or working 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?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>f. Result in a safety hazard for people residing or working in the vicinity of a private airstrip?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
</tbody>
</table>

### Setting

No known regulated or unregulated hazardous waste generators, leaking tanks spills, toxic spills, or other sites affecting the environment are located within the proposed project area. The proposed project would consist of construction of concrete footings being secured and placed in the ground, but would require minimal disturbance of soils. The proposed project area consists of eight different flume sites in rural Nevada County. There are rural residences near (within 1,000 feet of) some of the flume construction sites, which constitute the nearest potential sensitive receptors.
Discussion of Impacts

a, b, d. The proposed project involves the construction of replacement flumes and support structures. Construction of the proposed project would involve small quantities of commonly used materials, such as fuels and oils, to operate construction equipment. However, because standard construction BMPs would be implemented to reduce the emissions of pollutants during construction of the proposed project, as described above in Project Description, this impact (a) is considered less than significant. Any potentially contaminated areas, if encountered during construction, shall be evaluated by a qualified hazardous material specialist in the context of applicable local, state, and federal regulations governing hazardous waste.

The proposed project, during operation, would involve the conveyance of raw water for treatment or eventual conveyance to District customers. There would be no other components of the project besides raw water conveyance. Therefore, there would be no impact (b, d) due to routine transport, use, or disposal of hazardous materials.

c. The proposed project would not generate any hazardous emissions or handle hazardous substances or waste, and therefore would have no impact.

e. The proposed project area would be located more than 1 mile northeast of the Nevada County Airpark and outside any airport land-use plan or safety zone. Thus, there would be no impact.

f. Review of the California Aviation System Plan (California Department of Transportation 2006) and the California Airports List (California Department of Transportation 2006) does not indicate the presence of any private airstrips in the vicinity of the proposed project area. The proposed project would have no impact.

g. Staging areas for the proposed project would be close to construction areas, off of public roads where possible. Where staging would occur on public roads, the District would apply for and comply with an encroachment permit from the Nevada County. Construction activities would typically occur in rural areas and would not interfere with an emergency plan by interfering with emergency traffic, an emergency response plan, or an emergency evacuation plan. Therefore, the proposed project would have no impact.

h. The proposed project would not involve further development and thus would not expose people or structures to a significant loss, injury, or death attributable to wildfires. The proposed project would have no impact.
8. HYDROLOGY AND WATER QUALITY. Would the proposed project:

<table>
<thead>
<tr>
<th></th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Violate any water quality standards or waste discharge requirements?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>b.</td>
<td>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 permit have been granted)?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>c.</td>
<td>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 that would result in substantial erosion or siltation on- or off-site?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>d.</td>
<td>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 that would result in flooding on- or off-site?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>e.</td>
<td>Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>f.</td>
<td>Otherwise substantially degrade water quality?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>g.</td>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>h.</td>
<td>Place within a 100-year flood hazard area structures that would impede or redirect flood flows?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>i.</td>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>j.</td>
<td>Inundation by seiche, tsunami, or mudflow?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
</tbody>
</table>

**Setting**

The flumes proposed for replacement are generally located between the DS Canal’s intersections with Banner Mountain Trail (at the east) and Banner Lava Cap Road (at the west).
The county is comprised of a large and diverse hydrologic system. Three major watershed areas provide surface water drainage and water supply: the Truckee River basin, the Yuba River basin, and the Bear River basin (Harland Bartholomew Associates 1996). The Scotts Flat Reservoir, located in the Yuba River basin, provides water supply, wildlife habitat, and recreational activities for the county (Skrtic 2005). Scotts Flat Reservoir is fed by Deer Creek, which also feeds two primary canals: the Cascades Canal and the Deer Creek South (D.S.) Canal. The D.S. Canal extends from the Deer Creek Reservoir located on the Lower Scotts Flats Reservoir, to Wolf Creek in the Glenbrook Basin (Nevada Irrigation District 2006).

Drainage from the proposed project site consists of natural tributaries that drain into Wolf Creek, Deer Creek, or one of the several smaller tributaries in the area, including Gold Run Creek and Little Deer Creek (Skrtic 2005). Some stormwater runoff enters into the County’s stormwater drainage system near urbanized areas surrounding the proposed project site.

**Discussion of Impacts**

a. During construction, the proposed project has the potential to impact water quality. Construction equipment and activities would have the potential to leak hazardous materials, such as oil and gasoline, and potentially affect surface or groundwater quality. Improper use or accidental spills of fuels, oils, and other construction-related hazardous materials, such as pipe sealant, solvents, and paints, could also pose a threat to the water quality of local waterbodies. These potential leaks or spills, if not contained, would be considered a potentially significant impact on groundwater and surface water quality. Construction-related earth disturbing activities have the potential to increase sedimentation and erosion during storm events. However, implementation of the SWPPP and other BMPs as described above would minimize the potential for impacts by limiting onsite and offsite erosion potential and contamination by hazardous substances.

Construction on the proposed project would occur in accordance with all applicable water quality standards, laws, regulations, and requirements and would incorporate the District’s best management practices. Therefore, this impact is considered less than significant.

b. The proposed project conveys raw surface water and would not result in the increased use of local groundwater supplies. There would not be significant additional impervious surface created that would result in the interference of local groundwater recharge. Implementation of the proposed project is not associated with a direct population increase that would increase the demand for existing groundwater supplies and is not associated with a feature that would interfere substantially with existing groundwater recharge. There would be no impact.

c. Implementation of the proposed project would result in an incremental increase in runoff to an unnamed various drainages and eventually to Gold Run Creek near Flume 23. However, the proposed project is not anticipated to significantly change currently existing drainage patterns nor increase stormwater runoff. Therefore, the project would have a less-than-significant impact on drainage patterns.

d. Please see the response for “c” above.
e. Implementation of the proposed project is not associated with the construction of significant additional impervious surfaces and would contribute only incremental additional runoff to nearby drainage channels. This would not exceed the capacity of natural drainages and creeks. Therefore, this impact is considered less than significant.

f. Please see the response for “a” above.

g. The proposed project would not require construction of housing units or other structures within the 100-year floodplain; therefore, there would be no impact.

h. Please see the response for “g” above.

i. Implementation of the proposed project would not require the construction of structures or expose people to significant risk or loss, injury or death, including as a result of flooding. No impact would occur.

j. The proposed project would not include any construction or operational features that would contribute to inundation of the proposed project area by seiche, tsunami, or mudflow; therefore, no impact would occur.
9. **LAND USE AND PLANNING.** Would the proposed project:  

<table>
<thead>
<tr>
<th></th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Physically divide an established community?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b.</td>
<td>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 avoiding or mitigating an environmental effect?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c.</td>
<td>Conflict with any applicable habitat conservation plan or natural community conservation plan?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Setting**

Zoning in the proposed project area falls into several zoning types. As described above, there are three rural residential/residential agriculture zoning types: R1-1.5 (flume 23), RA-1.5 (flumes 19,18,17), and RA-5 (flumes 16,15,14,13). Per the County’s zoning regulations, the RA designation allows low-density, single-family dwellings and other dwelling unit types that fit in with the rural character of the area. The minimum parcel size in the R1-1.5 and RA-1.5 classifications is 1.5 acres, RA-5 has a minimum of 5 acre-parcels, where neither a public water nor a public sewer system is available.

**Discussion of Impacts**

a. The proposed project would consist of the construction of replacement pipe flumes and associated infrastructure. Replacement of the flumes will occur in-place where possible or parallel and in close proximity to existing flumes where in-place replacement is not feasible. It would not create a physical division within the existing community. There would be no impact.

b. The project will not affect any land use plan, policy, or regulation that is applicable. No change in land use is proposed and none would result from the implementation of the proposed project. There would be no impact.

c. There is no habitat conservation plan or natural community conservation plan that applies to the proposed project area. Therefore, it would not conflict with any such plan and there would be no impact.
10. MINERAL RESOURCES. Would the proposed project:

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
</tbody>
</table>

Setting

Mining activities have played an important role in the history of Nevada County. Recreational mining is allowed in all General Plan designations without a permit.

