Central Valley Flood Protection Board Package

Agenda Item 4F

Consider approval of Resolution No. 2014-15 to certify the 2014 Supplemental Environmental Impact Report that allows a third blasting window time frame during the summer months for continuation of construction of the Folsom Dam Modification Project, which is a Joint Federal Project (JFP).

Supplemental Environmental Impact Report

Folsom Dam Modification Project

Meeting Agenda Date: May 23, 2014

CONTENTS

Jason Brabec, P.E.,
& Vincent Heim
Flood Projects Office

Blank Page Left Intentionally

RESOLUTION 2014-15

Blank Page Left Intentionally

STATE OF CALIFORNIA
THE CALIFORNIA NATURAL RESOURCES AGENCY
CENTRAL VALLEY FLOOD PROTECTION BOARD

RESOLUTION NO. 2014-15

FOLSOM DAM MODIFICATION PROJECT
CERTIFICATION OF SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
FOR EVENING ROCK BLASTING
FOLSOM, CALIFORNIA

WHEREAS, the Folsom Dam Modification Project is a Joint Federal Project (JFP) authorized by Congress in the Water Resources Development Act of 1999, and by the California legislature in Water Code Section 12670.14(c); and

WHEREAS, the JFP is a cooperative effort by the U.S. Department of the Interior, Bureau of Reclamation (Reclamation), U.S. Army Corps of Engineers (USACE), the Central Valley Flood Protection Board (successor to the California State Reclamation Board), and Sacramento Area Flood Control Agency (SAFCA) to improve dam safety and flood protection for the Sacramento area by making improvements to Folsom Dam and associated structures; and

WHEREAS, the JFP consists of multiple actions over many years, with USACE, SAFCA, and the Central Valley Flood Protection Board responsible for the flood damage reduction portions, including: the control structure, chute, and stilling basin; and

WHEREAS, the Central Valley Flood Protection Board certified the Folsom Dam Safety and Flood Damage Reduction Final Environmental Impact Statement/Environmental Impact Report (FEIS/EIR) and approved the JFP in July 2007 , adopted findings, and adopted the mitigation and monitoring plan for which a Notice of Determination was filed July 27, 2007 with the State Clearinghouse; and

WHEREAS, the 2007 FEIS/EIR contained a general evaluation of the auxiliary spillway, including: the control structure, the lining of the spillway chute, and stilling basin; these features and their potential impacts were analyzed based on the level of design available at that time; and

WHEREAS, the 2007 FEIS/EIR allowed for designed refinements that may be required, and if necessary, provided provisions for preparation of supplemental environmental documents as required due to construction modifications or alterations; and

WHEREAS, the 2012 FSEA/EIR evaluated recreational impacts of the use of explosives adjacent to Folsom Lake Crossing; and

WHEREAS, the 2012 FSEIS/EIR evaluated the air quality, traffic, and noise effects of blasting (in-the-wet and in-the-dry conditions) from two (2) set time periods during the day; and

WHEREAS, the Central Valley Flood Protection Board certified the Folsom Dam Safety and Flood Damage Reduction Joint Federal Project Final Supplemental Environmental Assessment/Environmental Impact Report (FSEA/EIR) and approved the construction of the prison staging area and stilling basin drain in September 2012, adopted findings, and adopted the Mitigation, Monitoring, and Reporting Plan (MMRP) for which a Notice of Determination was filed October 2, 2012 with the State Clearinghouse; and

WHEREAS, the Central Valley Flood Protection Board certified the Folsom Dam Safety and Flood Damage Reduction Project Final Supplemental Environmental Impact Statement/Environmental Impact Report (FSEIS/EIR) and approved the approach channel construction in March 2013, adopted findings, and adopted the MMRP for which a Notice of Determination was filed March 27, 2013 with the State Clearinghouse; and

WHEREAS, project Design Refinement evaluated in this 2014 Folsom Dam Safety and Flood Damage Reduction – Evening Rock Blasting Final 2014 Supplemental Environmental Impact Report (2014 SEIR) includes an optional third blasting time frame for land based (in-the-dry) evening blasting from 7:00PM – 8:00PM during daylight hours for the months of June through September of the years 2014 – 2017.

WHEREAS, this 2014 SEIR (State Clearinghouse No. 2006022091) was circulated for public and agency review from March 21 to May 7, 2014, and responses to the comments received have been incorporated into the 2014 Final Supplemental Environmental Impact Report (2014 FSEIR); and

WHEREAS, the Central Valley Flood Protection Board is the lead agency under the California Environmental Quality Act (CEQA) for the 2014 FSEIR; and

WHEREAS, a Statement of Findings for each potentially significant impact that would result from the construction of the JFP has been prepared; and

WHEREAS, the Central Valley Flood Protection Board has considered the 2014 FSEIR and finds, on the basis of the record as a whole, including comments and written responses received on the draft document and mitigation measures, that the 2014 FSEIR reflects the independent judgment of the Central Valley Flood Protection Board; and

WHEREAS, pursuant to CEQA Guidelines Section 15091, changes and alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effects identified in the 2014 FSEIR as per the Statement of Findings.

NOW, THEREFORE BE IT RESOLVED that the Central Valley Flood Protection Board:

1. Certifies the 2014 Folsom Dam Safety and Flood Damage Reduction – Evening Rock Blasting Final Supplemental Environmental Impact Report and adopts the Statement of Findings.

2. Approves the Design Refinement for the Folsom Dam Modification Project.

3. Delegates authority to the Executive Officer to execute the Notice of Determination.

PASSED AND ADOPTED by vote of the Board on _____, 2014.

_____ _____

William H. Edgar
President

Jane Dolan
Secretary

Approved as to Legal Form and Sufficiency

_____

Jeremy Goldberg
Staff Attorney

Blank Page Left Intentionally

STAFF REPORT

Blank Page Left Intentionally

Meeting of the Central Valley Flood Protection Board
May 23, 2014
STAFF REPORT
Folsom Dam Modification Project
Certification of Supplemental Environmental Impact Report

REQUEST FOR BOARD ACTION

Consider approval of Resolution No. 2014-15 to:

1. Certify the 2014 Folsom Dam Safety and Flood Damage Reduction – Evening Rock Blasting Supplemental Environmental Impact Report (2014 SEIR) that addresses the optional evening blasting time period during daylight hours for the summer months, and adopt the Statement of Findings; and
2. Approve the Design Refinement for the Folsom Dam Modification Project.
3. Delegate authority to the Executive Officer to execute the Notice of Determination.

The Folsom Dam Modification Project is a large scale project that contains two contractors working within relatively close proximity of each other. This 2014 SEIR provided evaluation for an optional third blasting time period for the daylight hours of 7:00PM-8:00PM for the months of June through September, between the years of 2014 and 2017, with less-than-significant effects.

BACKGROUND

The Folsom Dam Modification Project, also referred to as the Folsom Joint Federal Project (Folsom JFP), is a cooperative effort to improve flood damage reduction features, dam safety, and security at the Folsom Dam and its associated facilities. Operations of the auxiliary spillway would increase water discharge capabilities of the reservoir and help provide a 200-year level of protection for the Sacramento region.

The Folsom JFP Project area is located within the city of Folsom about 20 miles northeast of the City of Sacramento (**Attachment A**). Folsom Dam and Reservoir are located downstream from the confluence of the north and south forks of the American River. Work for the Folsom JFP includes construction of an auxiliary spillway, approach channel, chute, and other associated support structures for the function of the Project. The approach channel, including the area requested for evening blasting, as evaluated in this 2014 SEIR,

are essential functional requirements for the JFP Project. See **Attachment B** for a figure presenting the various features of the Folsom JFP Project.

SPONSORS

The Folsom Dam Modification Project is a cooperative effort between the U.S. Bureau of Reclamation (Reclamation), the U.S. Army Corps of Engineers (USACE), the State of California Central Valley Flood Protection Board (CVFPB), and the Sacramento Area Flood Control Agency (SAFCA).

PRIOR ENVIRONMENTAL ACTIONS AND DETERMINATIONS

Major environmental determination documents related to the Folsom Dam Modification Project, and more specifically, referenced in this 2014 SEIR, are listed below:

- 2007 Folsom Dam Safety and Flood Damage Reduction Project: Final Environmental Impact Statement /Environmental Impact Report (2007 FEIS/EIR);
- 2012 Folsom Dam Safety and Flood Damage Reduction Project; Prison Staging Area and Stilling Basin Drain: Final Supplemental Environmental Assessment/ Environmental Impact Report (2012 FSEA/EIR); and
- 2012 Folsom Dam Safety and Flood Damage Reduction Project; Approach Channel: Final Supplemental Environmental Impact Statement/Environmental Impact Report (2012 FSEIS/EIR).

The evaluation in the 2007 FEIS/EIR was based on technical studies and the project design available at the time. The Reclamation Board, now the Central Valley Flood Protection Board, adopted Resolution 07-03 in July 2007, which resulted in the certification and approval the Folsom Dam Safety and Flood Risk Reduction Project. Subsequent construction and technical studies have revealed a need for further design refinements to the approach channel and required additional environmental assessments that necessitated the 2012 FSEA/EIR and 2012 FSEIS/EIR.

2014 SUPPLMENTAL ENVIRONMENTAL IMPACT REPORT

This 2014 SEIR evaluated the design refinement option of adding a third in-the-dry (land based) blasting time window for the daylight hours of 7:00PM-8:00PM during the months of June through September, between the years of 2014 and 2017. The third optional blasting period was evaluated to alleviate congestion and increase safety on-site. There are no changes to the in-the-wet (water based) blasting. Excavation activities and schedule, and all previously analyzed project activities, such as material handling, would remain the same as previous documents. Additional blasting activity addressed in the 2014 SEIR did not require changes or modifications to previously adopted mitigation plans and/or requirements. Due to the minimal impact for this proposed blasting window, previously CVFPB adopted Mitigation, Monitoring, and Reporting Plans (MMRPs) from the 2012

FSEA/EIR and 2012 FSEIS/EIR will be implemented to reduce impacts to less-than-significant (**Attachment C**). A separate MMRP was not required or prepared for this SEIR. Further, a copy of the Statement of Findings is included in **Attachment D**.

COSTS

There are no known direct costs associated with Resolution 2014-15. However, should no action be taken, additional costs could be incurred due to construction conflicts, as well as delay in construction schedule due to competing blasting periods available to either contractor. Further, without the completion of these features in a timely manner, the 200-year level of protection would not be accomplished, and the Sacramento region would remain at risk for a more frequently occurring potential flood event. In addition, the Folsom facility would continue to be incapable of passing the probable maximum flood.

