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**State of California  
The Resources Agency  
Department of Water Resources  
Division of Operations and Maintenance  
Oroville Field Division**

**FINAL**

**Mitigated Negative Declaration and Initial Study  
for the  
Emergent Wetland Creation Project  
Oroville Wildlife Area**



**JULY 29, 2008**

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## FINAL MITIGATED NEGATIVE DECLARATION

**Project:** Emergent Wetland Creation Project, Oroville Wildlife Area

**Lead Agency:** California Department of Water Resources, Oroville Field Division

### PROJECT DESCRIPTION

The California Department of Water Resources (DWR) proposes to create approximately 13 acres of emergent wetland/pond and 2.5 acres of adjacent riparian shrub/woodland habitat in the Oroville Wildlife Area (OWA).

In 1995, DWR received a Department of Army Corps of Engineers (ACOE) Section 404 Permit for construction of two brood ponds (A2 and B1) in the Thermalito Afterbay. As a condition of the ACOE Permit (#199400490), 9.4 acres of emergent wetland and open water habitat are to be created by DWR as mitigation for habitat lost as a result of the construction of these brood ponds. A wetland mitigation plan was submitted to and approved by the ACOE. This proposed project will fulfill the mitigation requirement of ACOE Permit #199400490.

DWR proposes to construct two emergent wetland/open water ponds in the Oroville Wildlife Area by removing approximately 242,000 cubic yards of cobble and gravel. The proposed project site presently supports non-native ruderal grassland but is surrounded by riparian woodland and emergent wetlands. It is located adjacent to an existing haul road used by a gravel operator to move material from leased lands south of the project area. DWR would issue a contract through a competitive bid process for a contractor to excavate and grade the ponds and remove the materials from the work site.

### PROJECT LOCATION

The proposed mitigation site is located on State lands within the OWA south of the city of Oroville in Butte County and is depicted on the Palermo Quadrangle (T18N, R3E, Sections 10 and 11). It lies west of State Route (SR) 70 between the small residential community of Oak Grove and the Feather River. Oak Grove is located approximately ½ mile east of the proposed project site.

The project site is located in an area of the OWA where public vehicular access is restricted. The site is adjacent to an unpaved gravel haul road used by gravel operators to transport material from an area leased from DWR to their plant approximately two miles north of the proposed project site. The site is rural in nature (part of a DFG wildlife area) and is bisected by a drainage canal.

## **FINDINGS**

Based on the analysis in the Initial Study, it has been determined that the proposed project would not have any significant effects on the environment after implementation of mitigation measures. This conclusion is supported by the following findings:

1. The proposed project would have no effects related to Agricultural Resources, Hazards and Hazardous Materials, Land Use Planning, Populations and Housing, Public Services, and Recreation.
2. The proposed project would have a less-than-significant impact on Aesthetics, Cultural Resources, Geology and Soils, Mineral Resources, Transportation/Traffic, and Utilities and Service Systems.
3. The proposed project would have potentially significant impacted related to Air Quality, Biological Resources, Hydrology and Water Quality, and Noise.

The following mitigation measures would be implemented by DWR and the contractor to avoid or minimize environmental impacts. Implementation of these mitigation measures would reduce the environmental impacts of the proposed project to a less-than-significant level.

## **AIR QUALITY**

### **Mitigation Measure 3.3.1**

DWR shall require the Contractor to implement the following BCAQMD-recommended standard mitigation measures to reduce project-generated construction-related emissions of fugitive dust (BCAQMD 2008):

- Water shall be applied by means of truck(s), hoses, and/or sprinklers as needed prior to any land clearing or earth movement to minimize dust emission.
- Haul vehicles transporting soil into or out of the property shall be covered.
- A water truck or spraying system shall be on site at all times. Water shall be applied to disturbed areas a minimum of 2 times per day or more as necessary.
- On-site vehicles shall be limited to a speed which minimizes dust emissions on unpaved roads.
- DWR shall post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 24 hours. The telephone number of BCAQMD shall also be visible to ensure compliance with BCAQMD Rules 200 (Nuisance) & 205 (Fugitive Dust Emissions).
- All visibly dry disturbed soil surface areas of operation shall be watered to minimize dust emissions.

- Existing roads and streets adjacent to the project shall be cleaned at least once per day unless conditions warrant a greater frequency.
- All visibly dry disturbed unpaved roads and surface areas of operation shall be watered to minimize dust emissions.
- Unpaved roads may be graveled to reduce dust emissions.
- Haul roads shall be sprayed down at the end of the work shift to form a thin crust. This application of water shall be in addition to the minimum rate of application.
- Vehicles entering or exiting construction area shall travel at a speed which minimizes dust emissions.
- Construction workers shall park in designated parking area(s) to help reduce dust emissions.

### **Mitigation Measure 3.3.2**

DWR shall require the Contractor to implement the following BCAQMD-recommended standard mitigation measures to reduce project-generated construction-related exhaust emissions (BCAQMD 2008):

- Maintain all construction equipment in proper tune according to manufacturer's specifications.
- Maximize to the extent feasible, the CARB's 1996 or newer certification standard for off-road heavy-duty diesel engines.
- Minimize idling time to 5 minutes.
- Substitute gasoline-powered for diesel-powered, where feasible.
- Use equipment that has Caterpillar pre-chamber diesel engines, where feasible.
- Construction contracts shall request the Contractor achieve a project wide fleet-average 20% NO<sub>x</sub> reduction and 45% particulate reduction for the heavy-duty (>50 horsepower) off road vehicles compared to the most recent ARB fleet average at time of construction. Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.

## **BIOLOGICAL RESOURCES**

### **Mitigation Measure 3.4.1**

- No excavation and grading activities would occur within 200 feet of the central ditch between October 1 and May 1.

## HYDROLOGY AND WATER QUALITY

### Mitigation Measure 3.8.1

- Conduct all work according to site-specific construction plans that identify areas for clearing and grading.
- Avoid riparian vegetation wherever possible. Woody vegetation will be retained on site and will be clearly marked prior to construction activities.
- Stabilize disturbed soils before onset of heavy winter rains.
- Develop and implement strict onsite handling rules to keep construction and maintenance materials out of drainages and waterways.
- Conduct all refueling and servicing of equipment with absorbent material or drip pans underneath to contain spilled fuel. Collect any fluid drained from machinery during servicing in leak-proof containers and deliver to an appropriate disposal or recycling facility.
- Maintain controlled construction staging, site entrance and fueling areas at least 100 feet away from water channels or wetlands to minimize accidental spills and runoff of contaminants in stormwater.
- Prevent any petroleum products that could be hazardous to aquatic life from contaminating the soil or entering watercourses.
- Maintain spill cleanup equipment in proper working condition. Clean up all spills immediately according to the spill prevention and response plan, and immediately notify DFG and the RWQCB of any spills and cleanup procedures.

## NOISE

### Mitigation Measure 3.11.1

- Limit construction activities to the daylight hours between 7 a.m. to 7 p.m.
- Ensure all construction equipment have mufflers no less effective than original equipment and maintained to minimize noise generation.

**Authority and Points of Contact for Information:** This document reflects the independent judgment of the California Department of Water Resources. California Environmental Quality Act compliance documentation is available from Gail Kuenster with the Oroville Field Division at (530) 534-2401 or [kuenster@water.ca.gov](mailto:kuenster@water.ca.gov).

**Environmental Review Process:** Copies of the Proposed Mitigated Negative Declaration/Initial Study were submitted to the Governor's Office of Planning and Research, State Clearinghouse on May 12, 2008, initiating the 30-day public and agency review period, which ended on June 10, 2008 (SCH #2008052041). A Notice of Intent to Adopt a Mitigated Negative Declaration under CEQA was posted by the Butte

County Clerk on May 9, 2008 and was published as a legal classified ad on May 22, 23, 24, 26, 2008 in Chico Enterprise Record newspaper in Chico, California and the Oroville Mercury newspaper in Oroville, California.

**Comments and Responses:** Two comments were received. The comment letter resulted in no changes to the project or initial study analysis. Copies of the comment letters and DWR's responses can be found in Appendix B of the Final Initial Study.

**Approval of the Project by the Lead Agency:**

In accordance with Section 21082.1 of the California Environmental Quality Act, the California Department of Water Resources has prepared this Initial study and mitigated negative declaration for the Emergent Wetland Creation Project. The lead agency finds that the project design features will be implemented as described herein.

I hereby approve this project:



Pete Scheele, Chief  
Oroville Field Division  
Department of Water Resources

7/29/08

Date

**INITIAL STUDY  
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## **1.0 INTRODUCTION**

### **1.1 INTRODUCTION**

The California Department of Water Resources (DWR) proposes to create approximately 13 acres of emergent wetland/pond and 2.5 acres of adjacent riparian shrub/woodland habitat in the Oroville Wildlife Area (OWA).

In 1995, DWR received a Department of Army Corps of Engineers (ACOE) Section 404 Permit for construction of two brood ponds (A2 and B1) in the Thermalito Afterbay. As a condition of the ACOE Permit (#199400490), 9.4 acres of emergent wetland and open water habitat are to be created by DWR as mitigation for habitat lost as a result of the construction of these brood ponds. A wetland mitigation plan was submitted to and approved by the ACOE. This proposed project will fulfill the mitigation requirement of ACOE Permit #199400490.

### **1.2 PURPOSE OF DOCUMENT**

This document was prepared to address the environmental consequences of the proposed project and includes an initial study (IS) and a proposed mitigated negative declaration (MND). This joint IS/MND is prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code §21000 et seq., and the State CEQA Guidelines, Title 14 California Code of Regulations (CCR) §15000 et seq.

The purpose of this IS/MND is to: (1) determine whether project implementation would result in potentially significant or significant effects to the environment, and (2) incorporate mitigation measures into the project design, as necessary, to eliminate the project's potentially significant or significant project effects or reduce them to a less-than-significant level.

DWR has prepared this IS to evaluate the potential environmental effects of the proposed project and has incorporated mitigation measures to reduce or eliminate any potentially significant project-related impacts. Therefore, a MND has been prepared for this project.

## **2.0 PROJECT DESCRIPTION**

### **2.1 PURPOSE AND NEED**

In 1995, DWR received a Department of Army Corps of Engineers (ACOE) Section 404 Permit for construction of two brood ponds (A2 and B1) in the Thermalito Afterbay. As a condition of the ACOE Permit (#199400490), 9.4 acres of emergent wetland and open water habitat are to be created by DWR as mitigation for habitat lost as a result of the construction of these brood ponds. A wetland mitigation plan was submitted to and approved by the ACOE. This proposed project will fulfill the mitigation requirement of ACOE Permit #199400490.

### **2.2 BACKGROUND**

DWR owns and operates the Oroville Facilities which were developed as part of the State Water Project (SWP). These include Lake Oroville and associated facilities, such as the Thermalito Complex and the OWA. The hydroelectric facilities associated with the Oroville Facilities operate under a Federal Energy Regulatory Commission (FERC) license.

The Oroville Facilities include facilities and operations to help protect and enhance fish and wildlife species and their habitat. Many of the environmental programs implemented within the FERC project boundary are cooperatively managed or are based on agreements with other agencies such as the California Department of Fish and Game (DFG) and the U.S. Fish and Wildlife Service (USFWS). This includes operation and maintenance of the OWA. DWR, DFG, the California Waterfowl Association, and other stakeholders have worked cooperatively since 1991 to minimize and avoid waterfowl losses and increase production in the OWA through programs such as the construction of brood ponds in Thermalito Afterbay. This project will mitigate the environmental affects of constructing Brood Ponds A2 and B1 and will create approximately 13 acres of emergent wetland/pond and 2.5 acres of riparian shrub/woodland habitat.

### **2.3 PROJECT LOCATION**

The proposed mitigation site is located on State lands within the OWA south of the city of Oroville in Butte County (Figure 2.3.1 and 2.3.2) and is depicted on the Palermo Quadrangle (T18N, R3E, Sections 10 and 11). It lies west of State Route (SR) 70 between the small residential community of Oak Grove and the Feather River. Oak Grove is located approximately ½ mile east of the proposed project site.

The OWA comprises approximately 11,000 acres west of Oroville that are managed for wildlife habitat and recreational activities. It includes Thermalito Afterbay and

surrounding lands (approximately 6,000 acres) and 5,000 that straddles 12 miles of the Feather River. The majority of the area adjacent to the Feather River was historically dredge mined. It now includes sparse to moderately forested willow and cottonwood woodlands, ponds, islands, and a large number of acres of unvegetated dredge tailings. Limited gravel extraction occurs in the southeast portion of the OWA.

The project site is located in an area of the OWA where public vehicular access is restricted. The site is adjacent to an unpaved gravel haul road used by gravel operators to transport material from an area leased from DWR to their plant approximately two miles north of the proposed project site. The site is rural in nature (part of a DFG wildlife area) and is bisected by a drainage canal. A low-density residential area is located approximately .5 miles east of the proposed project site.

#### **2.4 PROJECT SITE OWNERSHIP/HISTORY**

The project site is located on state lands that were initially known as the Oroville Borrow Area, an area historically dredge mined, and was the source of aggregate for the construction of Lake Oroville Dam. DWR acquired the Oroville Borrow Area for the purpose of the State Water Resources Development System in 1962. By 1968, a total of 5500 acres were transferred from DWR to DFG for creation of the OWA. The Thermalito Afterbay was added to the OWA almost 20 years later in 1987. The State of California holds fee-title ownership to all State lands within the OWA, but DWR transferred management rights of these lands to DFG under a "transfer of control and possession," a legal document that gives the receiving agency an easement to carry out management and maintenance responsibilities. However, in spite of the DFG management responsibility, DWR still bears the ultimate responsibility for these lands under the FERC license.

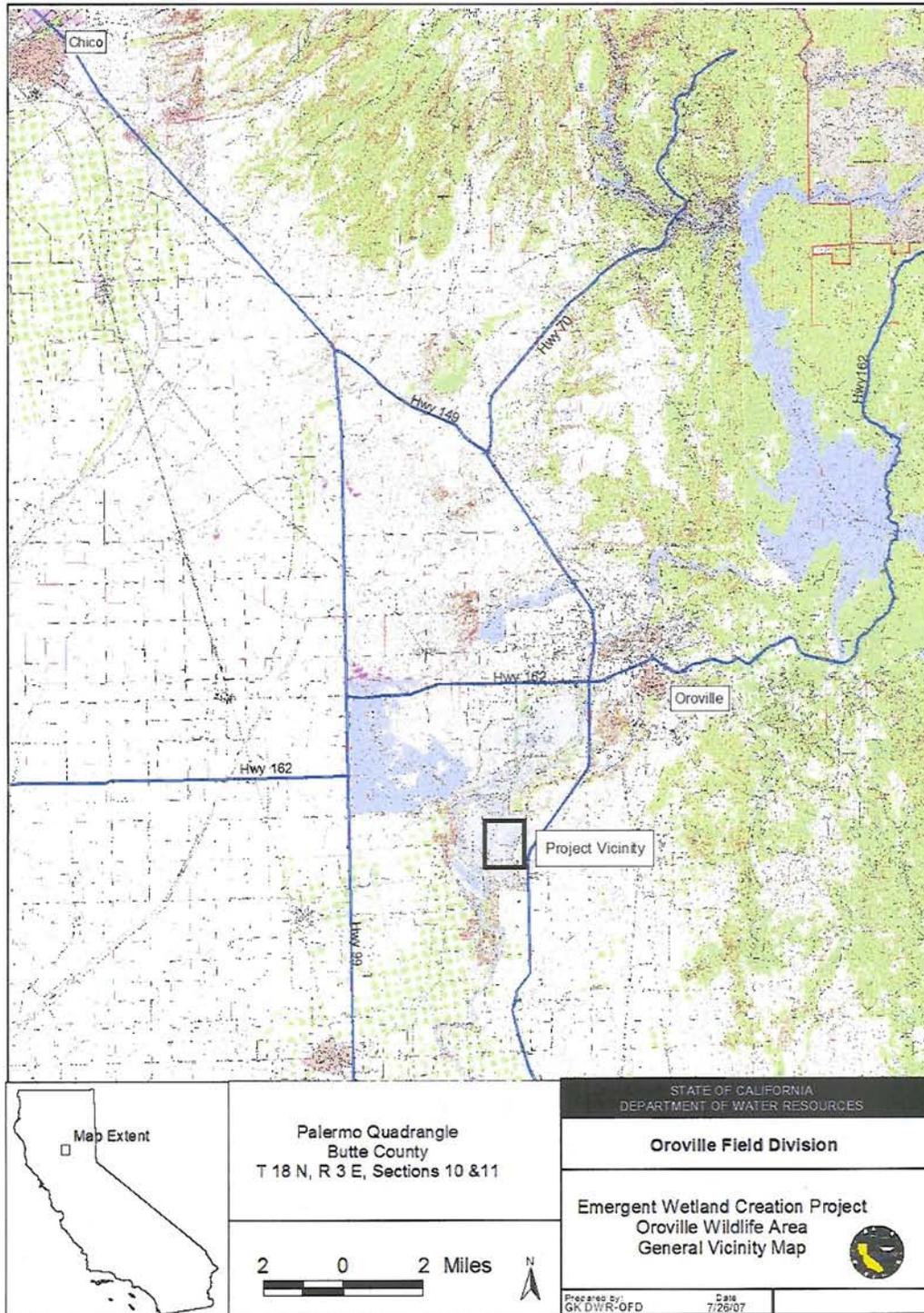


Figure 2.3.1. Emergent Wetland Creation Project general location.