Discussion of Impacts

a-b. The proposed project area is currently zoned as R1-1.5, RA-1.5, and RA-5 (various rural residential designations) by the County. In keeping with the County Zoning Ordinance, surface mining (commercial) is not allowed by right in these zone designations. The proposed project would not change the existing limitations on mineral extraction and does not involve mineral resource extraction or availability. There is no impact.
11. **NOISE.** Would the proposed project result in:

<table>
<thead>
<tr>
<th>Potential Impact</th>
<th>Less Than Significant with Mitigation Incorporation</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
</table>

a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b. Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?

c. A substantial permanent increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project?

d. A substantial temporary or periodic increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project?

e. Exposure to excessive noise levels for people residing or working in a proposed project area located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport?

f. Exposure to excessive noise for people in the proposed project area, within the vicinity of a private airstrip?

---

**Setting**

The proposed project area lies within Nevada County and is subject to the requirements established by the County.

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level ($L_{eq}$), the minimum and maximum sound levels ($L_{min}$ and $L_{max}$), percentile-exceeded sound levels ($L_{xx}$), the day-night sound level ($L_{dn}$), and the community noise equivalent level (CNEL). Below are brief definitions of these measurements and other terminology used in this chapter.

- **Sound.** A vibratory disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.

- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.

- **Ambient Noise.** The composite of noise from all sources near and far in a given environment exclusive of particular noise sources to be measured.
- **Decibel (dB).** A unitless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.

- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels, which approximates the frequency response of the human ear.

- **Equivalent Sound Level (L_{eq}).** The average of sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level that in a stated period would contain the same acoustical energy as the time-varying sound that actually occurs during the same period.

- **Exceedance Sound Level (L_{xx}).** The sound level exceeded XX% of the time during a sound-level measurement period. For example L_{90} is the sound level exceed 90% of the time and L_{10} is the sound level exceeded 10% of the time.

- **Maximum and Minimum Sound Levels (L_{max} and L_{min}).** The maximum or minimum sound level measured during a measurement period.

- **Day-Night Level (L_{dn}).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.

- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 p.m. to 10:00 p.m., and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.

L_{dn} and CNEL values rarely differ by more than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment.

The General Plan serves as an advisory tool for County decision-makers regarding noise and provides land-use compatibility guidelines for noise. These noise standards are indicated in Table 7 (below). The Nevada County Noise Element exempts construction activities from the standards indicated in Table 7.
Table 7. County of Nevada Exterior Noise Limits

<table>
<thead>
<tr>
<th>Land Use Category</th>
<th>Zoning Districts</th>
<th>Time Period</th>
<th>Noise level, dBA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>A1, TPZ, AE, OS, FR, IDR</td>
<td>7:00 a.m.–7:00 p.m.</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7:00 p.m.–10:00 p.m.</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10:00 p.m.–7:00 a.m.</td>
<td>40</td>
</tr>
<tr>
<td>Residential and public</td>
<td>RA, R2, R1, R3, P</td>
<td>7:00 a.m.–7:00 p.m.</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7:00 p.m.–10:00 p.m.</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10:00 p.m.–7:00 a.m.</td>
<td>45</td>
</tr>
<tr>
<td>Commercial and</td>
<td>C1, CH, CSC2, C3, OP, REC</td>
<td>7:00 a.m.–7:00 p.m.</td>
<td>70</td>
</tr>
<tr>
<td>recreation</td>
<td></td>
<td>7:00 p.m.–7:00 a.m.</td>
<td>65</td>
</tr>
<tr>
<td>Business park</td>
<td>BP</td>
<td>7:00 a.m.–7:00 p.m.</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7:00 p.m.–7:00 a.m.</td>
<td>60</td>
</tr>
<tr>
<td>Industrial</td>
<td>M1, M2</td>
<td>Any time</td>
<td>80</td>
</tr>
</tbody>
</table>

Notes:

- Compliance with the above standards shall be determined by measuring the noise level based on the mean average of not less than three (3) 20-minute measurements for any given time period. Additional noise measurements may be necessary to ensure that the ambient noise level is adequately determined.
- Where two different zoning districts abut, the standard applicable to the lower, or more restrictive, district plus 5 dBA shall apply.
- The above standards shall be measured only on property containing a noise-sensitive land use as defined in General Plan Policy 9.8 and may be measured anywhere on the property containing said land use.
- If the measured ambient level exceeds that permitted, the allowable noise exposure standard shall be set at 5 dBA above the ambient.
- Because of the unique nature of sound, the County reserves the right to provide for a more restrictive standard than shown in the Exterior Noise Limits table contained in this policy. The maximum adjustment shall be limited to be not less than the current ambient noise levels and shall not exceed the standards of this policy or as they may be further adjusted by General Plan Policy 9.1b. Imposition of a noise level adjustment shall only be considered if one or more of the following conditions are found to exist:
  a. Unique characteristics of the noise source:
     - The noise contains a very high or low frequency, is of a pure tone (a steady, audible tone such as a whine, screech, or hum), or contains a wide divergence in frequency spectra between the noise source and ambient level.
     - The noise is impulsive in nature (such as hammering, riveting, or explosions), or contains music or speech.
     - The noise source is of a long duration.
  b. Unique characteristics of the noise receptor when the ambient noise level is determined to be 5 dBA or more below the Policy 9.1 standard for those projects requiring a General Plan amendment, rezoning, and/or conditional use permit. In such instances, the new standard shall not exceed 10 dBA above the ambient or General Plan Policy 9.1 standard, whichever is more restrictive.

Source: Nevada County Planning Department 1996.

The Nevada County noise ordinance standards are the same as those established in the County’s General Plan Noise Element, except that Zoning District A1 (Table 7) has been replaced by zoning district AG. The County noise ordinance (Section L-II 4.1.7(D)(9)) explicitly exempts construction noise from its restrictions.

The proposed project area is generally rural. The existing noise environment in the proposed project area is dominated by noise from vehicular traffic traveling along local roadways, in addition to occasional aircraft overflights. Based on the rural nature of the
proposed project area, it is anticipated that noise levels in the project area range from 40 to 50 dBA, L_{dn}.

Noise-sensitive land uses are land uses such as residences, schools, libraries, hospitals, and other similar uses where noise can adversely affect use of the land. The General Plan identifies residences, schools, hospitals, nursing homes, churches, and libraries as being noise-sensitive land uses. Noise-sensitive land uses near the proposed project area include scattered single-family residences located throughout the proposed project area and along the proposed project pipeline alignment. In some locations, residences are located within 500 feet of the pipeline alignment.

**Discussion of Impacts**

Impacts analyzed in this assessment are limited to construction-related impacts because no noise-generating equipment (i.e., pumps and motors) will be used during proposed project operations.

a. Noise impacts associated with project construction would result in temporary or periodic increases in ambient noise levels, especially during grading activities. Construction noise would result from operation of machinery and equipment used in the construction process. Table 8 (below) identifies the construction equipment likely to be used to construct project elements. This table also provides typical noise levels produced by each piece of equipment based on information developed by the Federal Transit Administration (2006) and on predictive calculations developed by the City of Boston to regulate construction noise during Boston’s “Big Dig” construction project (Massachusetts Turnpike Authority 2000 in Thalheimer 2000).