PUBLIC INVOLVEMENT

The CVFPB circulated a Notice of Availability (NOA) of the Draft SEIR for the proposed design refinements on March 21, 2014. The NOA was circulated to the public; to local, state, and federal agencies; and to other interested parties to inform responsible agencies and the public of the proposed project changes and to solicit comments. Written comments or questions concerning the proposed SEIR were required to be submitted by May 7, 2014. These comments (**Attachment E**) were addressed as detailed in the Statement of Findings, and incorporated into the 2014 Final SEIR, as appropriate.

STAFF RECOMMENDATION

This 2014 SEIR is in compliance with CEQA, and provides full disclosure of the effects of the proposed action.

- The SEIR was reviewed by Staff as well as public and resource agencies. Comments were incorporated in the Final SEIR. Staff recommends that the SEIR be certified by CVFPB as CEQA lead under Resolution 2014-15.
- CVFPB certification of this SEIR would prevent funding interruptions, prevent breach agreements, and maintain the project schedule.
- CVFPB Staff and CVFPB legal counsel reviewed the SEIR and recommends CVFPB certification of Resolution 2014-15 (**Attachment F**).

LIST OF ATTACHMENTS

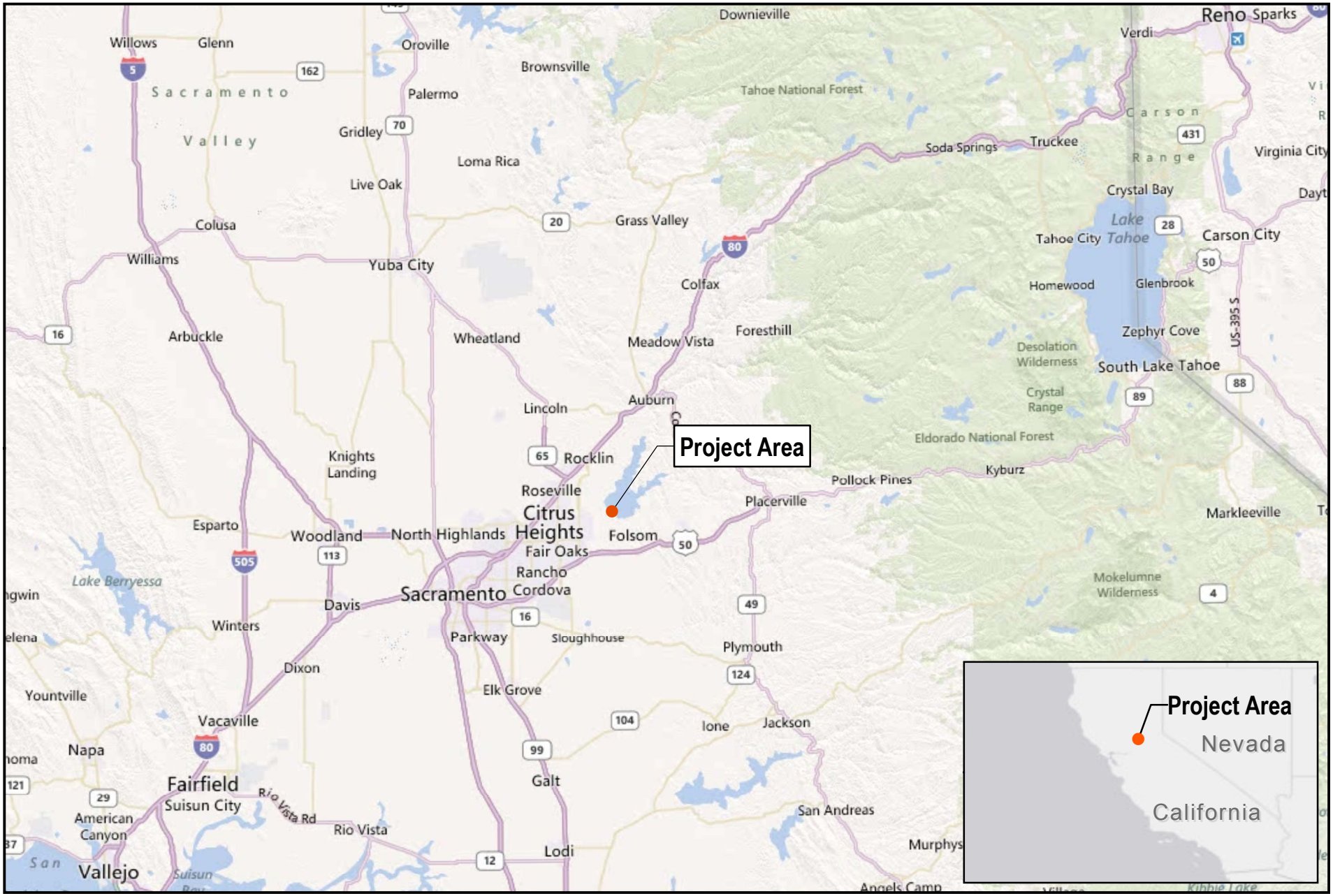
A. Project Vicinity Map – Plate 1
B. Project Features Map – Plate 2
C. 2012 FSEA/EIR and 2012 FSEIS/EIR MMRP
D. Statement of Findings
E. Summary of Comments and responses to the 2014 SEIR
F. Resolution 2014-15

Blank Page Left Intentionally

ATTACHMENT A

Project Vicinity Map – Plate 1

Blank Page Left Intentionally


Project Area
Project Area
Nevada
California
Downieville
Reno
Sparks
Verdi
Willows
Glenn
Oroville
Brownsville
Tahoe National Forest
Sacramento Valley
Palermo
Gridley
Loma Rica
Live Oak
Soda Springs
Truckee
Carson Range
Virginia City
Crystal Bay
Lake Tahoe
Tahoe City
Carson City
Colusa
Grass Valley
Williams
Yuba City
Colfax
Homewood
Glenbrook
Zephyr Cove
Desolation Wilderness
South Lake Tahoe
Crystal Range
Arbuckle
Wheatland
Meadow Vista
Foresthill
Auburn
Lincoln
Rocklin
Knights Landing
Eldorado National Forest
Pollock Pines
Kyburz
Placerville
Roseville
Citrus Heights
Folsom
Markleeville
Esparto
Woodland
North Highlands
Fair Oaks
Rancho Cordova
Sacramento
Lake Berryessa
Davis
Winters
Parkway
Sloughhouse
Mokelumne Wilderness
Plymouth
Dixon
Elk Grove
Yountville
Vacaville
Ione
Jackson
Napa
Fairfield
Suisun City
Galt
San Andreas
American Canyon
Rio Vista
Murphys
Vallejo
Lodi
Angels Camp
0 5 10 20
Miles
Project Vicinity Map
Folsom Dam Modification Project, Approach Channel
US Army Corps of Engineers
Sacramento District
Attachment A
Plate 1

Blank Page Left Intentionally

ATTACHMENT B

Project Features Map – Plate 2

Blank Page Left Intentionally

US Army Corps of Engineers
Sacramento District

Folsom Dam Modification Project, Approach Channel

Attachment B
Plate 2

Blank Page Left Intentionally

ATTACHMENT C

2012 FSEA/EIR & 2012 FSEIS/EIR MMRP

Blank Page Left Intentionally

MITIGATION, MONITORING, AND REPORTING PLAN

FOLSOM DAM SAFETY AND FLOOD DAMAGE REDUCTION PRISON STAGING AREA AND STILLING BASIN DRAIN

SACRAMENTO COUNTY, CALIFORNIA

This mitigation monitoring or reporting plan (MMRP) is designed to fulfill Section 21081.6 (a) of the California Public Resources Code (CEQA). Section 21081.6 (a) requires that public agencies adopt a reporting or monitoring program whenever a project or program is approved that includes mitigation measures identified in an environmental document for which the agency makes a finding pursuant to CEQA Section 21081 (a) (1). The mitigation measures and strategies described below and in the attached table are to be used to avoid, minimize, or reduce any potentially significant environmental impacts.

The MMRP table includes the following:

- Section and Impacts – identifies the issue area section of the Supplemental Environmental Assessment/Environmental Impact Report (SEA/EIR) and corresponding impact.
- Mitigation Measures – lists the adopted mitigation measures from the SEA/EIR.
- Implementation Timing – identifies the timing of implementation of the action described in the mitigation measures.
- Responsible for Implementation – identifies the agency/party responsible for implementing the actions described in the mitigation measures.
- Responsible for Monitoring /Reporting Action– identifies the agency/party responsible for monitoring implementation of the actions described in the mitigation measures. Verification will be carried-out during the project and a MMRP completion report will be submitted to the CVFPB upon completion of the project.

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
3.3.1 – Air Quality Construction activities would result in short term air emissions of ROG, NOx, CO, CO2, PM10 & PM2.5 and Diesel particulate matter that are less than the significant thresholds. However, due to the non-attainment zone of Sacramento County with respect to O3, PM10, and PM2.5, Sacramento Metropolitan Air Quality Management District (SMAQMD) has recommended projects within the Sacramento Valley Air Basin implement a set of Basic Construction Emissions Control Practices as BMPs and a set of Enhanced Exhaust Control Practices to reduce hydrocarbon emissions.	The Basic Construction Emission Control Practices that would be implemented by the contractor during the construction project are the following: • Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads. • Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered. • Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited. • Limit vehicle speeds on unpaved roads to 15 miles per hour (mph). • All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to five minutes (as required by the state airborne toxics control measure [Title 13, Section 2485 of	D, C	Contractor, USACE	SMAQMD, CVFPB Verify Air Quality plan submittal to USACE and SMAQMD. Verify emission reduction measures and BMP's are in place and implemented. Verify SMAQMD has received the Off-road equipment inventory

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site. • Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated. In addition, SMAQMD recommends that the project implement a set of Enhanced Exhaust Control Practices to further reduce hydrocarbon emissions. The Enhanced Exhaust Control Practices that would be implemented by the contractor during construction include the following: • Provide a plan for approval by the lead agency and SMAQMD demonstrating that the heavy-duty (50 horsepower [hp] or more) off-road vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, would achieve a project-wide fleet-average 20 percent NOX reduction and 45 percent particulate reduction compared to the most recent California Air Resources Board (ARB) fleet average. 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. The SMAQMD's Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction.			