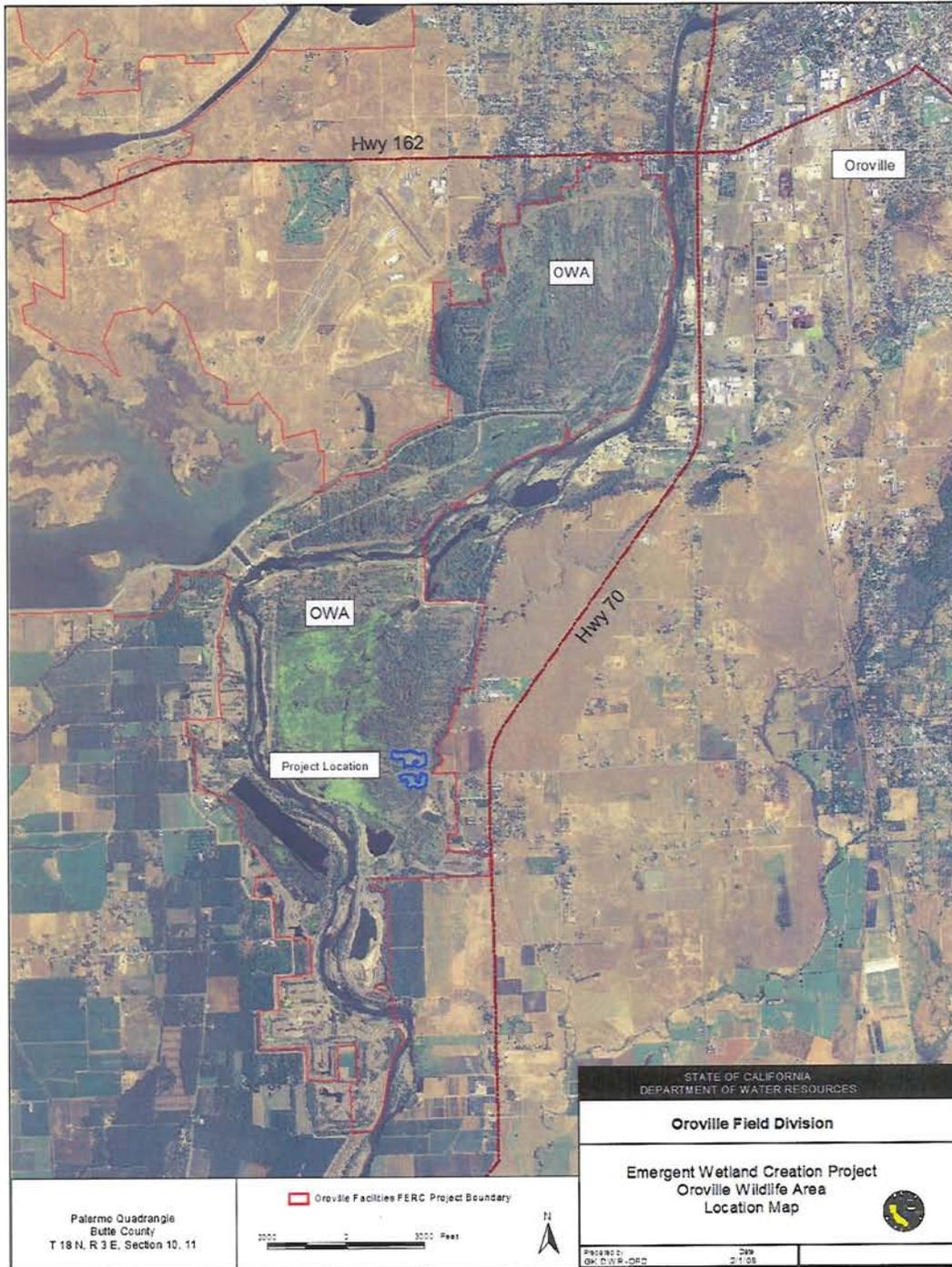


Figure 2.3.2. Project location in Oroville Wildlife Area.

## 2.5 PROJECT FEATURES AND CONSTRUCTION

### 2.5.1 Project Features and Construction

**Design:** DWR proposes to create two emergent wetland ponds. The proposed site is bisected by a canal. A pond will be created in each of the fields adjacent to the canal. The created pond on the north side of the canal is referred as the north pond and the one south of the canal is the south pond. The ponds are designed to provide an average maximum summer water depth of approximately 2 feet deep and not less than 12 inches deep. Deeper pools up to 7 feet deep will be created covering approximately 0.3 acres. An existing willow/oak stand in the middle of the south project site will be retained as an inlet island. Two small stands of small valley oaks in the north project site will also be retained if possible. The sites will be contoured with variations in cut slopes along the pond edges and terrace elevations to enhance habitat quality and overall diversity. Upland edges will also be lowered to create adjacent open riparian shrub/forest or valley oak habitat. This project would excavate surfaces at slopes between 10:1 and 4:1 (horizontal: vertical) to tie into existing ground water elevations. A small deeper water area will be constructed in each wetland with slopes at 3:1.

**Construction:** Approximately 242,000 cubic yards of material will be removed. Surface and sub-surface material consists of a mixture of cobbles, gravels, and sands with less than 5 percent silts and clays (typical). The pond areas will be excavated, graded, and contoured to specific engineering plans (Figure 2.5.1, 2.5.2, and 2.5.3). The retained tree stands (willow/oaks in the south project site and valley oaks in the north project site) will be protected by establishing a 10-ft buffer zone beyond the drip line of each retained tree. To promote revegetation, select finer-grained materials consisting primarily of gravels and sands may be used as plant bedding material in excavated areas with a high percentage of cobbles. Suitable plant bedding materials are anticipated to be excavated from the south pond and will be stockpiled for reuse in a nearby staging area.

DWR will issue a contract through a competitive bid process for a contractor to excavate and grade the ponds and remove the materials from the work site. The excavated materials have significant commercial value; therefore DWR anticipates the Contractor will transport the excavated materials away from the work site to the Contractor's chosen location for reuse at the Contractor's discretion. The excavation will yield approximately 242,000 cubic yards of cobble, gravel, and sand requiring an estimated 20,167 truck loads to haul the material off site assuming highway-rated truck loads containing 12 cubic yards of excavated material per truckload. The materials will be transferred directly from the pond excavations with no stockpiling or processing on-site. The final disposal site will be determined through the competitive bid process, but is anticipated to be a local sand and gravel plant capable of processing the dredge tailings into commercial construction products.

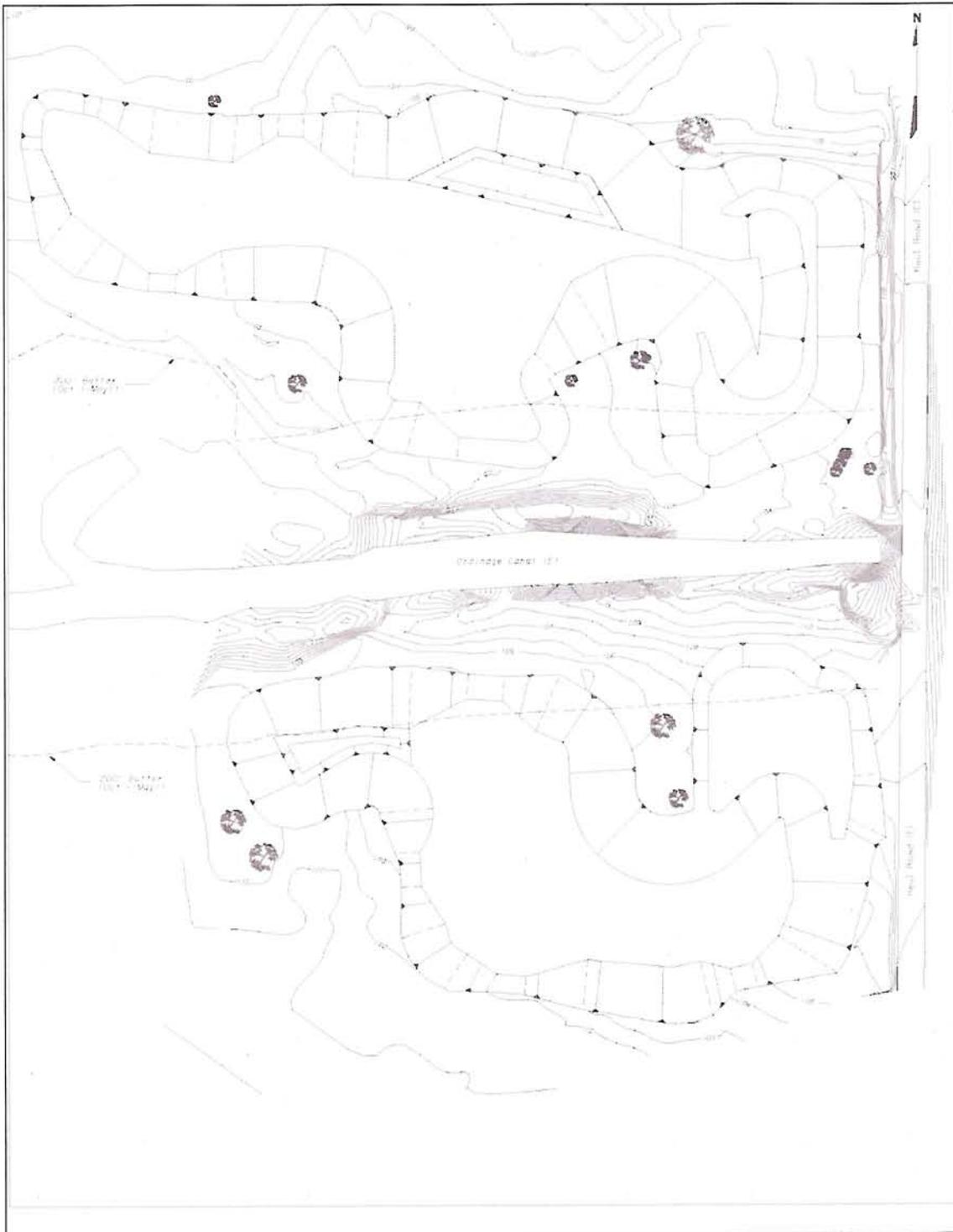


Figure 2.5.1. Emergent wetland ponds schematic (not to scale).





## 2.5.2 Construction Equipment and Staging Area

The earthwork will likely be accomplished with one track-mounted excavator to excavate the ponds both above and below the groundwater level. One front end loader will be used to load dump trucks for hauling off site. Water trucks may be required in the event the excavation operations generate dust. The site will be accessed from SR 70 via an existing gravel haul road through the OWA as shown in Figure 2.5.4. Trucking operations will require coordination with the existing DWR tenant that uses these haul roads for on-going gravel operations.

A portion of the finer grained soils excavated from the ponds may be excavated and stockpiled on-site for reuse as plant bedding material. DWR has identified a 3.2 acre staging area east of the gravel haul road (Figure 2.5.4) suitable for screening and stockpiling the bedding material. The proposed staging is currently used by DWR as a borrow site for cobbles and gravels from existing dredge tailing piles. Approximately 2,500 cubic yards of bedding material may be required depending on the soil types encountered during excavation.

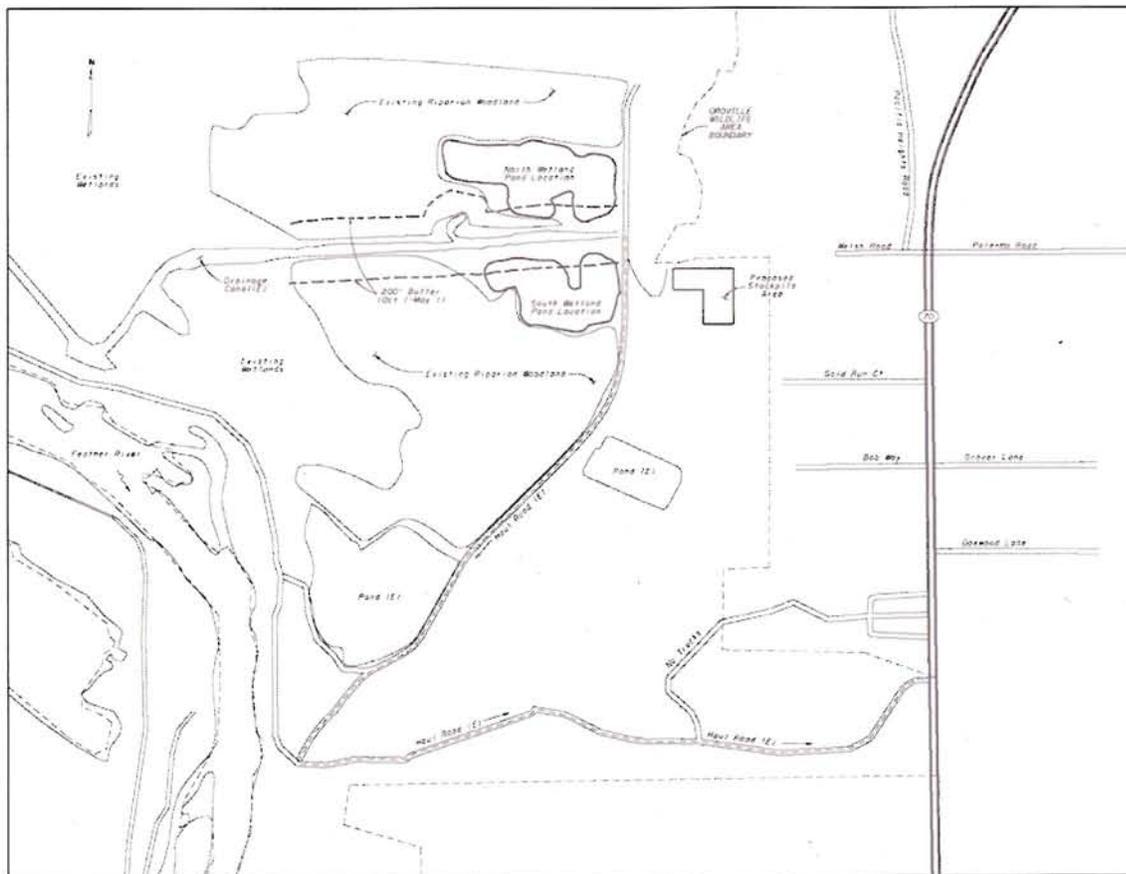


Figure 2.5.4. Project site access and staging area.

The proposed project also includes transportation of approximately 12,500 cubic yards of spawning gravel from the gravel operator's plant to the Oroville Fish Hatchery. These materials may or may not be derived from the pond excavations. Highway-rated dumptrucks will be used to transport the spawning gravel from the plant to the hatchery. Approximately 1,042 truck loads will be required. The trucks are likely to use SR 70 and city streets to reach the hatchery; however, the plant location and exact route will be determined through the competitive bid process.

### **2.5.3 Construction Schedule**

Construction of the emergent wetlands is estimated to take approximately seven months overall to complete. Excavation and construction of the north pond is estimated to take approximately 4 months to complete and will begin around July 15, 2008. Excavation and construction of the south pond is estimated to take up to 3 months to complete and will begin after May 1, 2009. No work will be conducted within 200 feet of the canal during the Oct 1 to May 1 period for protection of giant garter snake habitat.

### **2.5.4 Planting/Schedule**

The ponds will be planted with plugs of various emergent wetland plant species including tule (*Scirpus acutus*), cattail (*Typha* spp.), spikerush (*Eleocharis* spp.), sedge (*Carex* spp.), and rush (*Juncus* spp.). The perimeter of the ponds will be planted with various local willow cuttings of species such as *Salix goodingii*, *S. lasiolepis*, and *S. hindsiana*. Container plants and/or cuttings of buttonwillow (*Cephananthus occidentalis*) will also be included along the shoreline. Cottonwoods (*Populus fremontii*) cuttings and/or container plants will be planted on the terraces above the perimeter of the ponds with plugs or container plants of understory species such as Santa Barbara sedge (*Carex barbarae*), mugwort (*Artemisia douglasiana*), and coyote brush (*Baccharis pilularis*).

The north pond will be planted during the winter of 2008/2009 after construction is completed and the winter rainy season has begun. The south pond will be planted following the completion of the construction of the south pond. Wetland plugs will be planted following construction. Cuttings of willows and cottonwoods on the upland terraces will be planted after the next winter rainy season begins. Watering will occur as needed during the first three years. Additional follow-up plantings may occur as needed for the first three years.

### **2.5.5 Post-Project Monitoring/Maintenance**

Monitoring will be conducted each year for five years following the initial planting. It will include a qualitative assessment of survival, natural regeneration, weed invasion, herbivory, and overall vegetation cover.

The goal will be to have at least 9.4 acres of emergent wetland vegetation within the two ponds with at least 80% native vegetation after five years. The extent and type of the vegetation will be mapped and quantitative sampling will use belt or line transects to measure species composition and percent cover of each plant stratum and species.

Invasive plant species will be managed at the proposed project site. An invasive species management plan will be developed as part of the Settlement Agreement and the new FERC license and this area will be included in and managed under this plan.

### 3.0 AFFECTED ENVIRONMENT

This section provides an evaluation of the potential environmental impacts of the project.

The Checklist Discussion/Analysis provides a detailed discussion of each of the environmental issue checklist questions. The level of significance for each topic is determined by considering the predicted magnitude of the impacts. Four levels of impact significance are described in this initial study:

**No Impact:** No project-related impact to the environment would occur with project development.

**Less than Significant Impact:** The impact would not result in a substantial and adverse change in the environment. This impact level does not require mitigation measures.

**Potentially Significant unless Mitigation Incorporated:** An impact that is “potentially significant” as described below; the incorporation of mitigation measure(s) would reduce the project related impact to a less than significant level.

**Potentially Significant Impact:** An impact that may have a “substantial, or potentially substantial”, adverse change in any of the physical conditions within the area affected.