**Table 8.** Anticipated Types of Equipment That May Be Used to Construct the Proposed Project and Associated Noise Levels

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Typical Noise Level 50 feet from Source (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Track excavator</td>
<td>85</td>
</tr>
<tr>
<td>Track backhoe/loader</td>
<td>85</td>
</tr>
<tr>
<td>Concrete pump</td>
<td>82</td>
</tr>
<tr>
<td>Concrete delivery truck</td>
<td>85</td>
</tr>
<tr>
<td>Crane, mobile</td>
<td>83</td>
</tr>
<tr>
<td>Auger drill rig</td>
<td>85</td>
</tr>
<tr>
<td>Truck and trailer for delivery of pipe and steel trestle</td>
<td>84</td>
</tr>
<tr>
<td>Water truck</td>
<td>88</td>
</tr>
<tr>
<td>Pickup trucks</td>
<td>55</td>
</tr>
<tr>
<td>Fuel/oil service truck</td>
<td>84</td>
</tr>
<tr>
<td>Welding machine</td>
<td>73</td>
</tr>
<tr>
<td>Air compressor</td>
<td>81</td>
</tr>
</tbody>
</table>

Noise from construction activity typically attenuates at a rate of 6 dB per doubling of distance. Additional attenuation of approximately 1-2 dB per doubling of distance also occurs where the ground is acoustically absorptive (i.e., vegetation covers the ground). Assuming a nominal worst-case construction noise level of 91 dBA at 50 feet for several pieces of equipment operating simultaneously, construction noise can be expected to be as high as the following levels at various distances from the construction activity:

- 91 dBA-$L_{\text{max}}$ at 50 feet
- 83 dBA-$L_{\text{max}}$ at 100 feet
- 75 dBA-$L_{\text{max}}$ at 200 feet
- 67 dBA-$L_{\text{max}}$ at 400 feet
- 60 dBA-$L_{\text{max}}$ at 800 feet
- 52 dBA-$L_{\text{max}}$ at 1,600 feet

The project applicant has committed to incorporating the following BMPs to help minimize noise impacts during construction activities.

- Restrict construction to the hours between 7:00 a.m. and 5:00 p.m. on weekdays and Saturdays.
- Ensure that all construction equipment must have sound-control devices no less effective than those provided on the original equipment. No equipment shall have an unmuffled exhaust system.
- Implement appropriate additional noise-reducing measures, including but not limited to:
  - locating stationary construction equipment away from homes;
  - limiting equipment (i.e., construction equipment and trucks) idling to 5 minutes or less, rescheduling construction activity; and
  - notifying nearby residents 48 hours in advance of construction.

Because construction activities would be limited to daytime hours, and because the County’s noise element and noise ordinance standards do not consider construction noise to be sufficiently significant to warrant regulation, impacts from construction activities are considered to be less than significant. No mitigation is required.

b. Construction activities associated with the proposed project may result in a minor amount of ground vibration. Vibration from construction activity is typically below the threshold of perception when the activity is more than about 50 feet from the receiver. In addition, vibration from these activities would be short-term and would end when construction is completed. Because construction activity would not involve high-impact activities (i.e., pile driving) and would be short-term in nature, this impact would be less than significant. No mitigation is required.

c. There would be no operational impacts associated with the proposed project. This impact is considered less than significant. No mitigation is required.
d. Construction activities would result in temporary increases in noise above existing levels. However, as indicated in Discussion “a”, construction activities would be limited to the hours between 7:00 a.m. and 5:00 p.m. and are exempt from the County’s noise element and noise ordinance. Consequently, this impact is considered less than significant. No mitigation is required.

e. The project site is located several miles south of the Nevada County Airpark. The proposed project would not expose sensitive receptors to excessive noise levels from airport/aircraft operations. There would be no impact and no mitigation is required.

f. This impact is identified above under Discussion “e”. There would be no impact.
12. POPULATION AND HOUSING. Would the proposed project:

<table>
<thead>
<tr>
<th>Impact Level</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporation</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

Setting

Due to the rural nature of the proposed project area, it is difficult to quantify and predict area-specific population and housing trends. County-wide population and housing trends are addressed in the General Plan. The U.S. Census Bureau’s 2005 population estimate for Nevada County is 98,394. The nearest city counted in the 2000 United States Census is Grass Valley. The 2005 population estimate for Grass Valley was 12,449.

Discussion of Impacts

a. The proposed project replaces existing flumes with pipe flumes and their infrastructure. These flumes will provide raw water to District customers. Only an incremental increase in the amount of water conveyed would occur as part of the project. The canal between the flumes sets the outer limit of capacity. No new growth would be facilitated as a result. There would be no impact.

b. Flume replacement would occur in place or parallel to existing structures as feasible. The proposed project would not displace existing housing or require the construction of replacement housing. Therefore, there would be no impact.

c. Please see response to Discussion “b” above.
13. PUBLIC SERVICES. Would the proposed project result in 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, to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

<table>
<thead>
<tr>
<th>Service</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporation</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire protection?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Police protection?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Schools?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Parks?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Other public facilities?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

Setting

Existing services include fire protection by the Peardale-Chicago Park Fire District. The Nevada County Sheriff’s Department provides law enforcement services to the proposed project area. No schools, parks, or other public facilities exist in the proposed project area. Details concerning public services in the proposed project area can be found in the General Plan.

Discussion of Impacts

The proposed project involves the construction of replacement flumes and associated infrastructure and would have no effect on existing local service providers or result in the need for new public services. Additionally, the proposed project is not associated with a direct immigration or population increase that would, in turn, increase the use or demand for existing public services. Residents in the area use wells and septic tanks for their water and waste needs. Consequently, there are no impacts to local public service providers.
14. RECREATION. Would the proposed project:

<table>
<thead>
<tr>
<th>Potential Impact</th>
<th>Less Than Significant Impact</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment? | ☐ | ☐ | ☒ | ☐ |

**Setting**

Scotts Flat Reservoir and the associated campgrounds provide regional recreational opportunities for residents and tourists to the area.

**Discussion of Impacts**

a. The proposed project would not involve existing parks or other recreational facilities. Constructing the pipeline is not expected to increase deterioration of the area’s parks and other recreational facilities, or increase demand for parks. Therefore, the proposed project would have no impact.

b. The proposed project involves the replacement of eight flumes and associated infrastructure and would not require the construction or expansion of recreational facilities. There would be physical impact on the environment due to construction or operation of facilities. Therefore, the proposed project would have no impact.
### 15. TRANSPORTATION/TRAFFIC

Would the proposed project:  

<table>
<thead>
<tr>
<th>Impact Criteria</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporation</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>b. Exceed, either individually or cumulatively, a level of service standard established by the County congestion management agency for designated roads or highways?</td>
<td>☑</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>e. Result in inadequate emergency access?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>f. Result in inadequate parking capacity?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Setting**

Main roads on which construction equipment and truck trips could occur are SR 49 near Grass Valley, Gold Flat Road, Big Blue Road, Gracie Road, Banner Mountain Trail Road, Pinewoods Road, Woodardin Plaza, Pittsburgh Mine Road, and Apple Orchard Road. These roads are typical of rural paved roads and are not considered “principal arterial” or “minor arterial” roads, but rather “locals,” by the General Plan. Traffic on these roads is generally characterized as “very light.”

**Discussion of Impacts**

a. The proposed project would result in a temporary increase in truck trips on the local streets described in *Setting* above. Because existing traffic levels are generally very light, this is not expected to substantially affect load or capacity of the local road system. As a result, the impact will be less than significant.

b. The County does not have a congestion management agency, so this checklist question is not pertinent. As discussed above, the area roads are not congested.

c. The proposed project would temporarily affect traffic on nearby roads during construction. No permanent changes would be made to roads or traffic patterns. The
Nevada County Air Park does not share any access roads. Because the proposed project would not change airport operations or traffic, the proposed project would have no impact.

d. Construction would require the transportation of heavy machinery and light trucks on the roads described above. The frequency of truck trips are expected to be minimal and site specific, and as a result there would be no increase in hazards due to design features or construction. Therefore, there would be no impact.

e. Construction staging areas would occur off of the roads described above and effects on traffic congestion would be minimal. No effect on emergency access would be anticipated. Therefore, there would be no impact.

f. Construction staging areas and parking would occur off of public roads where feasible and would not affect traffic or public parking. These areas would either be within existing canal easements, or on construction easements negotiated with adjoining property owners. Parking capacity would not be affected as a result. Therefore, there would be no impact.

g. The proposed project would not involve a change in land use or otherwise affect transportation policies. It would not add residences or other land uses that would generate a need for alternative transportation. Therefore, there would be no impact.
16. UTILITIES AND SERVICE SYSTEMS. Would the proposed project:  

<table>
<thead>
<tr>
<th>Question</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporation</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?</td>
<td>☑</td>
<td>☑</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</td>
<td>☑</td>
<td>☑</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</td>
<td>☑</td>
<td>☑</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?</td>
<td>☑</td>
<td>☑</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>e. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?</td>
<td>☑</td>
<td>☑</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>f. Be served by a landfill with sufficient permitted capacity to accommodate the proposed project’s solid waste disposal needs?</td>
<td>☑</td>
<td>☑</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>g. Comply with federal, state, and local statutes and regulations related to solid waste?</td>
<td>☑</td>
<td>☑</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

Setting

Domestic water service in the area surrounding the project is provided by the District. Water in the DS canal comes from the Scotts Flat Reservoir and is conveyed to raw water customers. Residences in the immediate vicinity rely on septic tanks. Wastes generated in the western portion of the county are disposed of at the Ostrom Road Landfill, located in Yuba County.