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	• Submit to the lead agency and SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 hp, that would be used an aggregate of 40 or more hours during any portion of the construction project. The inventory would include the horsepower rating, engine model year, and projected hours of use for each piece of equipment. The inventory would be updated and submitted monthly throughout the duration of the project, except that an inventory would not be required for any 30-day period in which no construction activity occurs. At least 48 hours prior to the use of subject heavy-duty off-road equipment, the contractor would provide SMAQMD with the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman. The SMAQMD's Model Equipment List can be used to submit this information. • Ensure that emissions from all off-road diesel-powered equipment used on the project site do not exceed 40 percent opacity for more than 3 minutes in any 1 hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) would be repaired immediately. Non-compliant equipment would be documented and a summary provided to the lead agency and SMAQMD monthly. A visual survey of all in-operation equipment would be made at least weekly, and a monthly summary of the visual survey results would be submitted throughout the duration of			

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	the project, except that the monthly summary would not be required for any 30-day period in which no construction activity occurs. The monthly summary would include the quantity and type of vehicles surveyed as well as the dates of each survey. The SMAQMD and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this section would supercede other SMAQMD or State rules or regulations. • If at the time of construction, SMAQMD has adopted a regulation applicable to construction emissions, compliance with the regulation may completely or partially replace this mitigation. Consultation with the SMAQMD prior to construction would be necessary to make this determination.			
3.3.2 Climate Change Construction activities would result in a net increase of GHG emissions over a finite period – approximately 4 months for construction and 4 years for the operation of the batch plant. Emissions are expected to be below the reporting levels of the U.S. Environmental Protection Agency of 25,000 metric tons of CO2 equivalents / year and CARBs interim threshold of 7,000 mtCO2e/year. Emissions; • would not conflict with Federal, State, or local goals to reduce GHGs • will be avoided or reduced through	Since there would be no significant effects on climate change, no mitigation would be required. However, the following measures would be implemented by the contractor to reduce any GHG emissions from construction of the design refinements. • Improve fuel efficiency from construction equipment by minimizing idling time either by shutting equipment off when not in use or reducing the time of idling to no more than three minutes (five minute limit is required by the state airborne toxics control measure [Title 13, Section 2485 of the California Code of Regulations]).	D, C	Contractor, USACE	USACE, CVFPB Verify that GHG reduction measures are being implemented.

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
implementation of BMPs into the design of the project Mitigation measures will be implemented by the contractor to reduce GHG emissions from the project.	Provide clear signage that posts this requirement for workers at the entrances to the site. • Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated. • Use equipment with new technologies (repowered engines, electric drive trains). • Perform on-site material hauling with trucks equipped with on-road engines (if determined to be less emissive than the off-road engines). • Encourage and provide carpools, shuttle vans, transit passes and/or secure bicycle parking for construction worker commutes. • Produce concrete on-site if determined to be less emissive than transporting ready mix.			
3.3.3 – Noise & Vibration There would be no significant effects from the construction project on noise or vibration, and therefore no mitigation would be required. Most construction noise impacts are short term, temporary and would occur during the City of Folsom's allowed construction hours which are exempt from exterior noise standard limits (7:00 a.m. to 6:00 p.m. during weekdays and 8:00 a.m. to 5:00 p.m. on weekends).	Since there would be no significant effects on noise or vibration, no mitigation would be required. However, the following measures would be implemented by the contractor during construction activities in order to further reduce any potential noise effects: • Appropriate level of sound attenuation would be used during construction to meet local ordinances. Potential sound attenuations measures that could be considered include, but not limited to, temporary sound barriers near the	D, P, C	Contractor, USACE	USACE, CVFPB Verify the contractor has notified all sensitive receptors within the project area Verify that all noise & vibration

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
The concrete batch plant may operate outside of the non-exempt hours (6 pm – 7am) but the sources of the noise levels would occur far enough from sensitive receptors that the noise is attenuated below ambient noise levels	noise source or otherwise places between the sources of construction noise and noise-sensitive receptors, as appropriate. • Residents and businesses near the project area would be provided with advance notices of project activities, schedule, anticipated traffic, and potential noise issues. The advance notice would describe the potential noise disruption and the steps that would be taken to minimize the noise. • The construction contractor would monitor noise from construction activity. In the event that construction noise exceeds the City of Folsom's thresholds, corrective actions would be taken to reduce the noise levels or stop the activity. • Heavy truck deliveries would be scheduled during exempt working hours and whenever possible, avoid deliveries during a single hour, especially during non-exempt hours. Haul trucks operating near noise sensitive receptor sites would be spaced apart to avoid noise effects from simultaneous operation. • Engine brake (jake brake) use within city limits would be prohibited. Many noise complaints arise from heavy truck use of engine brakes to slow the truck down. Use of this type of braking can be avoided by proper speed control. • The contractor would properly maintain and tune engines of all equipment and maintain properly			measures are implemented Verify construction activities occur within the designated hours or if outside of exempt hours, verify City of Folsom's noise ordinances are being met.

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	functioning mufflers on all internal combustion engines to minimize noise levels.			
3.3.4 - Traffic • Slow moving trucks leaving and entering the staging and construction areas through the intersection could present a hazard to higher speed traffic on Folsom Lake Crossing. • Construction vehicles would not block the inbound lane into the prison driveway but the outbound lane would experience some traffic delays due to trucks exiting right onto Folsom Lake Crossing.	• Installation of a traffic signal would stop traffic at Folsom Lake Crossing and allow the slower moving truck traffic to enter the intersection without causing a safety hazard • In the event of an emergency, movement of construction traffic would cease to ensure that emergency vehicles would have unobstructed access in and out of the northern prison entrance. Since there would be no significant effects on traffic, no mitigation would be required. Implementation of the following measures by the contractor would help to ensure public safety during construction. • Construction zones along residential roadways would be posted to notify approaching motorists of trucks entering and exiting roadside construction sites and to reduce speeds through the construction zone. • Before and during construction, signs would be placed at construction areas to notify users of ongoing construction and limits of use. • All speed limits, traffic laws, and transportation	D, C	Contractor, USACE	CVFPB, USACE Verify Traffic Control Plan has been approved by the City of Folsom Verify traffic control measures are implemented.

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	regulations would be obeyed during construction. • On-street parking for construction workers would be prohibited. • Off-street parking would be identified and provided to the construction workers and their vehicles and trucks. If possible, parking would be close enough to walk to the site.			
3.3.5 Water Resources and Quality Construction Activities may impact adjacent waterways by: 1) Increasing turbidity through site erosion and sedimentation	In order to maintain existing water quality conditions and beneficial uses, the contractor would be required to obtain NPDES permits, implement the required and standard BMPs and SWPPP, and implement, the measures in the Spill Prevention and Response Plan (SPRP) and the Erosion and Sediment Control Plan (ESCP) • A NPDES Construction Storm Water Permit from the CVRWQCB would be required since the project would disturb more than 1 acre of land. The Construction Storm Water Permit pertains to the prevention of increased turbidity of adjacent waterways from site erosion and sedimentation. The contractor would be required to design and implement a SWPPP prior to initiating construction activities, and to implement standard BMPs. Dust control measures would be implemented to avoid dust and soil from entering	D, C	Contractor, USACE	CVFPB Verify NPDES permit has been obtained. Verify SWPPP and SPRP & ESCP has been obtained and BMP's are implemented.

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
2) Discharge of pollution from the Concrete Batch Plant	the river or other drainages as a result of construction activities. Precautions would be followed to avoid erosion and movement of soils into drainage systems. Implementation of BMPs and NPDES permit requirements would reduce water quality impacts from construction to less than significant • The NPDES Industrial Storm Water Permit requires that a SWPPP is designed and implemented specific to the concrete batch plant operation. Debris, oil and fuel, or concrete mix material spills pertaining to the concrete batch plant site could adversely affect water quality. The industrial storm water permit addresses potential pollution inputs due to storm water runoff that are associated with all activities at the concrete batch plant. The contractor would be required to cover and control all material stock piles to prevent suspension of dust or concrete mix material due to wind. The contractor would also be required to coordinate the handling of all wastewaters generated from concrete production with the CVRWQCB. For the concrete batch plant installed at the Folsom State Prison staging area, the implementation of BMPs and NPDES permit requirements would reduce water quality impacts to less than significant.			

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
3) Fugitive dust	Frequent watering of haul routes, proper covering and control of material stock piles (e.g., dirt and aggregate) would help to prevent fugitive dust pollution impacts.			
4) Construction of the stilling basin drain	To avoid impacts to water quality, the stilling basin drain would be constructed landside by excavating the open cut trench while leaving in a plug at the river end. Once the trench is completed, the plug would then be removed. Since there would be no significant effects on water resources or quality, no mitigation would be required. However, the following standard BMPs would be implemented to avoid or minimize any effects of construction on surface waters. Standard BMPs include; • Appropriate erosion control measures would be incorporated into the SWPPP in order to prevent sediment from entering waterways. Examples include, but are not limited to: straw bales/wattles, erosion blankets, silt fencing, mulching, re-vegetation, and temporary covers. An appropriately designed and effective sediment capture and stilling basin must be implemented to capture and control sediments carried by site runoff. Sediment and erosion control measures must be maintained during construction at all times. Inspect control measures before, during, and after a rain event. • Implement appropriate measures to prevent any debris, soil, rock, or other materials/products associated with construction activities from			

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	entering waterways. The contractor would use a water truck or other appropriate measures to control fugitive dust on haul roads, construction areas, and stockpiles. • A concrete and fuel spill management plan would be developed for the project. • Provide secondary containment for storage of any fuel, oil or other liquid and properly dispose of such liquid wastes. • Fuel and maintain vehicles in specified staging areas only, which are designed to capture potential spills. These areas cannot be near any ditch, stream, or other body of water or feature that may convey water to a nearby body of water. • Fuels and hazardous materials would not be stored on site. Any spills of hazardous material would be cleaned up immediately. Spills would be reported in construction compliance reports. • Inspect and maintain vehicles and equipment to prevent dripping of oil, lubricants, or any other fluids. • Schedule construction to avoid as much of the wet season as possible. Ground disturbance activities are expected to begin in the summer of 2013. If rains are forecast during the construction period, erosion control measures would be implemented.			