**Environmental Factors Potentially Affected:**

The environmental factors checked below would be potentially affected by this project; however, with the incorporation of mitigation measures, potentially significant impacts are reduced to less than significant levels by the project.

|                               |                                    |                        |
|-------------------------------|------------------------------------|------------------------|
| Aesthetics                    | Agricultural Resources             | <b>X Air Quality</b>   |
| <b>X Biological Resources</b> | Cultural Resources                 | Geology/Soils          |
| Hazards                       | <b>X Hydrology/Water Quality</b>   | Land Use/Planning      |
| Mineral Resources             | <b>X Noise</b>                     | Population & Housing   |
| Public Services               | Recreation                         | Transportation/Traffic |
| Utilities/Service Systems     | Mandatory Findings of Significance |                        |

**DETERMINATION**

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

- X I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A MITIGATED NEGATIVE DECLARATION will be prepared.

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

William Cochran  
Printed Name

Chief, License Coordination Branch  
Title

### 3.1 AESTHETICS

|            |   | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|------------|---|--------------------------------|--|------------------------------|-----------|
| <b>3.1</b> | <b>AESTHETICS. Would the project:</b>   |                                |  |                              |           |
| (a)        | Have a substantial adverse effect on a scenic vista?  |                                |  | x                            |           |
| (b)        | Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? |                                |  | x                            |           |
| (c)        | Substantially degrade the existing visual character or quality of the site and its surroundings?  |                                |  |                              | x         |
| (d)        | Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?                                     |                                |  | x                            |           |

### AFFECTED ENVIRONMENT

The proposed project area is within the OWA. This area was historically dredge mined and the tailings removed for fill for the construction of Oroville Dam. The site is adjacent to a gravel haul road used by gravel operators to move gravel from a work site south of the project area through the OWA to their plant. The public is restricted from using this road due to safety concerns. In addition, although the site is ~.5 mile from the nearest residences, the area is not visible from any public roadways or residences due to large gravel berms to the east.

### DISCUSSION OF IMPACTS

(a) Would the project have a substantial adverse effect on a scenic vista?

A scenic vista is defined as an expansive view of a highly valued landscape from a publicly accessible viewpoint. The proposed project area is within the OWA and adjacent to a gravel haul road that currently restricts access to the public, although the public can enter the site by foot for recreational activities such as hunting and fishing. The project site is not visible from any existing public roadways. Construction within the proposed project site would temporarily scar the landscape with the introduction of construction vehicles and excavation activities. However, the proposed project would create approximately 13 acres of emergent wetland/pond habitat and an additional 2.5 acres of adjacent riparian scrub and woodland in an area currently occupied by non-native species such as yellow starthistle. The project will enhance the existing scenic view upon the completion of construction and would have a **less than significant impact** on scenic vistas.

- b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The proposed project will not remove any existing structures, large trees, or rock outcroppings. In addition, the project site is not visible from any state scenic highway and any other public roadway. The proposed project would have **no impact** on scenic vistas.

- c) Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

The project site is currently vacant land within the OWA and consists primarily of disturbed annual grassland dominated by weedy non-native species. Existing tree shrub vegetation will be left in place. The project development will likely enhance the existing visual character and quality of the site and impacts are considered **less than significant**.

- d) Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Potential impacts from new sources of light and glare include: vehicle headlamps, mirrored windows, polished metal surfaces, and other highly reflective materials. Of the potential sources of light and glare, construction vehicles and equipment would create a temporary source of light and glare, primarily during daylight hours. Construction activities at the site would not occur at night.

These sources of light and glare from construction vehicles and equipment would be temporary and minimal. These impacts are considered **less than significant**.

### 3.2 AGRICULTURAL IMPACTS

|            |   | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|------------|---|--------------------------------|--|------------------------------|-----------|
| <b>3.2</b> | <b>AGRICULTURAL IMPACTS.</b> Would the project:   |                                |  |                              |           |
| (a)        | Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? |                                |  |                              | x         |
| (b)        | Conflict with existing zoning for agricultural use, or a Williamson Act contract?   |                                |  |                              | x         |
| (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?  |                                |  |                              | x         |

### AFFECTED ENVIRONMENT

The area is a previously disturbed site and is part of the OWA. No agricultural activities take place at the proposed project site and it is not designated or zoned for agricultural use. In addition, transporting material from the site will not affect agricultural resources or activities.

### DISCUSSION OF IMPACTS

- a) Would the project 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?

The proposed project area is not considered prime farmland, unique farmland, or farmland of statewide importance and as the project would not alter the grazing land use, there will be **no impact** from this project related to the conversion of farmland.

- b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

There will be **no impact** on existing zoning for agricultural use or a Williamson Act contract from this project.

- c) Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to non-agricultural use?

The proposed project area is within the OWA. It is consistent with the adjacent land use and would have **no impact** to farmland.

### 3.3 AIR QUALITY

|     |  | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|-----|--|--------------------------------|--|------------------------------|-----------|
| 3.3 | <b>AIR QUALITY.</b> Would the project:   |                                |  |                              |           |
| (a) | Conflict with or obstruct implementation of the applicable air quality plan?   |                                |  | x                            |           |
| (b) | Violate any air quality standard or contribute substantially to an existing or projected air quality violation?  |                                | x  |                              |           |
| (c) | Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)? |                                | x  |                              |           |
| (d) | Expose sensitive receptors to substantial pollutant concentrations?  |                                |  | x                            |           |
| (e) | Create objectionable odors affecting a substantial number of people?   |                                |  | x                            |           |

### AFFECTED ENVIRONMENT

The project site is located in Butte County southwest of the city of Oroville and is within the Northern Sacramento Valley Air Basin. The basin is comprised of the northern portion of the Sacramento Valley and includes the counties of Butte, Colusa, Glenn, Shasta, Sutter, Tehama, and Yuba. The project site is under the jurisdiction of the Butte County Air Quality Management District (BCAQMD).

Butte County has been designated as a non-attainment area for PM<sub>10</sub> (i.e., respirable particulate matter with an aerodynamic diameter of 10 micrometers or less), PM<sub>2.5</sub> (i.e., respirable particulate matter with an aerodynamic diameter of 2.5 micrometers or less), 1-hour ozone, and for the federal 8-hour ozone standard (NSVAB 2003, BCAQMD 2008). Ozone violations in the basin are caused in part by combustion sources, primarily the internal combustion engine. The ozone problem in Butte County is further aggravated by transport of ozone and ozone precursor emissions from the Broader Sacramento Area.

Air quality within Butte County is regulated by such agencies as the U.S. Environmental Protection Agency (EPA) and California Air Resources Board (ARB) at the federal and state levels, respectively, and locally by the BCAQMD. The BCAQMD seeks to improve air quality conditions in Butte County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of the BCAQMD includes the development of

programs for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The BCAQMD also inspects stationary sources, responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements other programs and regulations required by the federal Clean Air Act (CAA), federal Clean Air Act Amendments of 1990 (CAAA), and the California Clean Air Act (CCAA).

The BCAQMD in coordination with the air quality management districts and air pollution control districts of Colusa, Glenn, Shasta, Sutter, Tehama, and Yuba Counties prepared and submitted the 2003 Air Quality Attainment Plan in compliance with the requirements set forth in the CCAA, which specifically addressed the non-attainment status for ozone and to a lesser extent, carbon monoxide and PM<sub>10</sub> (NSVAB 2003).

The CCAA also requires a triennial assessment of the extent of air quality improvements and emission reductions achieved through the use of control measures. As part of the assessment, the attainment plan must be reviewed and, if necessary, revised to correct for deficiencies in progress and to incorporate new data or projections. The requirement of the CCAA for a first triennial progress report and revision of the 1991 AQAP was fulfilled with the preparation and adoption of the 1994 Ozone Attainment Plan (OAP). The OAP stresses attainment of ozone standards and focuses on strategies for reducing emissions of reactive organic gases (ROG) and oxides of nitrogen (NO<sub>x</sub>), which are ozone precursors. It promotes active public involvement, enforcement of compliance with BCAQMD rules and regulations, education in both the public and private sectors, development and promotion of transportation and land use programs designed to reduce vehicle miles traveled (VMT) within the region, and implementation of stationary and mobile-source control measures. The OAP became part of the State Implementation Plan (SIP) in accordance with the requirements of the CAAA and amended the 1991 AQAP. Additional triennial reports were also prepared in 1997, 2000, and 2003 in compliance with the CCAA that act as incremental updates.

## **THRESHOLDS OF SIGNIFICANCE**

The BCAQMD has developed guidance for determining whether air quality impacts are considered significant in its *CEQA Air Quality Handbook: Guidelines for Assessing Air Quality Impacts for Projects Subject to CEQA Review* (BCAQMD 2008). The threshold criteria established by the BCAQMD to determine the significance and appropriate mitigation level for long-term emissions from a project are presented in Table 3.3.1. Emissions which equal or exceed the designated threshold levels are considered potentially significant and should be mitigated. If any project has potential to emit Level A thresholds, it would be subject to Standard Mitigation Measures that are applicable to all projects. The Level B thresholds require as many best available mitigation measures (BAMM) as necessary in addition to the standard mitigation measures. Level C thresholds require the use of all feasible and reasonable mitigation strategies.

While BCAQMD has established quantitative pound-per-day thresholds for operational emissions, these thresholds do not apply to emissions generated by short-term construction activity (Williams, pers. comm., 2008). Instead, BCAQMD recommends that construction activity that generates substantial levels of Criteria Air Pollutants (CAPs) implement best available control measures to reduce these emissions. The BCAQMD considers the impacts of construction-generated CAPs to be less than significant (Williams, pers. comm., 2008) if best available control measures are incorporated.

**Table 3.3.1. BCAQMD Thresholds of Significance.**

| Thresholds of Significance for Criteria Pollutants of Concern |              |              |               |
|---|--------------|--------------|---------------|
| Pollutant   | Level A      | Level B      | Level C       |
| NO <sub>x</sub>   | ≤25 lbs/day  | > 25 lbs/day | > 137 lbs/day |
| ROG   | ≤25 lbs/day  | > 25 lbs/day | > 137 lbs/day |
| PM <sub>10</sub>  | ≤ 80 lbs/day | > 80 lbs/day | > 137 lbs/day |

## DISCUSSION OF IMPACTS

a) Would the project conflict with or obstruct implementation of the North Sacramento Valley Air Basin – 2003 Air Quality Attainment Plan?

The SIP is a broad-level air quality plan based on population growth levels and distribution identified in local community plans combined with the cumulative impacts from approved and proposed development projects. Proposed projects that increase population or employment growth beyond that identified in the local plans may increase VMT, leading to an increase in mobile-source emissions, which may conflict with air quality planning efforts. Consequently, an increase in VMT beyond projections in local plans could result in a significant adverse incremental effect on the region's ability to attain or maintain state and national ambient air quality standards.

Implementation of the proposed project would be consistent with the existing land use designations and implementation would not result in an increase in population, employment, or VMT beyond that already assumed and approved for development, and accounted for in the emissions budgets of the SIP. In addition, implementation of the proposed project would not result in the operation of any major stationary emission source or long-term operation of a substantial number of area- or mobile-emission sources. The proposed project would create an emergent wetland mitigation site that would enhance wildlife habitat in the area. The only source of long-term operational emissions would be from monitoring and maintenance that would occur to ensure that

performance standards for the created habitat are achieved. Thus, implementation of the proposed project would not conflict with or obstruct implementation of the applicable air quality efforts of the BCAQMD. As a result, this impact would be **less than significant**.

b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

#### Short-Term Construction-Generated Criteria Air Pollutant and Precursor Emissions

Construction-related emissions are described as “short-term” or temporary in duration and have the potential to represent a significant impact with respect to air quality, especially fugitive dust emissions (PM<sub>10</sub>). Fugitive dust emissions are primarily associated with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and VMT on- and off-site. Ozone precursor emissions of ROG and NO<sub>x</sub> are associated primarily with exhaust from construction equipment and haul trucks.

With respect to the proposed project, construction of the emergent wetlands would result in the temporary generation of ROG, NO<sub>x</sub>, and PM<sub>10</sub> emissions from site preparation (e.g., excavation, grading, and clearing), material transport, worker commute trips, and other miscellaneous activities. It is anticipated that approximately 1 diesel-powered excavator, 1 diesel-powered loader, 1 water truck, and multiple haul trucks would be used.

In total, approximately 242,000 cubic yards of material will be removed from the site, consisting of a mixture of cobbles, gravels, and sands with less than 5 percent silts and clays. The excavated materials will be transported away from the work site to a local gravel operator plant, the exact location of which is yet to be determined. The distance haul trucks would travel will not be known until DWR selects the contractor that will perform the excavation and hauling. Nonetheless, it is assumed that contractors located closer to the project site will have a competitive advantage in winning the bid and, therefore, this analysis used the average trip distances of the four closest potential contractors to estimate haul truck emissions.

Short-term construction-generated emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub> were estimated using the ARB-approved URBEMIS 2007 Version 9.2.4 computer program (California Air Resources Board 2007). URBEMIS is designed to model construction emissions for land use development projects and allows for the input of specific project information. While the exact timing and phasing of project construction is not known at this time, it is anticipated to occur in three distinct phases. The first phase would likely take place in the summer and fall of 2008 and the second phase would take place in the spring and summer of 2009. During these two phases all 242,000 cubic yards of cobble/gravel/sands would be excavated from the site and shipped to a local gravel

plant. It is assumed that soil disturbance would occur on the entire 15.5-acre site and, according to URBEMIS default parameters, that the maximum daily level of ground disturbance would be 2.2 acres per day. In Phase 3, which is anticipated to occur during the summer and fall of 2009 the selected gravel plant operator would transport approximately 12,500 cubic yards of spawning gravel from the operator's plant to the Oroville Fish Hatchery. The estimation of daily construction emissions is presented in Table 3.3.2.

**Table 3.3.2. Summary of Modeled Short-Term Construction-Generated Emissions.**

| Source   | Daily Emissions (lb/day) |                 |                               |
|--|--------------------------|-----------------|-------------------------------|
|  | ROG                      | NO <sub>x</sub> | PM <sub>10</sub> <sup>2</sup> |
| <b>Phase 1 - Cobble/Gravel/Sands Excavation and Hauling</b><br>(approximately 89 workdays in Summer/Fall 2008)   |                          |                 |                               |
| Fugitive Dust  | -                        | -               | 44.20                         |
| Off-Road Equipment Exhaust <sup>3</sup>  | 2.14                     | 18.19           | 0.92                          |
| Haul Truck Exhaust <sup>4</sup>  | 5.46                     | 85.46           | 3.85                          |
| Worker Trips   | 0.06                     | 0.09            | 0.01                          |
| Phase 1 Subtotal, Unmitigated  | 7.66                     | 103.74          | 48.97                         |
| <b>Phase 2 - Cobble/Gravel/Sands Excavation and Hauling</b><br>(approximately 58 workdays in Spring/Summer 2009) |                          |                 |                               |
| Fugitive Dust  | -                        | -               | 33.20                         |
| Off-Road Equipment Exhaust <sup>3</sup>  | 2.03                     | 16.99           | 0.85                          |
| Haul Truck Exhaust <sup>4</sup>  | 5.95                     | 92.42           | 4.08                          |
| Worker Trips   | 0.06                     | 0.09            | 0.01                          |
| Phase 2 Subtotal, Unmitigated  | 8.04                     | 109.49          | 38.13                         |
| <b>Phase 3 - Spawning Gravel Excavation and Hauling</b><br>(approximately 20 workdays in Summer 2009)            |                          |                 |                               |
| Fugitive Dust  | -                        | -               | 10.00                         |
| Off-Road Equipment Exhaust <sup>3</sup>  | 1.27                     | 11.14           | 0.51                          |
| Haul Truck Exhaust <sup>5</sup>  | 1.32                     | 20.49           | 0.90                          |
| Worker Trips   | 0.04                     | 0.06            | 0.00                          |
| Subtotal, Unmitigated  | 2.63                     | 31.69           | 11.42                         |

- <sup>1</sup> Based on EMFAC2007 and OFFROAD2007 emission factors contained in URBEMIS 2007 Version 9.2.4, using general information provided in the project description (e.g., equipment list, number of truck trips), and default model settings and parameters.
- <sup>2</sup> PM<sub>10</sub> fugitive dust emission levels may be overestimated because sieve analysis of particle size to be removed at the project site indicates a less than 5% component of silt/soil with cobble and gravel as the main components.
- <sup>3</sup> Off-road construction equipment would include 1 excavator, 1 front-end loader, and 1 water truck during all three phases.
- <sup>4</sup> Estimates of emissions generated by the hauling of cobble/gravel/sands assume a round trip length of 21.8 miles, which is the average distance of the four closest potential gravel plant operators to the project site, and a haul truck capacity of 12.8 cubic yards. Also, it is assumed that on-road haul trucks would be used; however, one of the potential gravel plant operators could use off-road articulated haul trucks because it has direct access to the project site via a gravel road.
- <sup>5</sup> Estimates of emissions generated by with hauling of spawning gravel assume a round trip length of 13.8 miles, which is the average distance of the four closest gravel plant operators to the fish hatchery, and a haul truck capacity of 12.8 cubic yards.
- Totals may not sum to match due to rounding.  
See Appendix A for detailed modeling input parameters and results.  
Source: Data prepared by EDAW 2008

Based on the emissions estimates presented in Table 3.3.1, construction-generated emissions would be considered potentially significant during each of the three construction phases. Excavation, ground disturbance, and soil handling during all phases of the project have the potential to emit fugitive dust emissions levels that could be considered a significant impact. Implementation of BCAQMD's Standard Mitigation Measures, as required by **Mitigation Measure 3.3.1**, would reduce fugitive dust emissions to a **less-than-significant** level.

As shown in Table 3.3.1, levels of ROG and NO<sub>x</sub> generated by the on-site use of off-road construction equipment, haul truck trips, and worker commute trips are considered potentially significant. Implementation of **Mitigation Measure 3.3.2** would reduce construction emissions of ROG and NO<sub>x</sub> to a **less-than-significant** level.