Discussion of Impacts

a. The proposed project involves the construction of replacement flumes and associated infrastructure and would not directly result in the increased generation of wastewater. There would be no impact.

b. The proposed project would not involve attributes or environmental impacts that would result in the need for new infrastructure or require an expansion of existing wastewater facilities. There would be no impact.
c. The proposed project would not create new impermeable surfaces that would substantially increase drainage runoff beyond that existing without the proposed project. Accordingly, the proposed project would not require or result in the construction of stormwater drainage facilities. There would be no impact.

d. The proposed project involves the replacement of existing flumes and infrastructure. It would not require any other change in water facilities or an increase in supplies. There would be no impact.

e. The system is for raw water conveyance, and thus would not affect the capacity of the wastewater treatment provider. Therefore, there would be no impact.

f. Although a majority of the proposed project’s materials would be recyclable, small amounts of concrete materials or other construction debris may be sent to the County transfer station for disposal. This impact is considered less than significant.

g. The proposed project construction would comply with all federal, state, and local laws and regulations related to solid waste. There would be no impact.
### 17. MANDATORY FINDINGS OF SIGNIFICANCE

<table>
<thead>
<tr>
<th>Proposed Project</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporation</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. 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 rate or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?</td>
<td>☑</td>
<td>☑</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>b. 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?)</td>
<td>☑</td>
<td>☑</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>c. Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☑</td>
</tr>
</tbody>
</table>

### Discussion of Impacts

a. The proposed project would have a low 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. In addition, the District’s implementation of BMP measures as part of the proposed project would minimize the impacts on the environment. This impact is considered less than significant.

b. The proposed project would result in short-term construction-related impacts that have all been reduced to less-than-significant levels. Although these impacts may increase the magnitude of the short-term impacts when combined with the impacts of other utility improvement or repair projects, cumulative impacts are considered less than significant. BMP measures incorporated into the project would minimize the environmental impacts, which would be relatively small when considered in their overall regional context. This impact is considered less-than-significant.

c. As described throughout the preceding checklist sections, the proposed project would not result in any environmental impacts that would cause substantial adverse effects to human beings, either directly or indirectly. There would be no impact.
REFERENCES CITED

Brittan 1975. Soil survey of Nevada County Area, California. USDA Soil Conservation Service in cooperation with the Regents of the University of California (Agricultural Experiment Station) and the California Department of Conservation. Washington, DC.


California Air Resources Board. 2003. Proposed Amendments to the Area Designation Criteria and Area Designations for State Ambient Air Quality Standards and Maps of Area Designations for State and National Ambient Air Quality Standards. December 5. Sacramento, CA


Comstock, Ardis H. et al. 2000. 1895 pictorial history of Nevada County California: a reissue of "Nevada County mining review" compiled by William Frederick Prisk Jr. and the staff of the Grass Valley daily morning union and "Grass Valley and vicinity" compiled by J. E. Poingdestre with an historical sketch by Samuel Butler: to which has been appended a new foreword and a comprehensive index / Compiled by David A. and Ardis H. Comstock, Comstock Bonanza Press, Grass Valley, California.


Mineral Land Classification of Nevada County, California, Publication SR 164, 1990


Nevada City Nugget. May 8, 1951. “100” Years of Nevada County. Nevada City, California.


**PERSONAL COMMUNICATIONS**

Longmire, Sam. Air Pollution Control Specialist II. Northern Sierra Air Quality Management District, Grass Valley, CA. October 21 and 24, 2005—telephone conversations.
NAME OF PROJECT: DS Canal Flume Replacement Project

LOCATION

The proposed project is located in unincorporated Nevada County, southeast of Grass Valley. Most of the construction sites occur on private property near Banner Mountain Trail Road, Big Blue Road, Gold Flat Road, and Apple Orchard Road.

ENTITY OR PERSON UNDERTAKING PROJECT: Nevada Irrigation District

STAFF DETERMINATION

The NID’s staff, having undertaken and completed an Initial Study of this project in accordance with Title 14 California Code of Regulations Section 15063 for the purpose of ascertaining whether the proposed project might have a significant effect on the environment, has reached the following conclusion:

1. The project could not have a significant effect on the environment; therefore, a Negative Declaration should be prepared.

2. The project could have a significant effect on the environment; therefore, an EIR will be required.

Date Ron Nelson, General Manager Nevada Irrigation District
NEVADA IRRIGATION DISTRICT

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION
(PUBLIC RESOURCES CODE, SECTION 21092)

PROJECT TITLE: DS Canal Flume Replacement Project

PROJECT LOCATION:
The proposed project is located in unincorporated Nevada County, northeast of Grass Valley. Construction sites occur on private property near Banner Mountain Trail Road, Big Blue Road, Gold Flat Road, and Apple Orchard Road.

PROJECT DESCRIPTION:
This proposed project consists of the replacement of 8 existing elevated wood supported metal flumes along the DS Canal with steel supported elevated 72-inch pipe flumes. The existing flumes connect the DS Canal where it spans natural drainages in order to provide gravity flow along the course of the canal. The flumes proposed for replacement are generally located between the DS Canal's intersections with Banner Mountain Trail (at the east) and Banner Lava Cap Road (at the west). Flume # 13 is proposed to be replaced in its current alignment, requiring a short-term canal outage while construction takes place. Flumes # 14, 15, 16, 17, 18, 19 and 23 are preliminarily scheduled to be constructed parallel to the existing facilities, on the downslope side, and will require a canal outage when they are connected.

LOCATION OF DOCUMENTS FOR REVIEW:
Pursuant to the CEQA Guidelines adopted by Nevada Irrigation District, a Proposed Mitigated Negative Declaration on the above-named project has been prepared and is available for review, along with all documents referenced in the Proposed Negative Declaration, at the NID’s main office complex located at 1036 West Main Street, Grass Valley, California. Additionally, the documents may be viewed on the District’s website at www.nid.dst.ca.us, under Planning and Development in the Project Documents section.

SCHEDULED PUBLIC MEETING:
Final adoption of the Mitigated Negative Declaration will be considered at the June 13, 2007 Nevada Irrigation District Board of Director’s meeting, which commences at 9:00 a.m. at the main office complex.

COMMENTS:
Comments on the Proposed Mitigated Negative Declaration may be made to the NID in writing at any time prior to said Board meeting, or verbally during said Board meeting. Address your written comments Board Secretary, Nevada Irrigation District, 1036 West Main Street, Grass Valley, California 95945-9103.

SIGNIFICANT EFFECTS ON THE ENVIRONMENT:
None, with the mitigation measures identified in the Proposed Mitigated Negative Declaration.

HAZARDOUS WASTE SITES:
The project site is not on the list of hazardous waste sites enumerated in Government Code Section 65962.5.
NEGATIVE DECLARATION REGARDING ENVIRONMENTAL IMPACT

NEVADA IRRIGATION DISTRICT
1036 W. Main Street

GRASS VALLEY, CALIFORNIA  95945-9103

1. NOTICE IS HEREBY GIVEN:

That the project described below has been reviewed pursuant to the provisions of the California Environmental Quality Act of 1970 (Public Resources Code 21100, et seq.) and a determination has been made that it will not have a significant effect upon the environment.