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	• Train construction personnel in storm water pollution prevention practices. • Re-vegetate and restore areas cleared by construction in a timely manner to control erosion. • Implementation of any additional requirements as mandated by either the construction storm water permit, industrial storm water permit, or the limited threat discharge permit would further reduce any potential adverse affects to adjacent waterways. In addition, the measures in the Spill Prevention and Response Plan and the Erosion and Sediment Control Plan would prevent any significant adverse effects to water quality in the project area. The inclusion of the above mitigation measures and complete compliance with all water quality permits, would reduce any water resources and water quality impacts to a less than significance.			
3.3.6 Fisheries Construction of the spillway drain could potentially affect fish species inhabiting the outflow channel, or Lake Natoma through sediment collecting in the stilling basin and entering the river. The potential adverse effects on fisheries in the project area resulting from the design refinements would be indirect, resulting from short-term water quality degradation.	Mitigation measures for fisheries are the same as those listed for water quality and resources in Section 3.3.5 of the final SEA/EIR. In summary, compliance with the various water quality permits needed for this project, including implementation of the SWPPP and its associated BMPs, would reduce potential, indirect effects to less-than-significant.	D, C,	Contractor, USACE	CVFPB Verify NPDES permit has been obtained. Verify SWPPP and SPRP & ESCP has been obtained and BMP's are implemented.

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
3.3.7 - Recreation Installation of the temporary traffic signal and widening of an existing dirt access road would restrict recreational access along the bike trail. Widening of the existing dirt access road would, for approximately 1 week, require limited access to the bike trail for approximately 70 feet at the north intersection of Folsom Lake Crossing.	In order to reduce impacts to recreation, detour routes and ADA-compliant temporary ramps would be constructed as needed. To ensure public safety, warning signs and signs restricting access would be posted before and during construction, as necessary. Detour routes would be clearly marked, and fences erected in order to prevent access to the project area. Public outreach would be conducted through mailings, posting signs, coordination with interested groups, and meetings, if necessary, in order to provide information regarding changes to recreational access. A temporary path would be constructed to allow recreationalists to safely pass the work zone.	C	Contractor, USACE	CVFPB Verify with USACE that the contractor has implemented detour routes correctly, implemented public safety measures and public outreach measures
3.3.8 – Cultural Resources Construction activities are not expected to impact cultural resources. However, if any potential significant cultural resources are discovered during construction, then the following mitigation measures will be implemented.	Should any potentially significant cultural resources be discovered during construction, all ground-disturbing activities would cease in the area of the discovery, and take action as required by 36 CFR 800.13(b), "discoveries without prior planning". Data recovery or other mitigation measures could be necessary to mitigate adverse effects to significant properties. Implementation of mitigations measures, which could include avoidance and recordation or evaluation of a previously unidentified historic property by a qualified archeologist, would reduce these effects to less than significance.	C	Contractor, USACE	CVFPB Verify with USACE that activities have been halted if cultural resources are discovered

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

MITIGATION, MONITORING, AND REPORTING PLAN

FOLSOM DAM MODIFICATIONS PROJECT – APPROACH CHANNEL

SACRAMENTO COUNTY, CALIFORNIA

This mitigation monitoring or reporting plan (MMRP) is designed to fulfill Section 21081.6 (a) of the California Public Resources Code (CEQA). Section 21081.6 (a) requires that public agencies adopt a reporting or monitoring program whenever a project or program is approved that includes mitigation measures identified in an environmental document for which the agency makes a finding pursuant to CEQA Section 21081 (a) (1). The mitigation measures and strategies described below and in the attached table are to be used to avoid, minimize, or reduce any potentially significant environmental impacts.

The MMRP table includes the following:

- Section and Impacts – identifies the issue area section of the Supplemental Environmental Impact Statement/Environmental Impact Report (SEIS/EIR) and corresponding impact.
- Mitigation Measures – lists the adopted mitigation measures from the SEIS/EIR.
- Implementation Timing – identifies the timing of implementation of the action described in the mitigation measures.
- Responsible for Implementation – identifies the agency/party responsible for implementing the actions described in the mitigation measures.
- Responsible for Monitoring /Reporting Action– identifies the agency/party responsible for monitoring implementation of the actions described in the mitigation measures. Verification will be carried-out during the project and a MMRP completion report will be submitted to the CVFPB upon completion of the project.

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
4.2.4 Air Quality 1) Construction activities will generate criteria pollutants from equipment exhaust emissions and fugitive dust emissions. 1) The unmitigated annual criteria pollutants would exceed the qualitative Sacramento Metropolitan Air Quality Management District (SMAQMD) Particulate Matter 10 (PM10) threshold and the quantitative SMAQMD Nitrogen Oxide (NOx) threshold as well as the General Conformity thresholds for PM10 and NOx. 2) Sensitive receptors within 1,000ft of the construction area could potentially be exposed to diesel particulate matter (DPM). 3) Construction workers and local sensitive receptors in the area may be exposed to airborne Naturally Occurring Asbestos (NOA) from construction activities from fugitive dust sources and trackout related to fugitive dust emissions or transportation of uncovered soils. 4) Sensitive receptors located within 1,000ft of the construction area could be exposed to offensive odors emitted from construction activities. 5) The Folsom JFP is expected to exceed the General Conformity de minimis thresholds for NOx emissions over the life of the project when mitigated.	**SMAQMD's Basic Construction Emissions Control Practices** The SMAQMD requires construction projects to implement basic construction emission control practices to control fugitive dust and diesel exhaust emissions (SMAQMD 2011). The Corps would comply with the following control measures for the project: • Water all exposed surfaces twice daily. Exposed surfaces include but are not limited to: soil piles, graded areas, unpaved parking areas, staging areas, and access roads. • Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would travel along freeways or major roadways should be covered. • Use wet power vacuum street sweepers to remove any visible trackout mud or dirt from adjacent public roads at least once a day. Use of dry power sweeping is prohibited. • Complete all roadways, driveways, sidewalks, or parking lots to be paved as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d)(3) and	D, C	Contractor/ the Corps	CVFPB will verify that the Basic Construction Emission Control Practices are being implemented by the contractor. Basic practices include the use of higher tiered equipment beginning in 2015, BMPs, and submittal of equipment specs by the contractor to SMAQMD.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	2485]. Provide clear signage that posts this requirement for workers at the site entrances. • Maintain all construction equipment in proper working condition according to the manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated. • Interim Tier 4 and/or Final Tier 4 off-road equipment would be used beginning in year 2015. • In addition to using Tier 3 and Tier 4 off-road equipment, contractors would report their equipment specifications to the SMAQMD and the Corps to ensure the mitigation is implemented. **<u>Construction Area Particulate Matter Mitigation Measures</u>** If the project's construction contractor determines that the construction activities would actively disturb more than 15 acres per day, then the contractor would be required to conduct PM10 and PM2.5 dust modeling. If that modeling shows violations of SMAQMD's PM10 substantial CAAQS significance thresholds of the PM2.5 CAAQS thresholds, then the contractor would be required to implement sufficient mitigation to eliminate any significant PM10 or PM2.5 impacts. **<u>Fugitive Dust Emission Mitigation Measures</u>** Fugitive dust mitigation would require the use of adequate measures during each construction activity and would include frequent water applications or application of soil additives, control of vehicle access, and vehicle speed restrictions. The Corps would implement the dust mitigation	D,C C	Contractor/ the Corps	SMAQMD ensures compliance of dust modeling, and CVFPB verifies dust modeling has been completed and impacts for emissions exceeding significance thresholds are mitigated for. CVFPB verifies fugitive dust emission