### **Mitigation Measure 3.3.1**

DWR shall require the Contractor to implement the following BCAQMD-recommended standard mitigation measures to reduce project-generated construction-related emissions of fugitive dust (BCAQMD 2008):

- Water shall be applied by means of truck(s), hoses, and/or sprinklers as needed prior to any land clearing or earth movement to minimize dust emission.
- Haul vehicles transporting soil into or out of the property shall be covered.
- A water truck or spraying system shall be on site at all times. Water shall be applied to disturbed areas a minimum of 2 times per day or more as necessary.
- On-site vehicles shall be limited to a speed which minimizes dust emissions on unpaved roads.
- DWR shall post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 24 hours. The telephone number of BCAQMD shall also be visible

to ensure compliance with BCAQMD Rules 200 (Nuisance) & 205 (Fugitive Dust Emissions).

- All visibly dry disturbed soil surface areas of operation shall be watered to minimize dust emissions.
- Existing roads and streets adjacent to the project shall be cleaned at least once per day unless conditions warrant a greater frequency.
- All visibly dry disturbed unpaved roads and surface areas of operation shall be watered to minimize dust emissions.
- Unpaved roads may be graveled to reduce dust emissions.
- Haul roads shall be sprayed down at the end of the work shift to form a thin crust. This application of water shall be in addition to the minimum rate of application.
- Vehicles entering or exiting construction area shall travel at a speed which minimizes dust emissions.
- Construction workers shall park in designated parking area(s) to help reduce dust emissions.

### **Mitigation Measure 3.3.2**

DWR shall require the Contractor to implement the following BCAQMD-recommended standard mitigation measures to reduce project-generated construction-related exhaust emissions (BCAQMD 2008):

- Maintain all construction equipment in proper tune according to manufacturer's specifications.
- Maximize to the extent feasible, the CARB's 1996 or newer certification standard for off-road heavy-duty diesel engines.
- Minimize idling time to 5 minutes.
- Substitute gasoline-powered for diesel-powered, where feasible.
- Use equipment that has Caterpillar pre-chamber diesel engines, where feasible.
- Construction contracts shall request the Contractor achieve a project wide fleet-average 20% NO<sub>x</sub> reduction and 45% particulate reduction for the heavy-duty (>50 horsepower) off road vehicles compared to the most recent ARB fleet average at time of construction. Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.

### **Long-Term Operational Emissions**

The proposed project would create an emergent wetland mitigation site that would enhance wildlife habitat in the area. The only source of long-term operational emissions would be from monitoring and maintenance that would occur to ensure that performance standards for the created habitat are met as part of the proposed project.

The monitoring and maintenance would not be very intensive and would result in a minimal amount of vehicle trips to and from the project site. Therefore, the proposed project would not create a substantial increase in the long-term operational emissions in the basin. Therefore, the proposed project would have a **less than significant impact** on long-term operational emissions.

c) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the region is in non-attainment status under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?

As discussed in b) above, project implementation would not result in long-term operational ROG, NO<sub>x</sub>, PM<sub>10</sub>, or CO emissions that would result in or contribute substantially to an air quality violation. However, because BCAQMD-recommended mitigation measures are not incorporated into the project description, short-term construction-generated emissions could violate or contribute to an existing or projected air quality violation, particularly considering the non-attainment status for ozone and PM<sub>10</sub> in Butte County. Thus, construction-generated emissions of fugitive PM<sub>10</sub> dust and NO<sub>x</sub>, an ozone precursor, could result in a cumulatively considerable net increase of a criteria pollutant for which the project region is non-attainment. As a result, this impact is considered potentially significant. Implementation of **Mitigation Measures 3.3.1 and 3.3.2**, as described above, would reduce short-term construction-generated emissions to a **less-than-significant** level.

d) Would the project expose sensitive receptors to substantial pollutant concentrations?

Although air pollution can affect all segments of the population, certain groups are more susceptible to its adverse effects than others. Children, the elderly, and chronically or acutely ill individuals are the most sensitive receptors. Sensitive land uses include residential areas, schools, parks and playgrounds, retirement homes, convalescent homes, and child care centers. The closest sensitive receptor in the vicinity of the project area that may be affected by short-term construction and transportation emissions is the small community of Oak Grove along SR 70, which is one-third to one-half mile from the proposed project area.

Construction of the proposed project would result in short-term diesel exhaust emissions from on-site heavy-duty equipment. Particulate exhaust emissions from diesel-fueled engines (diesel PM) were identified as a Toxic Air Contaminant (TAC) by ARB in 1998. Construction of the proposed project would generate diesel PM emissions from the use of off-road diesel equipment required for site grading and excavation and off-site travel of haul trucks. The dose to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk. Because of the dispersive properties of diesel PM, the temporary nature of the mobilized equipment use, and the distance to the nearest

sensitive receptors, short-term construction-generated TAC emissions would not expose sensitive receptors to substantial pollutant concentrations. In addition, implementation of **Mitigation Measure 3.3.1**, which requires that all construction equipment be properly tuned according to manufacturer's specifications and encourages the use of late model (1996 or newer) off-road construction equipment, would reduce impacts to **less than significant with mitigation incorporated**.

Parts of Butte County are considered high risk for naturally occurring asbestos. According to the General Location Guide for Ultramaphic Rocks in California (Department of Conservation 2000), the project site is not located in an area that contains asbestos-containing rock; therefore the project would not result in the release of airborne asbestos during earth moving activities.

e) Would the project create objectionable odors affecting a substantial number of people?

The proposed project would result in the short-term release of exhaust from heavy-duty diesel equipment and transport vehicles used during construction activities at the project site. The diesel exhaust emissions would be intermittent and temporary and would dissipate rapidly from the source. In addition, the nearest sensitive receptor is a low density residential area that is more than one-third to one-half mile from the proposed project area.

Project operations may generate sulfuric-type odors associated with stagnant water and anaerobic activity during periods when water levels are drying up on the site. Such instances could occur during dry periods. However, the potential for this type of odor currently exists because of seasonal flooding and drying up of nearby wetlands and pools in the Oroville Wildlife Area. In short, because the proposed project would not introduce a new odor source or introduce a new odor type to the area, this impact would be considered **less than significant**.

### 3.4 BIOLOGICAL RESOURCES

|     |  | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|-----|--|--------------------------------|--|------------------------------|-----------|
| 3.4 | <b>BIOLOGICAL RESOURCES.</b> Would the project:  |                                |  |                              |           |
| (a) | Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? |                                | x  |                              |           |
| (b) | Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?   |                                |  | x                            |           |
| (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 wetlands, etc.), through direct removal, filling, hydrological interruption or other means?                                  |                                |  |                              | x         |
| (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?  |                                |  | x                            |           |
| (e) | Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?   |                                |  | x                            |           |
| (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?   |                                |  | x                            |           |

### AFFECTED ENVIRONMENT

Information on biological resources in the project area is based on a review of pertinent literature and databases, and surveys conducted at the project site by DWR wildlife and plant biologists. The purposes of these surveys were to characterize biological resources present on the project site and to determine the potential for sensitive biological resources to occur on the project site.

The project site is located in the OWA approximately one-half mile east of the Feather River. The area was historically dredge mined. In the 1960's much of the cobble/dredge tailings were removed during the construction of Oroville Dam. The topography at the project site is fairly flat and the elevation ranges from approximately 102 to 106 feet above mean sea level (msl). The project site occurs at an elevation which is approximately 4-8 feet higher than the adjacent area. This minor difference is enough to limit cottonwood/riparian species from establishing and the project site now supports annual weedy species such as yellow starthistle and black mustard. Adjacent areas to the north, south, and west of the project area support an open to moderately dense riparian woodland and large areas of emergent wetlands (Figure 3.4.1). These are supported by a year round ground water level that remains fairly constant from month to month and year to year.



**Figure 3.4.1. Project location with adjacent riparian and emergent wetland habitats.**

Habitats present on the project site include non-native ruderal grassland, willow scrub, and sparsely vegetated gravel. A canal bisects the project site and supports aquatic vegetation with sparse willow scrub on the sides and top of the levee. The open areas of gravel and ruderal grassland supports species such as yellow starthistle (*Centaurea solstitialis*), black mustard (*Brassica nigra*), and various non-native grasses. Small patches of non-native Himalayan berry (*Rubus discolor*) occur on the project site. A

small patch of willows/oaks occur in both the north and south project areas. A few scattered valley oaks (*Quercus lobata*) occur along the fringe in the north field. The canal supports aquatic and emergent wetland species including the non-native subspecies of water primrose (*Ludwigia peploides* ssp. *montevidensis*).

Fremont cottonwood forest occurs to the north, south, and west of the proposed project site. These woodlands are moderately open with little understory. Lower lying wet areas occur throughout the woodlands with occasional small deeper ponded areas. Both support emergent wetland species such as cattail (*Typha* spp.), bulrush (*Scirpus* spp.), and various sedges and rushes. Large emergent wetlands occur to the west nearer the Feather River. Much of this area remains inundated year round.

To the south of the project site, a commercial gravel operator leases land from DWR for gravel extraction. A gravel haul road adjacent to the proposed project site is used by the gravel operators to transport material from the leased land in the south to their plant approximately two miles north of the project site. Public vehicular access is restricted along the gravel haul road and the gates are locked except during normal operating hours.

## **SENSITIVE BIOLOGICAL RESOURCES**

Sensitive biological resources include plants, animals, and habitats that have been afforded special recognition by federal, state, or local resources agencies and organizations. Also included are habitats that are of a relatively limited distribution or are of particular value to wildlife. A list of potential species and habitats was developed for the project area based on queries of the U.S. Fish and Wildlife Service database for federally endangered and threatened species and the California Natural Diversity Database (CNDDDB). The searches included Butte County and the Biggs, Oroville, Palermo, and Shippee Quadrangles. A list of special status species with potential to occur on or in the vicinity of the project site was developed.

### **Sensitive Habitats**

Five sensitive vegetation communities were identified in the CNDDDB search as having potential to occur in the project vicinity. These include Great Valley Cottonwood Riparian Forest, Great Valley Willow Scrub, Northern Basalt Flow Vernal Pool, Northern Hardpan Vernal Pool, and the Northern Volcanic Mud Flow Vernal Pool.

No vernal pool habitats occur in the project area. Great Valley Cottonwood Riparian Forest and Great Valley Willow Scrub occur adjacent to the project site.

### **Special Status Species**

Special status species include:

- Plants and animals that are legally protected or proposed for protection under the California Endangered Species Act (CESA), 14 CCR 670.5, or Federal Endangered Species Act (FESA), 50 CFR 17.12 and Federal Register Notices
- Plants and animals which meet the definition of endangered or rare under the California Environmental Quality Act (CEQA), Section 15380
- Animals designated as Species of Concern by the U.S. Fish and Wildlife Service or California Department of Fish and Game
- Animals listed as “fully protected” in the Fish and Game Code of California (Sections 3511, 4700, 5050, and 5515)
- Plants listed in the California Native Plant Society’s (CNPS) Inventory of Rare and Endangered Vascular Plants of California Lists 1 and 2

### Special Status Plant Species

Twelve special status plant species were identified within the USFWS and CNDDDB searches as having potential to occur in the project vicinity, five of which are state and/or federally listed as threatened or endangered (Table 3.4.1). Six of the species (including all five listed species) occur in vernal pools. No vernal pool habitats are present within the project area.

**Table 3.4.1. Special Status Plant Species.**

| Species  | Status <sup>1</sup> |     |      | Habitat/Blooming Period   | Potential for Occurrence                                  |
|--|---------------------|-----|------|---|---|
|  | USFWS               | DFG | CNPS |   |   |
| <b>Federally or State Listed</b>                                       |                     |     |      |   |   |
| <i>Chamaesyce hooveri</i><br>Hoover’s spurge                           | FT                  |     | 1B   | Vernal Pools on volcanic mudflow or clay substrate in valley and foothill grassland; 25 to 130 m elevation<br>Blooms: Jul-Aug   | None – not expected to occur, no suitable habitat present |
| <i>Limnanthes floccosa ssp. californica</i><br>Butte County meadowfoam | FE                  | CE  | 1B   | Vernal pools, valley and foothill grassland; in wet or flowing vernal drainages and depressions; soils usually redding clay w/rocks; 50 to 930 m elevation<br>Blooms: Mar-May | None – not expected to occur, no suitable habitat present |
| <i>Orcuttia pilosa</i><br>Hairy Orcutt grass                           | FE                  |     | 1B   | Vernal pool in valley and foothill grassland; 25 to 125 m elevation<br>Blooms: May-Sep  | None – not expected to occur, no suitable habitat present |
| <i>Orcuttia tenuis</i><br>Slender Orcutt grass                         | FT                  | CE  | 1B   | Vernal Pools; 30 to 1735 m elevation<br>Blooms: May-Oct   | None – not expected to occur, no suitable habitat present |
| <i>Tuctoria greenei</i><br>Greene’s tuctoria                           | FE                  | CR  | 1B   | Dry bottoms of vernal pools in open grasslands; 30 to 1065 m elevation<br>Blooms: May-Sept  | None – not expected to occur, no suitable habitat present |
| <b>Other Special Status Species</b>                                    |                     |     |      |   |   |
| <i>California macrophyllum</i><br>Round-leaved filaree                 | --                  | --  | 1B   | Cismontane woodland, valley and foothill  | None - not expected to occur, no suitable                 |

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|  |    |    |    |   |  |
|--|----|----|----|---|--|
|  |    |    |    | grassland; clay soils; 15 to 1200 m elevation<br>Blooms: March - May  | clay soils present   |
| <i>Carex vulpinoidea</i><br>Fox sedge                              | -- | -- | 2  | Wet places; marshes and swamps, riparian woodland; 30 to 1200 m elevation<br>Blooms: May-Jun  | None - not expected to occur in project area, no suitable marsh or riparian woodland |
| <i>Castilleja rubicundula ssp. rubicundula</i><br>Pink creamsacs   | -- | -- | 1B | Chaparral, meadows and seeps, valley and foothill grassland; Openings in chaparral or grasslands on serpentine; 20 to 900 m elevation<br>Blooms: Apr-Jun                          | None - not expected to occur in project area, no suitable habitat present            |
| <i>Clarkia biloba ssp. brandegeeeae</i><br>Brandegee's clarkia     | -- | -- | 1B | Chaparral, cismontane woodland; often in roadcuts; 295 to 885 m elevation<br>Blooms: My-Jul   | None - not expected to occur in project area, no suitable habitat present            |
| <i>Delphinium recurvatum</i><br>Recurved larkspur                  | -- | -- | 1B | Chenopod scrub, valley and foothill grassland, cismontane woodland; on alkaline soils, often in valley saltbush or valley chenopod scrub; 3 to 685 m elevation<br>Blooms: Mar-May | None - not expected to occur in project area, no suitable habitat present            |
| <i>Fritillaria pluriflora</i><br>Adobe-lily                        | -- | -- | 1B | Chaparral, cismontane woodland, foothill grassland; usually on clay soils sometimes serpentine; 55 to 820 m elevation<br>Blooms: Feb-Apr  | None - not expected to occur in project area, no suitable habitat present            |
| <i>Hibiscus lasiocarpus</i><br>Rose-mallow                         | -- | -- | 2  | Freshwater marshes and swamps; moist, freshwater-soaked river banks and low peat islands in sloughs; 0 to 150 m elevation<br>Blooms: Jun-Sep                                      | None - not expected to occur in project area, no suitable habitat present            |
| <i>Juncus leiospermus var. ahartii</i><br>Ahart's dwarf rush       | -- | -- | 1B | Vernal pools edges; 30 to 100 m elevation<br>Blooms: Mar-May  | None - not expected to occur in project area, no suitable habitat present            |
| <i>Juncus leiospermus var. leiospermus</i><br>Red bluff dwarf rush | -- | -- | 1B | Chaparral, valley and foothill grassland, cismontane woodlands, vernal pools; vernal mesic sites, sometimes edges of vernal pools; 30 to 1020 m elevation<br>Blooms: Mar-May      | None - not expected to occur in project area, no suitable habitat present            |
| <i>Trifolium jokerstii</i><br>Butte County golden clover           | -- | -- | 1B | Grassland and swales near oak woodland, vernal pools; known only from 2 sites in Butte County in the vicinity of Table Mountain; 50-385 m elevation<br>Blooms: Apr-May            | None - not expected to occur in project area, no suitable habitat present            |

USFWS (United States Fish and Wildlife Service): FE - federal endangered; FT - federal threatened  
DFG (California Department of Fish and Game): CE - state endangered; CR - state rare  
CNPS (California Native Plant Society): List 1B - plants rare, threatened, or endangered in California and elsewhere; List 2 - plants rare, threatened, or endangered in California but more common elsewhere

## Special Status Wildlife Species

Special status wildlife species identified as having potential to occur in the project vicinity are listed in Table 3.4.2.