2. PROJECT NAME: DS Canal Flume Replacement Project

3. DESCRIPTION OF PROJECT:

This proposed project consists of the replacement of 8 existing elevated wood supported metal flumes along the DS Canal with steel supported elevated 72-inch pipe flumes. The existing flumes connect the DS Canal where it spans natural drainages in order to provide gravity flow along the course of the canal. The flumes proposed for replacement are generally located between the DS Canal’s intersections with Banner Mountain Trail (at the east) and Banner Lava Cap Road (at the west). Flume #13 is proposed to be replaced in its current alignment, requiring a short-term canal outage while construction takes place. Flumes #14, 15, 16, 17, 18, 19 and 23 are preliminarily scheduled to be constructed parallel to the existing facilities, on the downslope side, and will require a canal outage when they are connected.

The purposes of the project are to increase the capacity of the canal system to convey raw water, and to improve system reliability. The project consists of the following activities:

1. Replace the existing open metal flumes along the DS Canal with 72” diameter steel pipe. The flumes to be replaced are #13 – 19 and 23.

2. Construct new steel support structures, “bents”, and concrete footings across drainages to carry the new pipe flumes.

3. Realign and line short portions of the DS Canal to improve the entry to and exits from the new pipe flumes in order to reduce eddying and erosion potential.

4. This facility provides raw water for irrigation and treatment for domestic use. It is necessary to replace this facility to provide a reliable water supply.

NID convened an Architectural Review (Design) Ad Hoc Committee of several adjoining property owners to discuss the proposed project and to provide input in the design of the flumes.
Construction

NID plans to begin and complete project activities during 2007-2009, beginning in summer 2007 and ending in spring 2009. Construction will occur simultaneously at multiple flume sites. This would be a design/build project. The contractor would be responsible for both design of the flume replacement and its construction. Final design of the project has not been completed at this time. The basic project steps will consist of:

1. vegetation removal and site preparation, including tree removal where necessary;
2. flume and entrance and exit headwalls construction;
3. connection of the new flume to existing canal;
4. removal of the old flume; and
5. site restoration.

The lengths of the flumes being replaced vary. The design has been developed to minimize the aesthetic impact of the new flumes and, to some extent, re-create the look of the existing flumes and bents. Work at each flume will consist of the following:

Flume 13: minor clearing (brush removal); pioneer access route through private property; replace flume in existing alignment

Flume 14: medium level of clearing (brush and some tree removal); possible access from North Canal Road; flume in parallel alignment to south of existing flume

Flume 15: medium level of clearing; access from berm; flume alignment to north of existing flume; existing bridge could be eliminated by extending the flume

Flume 16: medium level of clearing; access from north and south inlets with minor pioneering; flume alignment to north of existing flume; existing bridge could be eliminated by extending the flume

Flume 17: minor level of clearing; access from berm; flume alignment to north of existing flume

Flume 18: minor level of clearing; access to be determined; flume alignment to north of existing flume

Flume 19: major level of clearing (removal of large trees); access to be determined; flume alignment to north of existing flume

Flume 23: minor level of clearing; access from adjoining private yard; flume alignment to north of existing flume

NID has 60-foot wide easements along the DS Canal. New flume alignments may require obtaining new permanent easements. At the same time, existing easements that are no longer needed as a result of realigning the flumes will be quitclaimed to the affected property owners. As a result, no new net additional private property would be needed. Where
necessary for access or staging areas, NID will obtain temporary easements during the construction period.

**Table 1** lists the types of equipment that may be used to construct the proposed project. Not all the equipment would be necessarily used or at a given construction site simultaneously, however, since work will be underway at multiple sites along the canal there may be multiple machines in action at the same time. Material delivery trucks and concrete trucks would be at the site on a transitory basis.

**Table 1.** Types of Equipment That May Be Used to Construct the Proposed Project

- Track excavator
- Track backhoe/loader
- Concrete pumper
- Concrete delivery truck
- Truck and trailer for delivery of pipe and steel trestle
- Water truck
- Pickup trucks
- Welding machine
- Fuel/oil service truck
- Air compressor
- Small crane
- Drilling rig for cast-in-place footings
- Highlead

During the construction period, access to the work area will vary depending upon the locations of the flumes. Equipment and workers generally will access the flumes along the existing canal berm from the nearest road. Construction equipment will use existing roads and rights-of-way to reach the sites, except as noted above, and will not require the creation of any new permanent access roads. Staging areas will be located near each flume and the access. The actual work area will be approximately 40-feet wide.

Workers are expected to drive to the site each day in light trucks or personal vehicles. The number of trips will depend upon the number of workers at any given time at the particular flume site. Although the actual number of trips will vary depending on the length and/or height of each flume, there will be approximately 10 tractor trailer truck trips at each of the flume sites to deliver materials during the construction period.

Construction activities would normally occur on weekdays, excluding holidays, between 7:00 a.m. and 7:00 p.m. If necessary, work may also take place on Saturdays.

To extent possible, the design of and work on the flumes will utilize approaches that minimize the need to create access areas for large machinery. These may include:

a. Use of the high lead technique for removing downed timber rather than using a skidder;
b. Use of a concrete pumper to minimize the need for truck access to footings and other concrete fixtures;
c. Pulling pipe across the bents rather than using a large crane;
d. Apply the AWWA M-11 manual to design the pipeline to allow maximum span and avoid the need to work in creeks; and
e. Use of drilled, cast-in-place bent footings where feasible to minimize the need for excavation.

**Best Management Practices:** NID will require its construction contractor to implement the following best management practices (BMPs) as part of the project in order to minimize and avoid potential impacts on environmental resources. Where applicable, the commitments will be clearly identified on the construction drawings and in the specifications. During construction, the contractor will be responsible for implementing BMPs in a timely manner.

The Contractor, on behalf of NID, will incorporate the following BMPs into the proposed project.

1. Construction activities shall be limited to a designated work area (including the work corridor and staging area). The work area will be clearly identified on the construction drawings and will be staked and flagged prior to initiation of construction activities.
2. The Underground Service Alert will be contacted 48 hours before construction to allow underground utilities to identify the location of their underground facilities and thus greatly reducing the possibility of interruption in utility services.
3. All open trenches shall be filled or covered each night to protect pedestrian and vehicles, and avoid entrapment of wildlife.
4. Construction will proceed with a Storm Water Pollution Prevention Plan. If adverse weather conditions threaten the transport of disturbed soils off-site, additional temporary erosion control measures shall be immediately installed. Soil disturbance shall cease if weather conditions worsen and increase the likelihood of transporting soil off-site.
5. Where possible, the project will be designed to minimize the need to remove mature trees during construction. Any activities that may occur in the dripline of trees shall be minimized to the best extent possible, and temporary exclusion fencing installed to limit access. All areas disturbed during construction will be re-seeded using a mixture of native grass seeds, as recommended by the Nevada County Resource Conservation District.
6. Restrict construction to the hours between 7 a.m. and 7 p.m. on weekdays and Saturdays. All work will be in compliance with applicable noise ordinances.
7. Ensure that all construction equipment must have sound-control devices no less effective than those provided on the original equipment. No equipment shall have an unmuffled exhaust system.
8. Implement appropriate additional noise-reducing measures, including but not limited to:
   a. locating stationary construction equipment away from homes,
   b. limit equipment (i.e., construction equipment and trucks) idling to 5 minutes or less, rescheduling construction activity, and
c. notifying nearby residents 48 hours in advance of construction.

9. To reduce potential contamination by spills, no refueling, storage, servicing, or maintenance of equipment will be performed within 50 feet of sensitive environmental resources. No refueling or servicing will be done without absorbent material or drip pans underneath to contain spilled fuel. Any fluids drained from the machinery during servicing will be collected in leak-proof containers and taken to an appropriate disposal or recycling facility. If such activities result in spillage or accumulation of a product on the soil, the contaminated soil will be assessed and disposed of properly. Under no circumstances will contaminated soils be added to a spoils pile.