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	measures listed below. A geologist would monitor the project area for the presence of NOA during all construction activities. All grading / excavation projects at Folsom Dam are required by SMAQMD to produce an Asbestos Dust Mitigation Plan and fee payment to be submitted to the District 90 days prior to commencement of grading and/or other soil impacting activities. The Corps would comply with the CARB's Section 93105, 2002-07-09 Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations (CARB 2008). The Corps would additionally ensure implementation of the fugitive dust mitigation measures below, which are similar to those required under an Asbestos Dust Control Plan. • Limit vehicle speeds on unpaved roads to 15 miles per hour, and • Water at least every two hours of active construction activities or sufficiently often to keep the area adequately wetted. • Remove any visible track-out from a paved public road at any location where vehicles exit the work site: this removal effort shall be accomplished using wet sweeping of a HEPA filter-equipped vacuum device daily. • Install one or more of the following track-out prevention measures: o A gravel pad designed using good engineering practices to clean the tires of exiting vehicles.	D, C		mitigation measures are implemented. Measures include verifying that a geologist is on-site to monitor for the presence of NOA during construction activities. CVFPB verifies Asbestos dust mitigation plan and fee have been paid to SMAQMD. CVFPB verifies that compliance with CARB's Section 93105, 2002-07-09 asbestos ATCM for Grading, Quarrying, and Surface mining Operations requirements are being met.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	o A tire shaker o A wheel wash system o Pavement extending for not less than 50 feet from the intersection with the paved public road, or o Any other measure(s) as effective as the measures listed above. • Pre-wet the ground to the depth of anticipated cuts, and • Suspend any excavation operations when wind speeds are high enough to result in dust emissions across the property line, despite the application of dust mitigation measures. • To mitigate stockpile handling and stockpile wind erosion fugitive dust emissions, active storage pile would be kept adequately wetted using wet suppression controls. • To mitigate fugitive dust emissions from storage piles that would remain inactive for more than seven days, the Corps would ensure implementation of one or more of the following measures: o Wet suppression controls o Establishment and maintenance of surface crusting sufficient to satisfy the surface crusting test identified in the Asbestos ATCM			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	o Apply chemical dust suppressants or chemical stabilizers, o Cover with tarp(s) or vegetative cover, and/or o Install wind barriers across open areas. o Install wind barrier of 50 percent porosity around three sides of storage piles, and/or o Any other measure(s) as effective as the measures listed above. • To mitigate fugitive dust emissions from in-dry blasting operations, water would be applied every 4 hours within 100 feet of the demolition area. • To mitigate fugitive dust emissions from the rock crushing facility, wet suppression controls would be implemented. • To mitigate fugitive dust emissions from the concrete batch plant operations, one or more of the following measures would be implemented: o Apply water sprays, o Set up enclosures, hoods, curtains, shrouds, movable and telescoping chutes, and/or			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	o Install a central dust collection system. o To mitigate staging area or haul road emissions, the Corps would upon completion of the project, accomplish post-construction stabilization of disturbed surfaces by using one or more of the following measures: o Establishing a vegetative cover, o Placing at least 12 inches of non-asbestos-containing material, o Paving, and/or o Implementing any other measure deemed sufficient to prevent wind speeds of 10 miles per hour or greater from causing visible dust emissions. **<u>Exhaust Emission Mitigation Measures</u>** Cleaner Off-Road Equipment The project will incorporate the Los Angeles County Metropolitan Transportation Authority (LACMTA) Green Construction Policy (LACMTA 2011) requirements for the on-site construction off-road equipment. The Corps will use Tier 3 off-road equipment for the first two years of construction (2013-2014), and use interim Tier 4 off-road equipment beginning in 2015.	C		CVFPB will verify implementation of LACTMA Green construction policy requirements including use of higher tiered equipment.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	The project will ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40% opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately. Non-compliant equipment will be documented and a summary provided to the Corps and SMAQMD monthly. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. Marine Engine Standards The USEPA adopted Tier 3 and Tier 4 standards for newly-built marine engines in 2008. The Tier 3 standards reflect the application of technologies to reduce engine PM and NO_x emission rates. Tier 4 standards reflect application of high-efficiency catalytic after-treatment technology enabled by the availability of ultra-low sulfur diesel (ULSD). These Tier 4 standards would be phased in over time for marine engines beginning in 2014 (USEPA 2008). The Corps will use Tier 2 and 3 marine engines standards to reduce marine exhaust emissions. Due to uncertainty as to the availability of Tier 4 marine engines within the required project timeline, this mitigation measure does not require the use of Tier 4 marine engines. However, should they become available during the appropriate construction periods, use of these engines would further lower project emissions.	C C		CVFPB will verify non-compliant equipment list and monthly summary has been submitted to SMAQMD and the Corps. CVFPB will verify tier level of equipment.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	Haul Truck Controls MY 2010 or newer haul trucks will be used for the duration of the project. Use of these trucks will provide the best available emission controls for NOx and PM emissions. Use of Electrical Equipment Construction equipment powered by electricity, rather than diesel fuel, eliminates criteria pollutant emissions from diesel combustion. Electrification would result in a small amount of indirect CO_2 emissions due to the operation of the electric grid. Various types of construction equipment may feasibly be run on electricity. The Corps will electrify the concrete batch plant and the rock crushing facility. **NO_x Mitigation Fee** The Contractor would provide payment of the appropriate SMAQMD-required NO_x mitigation fee to offset the project's NO_x emissions when they exceed SMAQMD's threshold of 85 lbs/day. Estimated calculations for these mitigation fees are included under each alternative's effects analysis in Tables 24 and 29. The NOx Mitigation Fee applies to all emissions from the project: on-road (on-and off site), off-road, portable, marine and stationary equipment and vehicles. **SIP Inclusion** The Folsom JFP is expected to exceed the General Conformity de minimis threshold for NOx over the life of the project when mitigated. Therefore, the Corps must demonstrate conformity by (1) showing the project will meet all ozone SIP control requirements; and (2) meeting one of following options:	C C C D,C		CVFPB will verify MY 2010 or newer haul trucks are being used. CVFPB will verify that the concrete batch plant and rock crushing facility have been electrified. CVFPB will verify payment of NOx mitigation fee to SMAQMD. CVFPB will verify that the contractor has stayed within the estimated emissions in the 2011 SIP

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	• Demonstrate that the total direct and indirect emissions are specifically identified and accounted for in the applicable SIP. • Demonstrate that the total direct and indirect emissions would not exceed the emissions budgets specified in the applicable SIP. • Obtain a written commitment from the State to revise the SIP to include the emissions from the action. • Fully offset the total direct and indirect emissions by reducing emissions of the same pollutant or precursor in the same non-attainment or maintenance area. The option applicable to this project is to obtain a written commitment from the State Governor or the Governor's designee for SIP actions, as described in 40 CFR §93.158(a)(5)(i)(B), to revise the SIP to achieve the needed emission reductions prior to the time emissions from the Federal action would occur, such that total direct and indirect emissions from the action do not exceed the 2011 SIP emissions budgets. An analysis of the project's estimated emissions was conducted by SMAQMD, in coordination with CARB and USEPA. This analysis indicated that the project's emissions could be included in the 2011 SIP emissions budget. SMAQMD prepared a conformity analysis which is included with this SEIS/EIR as Appendix B. In order to comply with SMAQMD's analysis, the Corps has committed to use the following mitigation measures to reduce the total project NOx, PM10, and PM2.5 emissions:			emissions budget and implement required Air Quality mitigation measures stated within Section 4.2.7 (Air Quality mitigation measures) of the Final SEIS/EIR.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	• Off-road construction equipment complying with the LACMTA Green Construction Policy. Use Tier 3 off-road equipment for first two years of construction (2013-2014) and Tier 4 off-road equipment beginning 2015. • Marine engines complying with USEPA Tier 2 and Tier 3 engine standards. Use Tier 2 marine engines for the first two years of construction (2013-2014) and Tier 3 marine engines beginning 2015. • Use of model year 2010 or newer haul trucks beginning in 2013. • Electrification of concrete batch plant and rock crushing plant. • Fugitive dust controls which include watering controls on blasting operations, unpaved roads, excavation, wet suppression on stockpiles, and speed control. • Ensure that air pollution specifications are incorporated into all construction contracts. Those specifications will require that contractors limit annual emission to levels that do not exceed the annual estimates shown in Table 23 (for Alternative 2) or Table 28 (for Alternative 3).			
4.3.4 Climate Change The project would emit GHGs from construction activities due to fuel combustion from onsite construction vehicles, worker vehicles for workers commuting to and from the project, and indirect emissions from the electricity used to	Implementations of the mitigation discussed in the air quality analysis (Section 4.2.7), including the use of the LACMTA Green Construction Policy requirements for the on-site construction off-road equipment would further reduce	C	Contractor/ the Corps	CVFPB will verify LACTMA Green Construction Policy

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
operate the rock crusher and concrete batch plant.	the GHG emissions associated with this project (LACMTA 2011). In addition, SMAQMD recommends the following mitigation measures for reducing GHG emissions from construction projects. The use of electric equipment is already listed above and will reduce direct GHG emissions from fuel-based equipment. The Corps will implement the following mitigation measures: • Improve fuel efficiency from construction equipment: o Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to no more than 3 minutes (5 minute limit is required by the state airborne toxics control measure [Title 13, sections 2449(d)(3) and 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site. The following mitigation measures are relevant to impacts, but will likely not be required by the Corps. However the selected contractor will be encouraged to implement these measures where practicable: o Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated. o Train equipment operators in proper use of equipment.	C		requirements, air quality mitigation measures, electrification of concrete batch plant & rock plug, and practicable mitigation measures are being implemented. CVFPB will verify if practicable GHG reducing measures are implemented.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	o Use the proper equipment size for the job. o Use equipment with new technologies (repowered engines, electric drive trains). • Perform on-site material hauling with trucks equipped with on-road engines (if determined to be less emissive than the off-road engines). • Use a CARB approved low carbon fuel for construction equipment. (NO_x emissions from the use of low carbon fuel must be reviewed and increases mitigated.) • Encourage and provide carpools, shuttle vans, transit passes and/or secure bicycle parking for construction worker commutes. • Recycle or salvage non-hazardous construction and demolition debris (goal of at least 75% by weight). • Use locally sourced or recycled materials for construction materials (goal of at least 20% based on costs for building materials, and based on volume for roadway, parking lot, sidewalk and curb materials). Wood products utilized should be certified through a sustainable forestry program. • Produce concrete on-site if determined to be less emissive than transporting ready mix. • Use SmartWay certified trucks for deliveries and equipment transport. • Develop a plan to efficiently use water for adequate dust control.			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
4.4 Water Quality 1) Long term changes to the rate and amount of surface runoff in the form of hydromodification could potentially affect local drainages. **Construction activities** 2) Project activities may disturb or mobilize sediments which have the potential to affect total suspended solids, pH, turbidity, and dissolved oxygen. Re-suspension of sediments may affect the concentrations of metals in the water column releasing metals that are present in lake sediments from both natural and human sources. **Construction activities in the dry** 3) Project activities (construction and excavation) occurring in the dry would have short term impacts on water quality from ground disturbing activities. Exposed soil could potentially erode as a result of significant runoff events causing turbidity in local waterways. In addition, debris, inadvertent spills of fuels, oils or concrete mix materials from construction equipment, work areas, staging areas, or the concrete batch plant could be a source of contamination into adjacent waterways. **Construction activities in the wet**	Implementation of the below mitigation measures by the contractor would reduce the significant impacts on water quality, and jurisdictional waters to a less than significant level. Compliance and evaluation as a part of the provisions stated for the various permits discussed below would serve to minimize and mitigate potential hydrologic impacts due to construction activities. The contractor would be required to obtain an NPDES Construction Storm Water Permit from the CVRWQCB, because the project would disturb more than one acre of land. Across the entire construction site, debris, soil, or oil and fuel spills could temporarily adversely affect the water quality of Folsom Lake and the Lower American River (including Lake Natoma) downstream. The construction storm water permit pertains to the prevention of increased turbidity of adjacent waterways as resulting from site erosion and sedimentation, as well as debris, soil, fuel, and oil spill prevention. The contractor would be required to design and implement a SWPPP prior to initiating construction activities, and to implement standard BMPs (see "Mitigation" below). There is also a potential for fugitive dust and construction runoff to enter waterways due to soil excavation, equipment use, cutoff wall construction, and movement of trucks in the project area and along the haul routes. However, frequent watering of haul routes, proper coverage and control of material stock piles (e.g. dirt, aggregate, etc.), and the installation of K-rails to prevent any construction related materials or vehicles from entering the waterways, would help to prevent such pollution impacts. All these measures would be required of the contractor. The NPDES Industrial Storm Water Permit requires that a	D,C D,C	Contractor/ the Corps	CVFPB will verify that the contractor has obtained permits and is implementing required BMPs, SWPPP and mitigation measures associated with these 3 NPDES permits: 1) construction storm water permit, 2) Industrial storm water permit, and the 3) limited threat discharge permit. CVRWQCB will ensure compliance with Section 401 permit. CVFPB will verify the Corps has obtained the Section 401 permit and is complying with