**Table 3.4.2. Special Status Wildlife Species.**

| Species   | USFWS | DFG | Habitat   | Potential for Occurrence  |
|---|-------|-----|---|---|
| <b>Invertebrates</b>  |       |     |   |   |
| Valley elderberry longhorn beetle<br><i>Desmocerus californicus dimorphus</i> | T     |     | Elderberry shrubs, primarily in or adjacent to riparian woodlands   | Known to occur within 0.25 miles of the project site  |
| Conservancy fairy shrimp<br><i>Branchinecta conservatio</i>                   | E     |     | Vernal pools in valley and foothill grassland   | No vernal pool habitats present within ½ mile   |
| Vernal pool fairy shrimp<br><i>Branchinecta lynchi</i>                        | T     |     | Vernal pools in valley and foothill grassland   | No vernal pool habitats present within ½ mile   |
| Vernal pool tadpole shrimp<br><i>Lepidurus packardii</i>                      | E     |     | Vernal pools; water with very low alkalinity  | No vernal pool habitats present within ½ mile   |
| California linderiella<br><i>Linderiella occidentalis</i>                     |       |     | Vernal pools in valley and foothill grassland   | No vernal pool habitats present within ½ miles  |
| <b>Amphibians</b>   |       |     |   |   |
| California red-legged frog<br><i>Rana aurora draytonii</i>                    | T     |     | Occurs near quiet permanent pools of streams, marshes, or ponds   | Potentially suitable reintroduction habitat exists adjacent to the proposed project. Red-legged frogs have been extirpated from the Sacramento Valley floor |
| <b>Reptiles</b>   |       |     |   |   |
| Giant garter snake<br><i>Thamnophis gigas</i>                                 | T     | T   | Slow moving stream, sloughs, ponds, etc with mud substrate, emergent aquatic vegetation, protected basking areas, and access to upland hibernaculae above the high-water line.                                      | Potential to occur in adjacent canal. Suitable habitat exists adjacent to the project site.   |
| Northwestern Pond Turtle<br><i>Actinemys marmorata marmorata</i>              | SSC   | SSC | Inhabits slow-moving streams, sloughs, ponds, and irrigation ditches with mud substrate, emergent aquatic vegetation, protected basking areas and access to upland nest sites and refugia above the high-water line | This species occurs in dredger ponds throughout the OWA and less commonly within the Feather River near the project area.                                   |
| <b>Mammals</b>  |       |     |   |   |
| Ringtail<br><i>Bassariscus astutus</i>  |       | FP  | Prefers a mixture of forest and shrub habitats near rocky or riparian areas.  | This species likely occurs within Feather River riparian habitat.   |
| <b>Birds</b>  |       |     |   |   |
| Swainson's hawk<br><i>Buteo swainsoni</i>                                     |       | T   | Nests in riparian woodlands and isolated trees; forages in grasslands, shrublands, and agricultural fields  | The closest active Swainson's hawk nest is about 0.75 miles southwest of the project area   |
| Greater sandhill crane<br><i>Grus canadensis tabida</i>                       |       | T   | Wintering sandhill cranes prefer treeless dry grasslands and croplands especially near wetlands.  | Wintering sandhill cranes commonly occur in fallow rice fields several miles northwest of the project area.   |
| Bank swallow<br><i>Riparia riparia</i>  |       | T   | Requires vertical banks and cliffs comprised of fine-textured or sandy soils near aquatic habitat. Forages over many open habitats including annual grassland and croplands.  | The closest active bank swallow colony is about 1.6 miles southwest of the project area along the Feather River.  |

|   |  |    |  |  |
|---|--|----|--|--|
| White-tailed kite<br><i>Elanus leucurus</i>   |  | FP | Uses herbaceous lowlands including pasture and hay crops with at least some tree cover for nesting or roosting | An active kite nest is present immediately adjacent to the project area. |
| USFWS (United States Fish and Wildlife Service): FE - federal endangered; FT - federal threatened; SSC – federal species of special concern<br>DFG (California Department of Fish and Game): CE - state endangered; CT - state threatened; SSC – state species of special concern; FP – state fully protected species |  |    |  |  |

## DISCUSSION OF IMPACTS

- a) Would the project 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?

No populations or habitats of special status plant species which occur in valley and foothill grassland habitats have been detected on site. No vernal pools occur at the site. No suitable habitat occurs on site for any special status plant species with potential to occur in the project vicinity. There will be no impact to special status plants or their habitats from this project.

No vernal pool invertebrate habitat is present, thus there will no impact to special status invertebrate species. Neither wintering nor nesting greater sandhill cranes use the project area. No impact to wintering habitat use will occur. California red-legged frogs no longer occur within the Sacramento Valley. Based on 2007 surveys, no elderberry shrubs have been located at or near the project site.

No impact to nesting bald eagles, bank swallows, or Swainson's hawk are predicted based on the distance from the project area to active nest sites.

A white-tailed kite nest occurs in a Fremont cottonwood approximately 200 feet from the north pond's western perimeter. The white-tailed kite nest tree will not be affected by the proposed project. No 'take' of kites will occur. However, conversion of suitable kite foraging habitat to wetland may reduce habitat suitability and future use of the project area. There will be a less than significant impact to white-tailed kites from this project.

Ringtail should benefit from the conversion of open disturbed annual grassland to wetland/riparian habitat. Western pond turtles and giant garter snakes would directly benefit from conversion of upland grassland habitat to emergent wetland habitat. Protection of giant garter snakes during project construction requires seasonal restrictions on excavation within 200 feet of giant garter snake aquatic habitat (Oroville Facilities Relicensing Biological Opinion, April 2007). The central ditch dividing the two restoration areas is suitable giant garter snake aquatic habitat. No excavation would occur within 200 feet of the central ditch between October 1 and May 1.

Implementation off **Mitigation Measure 3.4.1** will reduce the impacts to special status plant and animal species (giant garter snake) to **less than significant with mitigation incorporated**.

#### **Mitigation Measure 3.4.1**

Implementation of the following measure would reduce project-related impacts to special status species to a less-than-significant level:

- No excavation and grading activities would occur within 200 feet of the central ditch between October 1 and May 1.

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of fish and Game or U.S. Fish and Wildlife Service?

Sensitive habitats identified in the California Natural Diversity Database (CNDDDB) that occur in the project vicinity include Valley Freshwater Marsh and Great Valley Cottonwood Riparian Forest. There will be no negative impact to sensitive habitats from this project. The project will create both valley freshwater marsh and great valley cottonwood riparian forest habitat, thus there will be a **long-term beneficial impact** from this project.

c) Would the project 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 wetlands, etc.), through direct removal, filling, hydrological interruption or other means?

No wetlands currently occupy any portion of the proposed project area. A canal divides the project area but no work or equipment will occur within 100 feet of the wetland edge. The project applicant is proposing to create approximately 13.0 acres of emergent wetland and open water and another 2.5 acres of adjacent riparian habitat. Thus, the project will have a **long-term beneficial impact** to wetlands.

d) Would the project 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?

The project will 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, thus there will be **no impact**.

- e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinances?

The proposed project site consists mainly of ruderal grassland with a few small patches of willows and scattered valley oaks. Most of the existing willow stand in the middle of the south pond will be retained as an inlet island; however, a few small trees may need to be removed. A few small willows or valley oaks may be removed during excavation in the north pond also. According to the codification of the general ordinances of Butte County, CA, there are no ordinances that protect biological resources. Therefore, there is **no impact** related to local policies and ordinances protecting biological resources.

- f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?

Presently, there are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or similar plans that apply to the proposed project area. Therefore, there is **no impact** related to existing habitat conservation plans. The proposed project was designed in coordination with OWA staff and is consistent with the existing DFG Oroville Wildlife Area Management Plan.

### 3.5 CULTURAL RESOURCES

|     |  | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|-----|--|--------------------------------|--|------------------------------|-----------|
| 3.5 | <b>CULTURAL RESOURCES.</b> Would the project:  |                                |  |                              |           |
| (a) | Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?     |                                |  | x                            |           |
| (b) | Cause a substantial adverse change in the significance of a archaeological resource as defined in Section 15064.5? |                                |  | x                            |           |
| (c) | Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?             |                                |  |                              | x         |
| (d) | Disturb any human remains, including those interred outside of formal cemeteries?                                  |                                |  |                              | x         |

### AFFECTED ENVIRONMENT

A search of DWR's files indicated that one vast historic site, CA-BUT-465H, had previously been recorded in the vicinity of the proposed project. The site was recorded in 2002 during the recent cultural resources study for Federal Energy Regulatory Commission relicensing of the Oroville Hydroelectric Facilities by DWR (Selverston et al. 2005).

CA-BUT-465H contains the Oroville Dredge Fields. It is an expansive gold dredging landscape that covers over 8,000 acres and includes virtually all of the OWA. The site is composed of intact tailings, areas where tailings were removed for Oroville Dam construction, original undredged landscape remnants, and various features (levees, ponds, etc.) created between 1898 and 1952 to facilitate the dredge mining.

CA-BUT-465H represents the location of the first use of the gold dredge in California, after adaptation of dredgers used previously in Montana and New Zealand. The development of the dredger in 1898 opened a new era of gold mining in the State. Over the next 50 years, various mining companies systematically worked the deposits along the Feather River, excavating and removing gold from depths reaching 30 feet.

Prior to the arrival of the Spanish, Mexicans, and Euroamericans in California, the area around the OWA was occupied by the Konkow Maidu (Kroeber 1925; McCarthy 2004; Riddell 1978). The Konkow speak one of three Maidu languages. The other two related languages are spoken by the Northeast or Mountain Maidu who live in the mountains south of Mount Lassen, primarily around the headwaters of the North Fork Feather River and Susanville, and the Nisenan who live to the south in the mountains and foothills of the Yuba and American river watersheds. The Konkow, themselves,

once held lands in the lower mountains and foothill elevations of the Feather River and Honcutt Creek watersheds, and into the Central Valley, including portions of the Sacramento River around Chico and downstream along the Feather River to the vicinity of the Sutter Buttes. Throughout this territory the Konkow were organized in village communities that consisted of a large, primary village and numerous smaller satellite villages

The ethnographies identify several large village sites located along the west bank of the Feather River between the town of Oroville and the OWA. Archaeological remnants of these villages seem to be entirely lacking today as the result of historic mining, dam construction and general development of Oroville. Village sites in the OWA have not been identified during archaeological surveys and were most certainly destroyed by the gold dredge mining.

### **FIELD INVESTIGATION**

Although located within the boundary of CA-BUT-465H, the acreage identified for the proposed ponds were not surveyed during the 2002 study. As a result, DWR cultural resources staff conducted a pedestrian survey of the project's Area of Potential Effects (APE) for the proposed project in March 2007. Pedestrian transects, spaced 10 to 15 meters apart, were walked across the entire project area. No cultural resources were identified during the course of the study.

The only cultural resource noted within the APE for the proposed project was the ditch that separates the two fields that will each contain an emergent wetland pond. The ditch was created to improve drainage after the dredge tailings in the area were used for dam construction in 1964 and 1965. The ditch is less than 50 years old and is, therefore, not considered for eligibility to the National Register of Historic Places or the California Register of Historical Resources.

### **DISCUSSION OF IMPACTS**

- a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

Although the project area lies within the boundaries of site CA-BUT-465H, the proposed project is in an area from which dredge gravels were "borrowed" for the construction of Oroville Dam in the early 1960s. After the gravels were removed, the area was graded and a ditch was constructed to improve drainage. As a result, the project will not cause a substantial adverse change to CA-BUT-465H; nor will the more recent ditch be impacted by the project. Thus the project would have a **less than significant impact**.

- b) Would the project cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?

The project will not adversely impact site CA-BUT-465H, as noted under (a), above and would have a **less than significant impact**.

- c) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

The entire area was mined to a depth of about 30 feet by dredge mining in the first half of the Twentieth Century. More recently, gravels were extracted from the immediate project area for construction of Oroville Dam in the early 1960s. The proposed project will not destroy a unique paleontological resource or site, or unique geological feature, thus will have **no impact**.

- d) Would the project disturb any human remains, including those interred outside of formal cemeteries?

As noted above, the entire area had previously been mined to a depth of approximately 30 feet leaving no possibility of intact deposits, including human remains or cemeteries, which might date to before 1900. This project will have **no impact** to human remains.

In the remote chance of the unanticipated and accidental discovery of human remains during ground-disturbing project-related activities, the requirements of Section 7050.5 of California's Health and Safety code, and, if necessary, the procedures outlined in the CEQA guidelines Section 15064.5(d) and (e), will be implemented. These policies include stopping work in the vicinity of any human remains and a determination of their significance by a qualified archaeologist and/or the County Coroner. This would render the find a less than significant impact.

### 3.6 GEOLOGY AND SOILS

|     |  | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|-----|--|--------------------------------|--|------------------------------|-----------|
| 3.6 | <b>GEOLOGY AND SOILS.</b> Would the project:   |                                |  |                              |           |
| (a) | Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death, involving:  |                                |  |                              |           |
|     | i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. |                                |  | x                            |           |
|     | ii) Strong seismic ground shaking?   |                                |  | x                            |           |
|     | iii) Seismic-related ground failure, including liquefaction?   |                                |  | x                            |           |
|     | iv) Landslides?  |                                |  |                              | x         |
| (b) | Result in substantial soil erosion or the loss of topsoil?   |                                |  |                              | x         |
| (c) | Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite, landslide, lateral spreading, subsidence, liquefaction or collapse?  |                                |  | x                            |           |
| (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?  |                                |  |                              | x         |
| (e) | Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?  |                                |  |                              | x         |

### ENVIRONMENTAL SETTING

The project site is located in the Great Valley geomorphic province just to the west of the Sierra Nevada geomorphic province. The geology of the project site consists of alluvial deposits associated with the Feather River. The alluvial deposits were previously dredge mined for gold. Dredge mining causes the over turning and mixing of the alluvium thereby destroying the structure and resulting in the loss of the topsoil. The existing surface and near surface material consists of poorly sorted sand, gravel and cobbles.

## DISCUSSION OF IMPACTS

- a) Would the project expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death, involving:
- i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

The site is not located in an Alquist-Priolo Zone. There are no active faults within five miles of the site and the potential to be impacted by a fault rupture is very low. In addition, as the project does not involve construction of structures within the project area, impacts from the rupture of an earthquake fault are considered to be **less than significant**.

- ii) Strong seismic ground shaking?

The site has not been mapped under the Seismic Hazard mapping Act as a potential hazard zone by the Division of Mines and Geology. However, the Butte County Master Environmental Assessment (1996) states that all parts of Butte County are potentially subject to moderately strong ground shaking. As the project does not involve construction of structures within the project area, impacts from ground shaking are considered to be **less than significant**.

- iii) Seismic-related ground failure, including liquefaction:

Liquefaction is a process by which loosely packed, saturated sediments lose their strength in response to strong shaking. Soils prone to liquefaction include loose to medium dense sands, gravels, and silts in areas with shallow groundwater levels.

Test pits in the mitigation Ponds area show a sandy unit present in some areas that extends to the water table. This is the type of unit and condition that can lead to liquefaction during an earthquake. In the event of liquefaction, the sides of the pond could slump toward the unsupported area that had been excavated. Because no structures are involved the impact from such failures would be **less than significant**.

- iv) Landslides:

No areas with geologic conditions favorable to landslides are located within or near the project site. As the potential for landslides is located several miles from the proposed project site and typically occur on slopes greater than 15 percent, there will be **no impact** from landslides for this project.

- b) Would the project result in substantial soil erosion or the loss of topsoil?

Topsoil at the project site has been removed by the previous dredge mining activities leaving behind a gravel and cobble surface. With no topsoil present no impacts to topsoil would occur. The gravel and cobble surface and low slopes at the project site would result in very low erosion rates, so **no impacts** from soil erosion would occur.

- c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?

As discussed under liquefaction, there is a non-cohesive sandy unit underlying some of the project site. This unit, especially when saturated, could fail by flowing into unsupported areas created by excavation of the ponds. Small slope failures could occur around the margins of the ponds in these sandy areas. Impacts from these failures would be **less than significant** as no structures are involved.

- d) Would the project 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?

Expansive soils generally consist of a high clay content and are known to have the potential for shrinking and swelling with changes in moisture content. Soil expansion can cause movement of floor slabs and foundations.

However, the proposed project is in an area that does not contain soils with high clay contents and the project does not involve the construction of buildings within the project area, thus there will be **no impact** from expansive soils.

- e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The proposed project would not require the use of septic tanks nor alternative wastewater disposal systems, thus there would be **no impact** related to insubstantial soils.

### 3.7 HAZARDS AND HAZARDOUS MATERIALS

|     |  | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|-----|--|--------------------------------|--|------------------------------|-----------|
| 3.7 | <b>HAZARDS AND HAZARDOUS MATERIALS.</b><br>Would the project:  |                                |  |                              | x         |
| (a) | Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?  |                                |  |                              | x         |
| (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?   |                                |  |                              | x         |
| (c) | Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school?  |                                |  |                              | x         |
| (d) | Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?  |                                |  |                              | x         |
| (e) | For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area? |                                |  |                              | x         |
| (f) | For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?   |                                |  |                              | x         |
| (g) | Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?   |                                |  |                              | x         |
| (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?  |                                |  |                              | x         |

### ENVIRONMENTAL SETTING

The proposed project would consist of excavating and removing material such as cobble, gravel, sand, and silt. These materials do not contain hazardous materials. Research of the EPA EnviroMapper, a tool used to map various types of environmental

information (e.g., toxic releases, hazardous wastes, Superfund sites), showed that the proposed project site is not listed as a hazardous materials site (EPA 2008).

## DISCUSSION OF IMPACTS

- a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The proposed project would consist of excavation of material such as cobble, gravel, sand, and silt for the creation of an emergent wetland. These materials do not contain hazardous materials and would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials and there would be **no impact**.

- b) Would the project 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?

The soil and rock material that will be excavated for this project do not contain hazardous materials. Activities associated with the removal and transport of this material would not 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, and the project would have **no impact**.

- c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The soil and rock material that will be excavated for this project do not contain hazardous materials. As the nearest schools are located more than five miles from the proposed project site and as there are no schools proposed for development nearby, there would be **no impact** regarding hazardous materials near schools.

- d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

The proposed project area is not listed on the Department of Toxic Substances Control's "Hazardous Waste and Substances Site List". Therefore, there is **no impact** from an existing hazardous materials site.

- e) For a project located within an airport land use plan area or, where such a plan has not been adopted within two miles of a public airport or a public use airport, would

the project result in a safety hazard for people residing or working in the project area?

As the proposed project does not involve the construction of buildings, the project would have **no impact** in relation to safety hazards and public use airports for people residing or working in the project area.

- f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

There are no private airstrips within the vicinity of the proposed project area. Therefore, there would be **no impact** associated with hazards from private airstrips.

- g) Would the project impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?

SR 70 is designated as an evacuation route for the City of Oroville. The most direct route from the project site to a designated evacuation route would be via project haul roads in the OWA. The project would not block or restrict the designated evacuation route nor block access to an emergency facility. Thus the project would have **no impact** to an emergency evacuation or response plan.