10. All maintenance materials (i.e., oils, grease, lubricants, antifreeze, and similar materials) will be stored at off-site staging areas. If these materials are required during field operations, they will be placed in a designated area away from site activities and sensitive resources.

11. Construction equipment exhaust emissions shall not exceed Northern Sierra Air Quality Management District (NSAQMD) Rule 202 Visible Emission limitations. Rule 202 stipulates:
   a. A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three (3) minutes in any one (1) hour which is:
      A. As dark or darker in shade as that designated as No. 1 on the Ringlemann Chart, as published by the United States Bureau of Mines, or
      B. Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection (A) of this section.

12. Implement the following required NSAQMD control measures to control emissions from construction activities:
   a. Alternatives to open burning of vegetative material will be used unless otherwise deemed infeasible by the District. Among suitable alternatives are chipping, mulching, or conversion to biomass fuel.
   b. Adequate dust control measures will be implemented in a timely and effective manner during all phases of project development and construction.
   c. All material excavated, stockpiled, or graded should be sufficiently watered, treated or covered, to prevent fugitive dust from leaving property boundaries and causing a public nuisance or a violation of an ambient air standard. Watering should occur at least twice daily with complete site coverage, preferably in the mid-morning and after work is completed each day.
   d. All areas (including unpaved roads) with vehicle traffic should be watered or have dust palliatives applied, as necessary, for regular stabilization of dust emissions.
   e. All on-site vehicles should be limited to a speed of 15 mph on unpaved roads.
   f. All land clearing, grading, earth moving or excavation activities on a project will be suspended as necessary when winds are expected to exceed 20 mph.
   g. All material transported off-site will be either sufficiently watered or securely covered to prevent a public nuisance.
h. Temporary traffic control will be provided during all phases of the construction to improve traffic flow as deemed appropriate by local transportation agencies and/or Caltrans.

i. Construction activities should be scheduled to direct traffic flow to off-peak hours as much as practicable.

j. All inactive portions of the construction site should be covered, seeded, or watered until a suitable cover is established.

k. The lead agency will be responsible for applying County-approved non-toxic soil stabilizers (according to manufacturer’s specifications) to all inactive construction areas (previously graded areas which remain inactive for 96 hours) in accordance with the local grading ordinance. Acceptable materials that may be used for chemical stabilization of soils include petroleum resins, asphaltic emulsions, acrylics and adhesives which do not violate Regional Water Quality Control Board or California Air Resource Board standards.

13. Construction shall comply with the best management practices set out in the Northern Sierra Air Quality Management District’s Rule 226 Dust Control. All grading operations will be suspended if fugitive dust exceeds Rule 226 Dust Control limitations. This consists of “visible dust of such opacity as to obscure an observer’s view to a degree equal to or greater than an opacity of 20%, for a period or periods aggregating more than three (3) minutes in any one (1) hour.” (The provisions of the Air District’s Rule 226 are attached to this Initial Study).

The following discretionary actions are required by NID for project implementation:

- adoption of MND and Mitigation Monitoring Program by the NID’s Board of Directors;
- approval of final engineering designs; and

4. LOCATION OF PROJECT:

The proposed project is located in unincorporated Nevada County, northeast of Grass Valley. Construction sites occur on private property near Banner Mountain Trail Road, Big Blue Road, Gold Flat Road, and Apple Orchard Road.

5. NAME AND ADDRESS OF PROJECT PROPOONENT:

Nevada Irrigation District, 1036 West Main Street, Grass Valley, California 95945-9103

6. MITIGATION MEASURES:

**Mitigation Measure AIR-1. Implement Construction Emissions Control Technology.**

NID or their contractor shall provide a plan for approval by NSAQMD, demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, shall achieve a project wide fleet-average 20% NOx reduction and 45% particulate reduction compared to the most recent ARB fleet average at time of construction. Control measures available to achieve emissions reductions
include, but are not limited to, use of late-model engines, low-emission diesel products, alternative fuels, engine retrofit technology (e.g., diesel particulate matter filters and lean-NO\textsubscript{X} or diesel oxidation catalysts), after-treatment products, and/or other options as they become available.

**Mitigation Measure AIR-2. Require the Large Diesel-powered Off-road Equipment such as the Excavator, Crane, and Backhoe/Loader to Meet Federal Emissions Standards for Tier 1 or Tier 2.**
The terms of the District contract will provide that the construction contractor shall use off-road equipment that meets federal diesel particulate emissions standards for Tier 1 or Tier 2, or use DPM filters and/or diesel oxidation catalysts to reduce DPM emissions.

**Mitigation Measure AIR-3. Implement ARB Airborne Toxic Control Measures for Naturally Occurring Asbestos.**
The project proponent shall implement all feasible control measures required by the NSAQMD to comply with the requirements listed in the ARB’s Asbestos Airborne Toxic Control Measures for Construction, Grading, Quarrying, and Surface Mining Operations. In order to minimize the impacts to air quality from construction, NID implements BMP’s, as described above in *Project Description*. Additional specific performance standards would be required by the ARB for their control measures for asbestos. Such measures include, but are not limited to, the following:

16. The NSAQMD is notified in writing at least fourteen (14) days before the beginning of the activity or in accordance with a procedure approved by the district.

17. All the following dust control measures are implemented during any road construction or maintenance activity:

   e. Unpaved areas subject to vehicle traffic must be stabilized by being kept adequately wetted, treated with a chemical dust suppressant, or covered with material that contains less than 0.25% asbestos;

   f. The speed of any vehicles and equipment traveling across unpaved areas must be no more than 15 mph unless the road surface and surrounding area is sufficiently stabilized to prevent vehicles and equipment traveling more than 15 mph from emitting dust that is visible crossing the project boundaries;

   g. Storage piles and disturbed areas not subject to vehicular traffic must be stabilized by being kept adequately wetted, treated with a chemical dust suppressant, or covered with material that contains less than 0.25% asbestos; and

   h. Activities must be conducted so that no track-out from any road construction project is visible on any paved roadway open to the public.

18. Equipment and operations must not cause the emission of any dust that is visible crossing the project boundaries.
Mitigation Measure BIO-1: Conduct Focused Surveys for Special-Status Plant Species.
A qualified biologist shall conduct a focused survey for the following potentially occurring special-status plant species during the appropriate blooming season prior to initial ground disturbance to determine presence or absence of these species in the proposed project area:

- Butte County fritillary—March through May
- Brandegee’s clarkia and Cantelow’s lewisia—May through July
- Red-anthered rush, brownish-beaked rush, and bog club-moss—July

Mitigation Measure BIO-2: Avoid and Minimize Impacts on Special-Status Plant Species.
If the special status-status plant species are present in the proposed project area, the project proponent shall implement the following measures to avoid or minimize impacts on special-status plant species.

- Redesign or modify the project to avoid direct and indirect impacts on special-status plant species, if feasible.
- Protect special-status plant species in and near the proposed project area by installing ESA fencing (orange construction barrier fencing) around special-status plant populations. The ESA fencing shall be installed at least 20 feet from the edge of the population where feasible. Where special-status plant populations are located in wetlands, silt fencing shall also be installed. The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced ESA.

Mitigation Measure BIO-3: Determine Whether California Red-Legged Frogs Occur in the Proposed Project Area.
NID shall retain a qualified biologist to prepare a site assessment. The biologist shall implement USFWS’ Revised Guidance on Site Assessment and Field Surveys for the California Red-legged Frog—August 2005 in all suitable aquatic habitat and surrounding areas (U.S. Fish and Wildlife Service 2005).

The biologist shall first prepare and submit a site assessment for USFWS to determine whether there is potential for CRLF to occur in aquatic and upland habitat in the proposed project area.