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
4) Project activities occurring in the wet (dredging, construction, disposal, and blasting) could have short term impacts on water quality. Potential dredging of material for the haul road embankment, transload facility ramp, and spur dike have the potential to cause turbidity in Folsom Lake, affecting water quality and the potential for bioaccumulation of mercury. **Construction of project features** 5) Construction and removal of the transload facility, haul road embankment, and the construction of the spur dike would require materials to be placed directly into the water. 6) Construction of the transload facility, haul road embankment and the spur dike would raise local bed elevation by as much as 60 ft causing a change in the relative abundance of habitat types available at various reservoir levels affecting local benthic organisms. **Disposal** 7) Approximately 400,000 cy of material from the approach channel would be removed during in-the-wet conditions. The in-the-wet excavation activities (dredging and blasting) have the potential to create substantial turbidity, thus affecting water temperature and dissolved oxygen concentrations. These activities also have the potential to mobilize existing contaminants such as mercury with potential for the bioaccumulation of mercury in the aquatic environment.	SWPPP is designed and implemented, and is specific to the concrete batch plant operation. Pertaining to the concrete batch plant site, debris, oil and fuel, or concrete mix material spills could temporarily adversely affect the water quality of Folsom Lake and the Lower American River (including Lake Natoma) downstream. The industrial storm water permit addresses potential pollution inputs due to storm water runoff that are associated with all activities at the concrete batch plant. The contractor would be required to cover and control all material stock piles in order to prevent suspension of dust or concrete mix material due to wind. The contractor would also be required to coordinate the handling of all waste waters generated from concrete production with the CVRWQCB. In accordance with the NPDES Limited Threat Discharge Permit, groundwater must be tested for priority pollutants prior to dewatering activity in order to determine if any treatment would be required before discharging into Folsom Reservoir. Once cleared for dewatering, periodic, routine, and standardized sampling of the groundwater must be conducted before discharge into Folsom Reservoir occurs. This routine sampling ensures that the groundwater either meets or exceeds the water quality standards listed for beneficial uses of Folsom Reservoir and the Lower American River. Groundwater would be pumped into a holding tank where it is to be tested to meet water quality standards before being surface-discharged into Folsom Reservoir. All mandatory groundwater samples analyzed, both prior to commencement of dewatering activity and during ongoing dewatering operations, must be conducted by a State Certified Lab and meet the Reporting Minimum Levels. • An NPDES permit would be obtained prior to construction activities, commencing by filing a Notice of Intent (NOI) with the CVRWQCB and	D, C		the requirements throughout the project. CVFPB will verify dewatering permit is obtained and requirements are being met. Requirements include implementing a water quality monitoring plan by a qualified water specialist during dewatering activities.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
8) Dredged and excavated material that is not used for spur dike construction would be disposed at one of the proposed disposal sites, including potentially the in-reservoir disposal site. 9) Benthic organisms would be smothered by the discharge of dredged material at the in-reservoir disposal site. 10) Disposal material mechanically dredged, barged, and then placed in water have the potential to create turbidity. 11) Disposal material may be transported via barge and then trucked to upland placement sites creating the risk for potential turbidity and sediment releases into the reservoir. 12) Excavated material may be disposed of at on land disposal sites. **Impacts to the waters of the United States (U.S.)** 13) Disposal of material into jurisdictional water will have permanent effects of 9 acres at the spur dike, and 2.5 acres of transitional wetlands at Dike 8. Disposal of material into jurisdictional waters will have temporary effects on 2.5 acres at the transload facility, 1 acre at the haul road embankment, and 85 acres of open waters into Folsom lake.	preparing a SWPPP. As required under the General Permit, the SWPPP would identify implementation measures necessary to mitigate potential construction-related water quality concerns. These measures would include BMPs and other standard pollution prevention actions such as erosion and sediment control measures, proper control of non-stormwater discharges, and hazardous spill prevention and response. The SWPPP would also include requirements for BMP inspections, monitoring, and maintenance. The NOI indicates the intent to comply with the General Permit which outlines conditions to minimize sediment and pollutant loading. The following items are examples of BMPs that would be implemented during construction: o Erosion control BMPs such as use of mulches or hydro seeding to prevent detachment of soil following guidance presented in the California BMP Handbooks – Construction (CASQA 2003). A detailed site map would be included in the SWPPP outlining specific areas where soil disturbance may occur, and drainage patterns associated with excavation and grading activities. In addition, the SWPPP would provide plans and details for the BMPs to be implemented prior, during and after construction to prevent erosion of exposed soils and to treat sediments before they are transported offsite. o Sediment control BMPs such as silt fencing or detention basins that trap soil			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	particles. o Construction staging areas designed so that stormwater runoff during construction would be collected and treated in a BMP such as a detention basin. o Management of hazardous material and wastes to prevent spills. o Vehicle and equipment fueling BMPs so these activities occur only in designated staging areas with appropriate spill controls. o Maintenance checks of equipment and vehicles to prevent spills or leaks of liquids of any kind. • Measures to control on-site spills would be included in the SWPPP. In addition to the spill prevention and control BMPs presented above, the SWPPP would contain a visual monitoring program and a chemical monitoring program for pollutants that are non-visible to be implemented if there is a failure of BMPs. Proper storage and handling of materials and equipment servicing would only occur in designated areas. If a spill occurs, appropriate steps would be taken to inform local regulatory agencies as well as implementation of a spill response program as outlined in the SWPPP. The following BMPs would be implemented as part of the SWPPP and spill response program: o All barge and boat maintenance activities would be conducted outside			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	the reservoir, with appropriate hazardous material containment measures in place. o All hydraulic dredge hoses and lines would be regularly inspected for cracks and leaks and appropriately maintained to prevent contamination. o Drilling activities should not use ammonium nitrate fuel oil (ANFO) as it would dissolve in water and release ammonia and nitrates. o Contractors would submit plans for containment measures for drilling fluids caused by hose breaks and other sources, shut down and clean up of spills. o All terrestrial based construction equipment would be refueled and oiled at least one hundred feet from the reservoir high water mark with appropriate hazardous material containment measures in place. o All barges and boats would be clean before they are launched. o Refueling would be conducted outside the reservoir when practicable, with appropriate hazardous material containment measures in place. If on-shore refueling is not feasible, over-water refueling activities would include the following fuel and oil spill avoidance and minimization measures:			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	• A dedicated refueling area would be created. The refueling area would be located to minimize exposure to wind and waves, and would be equipped at all times with spill containment equipment, such as environmentally inert oil sorbent spill booms, absorbent pads, and appropriate waste disposal vessels to contain at least 100 gallons of fuel or oil. • At least two appropriate fire extinguishers would be easily accessible and prominently displayed on site. • Appropriate communication devices would be available at all times in case of emergencies. • Fuel would be stored in a double walled tank or other appropriate secondary containment structures. • Fueling would take place only under calm wind and wave conditions such that spilled fuel would be visible and recoverable. • If refueling activities would take place after sundown, adequate light would be used so that any spill would be easily visible. • If more than 55 gallons of fuels are stored onsite, the contractor would file a Hazardous Materials Business Plan with the county. • The refueling station would store less than 1.320 gallons of fuel above ground at any time. If storage of 11,320 gallons or more of fuels is required, the contractor would file a Spill Prevention, Control and Countermeasure (SPCC) Plan with the Regional Board.			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	• During refueling operations, fuel bibs, fuel collars, fuel vent collection vessels, and/other appropriate spill minimization equipment would be used to prevent overflow fuel from reaching the water. • In the event of a spill into the water, environmentally inert sorbent booms and absorbent material would be deployed by trained personnel to contain and clean up the spill. The spill would not be treated by the use of any agent which would disperse, emulsify or coagulate the spilled material. • The discharge of any quantity of oil that violates state water quality standards, causes a film or sheen on the water surface, or leaves sludge or emulsion beneath surface would be reported immediately 24 hours a day to the U.S. Coast Guards National Response Center (NRC) at 1-800-424-8802 or 1-202-426-2675 and the USACE and the USBR. • The Corps would obtain a Section 401 permit from the CVRWQCB and comply with all requirements of the permit to ensure compliance with Section 401 of the CWA. • If water quality parameters for mercury exceed 0.05 mg/L (and as specified in the 401 Certification), additional response actions would be implemented to reduce parameters to threshold. • Guidance would be obtained from the CVRWQCB for testing earthen materials before constructing or adjacent to the reservoir to ensure any potentially associated pollutants, particularly concrete or concrete runoff, would not be			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	introduced into the reservoir that would violate water quality standards. Fill material would be placed in the reservoir during periods of lower water elevation, when possible. BMPs, as discussed in the 401 permit and 404 (b) (1) analyses (Appendix D), would be adhered to in order to minimize water quality impacts during the placement of fill in the reservoir. The Corps would obtain a dewatering permit from CVRWQCB and would implement applicable water quality monitoring by a qualified water quality specialist during dewatering activities. • Mitigation measures to minimize water quality impacts due to construction within and along the reservoir shoreline would be developed in consultation with CVRWQCB staff. These measures may include placement of a silt curtain surrounding the construction zone or construction of cofferdams. If appropriate, routine water samples would be collected at the start and completion of each dredging and/or blasting period. Water quality monitoring by a qualified water quality specialist would be performed outside the silt curtain to verify that they are effective at keeping turbidity, sediment, and associated pollutants from dispersing into the Lake. Water quality monitoring would involve grab sampling by boat during operations, and could also include deployment of continuous monitoring devices that log turbidity, conductivity, and pH. Those details would be worked out with the CVRWQCB through development of the SWPPP and monitoring plan. • A water quality monitoring plan would be	D D, C		CVFPB will verify that a water quality monitoring plan has been reviewed by CVRWQCB prior to in reservoir construction work. CVFPB will verify the Corps has assisted USBR and initiated mitigation in 2013 for the 10 acres of riparian