- h) Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

The proposed project is in a Wildlife Area and has a low number of residences nearby. In addition it does not involve the construction of buildings but will create wetlands where dry grassland now occurs. There will continue to be limited access by the public to the project site. The proposed project will not increase the risk of loss, injury or death involving wildland fires and would have **no impact** in terms of human risks associated with wildland fires.

### 3.8 HYDROLOGY AND WATER QUALITY

|     |  | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|-----|--|--------------------------------|--|------------------------------|-----------|
| 3.8 | <b>HYDROLOGY AND WATER QUALITY.</b> Would the project:   |                                |  |                              |           |
| (a) | Violate any water quality standards or waste discharge requirements?   |                                | x  |                              |           |
| (b) | Substantially deplete groundwater supplies or interfere substantially with ground water recharge such that there would be net deficit in aquifer volume or lowering of the local groundwater table level ( e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? |                                |  | x                            |           |
| (c) | Substantially alter existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or offsite.  |                                |  |                              | x         |
| (d) | Substantially alter 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 offsite?   |                                |  |                              | x         |
| (e) | Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?   |                                |  |                              | x         |
| (f) | Otherwise substantially degrade water quality?   |                                |  |                              | x         |
| (g) | Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?  |                                |  |                              | x         |
| (h) | Place within a 100-year flood hazard area structures that would impede or redirect flood flows?  |                                |  |                              | x         |
| (i) | Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of a failure of a levee or dam?  |                                |  |                              | x         |
| (j) | Inundation by seiche, tsunami or mudflow?  |                                |  |                              | x         |

### AFFECTED ENVIRONMENT

Hydrology: The project site is located in a fairly level upland area adjacent to riparian woodland and emergent wetlands. The site is approximately 4-8 feet higher in elevation

than the surrounding riparian woodlands and wetlands. The proposed project would excavate a portion of the existing upland area to existing ground water levels to support emergent wetland vegetation and adjacent riparian shrub and woodlands. There are no drainage/stream channels currently at the project site. Precipitation infiltrates through the soil/cobble substrate. According to the *Emergent Wetland Creation Project: Waters of the U.S. Assessment*, the site is not a wetland.

Test pits were dug at the proposed site to assess ground water levels. Staff gages were installed in the test pits as well as in the adjacent canal to follow water levels from season to season. In addition, adjacent emergent vegetation and riparian habitat elevations were surveyed to correlate water elevations in the test pits with those in adjacent areas. Existing ground water levels occurred at approximately 98-99 feet above mean sea level (msl) during the spring of 2007 and approximately 95-96 feet msl during the summer and fall of 2007. The water level elevations in the test pits correlated with adjacent low areas that support emergent wetland vegetation. The proposed project would excavate the site to elevations in which the existing water table levels would support emergent wetlands and riparian habitat as do the surrounding emergent wetland habitats/riparian woodlands.

Given the alluvial nature of the area and the relatively coarse substrate within these disturbed alluvial deposits, ground water table elevations appear to be responsive to changes in stage in the surrounding vast wetland areas and ultimately changes in stage in the mainstem channel of the Feather River. The Feather River below Oroville Dam has controlled flows, but tends to be lower in the winter except during storm and/or flood events and higher during the summer for irrigation deliveries and environmental protections/enhancements. Thus the groundwater table elevations are affected during the wet season by river flows and precipitation and river elevations during the dry season. This maintains a fairly constant water table elevation throughout the year.

**Water Quality:** During the FERC relicensing of Oroville Dam, water quality sampling was conducted in the FERC project boundary (DWR 2004, DWR 2005). Water quality parameters were analyzed from waters throughout the project area and included ponds within the OWA. Grab samples for water quality were collected from these ponds monthly and analyzed for mineral, nutrient, and low level metal concentrations. Two of these ponds occur on the east side of the Feather River. Upper Pacific Heights Pond is found at the upstream end of the east side of the OWA, while Lower Pacific Heights Pond is located near the downstream end of the east side OWA. In both of these ponds all mineral and nutrient parameters analyzed were found below existing criteria. Low level metal concentrations exceeded criteria for all arsenic samples, and occasionally for aluminum, iron, and manganese. All mercury objectives were met from all water column samples collected in these ponds.

In addition, fish were collected from two ponds in the OWA using electroshockers, gill nets, hook and line, and seines. Sampled ponds include Robinson Pond located on the

east side of the Feather River, and Mile Long Pond located on the west side of the Feather River. Tissue samples from fish in these ponds were analyzed for metals and organic contaminants. This analysis confirmed the presence of mercury concentrations in fish tissue collected from both ponds which exceed the EPA guidelines of 0.3 parts per million (ppm).

## DISCUSSION OF IMPACTS

a) Would the project violate any water standards or waste discharge requirements?

Section 303 of the federal Clean Water Act requires states to develop water quality standards to protect the beneficial uses of receiving waters. In accordance with California's Porter/Cologne Act, the Regional Water Quality Control Boards (RWQCBs) of the State Water Resources Control Board (SWRCB) are required to develop water quality objectives that ensure their region meets the requirements of Section 303 of the Clean Water Act.

The project would involve the use of fuels and lubricants for construction and maintenance equipment. To ensure that the project would not violate any water quality standards or waste discharge requirements, DWR would implement Best Management Practices (BMPs) for all construction activities. DWR would require all contractors conducting work at the site to implement **Mitigation Measure 3.8.1** to control erosion and waste discharges of other construction-related contaminants, and the general contractor conducting the work would be responsible for constructing or implementing, regularly inspecting, and maintaining the measures in good working order.

Standard erosion control measures would be implemented for all construction activities. Grading operations would be conducted to eliminate direct routes for conveying potentially contaminated runoff to drainage channels. Erosion control barriers such as silt fences and mulching material would be installed, and disturbed areas would be planted and stabilized in early winter following construction. BMP's would also be implemented to reduce the possibility of adverse impacts from accidental release of contaminants from equipment use.

### **Mitigation Measure 3.8.1**

Implementation of **Mitigation Measure 3.8.1** relating to construction activities would ensure that the project would have a **less than significant impact**.

- Conduct all work according to site-specific construction plans that identify areas for clearing and grading.
- Avoid riparian vegetation wherever possible. Woody vegetation will be retained on site and will be clearly marked prior to construction activities.
- Stabilize disturbed soils before onset of heavy winter rains.

- Develop and implement strict onsite handling rules to keep construction and maintenance materials out of drainages and waterways.
- Conduct all refueling and servicing of equipment with absorbent material or drip pans underneath to contain spilled fuel. Collect any fluid drained from machinery during servicing in leak-proof containers and deliver to an appropriate disposal or recycling facility.
- Maintain controlled construction staging, site entrance and fueling areas at least 100 feet away from water channels or wetlands to minimize accidental spills and runoff of contaminants in stormwater.
- Prevent any petroleum products that could be hazardous to aquatic life from contaminating the soil or entering watercourses.
- Maintain spill cleanup equipment in proper working condition. Clean up all spills immediately according to the spill prevention and response plan, and immediately notify DFG and the RWQCB of any spills and cleanup procedures.

In 1990, the U.S. Environmental Protection Agency (USEPA) published Phase I regulations requiring larger construction sites involving five or more acres to obtain clean Water Act National Pollutant Discharge Elimination System (NPDES) permits in order to control stormwater runoff from the construction site. Under the auspices of the USEPA, the California State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCB) have the responsibility of granting NPDES permits and other water quality permits that control water pollution in California. Prior to commencing any soil disturbing activities, the project applicant is required to develop a Stormwater Pollution Prevention Plan (SWPPP) in accordance with Section A of the NPDES Construction Activities Stormwater General Permit. The SWPPP is required to list BMPs that control erosion and sediment and minimize construction waste and the discharge of pollutants from the project site into local waterways. BMPs are required to be appropriately selected, correctly installed, and maintained throughout the duration of the construction. BMPs are also required to list local post-construction erosion and sediment controls to be utilized after the development construction is completed.

Upon development of a SWPPP, the project applicant must file a Notice of Intent (NOI) with the RWQCB. The NOI serves as an application for the General Permit for Discharges of Stormwater Associated with Construction Activity. A Waste Discharger Identification (WDID) number is issued to the project applicant within 10 business days after the RWQCB receives a complete NOI package.

Once the contract is awarded by DWR and prior to construction grading, DWR or the contractor (as an Agent for the project proponent) will prepare a SWPPP and file a NOI with the Central Valley Regional Water Quality Control Board. The SWPPP will address measures to minimize and control construction and post-construction runoff and will include BMPs identified in Mitigation Measure 3.8.1 as well as additional measures as appropriate.

b) Would the project substantially deplete groundwater supplies or interfere substantially with ground water recharge such that there would be net deficit in aquifer volume or lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

The proposed project would excavate approximately 242,000 cubic yards of material consisting of a mixture of cobbles, gravels, and sands to create approximately 13 acres of emergent wetland habitat. The water supply for the wetland would be tied to the existing groundwater table elevations. Although there is expected to be some loss of water to evaporation, the amount would be relatively small and the project would have a **less than significant impact** on groundwater supplies and would not interfere substantially with ground water recharge.

c) Would the project substantially alter existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or offsite.

The proposed project site is one-half to one mile from the Feather River. The alluvial deposits were previously dredge mined for gold which causes the over turning and mixing of the alluvium thereby destroying the structure and resulting in the loss of the topsoil. The existing surface and near surface material consists of poorly sorted but well drained sand, gravel, and cobbles. There are no visible existing drainage patterns at the site. Precipitation currently infiltrates into the ground and the project would not change this pattern nor would not affect surface runoff. The project would have **no impact**.

d) Would the project substantially alter 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 offsite?

Drainage patterns and surface runoff amounts are related to slope, soil permeability, vegetation, and the surface type. This project would excavate surfaces at slopes between 10:1 and 4:1 (horizontal: vertical) to tie into existing ground water elevations and would plant native vegetation to create emergent wetland and riparian habitat. As stated in (c) above, there are currently no drainage patterns at the proposed site that will be affected by this project. Rainfall infiltrates into the ground and will continue to do so after construction is completed. There will be no impervious surfaces. The existing drainage pattern of the site would not be altered, there would be no alteration of the course of a stream or river, and there would be no substantial erosion or siltation on- or off-site. Thus this project would have **no impact**.

e) Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

There will be no impervious surfaces at the proposed project site and precipitation would remain contained within the pond perimeters. The area is part of the OWA and the project would create emergent wetland and riparian habitat. There are no existing or planned stormwater drainage systems in the area. This project would have **no impact** to existing or planned stormwater drainage systems nor provide substantial additional sources of polluted runoff.

f) Would the project otherwise substantially degrade water quality?

Please refer to discussion in (a) above.

g) Would the project 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?

The proposed project does not include the construction of any structures. Therefore, the proposed project would have **no impact** related to flood hazards.

h) Would the project place within a 100-year flood hazard area structures that would impede or redirect flood flows?

The project does not propose any new structures; therefore, the project would have **no impact**.

The proposed project does not include the construction of any structures. Therefore, there is **no impact** related structures impeding or redirecting flows.

i) Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of a failure of a levee or dam?

Lake Oroville is situated approximately 10 miles northeast and the Feather River lies approximately one-half to one mile east of the proposed project area. However, the proposed project does not include construction of buildings or the construction of recreation related trails. Thus the proposed project would have **no impact** on people or structures related to flooding due to failure of the Oroville Dam or Feather River Levees.

j) Would the project be affected by inundation by seiche, tsunami or mudflow?

Lake Oroville is a large body of water that could be susceptible to seiches. However, it has not been identified as a significant problem that would affect the Oroville area.

According to the Butte County General Plan, past histories indicate that mudslides are not a problem in the Oroville Area. In addition, the project area is not located near any active volcanoes so the potential for volcanic mudflow is low. Therefore, the proposed project would have **no impact** in regards to hazards related to seiches, tsunamis, and mudflows.

### 3.9 LAND USE AND PLANNING

|     |  | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|-----|--|--------------------------------|--|------------------------------|-----------|
| 3.9 | <b>LAND USE AND PLANNING.</b> Would the project:   |                                |  |                              |           |
| (a) | Physically divide an established community?  |                                |  |                              | x         |
| (b) | Conflict with any applicable land use plan, policy or regulation of any agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? |                                |  |                              | x         |
| (c) | Conflict with any applicable habitat conservation plan or natural community conservation plan?   |                                |  |                              | x         |

### AFFECTED ENVIRONMENT

The proposed project site is within the OWA which is managed by DFG.

### DISCUSSION OF IMPACTS

a) Would the project physically divide an established community?

The proposed project would provide mitigation for biological impacts caused by the construction of Thermalito Afterbay brood ponds. The project is located in the OWA. No existing communities are located in the area. The proposed project would not physically divide an established community. Therefore, there would be **no impact**.

b) Would the project conflict with any applicable land use plan, policy or regulation of any agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The proposed project was designed in coordination with OWA staff and is completely consistent with the existing DFG Oroville Wildlife Area Management Plan. Thus, there would be **no impact**.

c) Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

There are no known habitat conservation plans or natural communities conservation plans within the Oroville Planning Area. Thus there would be **no impact** from this project.

### 3.10 MINERAL RESOURCES

|      |  | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|------|--|--------------------------------|--|------------------------------|-----------|
| 3.10 | <b>MINERAL RESOURCES.</b> Would the project:   |                                |  |                              |           |
| (a)  | Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?                                |                                |  | x                            |           |
| (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? |                                |  | x                            |           |

### ENVIRONMENTAL SETTING

In accordance with the Surface Mining and Reclamation Act of 1975 (SMARA), all mining activities in operation as of January 1976 and those placed in operation after that date shall be required to submit a surface mining and reclamation plan that provides for appropriate measures to rehabilitate the site prior to its abandonment. SMARA states that the extraction of minerals is essential to the continued economic well-being of the State and to the needs of society, and that reclamation of mined lands is necessary to prevent or minimize adverse effects on the environment and to protect the public health and safety.

SMARA establishes a statewide policy for conservation and development of mineral lands in California. In addition, it provides requirements for development of a reclamation plan before conducting a surface mining operation. DWR is exempt from these requirements for project areas that have been obtained for the purpose of the State Water Resources Development System. However, DWR is required to consult with the California Department of Conservation (DOC), submit a reclamation plan to DOC, and file an annual report until reclamation is achieved (SMARA § 2714 (i) (1)). A reclamation plan will be submitted to the California Department of Conservation.

### DISCUSSION OF IMPACTS

a) Would the project 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?

Aggregate is the primary mineral resource at the project location. Aggregate, because of the cost of transportation, is of local rather than regional or state importance. The project does not result in the loss of availability of aggregate; therefore the impact is **less than significant**.

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

The project allows for the extraction and marketing of the aggregate from the site. There is no loss of availability as the aggregate resource is being utilized and the project would generate a temporary source. The impacts are **less than significant**.

### 3.11 NOISE

|      |   | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|------|---|--------------------------------|--|------------------------------|-----------|
| 3.11 | <b>NOISE.</b> Would the project:  |                                |  |                              |           |
| (a)  | Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or of applicable standards of other agencies?  |                                | x  |                              |           |
| (b)  | Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?  |                                |  | x                            |           |
| (c)  | A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?   |                                |  |                              | x         |
| (d)  | A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?   |                                |  | x                            |           |
| (e)  | For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project expose people residing or working in the project area to excessive noise levels? |                                |  |                              | x         |
| (f)  | For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?   |                                |  |                              | x         |

### ENVIRONMENTAL SETTING

Noise is defined as unwanted or objectionable sound, and usually reflects changes from typical background noise levels and spectra. In Butte County, there have been few noise complaints and most of these involve in-city noise problems. The unincorporated areas of the County generally have low noise levels and most of the noise-producing activities (motorcycle tracks, gravel-crushing operations, etc.) are sufficiently remote from populated areas and cause few complaints. The following policies contained within the Butte County General Plan are applicable to potential noise impacts in the project area:

- Endeavor to maintain an acceptable noise environment in all areas of the County.
- Where possible, control the sources of transportation noise to maintain acceptable levels.
- Special consideration should be given to residential development and other noise sensitive activities near railroads and highways.

- Plan for airport development and discourage noise-sensitive activities near airports.
- Provide 60 dB noise contours around major sources where this information is not presently available.

The proposed project site is located entirely within the OWA. The site is adjacent to an existing haul road currently in use by a gravel operator to move material from their extraction site to their processing plant. Public access is restricted and the gates are locked during non-work hours. The nearest sensitive receptors to the project site are located approximately one-third to one-half mile to the east where the small community of Oak Grove is located.

## DISCUSSION OF IMPACTS

a) Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or of applicable standards of other agencies?

Project-generated noise levels would be primarily associated with construction activities including site excavation, grading, material transport, and other miscellaneous activities. Implementation of mitigation measures identified in **Mitigation Measure 3.11.1** would reduce the impact from construction noise to **less than significant with mitigation incorporated**.

### Mitigation Measure 3.11.1

- Limit construction activities to the daylight hours between 7 a.m. to 7 p.m.
- Ensure all construction equipment have mufflers no less effective than original equipment and maintained to minimize noise generation.

b) Would the project result in exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?

The type of excavation at the proposed project site will be primarily surface excavation, grading, and leveling. Although there may be minor ground vibration from the use of heavy equipment, there is not expected to be any excessive ground borne noise or vibrations as a result of the construction activities. The project will have a **less than significant impact**.

c) Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

The proposed project will create an emergent wetland from an area that is currently considered disturbed grassland. There would be no permanent increase in ambient

noise levels in the project vicinity from this project. All construction noise will cease once the project excavation and grading is completed. There will be **no impact** from this project to permanent increases in ambient noise levels.

d) Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

There will be some temporary increases in ambient noise levels in the project vicinity above existing levels due to construction equipment and material transport from the project site. However, the adjacent haul road is currently used by gravel operators to move material and the increase is not expected to be substantial. In addition, there are no sensitive receptors in the project vicinity that will be affected by this increase in ambient noise levels, thus there will be a **less than significant impact**.

e) For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The nearest airport is the Oroville Airport located more than 3.5 miles north of the project site. The people residing or working in the project area will not be exposed to excessive noise levels and there would be **no impact**.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

The project site is not located in the vicinity of a private airstrip. The people residing or working in the project area will not be exposed to excessive noise levels and there would be **no impact**.