If USFWS determines that suitable habitat for CRLF does not occur in the proposed project area, this mitigation measure is satisfied. Under this determination, implementation of Mitigation Measure BIO-3 would reduce this impact to less than significant.

However, if USFWS determines that suitable habitat for CRLF does occur in the proposed project area, NID can either assume presence or conduct protocol-level surveys to determine presence or absence.
If NID decides to pursue protocol-level surveys, they must conform to USFWS guidelines. The guidelines recommend that up to eight surveys be conducted to determine the presence of CRLF in the proposed project area. Two day surveys and four night surveys are recommended during the breeding season (January through June); and one day and one night survey is recommended during the non-breeding season (July 1 through September 30). Each survey must take place at least 7 days apart and at least one survey must be conducted prior to August 15. The survey period must conducted be over a minimum period of 6 weeks. If CRLF are identified at any time during the survey, no additional surveys will be necessary. Any CRLF identified during the survey will be mapped and documented as part of the public record.

If NID assumes presence of CRLF or CRLF are identified during protocol-level surveys, then a Biological Opinion authorizing incidental take, as described above under federal Endangered Species Act, must be obtained from the USFWS prior to the start of construction activities. Implementation of Mitigation Measure BIO-4 would reduce impacts to less-than-significant levels.

**Mitigation Measure BIO-4: Avoid or Minimize Impacts to California Red-Legged Frogs by Protecting Frog Populations during Construction.**
If CRLF are determined or assumed to be present under the conditions defined above, NID or its contractor shall implement the following measures before and during construction activities occurring within areas of suitable habitat as indicated by USFWS to minimize both direct and indirect impacts on CRLFs. USFWS may determine additional avoidance, minimization, and compensation requirements during the Section 7 process.

- Obtain a USFWS-approved biologist to conduct a preconstruction survey immediately preceding any construction activity that occurs in CRLF habitat or any activity that may result in take of the species. The USFWS-approved biologist will carefully search all obvious potential hiding spots for CRLFs and the perimeter of any aquatic habitat. In the event that a CRLF is found during the preconstruction survey, the biologist will implement minimization and avoidance measures identified in the Biological Opinion.

- Prepare an erosion and sediment control plan that will include measures to prevent impacts wetlands and aquatic habitat outside of the proposed project area. Tightly woven natural fiber netting or similar material will be used for erosion control or other purposes in the project site to ensure that CRLFs are not trapped. This limitation will be communicated to the contractor through use of special provisions included in the bid solicitation package. Coconut coir matting is an acceptable erosion control material. No plastic monofilament matting will be used for erosion control.

- Limit access routes to proposed project area and the size of staging and work areas to the minimum necessary to achieve the project goals. Clearly mark routes and boundaries of the access roads prior to initiating construction/grading.

- Enclose all food and food-related trash in sealed trash containers at the end of each workday and remove it completely from the construction site once every 3 days.
- No pets will be allowed on the construction site.
- Maintain a speed limit of 15 miles per hour on dirt roads.
- Maintain all equipment so that there will be no leakage of automotive fluids such as fuels, oils, and solvents. Any fuel or oil leaks will be cleaned up immediately and disposed of properly.
- Store all hazardous materials such as fuels, oils, solvents, etc., in sealable containers in a designated location that is at least 200 feet from the drainages or other aquatic habitats. All fueling and maintenance of vehicles and other equipment will occur at least 200 feet these areas.
- Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas and temporary roads, will be recontoured if necessary, and revegetated to promote restoration of the area to preproject conditions. An area subject to “temporary” disturbance means any area that is disturbed during the project but that after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with revegetation experts.
- NID will continue to provide water to pond adjacent to flume 23 at a rate necessary to sustain current habitat value.

**Mitigation Measure BIO-5: Conduct Tree and Shrub Trimming and Removal Activities during the Nonbreeding Season for Cooper’s Hawk, Sharp-Shinned Hawk, and Non-Special-Status Migratory Birds and Raptors or Retain a Qualified Biologist to Conduct a Nesting Bird Survey before Tree Removal Activities.**

To avoid removing any active Cooper’s hawk, sharp-shinned hawk, or other non-special status bird and raptor nests, tree and shrub trimming and removal activities shall be conducted during the nonbreeding season for these species (generally between August 16 and February 28).

If tree and shrub trimming and removal activities are conducted during nesting season (generally between March 1 and August 15), a preconstruction survey shall be conducted by a qualified biologist to determine whether there are active nests present. The survey will be conducted no more than 14 days prior to construction. If the biologist determines that the area surveyed does not contain any active nests, trimming and removal activities can commence without any further mitigation.

If an active migratory bird or raptor nest is discovered during the nesting survey, a no-disturbance buffer will be established around the nest to avoid disturbance of destruction of the nest. The distance around the no-disturbance buffer will be determined by the biologist in coordination with DFG and will depend on the level of noise or construction activity, the level of ambient noise in the vicinity of the nest, and line-of-sight between the nest and disturbance. The no-disturbance buffer will remain in place until after the nesting season (March 1 through August 15) or until the biologist determines that the young have fledged.
Mitigation Measure BIO-6: Avoid or Minimize Disturbance of Riparian Habitats.
To the extent possible, the project proponent shall avoid impacts on riparian habitats by implementing the following measures.

- Redesign or modify the project to avoid direct and indirect impacts on riparian habitats, if feasible.
- Protect riparian habitats that occur in or near the proposed project area by installing ESA fencing at least 20 feet from the edge of the riparian vegetation where feasible. Depending on site-specific conditions, this buffer may be narrower or wider than 20 feet to protect the area from erosion. The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language stating that construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities are prohibited within the fenced ESA.
- Minimize the potential for long-term loss of riparian vegetation in the project area by trimming vegetation rather than removing the entire shrub where feasible. Shrub vegetation shall be cut at least 1 foot above ground level to leave the root systems intact and allow for more rapid regeneration. Cutting shall be limited to a minimum area necessary within the construction zone. This type of removal shall be allowed only for shrub species. To protect migratory birds, no removal of woody riparian vegetation shall be allowed between March 15 and September 15 if active nests are present, as required under the MBTA.

Mitigation Measure BIO-7: Compensate for the Loss of Riparian Habitat.
If it is determined by a state or federal agency that riparian habitat is permanently removed as part of the proposed project, the project proponent shall compensate for the permanent loss of riparian vegetation to ensure no net loss of habitat functions and values. Compensation ratios shall be based on site-specific information and determined through coordination with state and federal agencies (including DFG, USFWS, NOAA Fisheries, and USACE). Compensation shall be provided at a minimum ratio of 3 acres restored, acquired, or created for every 1 acre removed. Compensation may include restoration/creation, off-site restoration, acquisition, or mitigation credits (or a combination of these elements). The project proponent shall develop and implement a restoration and monitoring plan that describes how riparian habitat shall be enhanced or recreated, then monitored over a minimum period of time, as determined by the appropriate state and federal agencies.

Mitigation Measure BIO-8: Identify and Delineate Waters of the United States, Including Wetlands.
The project proponent shall retain a wetlands consultant to identify areas that could qualify as waters of the United States, including wetlands. Potential wetlands shall be identified using both the USACE and USFWS/DFG definitions of wetlands. USACE jurisdictional wetlands shall be delineated using the methods outlined in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987). The jurisdictional boundary for other waters of
the United States shall be identified based on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris; or other appropriate means that consider the characteristics of the surrounding area (33 CFR 328.3[e]).

This information shall be mapped and documented in wetland delineation reports and submitted to the USACE for verification. This project lies within the boundaries of the USACE’s Sacramento District and delineation reports shall include all information to meet their revised minimum standards.

Mitigation Measure BIO-9: Avoid or Minimize Disturbance of Waters of the United States, Including Wetland Communities.
To the extent possible, the NID or their contractor shall avoid or minimize impacts on wetlands and other waters of the United States by implementing the following measures.