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	developed for review by the CVRWQCB prior to any in reservoir construction work. The plan would address sampling requirements during dredging, blasting, excavation, and placement of fill within the reservoir. If turbidity readings exceed action level values established by the CVRWQCB, corrective actions would be implemented in accordance with the plan. • The Corps would assist USBR with their mitigation requirements to ensure the 10 acres of riparian wetlands would be initiated by 2013. The Corps would also assist USBR to create up to an additional 5 acres on riparian wetlands at Mississippi Bar to compensate for temporal losses. • To mitigate for the 2.5 acres of transitional wetlands associated with fill placement at Dike 8, the Corps would purchase 2.5 acres of seasonal wetlands at a Corps approved mitigation bank. • In the event that mitigation is not initiated within this two-year period, the mitigation ratios would increase by 0.5:1 if initiated within two to five years, and by 1:1 if mitigation is initiated more than five years after the permanent or temporary impacts occur Following development of sentinel species and trigger levels, baseline levels in sentinel species would be monitored so that changes in response to construction activities can be detected. It is important to note that the fish tissue samples in Folsom Lake indicate that these species are already impacted by mercury, so it would be expected that many sentinel species would exceed desirable levels of mercury for a healthy ecosystem under baseline conditions.	C D,C		wetlands. CVFPB will verify purchase of 2.5 seasonal wetlands at an approved Corps mitigation bank. CVFPB will verify if contractor has been using the practicable measures outlined in Section 4.4.6 of the Final SEIS/EIR.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	The following mitigation measures are relevant to impacts, but will likely not be required by the Corps. However the selected contractor will be encouraged to implement these measures where practicable: • During the process of dredging material to construct the approach channel for the auxiliary spillway, sediment containing mercury would be controlled using a variety of methods, including, but not limited to, silt curtains, silt fences, as well as other BMPs and construction methods approved by the CVRWQCB. • Details on the proper use of silt curtains to protect water quality are available in guidance developed by the Corps Engineer Research and Development Center (Corps 2005). The following BMPs from this guidance should be considered during the use of silt curtains to ensure compliance with turbidity guidelines as established by the CVRWQCB: o Silt curtains should be selected, designed, and installed to meet permit and water quality certification requirements where applicable. o Silt curtains should be designed to pass water either under or through their walls. Curtains are designed to confine suspended sediment and to allow it to settle or be filtered, not to impede the movement of water. o In applications where the curtain will be extended to the bottom of the waterway in moving water conditions, a heavy woven permeable filter fabric should be designed into the curtain to relieve			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	pressure on the curtain wall. o In all but the slowest current flows, curtains will "billow out" in the downstream direction, allowing water to pass beneath the curtain, thereby reducing the effective skirt depth. o Extra length (up to 10 to 20 percent) and depth (slack) of curtains should be included in designs to allow for exchanges of water within the curtain. o Special designs may be required for applications of curtains at depths greater than 10 to15 feet or with currents exceeding 1 ½ knots. At greater depths, loads or pressures on curtains and mooring systems become excessive and could result in failure of standard construction materials. o Minimize the number of joints in the curtain; a minimum continuous span of 15 m (50 feet) between joints is a "good rule of thumb." o Curtains of a bright color (yellow or "international" orange) are recommended to enhance visibility for boaters. o Anchor lines should be attached to the flotation device, not to the bottom of the curtain. o Care should be taken during removal of silt curtains to avoid or minimize			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	resuspension of settled solids. o Removal of settled solids trapped by the silt curtain is optional and should only be considered if the resulting bottom contour elevation is significantly altered. o Designs should conform to relevant contract specifications and manufacturer recommendations and guidelines for installation and safety measures. • In addition to the above BMPs regarding silt curtains, the following could be implemented by the contractor, as needed, to further reduce turbidity: o When dredging contaminated sediment, installing silt curtains within continuous or intermittent sheet pile walls to provide anchoring points has proven to be more effective than using silt curtains alone. o Aquatic habitat can be protected with deflection curtains provided they are properly designed and deployed, taking into consideration site-specific conditions. Regular inspections would be performed to verify the integrity and proper installation of the silt curtains. In addition to the above-listed mitigation measures, an Adaptive Management Plan will be developed as a mitigation control measure to assist with the management of construction control BMPs and monitor the effects onto the aquatic environment. It is difficult to predict the precise effects construction activities would have on turbidity,			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	sedimentation and on the increase on total mercury and methylation of mercury. Therefore, monitoring and adaptive management of construction controls are critical components of protecting against significant effects to bioaccumulation. The Adaptive Management Plan would consist of monitoring the environment outside of the construction zones as specified in the Section 401 Water Quality Permit, and would specify triggers for adaptive management actions to avoid exceeding significance thresholds for turbidity and mercury.			
4.5.4 Fisheries Project construction activities that could affect fish populations include dredging of fine sediments prior to the placement of the haul road embankment, transload facility, and the spur dike, in-water disposal of construction material through hydraulic or mechanical placement, and dredging and blasting of the approach channel. The project could potentially affect aquatic life in the following ways: • Increased turbidity within the water column; • Bioaccumulation of mercury; • Blasting and acoustic (vibration and sound energy) actions • Introduction of contaminants, fuel and oil spills; • Physical crushing;	The following section addresses potential BMPs and mitigation measures to reduce effects to fish populations and habitat. Additional mitigation to address turbidity, storm water runoff, fuel containment and oil spills are addressed under water quality in Section 4.4.6. • Aquatic construction equipment and boats would be decontaminated of invasive species prior to placement in Folsom Lake per approval by CDFW. Two months prior to placement of construction vessels in Folsom Lake, the contractor will coordinate with CDFW to discuss invasive species quagga and zebra mussel decontamination and inspection species. A decontamination period of up to one month may be required on vessels originating from infested water bodies. • Speeds would be limited for construction vessels (dredges, barges) to 2 knots or less when approaching or operating in dredging locations. Smaller support vessels carrying personnel and supplies would be limited to 5 knots. • The contractor's blasting plan would be	D D, C	Contractor/ the Corps	CVFPB will verify that decontamination of construction equipment and boats prior to construction has occurred in coordination with CDFW. CVFPB will verify contractor coordination and approval of blasting plan by

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
• Water temperature increase; and • Introduction of nonnative quagga or zebra mussels from marine vessels and nonnative and invasive vegetation. **Turbidity** 1) Construction activities could create turbidity which could adversely affect fish health, mortality, reproduction and habitat. 2) Dredging activities will increase turbidity and sedimentation which may negatively affect fish. 3) Construction activities have the potential to negatively influence fish due to the concentration level of sediments and duration of turbidity. 4) Persistent sedimentation and turbidity from in-water placement of fill, disposal, dredging and excavation will be high and exceed levels safe for fish health and habitat protection over the duration of in-water construction. 5) Impacts to water quality and fish or aquatic habitat due to the increase sedimentation and turbidity. 6) Incidental silt release at the bottom of the silt curtain could affect fish adjacent to the silt curtains. 7) Fish could become entrained or entrapped	coordinated and approved by the Corps to reduce adverse blast effects to aquatic organisms. • Surface fish kill would be collected to avoid bird scavenging and to conduct surface monitoring of fish. Assessment of numbers, size, and species would be conducted by a qualified fisheries specialist to provide an index of blast caused mortality. These results would be reported to CDFW within the first 24 hours after blasting. • The contractor would record maximum water pressures achieved by the blast shots by a transducer recording system to ensure compliance with blast thresholds. • Total mercury monitoring would be conducted for water and sentinel species by a qualified specialist. USFWS and regulatory agencies would be advised of levels in water and sentinel organisms. • A monitoring plan would be implemented to evaluate turbidity effects on fish within the project area. Monitor turbidity levels at limnetic, profundal and benthic zones in the project area as specified by the CVRWQCB. Turbidity levels must not increase to effect summer salmon habitat in front of Folsom Dam. Additional monitoring of turbidity levels are to be conducted in front of Folsom Dam from June through October to ensure turbidity levels does not exceed CVRWQCB thresholds. This monitoring will be conducted by the Corps. Regulatory agencies and the Corps will implement a stocking program in Folsom Lake to compensate for lost angler opportunity and fish incurring mortality from project effects. At a minimum, approximately 6,000 catchable size	C	.	the Corps has occurred. CVFPB will verify that a qualified fish specialist is conducting surface monitoring of fish kill.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
within the silt curtains. 8) Aquatic populations in Folsom reservoir can be negatively affected by increased turbidity. 9) Transportation of fill across the reservoir on barges creates risk for potential sediment releases into the reservoir. 10) Water temperature increases due to turbid water is possible inside and outside the silt curtains which may or may not negatively affect fish in the immediate area. 11) Construction activities have the potential to produce substantial turbidity and sedimentation that may violate water quality thresholds that address aquatic protection **Bioaccumulation** 1) Construction activities have the potential to increase methlymercury concentrations in aquatic organisms and Folsom reservoir fish populations which can create indirect effects on fisheries and human health. **Blasting and Acoustic Actions** 1) Underwater sound from blasting and construction activities/equipment has the potential to adversely affect fish inhabiting Folsom Lake. Acoustic noise would result from blasting, marine engines, dredge equipment	triploid rainbow trout will be purchased by the Corps and stocked in Folsom Lake. Fish restocking numbers and species composition will be subject to change to compensate for mortality and recreational fishing losses. The following mitigation measures are relevant to impacts, but will likely not be required by the Corps. However, the selected contractor will be encouraged to implement these measures where practicable: • Silt curtains should be installed at excavation, in-water disposal, dredging, blasting, and fill placement sites as a method to comply with CVRWQB Section 401 turbidity thresholds and exclude fish from the blast point. Use of this mitigation method will be decided by the contractor, but it is expected in order to achieve compliance with CVRWQCB Section 401 turbidity thresholds. • Charges should be placed in drilled holes with stemming utilizing adequate angular material to reduce energy dispersal to the environment. Use of this mitigation will be decided by the contractor. • The Blasting Plan should be designed to minimize the weight of explosive charges per delay and the number of days of explosive exposure. Use of this mitigation would be decided by the contractor. • Explosives should be subdivided using delays to reduce total pressure. Use of this mitigation measure will be decided by the contractor. Where possible use decking in drill holes to reduce total pressure. Use of this mitigation measure would be decided by the contractor • Use shaped charges for superficial charges to focus	D, C	.	CVFPB will verify if other practicable mitigation and BMPs are being implemented by the contractor to reduce effects to fish population.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
scraping sediments, airlift use, and rock placement. 2) The use of explosives can cause damage or mortality to aquatic organisms within the project area. **Introduction of contaminants, fuel, and oil spills** 1) Construction activities have a higher risk for chemical contamination of aquatic life, due to the increased period of in-the- wet or underwater excavation, blasting and dredging. **Physical Crushing** 1) Incidental physical crushing of fish could result from entrapment of fish and placement of fill material, dredging, air lift operation, and underwater blasting. **Introduction of Nonnative and Invasive Species** 1) Due to the use of aquatic construction equipment and boats, there is the potential for nonnative quagga or zebra mussels and nonnative and invasive vegetation to be introduced into Folsom Lake Reservoir.	the blast energy, reducing energy released to the aquatic environment during demolition. Use of this mitigation will be decided by the contractor. • Blasting arrays should be configured with maximum charge weights located in the middles of lesser charge weights as decided by the contractor. • Conduct continuous monitoring on sublethal and lethal blast effects on fish. Conduct adaptive management to reduce effects of blasting on fish if significance thresholds for sublethal and lethal effects established by CDFW, USFWS and the Corps are exceeded. • Bubble curtains are recommended for use during blasting and vibratory hammer use in under water construction. Bubble curtains, when effective, could reduce the velocity of sound waves and increase sound attenuation • If bubble curtains are implemented, clean air compressors would be used without oil or contaminants. • Acoustic fish scare methods are an option and may be used prior to blasting as a deterrent to fish within the blast affected area if determined to be effective. If pre-blast deterrence is used, non-detonated methods such as decompressed air are recommended; detonated blasts can cause harm to aquatic organisms are not recommended. • Install and adjust silt curtains to prevent incidental fish passage. Erect additional barriers as needed to eliminate potential fish passage during installation and adjustment of silt curtains. Use			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	effective acoustic noise where appropriate to discourage fish from the curtain area. Utilize other materials as necessary to prevent incidental fish passage. • When possible, schedule blasting during months when salmonids are using upstream tributaries (e.g. February through June for rainbow trout) and exclude blasting during summer months when some species (e.g. salmon) utilize colder water directly in front of the Folsom Dam. It is unlikely that this mitigation measure will be implemented due to project schedule constraints. • Blasting Methodology will be adapted to reduce game and native fish mortality if fish kill numbers are above an acceptable threshold established by regulatory agencies and the Corps. • Submerge the dredge cutterhead within the substrate to the maximum extent practicable when the dredge pumps are engaged, and utilize a slow rotation speed where feasible. • Utilize entrainment lessening equipment where applicable on hydraulic dredging apparatus to minimize fish kill. • Cutterheads would be no greater than 3 feet from the lakebed floor when cleaning the pipeline. Pipeline clearing will be kept to the minimum amount necessary.			
4.6.4 Aesthetics and Visual Resources Direct effects from construction activities include the temporary effect of ongoing construction activities due to:	The primary effects described above are associated with the disposal of soil. There is the potential that some of this soil	C, M	Contractor/ the Corps	CVFPB will verify that soil is being