### 3.12 POPULATION AND HOUSING

|      |  | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|------|--|--------------------------------|--|------------------------------|-----------|
| 3.12 | <b>POPULATION AND HOUSING.</b> Would the project:  |                                |  |                              |           |
| (a)  | Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)? |                                |  |                              | x         |
| (b)  | Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?   |                                |  |                              | x         |
| (c)  | Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?   |                                |  |                              | x         |

### ENVIRONMENTAL SETTING

The project would create an emergent wetland in the OWA. It does not propose construction of new homes or buildings, and would not extend roadways or infrastructure. No housing currently exists on the site

### DISCUSSION OF IMPACTS

a) Would the project induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?

The proposed project does not include the construction of residential housing or commercial development and does not propose extension of roads or infrastructure. Therefore, the project would have **no impact** on growth in the area.

b) Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

There are no existing residential structures within the proposed project site. Therefore, there is **no impact** related to existing housing.

c) Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

There proposed project site is currently vacant. Therefore, there is **no impact** related to the displacement of an existing population.

### 3.13 PUBLIC SERVICES

|      |   | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|------|---|--------------------------------|--|------------------------------|-----------|
| 3.13 | <b>PUBLIC SERVICES.</b> Would the 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, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services : |                                |  |                              |           |
| (a)  | Fire protection?  |                                |  |                              | x         |
| (b)  | Police protection?  |                                |  |                              | x         |
| (c)  | Schools?  |                                |  |                              | x         |
| (d)  | Parks?  |                                |  |                              | x         |
| (e)  | Other public facilities?  |                                |  |                              | x         |

### ENVIRONMENTAL SETTING

The proposed project is located in the owa. Within the project site, there are no major utility or service systems (e.g. sewer, water, etc.) in place. Utilities in the project vicinity are more than 1/3 miles from the proposed project site. The OWA has a dedicated Fish and Game Warden and the area is served by local police and fire departments.

### DISCUSSION OF IMPACTS

#### a) Fire Protection?

The proposed project involves the development of emergent wetland habitat and does not include structures of any kind. No additional fire protection would be needed by the project other than that already needed as a natural area. The project would not result in the need for new facilities that may have a physical impact on the environment. This project would have **no impact** to fire protection.

#### b) Police Protection?

The proposed project would not include any residential or commercial structure or areas with persons requiring additional police protection above what is presently provided. Therefore, the project would not result in the need for new police facilities that may have a physical impact on the environment. This project would have **no impact** to police protection.

#### c) Schools?

The proposed project would not require the addition of school facilities. Therefore, it would have **no impact** on school facilities.

d) Parks?

The proposed project would not require the development of additional parks or park facilities. There would be **no impact** relative to parks in the Butte County area.

e) Other Public Facilities?

There would be **no impacts** to service levels of other public facilities with the development of this project.

### 3.14 RECREATION

|      |   | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|------|---|--------------------------------|--|------------------------------|-----------|
| 3.14 | <b>RECREATION.</b>  |                                |  |                              |           |
| (a)  | Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? |                                |  |                              | x         |
| (b)  | Does the project include recreational facilities, or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?                      |                                |  |                              | x         |

### ENVIRONMENTAL SETTING

The proposed project site is part of the OWA. The site can be accessed by the public for recreational activities relating to hiking, hunting, and fishing. There are no regional or neighborhood parks in the area. No additional facilities such as physical structures are located in the area.

### DISCUSSION OF IMPACTS

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The project would not require the use of regional or neighborhood parks or recreational facilities, nor would there be deterioration of park facilities. The proposed project would have **no impact** on recreational facilities.

b) Does the project include recreational facilities, or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

As stated above, the project does not include the construction or expansion of recreational facilities. Therefore, there is **no impact** associated with the construction or expansion of recreational facilities.

### 3.15 TRANSPORTATION/TRAFFIC

|      |  | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|------|--|--------------------------------|--|------------------------------|-----------|
| 3.15 | <b>TRANSPORTATION/TRAFFIC.</b> Would the project:  |                                |  |                              |           |
| (a)  | Cause an increase in traffic that is substantial in relation to 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 of roads, or congestion at intersections)? |                                |  | x                            |           |
| (b)  | Exceed, either individually or cumulatively, a level of service standard established by the City General Plan or the Butte County Association of Governments for designated roads or highways?   |                                |  | x                            |           |
| (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?   |                                |  |                              | x         |
| (d)  | Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?  |                                |  | x                            |           |
| (e)  | Result in inadequate emergency access  |                                |  |                              |           |
| (f)  | Result in inadequate parking capacity?   |                                |  |                              | x         |
| (g)  | Conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?   |                                |  |                              | x         |

### ENVIRONMENTAL SETTING

The proposed project would create an emergent wetland within the OWA. The project would consist of excavation and removal of material to elevations that would support emergent wetland habitat. SR 70 and an existing gravel haul road would be used to access the site and move the excavated materials to a gravel processing plant. State Route (SR) 70 is a primary north/south route through Butte County. The gravel haul road is a road through the OWA and has restricted access to the public. It is used by a gravel operator to move material from a worksite to a gravel processing plant.

In addition, spawning gravel will be trucked to the Feather River Fish Hatchery from the gravel plant via SR 70 and Grand Avenue and Table Mountain Boulevard in the City of Oroville.

Construction workers will also access the project site via SR 70 and the existing haul road. Following completion of the construction phase of this project, all large truck

traffic will stop. During the planting stage, small truck and vehicles will be used to access the site via SR 70 and the gravel haul road. Annual monitoring will occur for at least five years following project completion. This will require a number of small truck trips to access the site via SR 70 and the gravel haul road per year.

The proposed project would include the following truck trips:

- Approximately 122 truck trips per day during a four-month period (summer/fall 2008) to remove excavated material offsite (Phase 1).
- Approximately 140 truck trips per day during a three-month period (spring/summer 2009) to remove excavated material offsite (Phase 2).
- 22 truck trips per day during a two-month period to move spawning gravel to the Feather River Fish Hatchery in Oroville.

## DISCUSSION OF IMPACTS

a) Would the project cause an increase in traffic that is substantial in relation to 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 of roads, or congestion at intersections)?

During the excavation phase of the proposed project, there would be approximately 122 truck trips per day (Phase 1) and 140 truck trips per day (Phase 2) for transport of material offsite over a seven-month period. There would also be some additional vehicle trips for construction worker commute trips and miscellaneous vehicle trips for construction equipment. In addition there would approximately 22 truck trips per day during a two-month period to move processed spawning sized gravel to the Feather River Fish Hatchery. The increased traffic due to construction of the proposed project would be temporary. Yearly monitoring and maintenance activities after construction and planting is completed will be minimal and may include up to an additional 10-20 vehicle trips per year.

Because the increased traffic due to construction would be temporary and there would be minimal traffic due to yearly monitoring and maintenance activities, this impact would be **less than significant**.

b) Would the project exceed, either individually or cumulatively, a level of service standard established by the City General Plan or the Butte County Association of Governments for designated roads or highways?

Construction activities and completion of the proposed project would not exceed level of service standards. The temporary nature of truck hauling would not create a significant increase in traffic in relation to the existing traffic load and capacity of the street systems. The project would have a **less than significant** impact.

c) Would the project 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?

The proposed project is not located in the vicinity of an airport. The project would have **no impact** on air traffic patterns.

d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The proposed project would utilize existing roadway systems. The rural nature of the area could accommodate additional truck traffic without significantly increasing hazards in the area. Furthermore, the project does not propose any alteration to the roadway systems and would not include additional design features that would increase hazards along roadway segments. Therefore, the project would have a **less than significant** impact.

e) Would the project result in inadequate emergency access?

The project does not propose any changes to the existing roadways in the project vicinity, and the site would continue to be used in accordance with the existing OWA designation. The temporary increase in truck traffic would not block emergency access. Therefore, the project would have a **less than significant** impact.

f) Would the project result in inadequate parking capacity?

The proposed project would require minimal parking during construction, maintenance, and monitoring. The project would have **no impact** on parking issues.

g) Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

The project would not require the inclusion of bicycle racks, bus turnouts, or other alternative transportation facilities. The proposed project would have **no impact** in regards to plans or policies supporting public transportation or alternate forms of transportation.

### 3.16 UTILITIES AND SERVICE SYSTEMS

|      |  | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|------|--|--------------------------------|--|------------------------------|-----------|
| 3.16 | <b>UTILITIES AND SERVICE SYSTEMS.</b> Would the project:   |                                |  |                              |           |
| (a)  | Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?   |                                |  |                              | x         |
| (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?                            |                                |  |                              | x         |
| (c)  | Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?                                     |                                |  |                              | x         |
| (d)  | Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?  |                                |  | x                            |           |
| (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? |                                |  |                              | x         |
| (f)  | Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?  |                                |  | x                            |           |
| (g)  | Comply with federal, state and local statutes and regulations related to solid waste?  |                                |  |                              | x         |

### AFFECTED ENVIRONMENT

The proposed project would create an emergent wetland within the OWA. The project would consist of excavation and removal of material to a depth tied to existing groundwater elevations that would support emergent wetland habitat.

### DISCUSSION OF IMPACTS

a) Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The proposed project would not require the use of a wastewater treatment facility. Therefore, the project would have **no impact** on wastewater treatment requirements.

b) Would the project 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?

The project would not require the construction or use of wastewater facilities. Water trucks will be used for transporting water to the project site for dust abatement during the construction and hauling phase. There is **no impact** regarding the expansion of existing water and wastewater facilities.

c) Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The project does not require the construction of storm water facilities. Therefore, would have **no impact** relating to the construction of storm water drainage facilities.

d) Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

The project will use water trucks to transport water for road dust abatement. No other domestic water suppliers will serve the project. The project site will be excavated to tie into existing ground water levels. The proposed project's impacts to existing water supplies are considered **less than significant**.

e) Would the project 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?

The proposed would not require the use of a wastewater treatment facility or wastewater treatment provider. The project would have **no impact** on wastewater treatment plant capacity.

f) Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

The County landfill has adequate capacity to accommodate solid waste to the year 2018. The proposed project is not likely to require the use of a landfill other than for construction debris. Construction debris would be minimal and would have a minimal impact on the capacity of the landfill. Upon project completion, no other use of the landfill would be required. Therefore the project would have a **less than significant impact** on solid waste capacity.

g) Would the project comply with federal, state and local statutes and regulations related to solid waste?

The project would comply with regulations relating to solid waste. There would be **no impact**.

**3.17 MANDATORY FINDINGS OF SIGNIFICANCE**

|             |  | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|-------------|--|--------------------------------|--|------------------------------|-----------|
| <b>3.17</b> | <b>MANDATORY FINDINGS OF SIGNIFICANCE</b>  |                                |  |                              |           |
| (a)         | Does the project have 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 rare or endangered plants or animals, or eliminate important examples of the major periods of California history or prehistory? |                                |  | x                            |           |
| (b)         | Does the project have impacts that are individually limited, but cumulatively considerable? "Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?  |                                |  |                              | x         |
| (c)         | Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?  |                                |  |                              | x         |

**DISCUSSION OF IMPACTS**

a) Does the project have 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 rare or endangered plants or animals, or eliminate important examples of the major periods of California history or prehistory?

The proposed project would create approximately 13.0 acres of emergent wetland habitat and 2.5 acres of riparian shrub/woodland habitat. These habitats will be created in upland, non-native grassland habitat and will result in a substantial increase of new high-quality wildlife habitat including habitat for special-status species. Implementation of Mitigation Measure 3.4.1 will reduce impacts to giant garter snake to a less than significant level.

Additionally, the project does not have historic or prehistoric sites located on the project site and the site has been mined in the past leaving no possibility of intact deposits, including human remains or cemeteries.

b) Does the project have impacts that are individually limited, but cumulatively considerable? "Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?

The proposed project would not contribute to a cumulatively consider impact. Construction of the proposed emergent wetland and riparian habitat is expected improve site aesthetics and habitat quality.

c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

The proposed project would not have environmental effects that will cause substantial adverse effects on human beings.

## 4.0 SUMMARY OF MITIGATION MEASURES

Mitigation measures that will be incorporated into project construction and operation to protect the environment are summarized below.

### AIR QUALITY

#### Mitigation Measure 3.3.1:

DWR shall require the Contractor to implement the following BCAQMD-recommended standard mitigation measures to reduce project-generated construction-related emissions of fugitive dust (BCAQMD 2008):

- Water shall be applied by means of truck(s), hoses, and/or sprinklers as needed prior to any land clearing or earth movement to minimize dust emission.
- Haul vehicles transporting soil into or out of the property shall be covered.
- A water truck or spraying system shall be on site at all times. Water shall be applied to disturbed areas a minimum of 2 times per day or more as necessary.
- On-site vehicles shall be limited to a speed which minimizes dust emissions on unpaved roads.
- DWR shall post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 24 hours. The telephone number of BCAQMD shall also be visible to ensure compliance with BCAQMD Rules 200 (Nuisance) & 205 (Fugitive Dust Emissions).
- All visibly dry disturbed soil surface areas of operation shall be watered to minimize dust emissions.
- Existing roads and streets adjacent to the project shall be cleaned at least once per day unless conditions warrant a greater frequency.
- All visibly dry disturbed unpaved roads and surface areas of operation shall be watered to minimize dust emissions.
- Unpaved roads may be graveled to reduce dust emissions.
- Haul roads shall be sprayed down at the end of the work shift to form a thin crust. This application of water shall be in addition to the minimum rate of application.
- Vehicles entering or exiting construction area shall travel at a speed which minimizes dust emissions.
- Construction workers shall park in designated parking area(s) to help reduce dust emissions.

### **Mitigation Measure 3.3.2:**

DWR shall require the Contractor to implement the following BCAQMD-recommended standard mitigation measures to reduce project-generated construction-related exhaust emissions (BCAQMD 2008):

- Maintain all construction equipment in proper tune according to manufacturer's specifications.
- Maximize to the extent feasible, the CARB's 1996 or newer certification standard for off-road heavy-duty diesel engines.
- Minimize idling time to 5 minutes.
- Substitute gasoline-powered for diesel-powered, where feasible.
- Use equipment that has Caterpillar pre-chamber diesel engines, where feasible.
- Construction contracts shall request the Contractor achieve a project wide fleet-average 20% NO<sub>x</sub> reduction and 45% particulate reduction for the heavy-duty (>50 horsepower) off road vehicles compared to the most recent ARB fleet average at time of construction. Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.

## **BIOLOGICAL RESOURCES**

### **Mitigation Measure 3.4.1**

- No excavation and grading activities would occur within 200 feet of the central ditch between October 1 and May 1.

## **HYDROLOGY AND WATER QUALITY**

### **Mitigation Measure 3.8.1**

- Conduct all work according to site-specific construction plans that identify areas for clearing and grading.
- Avoid riparian vegetation wherever possible. Woody vegetation will be retained on site and will be clearly marked prior to construction activities.
- Stabilize disturbed soils before onset of heavy winter rains.
- Develop and implement strict onsite handling rules to keep construction and maintenance materials out of drainages and waterways.
- Conduct all refueling and servicing of equipment with absorbent material or drip pans underneath to contain spilled fuel. Collect any fluid drained from machinery during servicing in leak-proof containers and deliver to an appropriate disposal or recycling facility.

- Maintain controlled construction staging, site entrance and fueling areas at least 100 feet away from water channels or wetlands to minimize accidental spills and runoff of contaminants in stormwater.
- Prevent any petroleum products that could be hazardous to aquatic life from contaminating the soil or entering watercourses.
- Maintain spill cleanup equipment in proper working condition. Clean up all spills immediately according to the spill prevention and response plan, and immediately notify DFG and the RWQCB of any spills and cleanup procedures.

## **NOISE**

### **Mitigation Measure 3.11.1**

- Limit construction activities to the daylight hours between 7 a.m. to 7 p.m.
- Ensure all construction equipment have mufflers no less effective than original equipment and maintained to minimize noise generation.