- Redesign or modify the proposed project to avoid direct and indirect impacts on wetland habitats, if feasible.
- Protect wetland habitats that occur near the proposed project area by installing ESA fencing at least 20 feet from the edge of the wetland. Depending on site-specific conditions and permit requirements, this buffer may be wider than 20 feet to prevent erosion and sedimentation impacts on wetland habitats. The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language stating that construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities are prohibited within the fenced ESA. All protective measures will remain in place until all construction activities near the resource have been completed and shall be removed immediately following construction activities.
- Retain construction inspectors to inspect routinely the protected areas to ensure that protective measures are in place and effective.
- Avoid construction activities in saturated or ponded wetlands during the wet season (spring and winter) to the maximum extent possible. Where such activities are unavoidable, use protective practices, such as padding or vehicles with balloon tires.
- Where determined necessary by resource specialists, use geotextile cushions and other materials (e.g., timber pads, prefabricated equipment pads, or geotextile fabric) in saturated conditions to minimize damage to the substrate and vegetation.
- Stabilize immediately exposed slopes and stream banks on completion of installation activities. Restore other waters of the United States in a manner that encourages vegetation to reestablish to its preproject condition and reduces the effects of erosion on the drainage system.
- Stabilize banks in highly erodible stream systems using a nonvegetative material that binds the soil initially and breaks down within a few years. If the project engineers determine that more aggressive erosion control treatments are needed, use geotextile mats, excelsior blankets, or other soil stabilization products.

- Remove in a manner that minimizes disturbance of the drainage bed and bank any trees, shrubs, debris, or soils that are inadvertently deposited during construction below the OHWM of drainages.

- Promptly complete all construction-related activities to minimize their duration and resulting impacts.

These measures shall be incorporated into contract specifications and implemented by the construction contractor. In addition, the project proponent shall ensure that the contractor incorporates all permit conditions into construction specifications.

**Mitigation Measure BIO-10: Compensate for the Loss of Wetland Habitat.**

If wetlands are filled or disturbed as part of the proposed project, the project proponent shall compensate for the loss of wetland habitat to ensure no net loss of habitat functions and values. Compensation ratios shall be based on site-specific information and determined through coordination with state, federal, and local agencies (including DFG, USFWS, and the USACE) as part of the permitting process for the project.

**Mitigation Measure BIO-11: Install Temporary Construction Fencing or Flagging to Protect Trees.**

Where practical, NID will require the contractor to install a 4-foot-tall, brightly colored (usually yellow or orange), synthetic mesh high visibility exclusionary fence surrounding the trees’ root zone. The fence shall be staked 10 feet on center maximum spacing, with 5-foot steel “T” posts, 2 inch by 2 inch square or greater than 2-inch diameter wood posts. The exclusionary area shall be under the tree’s branched canopy and extending out to the tree’s longest dripline radius as a circle. Where excavation will be within the root protection zone, the fencing shall be 2 feet away from the trench and extend around the rest of the canopy of the tree from that point. The fencing shall be maintained and not removed until the completion of excavation. Whenever possible, include as many trees that are to be saved into one fenced exclusionary critical root zone (the longest dripline measurement as the radius of a circle plus 20%). The fencing may be removed once the NID completes the flume installation and back fills the trenches. If fencing is not practical due to access or traffic limitations, orange flagging around tree trunks will act as a visual indicator for tree protection.

No construction activity, including grading, shall be allowed until this condition is satisfied. The fencing or flagging acts as an indicator to the contractor to exercise care with the fenced or flagged area.

The temporary construction fencing or flagging and a note reflecting this condition shall be shown on the design plans.
Mitigation Measure BIO-12: Mulch below Trees after Trenching.
NID will require the contractor to mulch the area under trees with pine needles or a fine shredded redwood bark (up to 4-6 inches) to hold moisture in the root system. Mulching right up to the trunks should be avoided, as this will cause the trunks to be more prone to rot.

Mitigation Measure CR-1: Implement Plan to Address Discovery of Unanticipated Buried Cultural or Paleontological Resources. If buried cultural resources such as chipped or ground stone, midden deposits, historic debris, building foundations, human bone, or paleontological resources are inadvertently discovered during ground-disturbing activities, work shall stop in that area and within 100 feet of the find until a qualified archaeologist or paleontologist can assess the significance of the find and, if necessary, develop appropriate treatment measures in consultation with the NID and other appropriate agencies.

Mitigation Measure CR-2: Implement Plan to Address Discovery of Human Remains. If remains of Native American origin are discovered during project construction, it will be necessary to comply with state laws concerning the disposition of Native American burials, which fall within the jurisdiction of the NAHC. If any human remains are discovered or recognized in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

- the Nevada County coroner has been informed and has determined that no investigation of the cause of death is required; and
- if the remains are of Native American origin:
  - the most likely descendants of the deceased Native Americans have made a recommendation to the landowner or person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC 5097.98, or
  - the NAHC has been unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified.

According to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100) and disturbance of Native American cemeteries is a felony (Section 7052). Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the NAHC.
7. FILING LOCATION:

A copy of the initial study regarding the environmental effect of this project is on file at the NID Office located at 1036 West Main Street, Grass Valley, California.

8. THIS STUDY WAS:

- Adopted as presented
- Adopted with changes. Specific modifications and supporting reasons are attached.

The NID Board of Directors held a public hearing on this Negative Declaration on June 13, 2007

9. DETERMINATION:

On the basis of the initial study of environmental impact, the information presented at hearings, comments received on the proposal, and our own knowledge and independent research:

- We find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION is hereby adopted.

- We find that the proposed project COULD have a significant effect on the environment but will not in this case because of attached mitigation measures described in Item 6 above that are by this reference made conditions of project approval. A CONDITIONAL NEGATIVE DECLARATION is hereby adopted.

__________________________  ______________________________
Date  Ron Nelson, General Manager
      Nevada Irrigation District
NOTICE OF DETERMINATION

To: County Clerk
County of Nevada

From: Nevada Irrigation District
1036 W. Main Street
Grass Valley, CA 95945-9103

SUBJECT: Filing of Notice of Determination in Compliance with Section 21108 or 21152 of the Public Resources Code.

DS Canal Flume Replacement Project
Project Title

State Clearinghouse Number (if submitted to State Clearinghouse)

Tonia M. Tabucchi Herrera, Assistant Engineer 530 273-6185 215
Contact Person Area Code Phone Ext.

PROJECT LOCATION:
The proposed project is located in unincorporated Nevada County, northeast of Grass Valley. Construction sites occur on private property near Banner Mountain Trail Road, Big Blue Road, Gold Flat Road, and Apple Orchard Road.

PROJECT DESCRIPTION:
This proposed project consists of the replacement of 8 existing elevated wood supported metal flumes along the DS Canal with steel supported elevated 72-inch pipe flumes. The existing flumes connect the DS Canal where it spans natural drainages in order to provide gravity flow along the course of the canal. The flumes proposed for replacement are generally located between the DS Canal's intersections with Banner Mountain Trail (at the east) and Banner Lava Cap Road (at the west). Flume # 13 is proposed be replaced in its current alignment, requiring a short-term canal outage while construction takes place. Flumes # 14, 15, 16, 17, 18, 19 and 23 are preliminarily scheduled to be constructed parallel to the existing facilities, on the downslope side, and will require a canal outage when they are connected.

This is to advise that the NEVADA IRRIGATION DISTRICT approved the above-described project on June 13, 2007, after complying with CEQA, and has made the following determinations regarding the above-described project.

1. The project ☒ will ☐ will not have a significant effect on the environment.

2. ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
   ☒ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
The EIR or Negative Declaration and record of project approval may be examined at the NID’s office at 1036 West Main Street, Grass Valley, California.

3. Mitigation measures ☑ were, ☐ were not made a condition of the approval of the project.

4. A Statement of Overriding Considerations ☐ was, ☑ was not adopted for this project.

5. Findings ☐ were, ☑ were not made pursuant to the provisions of CEQA.

6. A mitigation reporting or monitoring plan ☑ was, ☐ was not adopted for this project.

_____________________________  ________________________________
Date                                           Ron Nelson, General Manager
                                                Nevada Irrigation District