## 5.0 LIST OF PREPARERS

### **This report was prepared by:**

Gail Kuenster, Staff Environmental Scientist, Oroville Field Division, DWR

### **With help from:**

#### **California Department of Water Resources**

##### ***Division of Engineering***

David Rennie, Senior Engineer WR

##### ***Division of Environmental Services***

Janis Offermann, Senior Environmental Planner (Cultural)

##### ***Division of Planning and Research, Northern District***

Dave Bogener, Staff Environmental Scientist (Wildlife)

Scott Kennedy, Engineer WR

Bruce Ross, Engineering Geologist

##### ***Division of Operations and Maintenance, Oroville Field Division***

Ryan Martin, Staff Environment Scientist (Water Quality)

#### **Environmental Consultant**

##### ***EDAW***

Austin Kerr, Air Quality and Noise Analyst

#### **Agencies Contacted:**

Gail Williams, Butte County Air Quality Control Board, Chico, CA

Beth Hendrickson, California Department of Conservation, Sacramento, CA

Scott Zaitz, Central Valley Regional Water Quality Control Board, Redding, CA

Brian Vierria and Chandra Jenkins, U.S. Army Corps of Engineers, Sacramento, CA

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## **APPENDIX A**

### **AIR QUALITY MODELING DATA**

**Emergent Wetland Creation Project - Construction Parameters - DWR**

| <u>Project Size</u>             | <u>value</u> | <u>units</u>          | <u>source/notes</u>                 |
|---------------------------------|--------------|-----------------------|-------------------------------------|
| creating emergent wetland       | 13.0         | acres                 | project description                 |
| riparian shrub/woodland habitat | 2.5          | acres                 | project description                 |
| project size total              | 15.5         | acres                 | project description                 |
| staging area                    | 3.2          | acres                 | project description                 |
| <b>Truck Load Size</b>          |              |                       |                                     |
| mass per truck load             | 23           | tons/truckload        | project description                 |
| material density                | 1.8          | tons/cubic yard       | DWR, conference call April 18, 2007 |
| volume per truck load           | 12.78        | cubic yard/truck load | calculation                         |

**Total Cobble/Gravel/Sands Excavation and Hauling**

|                          | <u>value</u> | <u>units</u> | <u>source/notes</u> |
|--------------------------|--------------|--------------|---------------------|
| Total - Phases 1 & 2     | 242,000      | cubic yds    | project description |
| Total Acreage, Effective | 15.5         | acres        | project description |

**Cobble/Gravel/Sands Excavation and Hauling - Phase 1 (Summer/Fall 2008)**

| <u>Truck Hauling to Aggregate Facility</u> | <u>value</u>  | <u>units</u>    | <u>source/notes</u>                 |
|--|---------------|-----------------|-------------------------------------|
| material excavated and hauled              | 138,286       | cubic yds       | 4/7 of total                        |
| area, proportionate to phase 1             | 8.86          | acres           | 4/7 of total                        |
| maximum daily acreage disturbed            | 2.21          | acres           | 25% of subtotal                     |
| truck loads                                | 10,822        | truck loads     | calculation                         |
| work schedule                              | 5             | days/week       | DWR, conference call April 18, 2007 |
| number of working days                     | 89            | days            | DWR, conference call April 18, 2007 |
| truck trips, round trip, per day           | 121.6         | truck loads/day | calculation                         |
| truck trips, round trip                    | 122           | trips/day       | calculation                         |
| trip length, round trip                    | 21.75         | miles           | average of 4 closest suppliers      |
| <b>Construction Equipment</b>              | <u>number</u> |                 |                                     |
| excavator                                  | 1             |                 |                                     |
| front-end loader                           | 1             |                 |                                     |
| water truck                                | 1             |                 |                                     |

**Cobble/Gravel/Sands Excavation and Hauling - Phase 2 (Spring 2009)**

| <u>Truck Hauling to Aggregate Facility</u> | <u>value</u> | <u>units</u>    | <u>source/notes</u>                 |
|--|--------------|-----------------|-------------------------------------|
| material excavated and hauled              | 103,714      | cubic yds       | 4/7 of total                        |
| area, proportionate to phase 2             | 6.64         | acres           | 4/7 of total                        |
| maximum daily acreage disturbed            | 1.66         | acres           | 4/7 of total                        |
| truck loads                                | 8,117        | truck loads     | calculation                         |
| work schedule                              | 5            | days/week       | DWR, conference call April 18, 2007 |
| number of working days                     | 58           | days            | DWR, conference call April 18, 2007 |
| average truck loads per day                | 139.9        | truck loads/day | calculation                         |
| truck trips, round trip, per day           | 140          | trips/day       | calculation                         |
| trip length, round trip                    | 21.75        | miles           | average of 4 closest suppliers      |

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Emergent Wetland Creation Project  
Mitigated Negative Declaration/Initial Study

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Urbemis 2007 Version 9.2.4

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

File Name: C:\Documents and Settings\sacramento\Application Data\Urbemis\Version9a\Projects\Emergent Wetland Creation Project\02 Emerg  
Wetland Creation Proj.urb924

Project Name: Emergent Wetland Creation Project - DWR

Project Location: Mountain Counties Air Basin

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

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CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

|  | ROG         | NOx           | PM10 Dust    | PM10 Exhaust | PM10 Total   |
|--|-------------|---------------|--------------|--------------|--------------|
| <b>Time Slice 7/15/2008-11/14/2008</b> | <b>7.66</b> | <b>103.74</b> | <b>44.58</b> | <b>4.30</b>  | <b>48.97</b> |
| Active Days: 60                        |             |               |              |              |              |
| Mass Grading 07/15/2008-11/15/2008     | 7.66        | 103.74        | 44.58        | 4.30         | 48.97        |
| Mass Grading Dust                      | 0.00        | 0.00          | 44.20        | 0.00         | 44.20        |
| Mass Grading Off Road Diesel           | 2.14        | 18.19         | 0.00         | 0.92         | 0.92         |
| Mass Grading On Road Diesel            | 5.46        | 85.40         | 0.37         | 3.48         | 3.85         |
| Mass Grading Worker Trips              | 0.06        | 0.09          | 0.00         | 0.00         | 0.01         |
| <b>Time Slice 5/1/2009-7/21/2009</b>   | <b>8.04</b> | <b>109.49</b> | <b>33.63</b> | <b>4.50</b>  | <b>38.13</b> |
| Active Days: 58                        |             |               |              |              |              |
| Mass Grading 05/01/2009-07/21/2009     | 8.04        | 109.49        | 33.63        | 4.50         | 38.13        |
| Mass Grading Dust                      | 0.00        | 0.00          | 33.20        | 0.00         | 33.20        |
| Mass Grading Off Road Diesel           | 2.03        | 16.99         | 0.00         | 0.85         | 0.85         |
| Mass Grading On Road Diesel            | 5.95        | 92.42         | 0.43         | 3.65         | 4.08         |
| Mass Grading Worker Trips              | 0.06        | 0.09          | 0.00         | 0.00         | 0.01         |
| <b>Time Slice 7/22/2009-9/18/2009</b>  | <b>2.63</b> | <b>31.69</b>  | <b>10.10</b> | <b>1.32</b>  | <b>11.42</b> |
| Active Days: 20                        |             |               |              |              |              |
| Mass Grading 07/22/2009-09/18/2009     | 2.63        | 31.69         | 10.10        | 1.32         | 11.42        |
| Mass Grading Dust                      | 0.00        | 0.00          | 10.00        | 0.00         | 10.00        |
| Mass Grading Off Road Diesel           | 1.27        | 11.14         | 0.00         | 0.51         | 0.51         |
| Mass Grading On Road Diesel            | 1.32        | 20.49         | 0.10         | 0.81         | 0.90         |
| Mass Grading Worker Trips              | 0.04        | 0.06          | 0.00         | 0.00         | 0.00         |

Phase Assumptions

Phase: Mass Grading 7/15/2008 - 11/15/2008 - Removal of cobble/gravel/sand Phase 1  
 Total Acres Disturbed: 8.85  
 Maximum Daily Acreage Disturbed: 2.21  
 Fugitive Dust Level of Detail: Default  
 20 lbs per acre-day

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On Road Truck Travel (VMT): 2844.34

Off-Road Equipment:

- 1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 5/1/2009 - 7/21/2009 - Removal of cobble/gravel/sand - Phase 2

Total Acres Disturbed: 6.64

Maximum Daily Acreage Disturbed: 1.66

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 3043.25

Off-Road Equipment:

- 1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 7/22/2009 - 8/18/2009 - Hauling of spawning gravel to Oroville Fish Hatchery

Total Acres Disturbed: 15.5

Maximum Daily Acreage Disturbed: 0.5

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 674.88

Off-Road Equipment:

- 1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day
  - 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day
-

Emergent Wetland Creation Project  
Mitigated Negative Declaration/Initial Study

URBEMIS Output Summary

| Source  | ROG (lb/day) | NOx (lb/day) | PM10 (lb/day) | PM10 Breakdown |         |
|---|--------------|--------------|---------------|----------------|---------|
|   |              |              |               | Dust           | Exhaust |
| <b>Phase 1 - Cobble/Gravel/Sands Excavation and Hauling</b><br>(approx. 89 work days in Summer/Fall 2008)   |              |              |               |                |         |
| Fugitive Dust   | -            | -            | 44.20         | 44.20          | -       |
| Off-Road Equipment Exhaust  | 2.14         | 18.19        | 0.92          | 0.00           | 0.92    |
| Haul Truck Exhaust  | 5.46         | 85.46        | 3.85          | 0.37           | 3.48    |
| Worker Trips  | 0.06         | 0.09         | 0.01          | 0.00           | 0.00    |
| Phase 1 Subtotal, Unmitigated   | 7.66         | 103.74       | 48.97         | 44.58          | 4.39    |
| <b>Phase 2 - Cobble/Gravel/Sands Excavation and Hauling</b><br>(approx. 58 work days in Spring/Summer 2009) |              |              |               |                |         |
| Fugitive Dust   | -            | -            | 33.20         | 33.20          | 0.00    |
| Off-Road Equipment Exhaust  | 2.03         | 16.99        | 0.85          | 0.00           | 0.85    |
| Haul Truck Exhaust  | 5.95         | 92.42        | 4.08          | 0.43           | 3.65    |
| Worker Trips  | 0.06         | 0.09         | 0.01          | 0.00           | 0.00    |
| Phase 2 Subtotal, Unmitigated   | 8.04         | 109.49       | 38.13         | 33.63          | 4.50    |
| <b>Phase 3 - Delivery of Spawning Gravel to Fish Hatchery</b><br>(approx. 20 work days Summer 2009)         |              |              |               |                |         |
| Fugitive Dust   | -            | -            | 10.00         | 10.00          | 0.00    |
| Off-Road Equipment Exhaust  | 1.27         | 11.14        | 0.51          | 0.00           | 0.51    |
| Haul Truck Exhaust  | 1.32         | 20.49        | 0.90          | 0.10           | 0.81    |
| Worker Trips  | 0.04         | 0.06         | 0.00          | 0.00           | 0.00    |
| Subtotal, Unmitigated   | 2.63         | 31.69        | 11.42         | 10.10          | 1.32    |

|   |               |                 |                                     |
|---|---------------|-----------------|-------------------------------------|
| <b>Construction Equipment</b>   |               |                 |                                     |
|   | <u>number</u> |                 |                                     |
| excavator   | 1             |                 |                                     |
| front-end loader  | 1             |                 |                                     |
| water truck   | 1             |                 |                                     |
| <b>Spawning Gravel - Delivery to Oroville Fish Hatchery (Summer 2009)</b> |               |                 |                                     |
| <b>Truck Hauling to Fish Hatchery</b>                                     |               |                 |                                     |
|   | <u>value</u>  | <u>units</u>    | <u>source/notes</u>                 |
| material excavated and hauled   | 12,500        | cubic yds       | project description                 |
| truck loads   | 978           | cubic yds       | calculation                         |
| work schedule   | 5             | days/week       | DWR, conference call April 18, 2007 |
| number of working days  | 20            | days            | DWR, conference call April 18, 2007 |
| average truck loads per day   | 48.9          | truck loads/day | calculation                         |
| maximum truck loads per day   | 50.0          | truck loads/day | DWR, conference call April 18, 2007 |
| truck trips, round trip   | 50            | trips/day       | calculation                         |
| trip length, round trip   | 13.80         | miles           | average of 4 closest suppliers      |
| <b>Construction Equipment</b>   |               |                 |                                     |
|   | <u>number</u> |                 |                                     |
| front-end loaders   | 1             |                 | DWR, conference call April 18, 2007 |
| water truck   | 1             |                 | DWR, conference call April 18, 2007 |

**Haul Trip Distance**

| Supplier                                | Location   | Miles to project site (one-way) | Miles to hatchery (one-way) |
|---|------------|---------------------------------|-----------------------------|
| GRANITE CONSTRUCTION COMPANY            | Oroville   | 3.5                             | 5                           |
| TRI-R-PRODUCTS & TRACTOR SERVICE        | Palermo    | 6                               | 5                           |
| Dunstone Rock Quarry                    | Oroville   | 16                              | 16                          |
| FRANKLIN CONSTRUCTION COMPANY, INC.     | Oroville   | 18                              | 8.8                         |
| DUKE SHERWOOD CONTRACTING, INC.         | Oroville   | 18                              | 8.8                         |
| BALDWIN CONTRACTING SAND AND ROCK, INC. | Oroville   | 19                              | 12                          |
| FEATHER RIVER / PENTZ AGGREGATES        | Oroville   | 19                              | 12                          |
| Mathews > Western Aggregates            | Marysville | 30                              | 36                          |
| Butte Sand and Gravel                   | Sutter     | 34                              | 38                          |
| 7-11 PINE CREEK                         | Chico      | 42                              | 35                          |
| Robinson Construction Co.               | Oroville   | Out of Business                 |                             |
| MATHEWS READYMIX, INC.                  | Oroville   | NA                              | NA                          |
| MARTIN MARIETTA MATERIALS               | Oroville   | NA                              | NA                          |
| MINERAL RESOURCES, LLC                  | Oroville   | NA                              | NA                          |

Notes

The aggregate company that will haul away and accept the 242,000 cubic yards of cobble/gravel/sand that will be removed from the project site and/or deliver the 12,500 cubic yards of spawning gravel to the Oroville Fish Hatchery are not known at the time of the CEQA document preparation. DWR will select an aggregate company through a competitive bid process and it is assumed that aggregate companies located closer to the project site and fish hatchery will have a competitive advantage in winning the contract. Thus, for the air quality analysis, it is assumed that one of the four closest gravel plant operators will ultimately win the bid and the average distances among the four closest facilities is used to estimate the length of the haul truck trips. All of the four closest gravel plants and their respective haul routes are located in Butte County and the Northern Sacramento Valley Air Basin.  
Trip distances provided by DWR.

Average trip distance to closest 4 suppliers from project site (miles, one-way) for Removal of Cobble/Gravel/Sand

|            |       |
|------------|-------|
| one-way    | 10.88 |
| round trip | 21.75 |

Average trip distance from 4 closest suppliers of Spawning Gravel to Oroville Fish Hatchery (miles, one-way)

|            |       |
|------------|-------|
| one-way    | 6.90  |
| round trip | 13.80 |



**OFFICE MEMO**

|   |   |
|---|---|
| <b>TO:</b><br>Department of Water Resources<br>Files                                      | <b>DATE:</b><br>July 28, 2008   |
| <b>FROM:</b><br>Gail Kuenster<br>Staff Environmental Scientist<br>Oroville Field Division | <b>SUBJECT:</b><br>CEQA SCH #2008052041<br>Emergent Wetland<br>Creation Project<br>Public and Agency Review<br>Comments |

This memorandum provides a summary of comments received during the California Environmental Quality Act (CEQA) public and agency review of DWR's proposed Mitigated Negative Declaration/Initial Study (MND/IS) for the Emergent Wetland Creation Project in the Oroville Wildlife Area.

DWR received two comment letters during the review period May 12, 2008 to June 13, 2008, one from the Central Valley Regional Water Quality Control Board (CVWQCB) and one from Butte County.

Comments received from the CVRWQCB and DWR's response are as follows:

Item 1 - The CVRWQCB commented that a General Permit for Storm Water discharges Associated with construction Activity (General Permit) may be required for this project.

DWR indicated in the proposed Draft Mitigated Negative Declaration/Initial Study that once a contract is awarded by DWR and prior to construction grading, DWR or the contractor (as an Agent for the project proponent) will prepare a SWPPP and file a Notice of Intent (NOI) with the CVRWQCB. The SWPPP will address measures to minimize and control construction and post-construction runoff and will include Best Management Practices outlined in Mitigation Measure 3.8.1 of the MND/IS as well as additional measures as appropriate.

DWR received comments from Don Breedon, Principal Planner with Butte County. A letter was sent to Mr. Breedon addressing his comments by Pete Scheele, Chief of the Oroville Field Division on July 15, 2008. Mr. Breedon's comments and DWR's responses are summarized below:

Item 1 – The number of truck loads of aggregate that will be hauled off-site may impact county roads.

DWR did consider potential impacts to roads and found that the use of roads by haul trucks would not be significant. Although the exact haul routes would be determined during the competitive bid process to award the construction contract, it is assumed that contractors located closer to the

project site would have a competitive advantage in winning the bid. Therefore, the analysis used the four closest potential contractors to estimate haul truck emissions. Using this assumption for impacts to roads, only one of the four contractors is located off of county maintained roads. This potential contractor is located approximately one mile off of State Route (SR) 70 and currently uses a county road for hauling to and from his plant. Of the other three potential contractors, one has a haul road adjacent to the proposed project site and would not use County or State roads for hauling to their processing plant and two contractors would use SR 70 and SR 191 for hauling to their processing plant.

DWR has considered this impact to be less than significant because of potential minimal use of county roads and the temporary nature of the project. In addition, all trucks will conform to applicable vehicle codes and laws including maximum highway-rate load requirements.

Item 2 – Cal Trans should be consulted concerning ingress and egress of trucks from the gravel haul road onto State Highway 70.

Traffic controls, if needed will be developed in a traffic control plan submitted by the contractor after contract award. In addition, a copy of the MND/IS was sent to the Cal Trans office in Marysville for comment. No comments were received.

Item 3 – DWR should consider limiting contracting to only local aggregate companies.

While DWR agrees this idea may reduce several impacts, it would violate the State contracts Code requirements for competitive bid contracts as required for projects of this nature. However, local companies may have a competitive advantage over other companies given their close proximity to the project area.

Item 4 – Mr. Breedon acknowledges that DWR is exempt from the requirement of SMARA for this project. DWR will file a Reclamation Plan with the Department of Conservation. Mr. Breedon requests a copy of the completed plan be sent to his attention.

DWR will send a copy of the Reclamation Plan filed with the Department of Conservation as requested.

Item 5 – Mr. Breedon comments that similar ponds are prone to mosquito infestation and mitigation measures should be set forth. He indicates DWR should contact the Butte County Mosquito Abatement Agency.

Butte County Mosquito Abatement currently conducts mosquito abatement within the Oroville Wildlife Area and bills the Department of Fish and Game (DFG). DWR funds this activity through their DWR/DFG Oroville Wildlife Area Management Contract.

The above responses are further explanation of issues already discussed in the MND/IS for this project and will not result in any significant changes to the design or implementation of this project.

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