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
1) Equipment, boats, and haul trucks operating in the area 2) Permanent effect on the change in shoreline due to construction of the approach channel and spur dike 3) Potential permanent disposal of material in the proposed disposal areas	would be used by USBR for construction of a large landside berm at the auxiliary dam, however, it is assumed that not all of the material at the disposal sites would be reused. As a result, the excess material would be recontoured and landscaped to maintain visual consistency with the surrounding hills. The contractor would revegetate the disposal areas with native grasses to provide ground cover, erosion control, and to allow it to regain some aesthetic consistency with the surrounding areas. Additionally, since the approach channel is the final phase of the overall JFP, the haul road would be removed following project construction. The area would be regraded and revegetated with native grasses to return the area to a natural state consistent with the shoreline of Folsom Lake.			used by USBR and that leftover soil has been recontoured and landscaped. Following construction, CVFPB will verify the contractor has revegetated with native grasses and the haul road has been removed.
4.7.4 Recreation 1) During construction activities, waters surrounding the spur dike, approach channel, and transload facility would be excluded from public access due to safety concerns. Direct effects include limiting recreational activities to outside the boundary. Indirect effects will occur if those recreational activities are relocated to other local recreation areas increasing the usage and wear and tear on the facilities. In addition, upon completion of the project, the waters in front of the approach channel will remain blocked off from public use for security reasons. 2) Folsom point would be temporarily closed for 1 day for 6-8 hours for the initial launch site to begin construction of the transload facility.	The following measure would be taken to keep the public informed of the project and reduce potential effects on recreational activities. • To ensure public safety, warning signs and signs restricting access would be posted before and during construction, as necessary. Public outreach will be conducted through mailings, posting signs, coordination with interested groups, and meetings, if necessary, in order to provide information regarding changes to recreational access in and around Folsom Lake. Public outreach would also explain the purpose of the safety exclusion barrier around the blast site and the effects that underwater blasting can have on people if they are in the water and in range of the blast.	D, C	Contractor/ the Corps	CVFPB will verify that safety measures are implemented. Safety measures include safety signs, public outreach and use of a safety exclusion barrier around the blast site.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
3) Excavation of the approach channel and rock plug would require use of explosives causing temporary closure of Folsom Lake Crossing and the bike trail associated with Folsom Lake Crossing Bridge. Blasting events could occur every day up to twice per day over 44 months from February 2014 to August 2017 with the potential for up to 400 blasts in-the-wet and up to 200 blasts in-the-dry. Blasting events have the potential to last up to 2 hours and would be scheduled from 1:30 p.m. to 2:30 p.m. with additional provisions for a second blast from 10:00 a.m. to 11:00 a.m. This 2 hour period would allow for 30 minutes to close Folsom Lake Crossing road, 1 hour to conduct blasting, and 30 minutes to reopen the roadway. 4) The proposed project would a draw a construction workforce creating the potential need for worker vehicle parking areas.	• At low water levels, a safety route and hazards will be marked for recreational boaters access into Folsom Point launch area as needed • Workers will use staging areas for parking.			
4.8.4 Traffic & Circulation 1) Construction activities will have temporary, direct effects on traffic and circulation in the project area by resulting in the growth of labor force accessing the site on a daily basis, and growth of truck trips due to the import of the aggregate material for the transload facility, spur dike and large deliveries. 2) Traffic effects due to blasting operations of the proposed excavation for the approach channel and rock plug will cause the temporary closure of some roads estimated from Feb 2014 –	Since there would be no significant effects on traffic and circulation, no mitigation would be required. However, the following measures would be implemented to avoid or minimize any effects, as well as ensure public safety on area roadways. • The construction contractor would be required to prepare a traffic management plan, outlining proposed routes to be approved by the appropriate agencies, and implement the plan prior to initiation of construction. High collision	D,C	Contractor/The Corps	CVFPB will verify the contractor has an approved traffic management plan prior to

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
October 2017	intersections would appropriate local entity, and implement it be identified and avoided if possible. Drivers would be informed and trained on the various types of haul routes, and areas that are more sensitive (e.g., high level of residential or education centers, or narrow roadways). The construction contractor would develop and use signs to inform the public of the haul routes, route changes, detours, and planned road closures to minimize traffic congestion and ensure public safety.	D,C	.	construction. CVFPB will verify that contractor has implemented public signs and traffic congestion is minimized.
4.9.4 Noise All Construction activities have the potential to be conducted during non-exempt hours. There are potential significant impacts if construction activities are conducted during non-exempt hours. Major noise contributing construction activities are defined as activities that generate noise levels of 35 dBA or higher any noise-sensitive receptors. The following activities are a brief description of such activities: • At Folsom State Prison (MR-1a and MR-1b), it is assumed that the prison structures would provide a minimum of 30 dBA attenuation due to the concrete walls and small, thick glass windows. It is also assumed that the exterior concrete walls surrounding the prison facility would provide an additional 5 dBA of attenuation. Taking these assumptions into account noise levels at Folsom State Prison would not be significant.	The following measures would be implemented in order to reduce noise effects from general construction activities to less than significant. Any activity that would generate noise that could not be mitigated to less than significant would be conducted only during those hours when construction noise is exempt. • Conduct the loudest construction activities during construction noise exempt hours, or as permitted by the city of Folsom. These activities include blasting, drilling, and dredging. • Establish a noise monitoring program for construction activities that may exceed noise thresholds outside of construction noise exempt hours in order to maintain compliance with exterior noise standards and permits. See Appendix G for monitoring program guidelines. • Maintain a standard 24 hour hotline for noise	D, C C		CVFPB will verify that a noise monitoring program for activities that may exceed non-exempt hour thresholds has been implemented by the contractor. CVFPB will verify

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
• At Tacana Drive and East Natoma Street (LT-2), drill and blasting and dredging rock in-the-wet, transload facility construction/removal, and Dike 7 staging area utilization activities would generate noise levels that exceed the 45 dBA L_{50} nighttime exterior noise standard if the activities would be conducted individually. The major noise contributing activities at LT-2 would be Approach Channel/Spur Dike construction activities, transload facility construction/removal activities, and utilization of the Dike 7 staging area. • At Mountain View Drive (LT-3), drill and blasting and dredging rock in-the-wet, transload facility construction/removal, and Dike 7 staging area utilization activities would generate noise levels that exceed the 45 dBA L_{50} nighttime exterior noise standard if the activities would be conducted individually. The major noise contributing activities at LT-3 would be Approach Channel/Spur Dike construction activities, transload facility construction/removal activities, utilization of the Dike 7 and Overlook staging areas, and utilization of the Dike 8 disposal area. • At East Natoma Street and Green Valley Road (LT-4), MIAD disposal and staging area utilization would generate noise levels that exceed the 45 dBA L_{50} nighttime exterior noise standard if it was utilized without any other simultaneous construction activities. The major noise contributing activities at LT-4 would be Approach Channel/Spur Dike construction activities, transload facility construction/removal	complaints. • Contractor would be responsible for maintaining equipment in best possible working condition. • Each piece of construction equipment would be fitted with efficient, well-maintained mufflers. • Schedule truck loading, unloading, and hauling operations during non-exempt construction hours as much as practicable. • Locate construction equipment as far as possible from nearby noise-sensitive receptors. In particular, locating the batch plant at the Folsom Overlook staging area would reduce noise effects on sensitive receptors during non-exempt hours. • Situate construction equipment so that natural berms or aggregate stockpiles are located in between the equipment and noise-sensitive receptors. • Enclose pumps that are not submerged and enclose above-ground conveyor systems in acoustically treated enclosures. • Line or cover hoppers, conveyor transfer points, storage bins and chutes with sound-deadening material. • Acoustically attenuating shielding (barriers) and shrouds would be used when possible.	C C		a 24 hour hotline for noise complaints is established. CVFPB will verify maintenance checks for equipment have been done. CVFPB will verify that the loudest construction activities are conducted during noise exempt hours.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
activities, utilization of the Dike 8 disposal area, and utilization of the MIAD disposal and staging areas. • At East of Folsom Auburn Rd. and Pierpoint Circle (LT-6), utilization of the Prison staging area would generate noise levels that exceed the 45 dBA L_{50} nighttime exterior noise standard if it was utilized without any other simultaneous construction activities. The major noise contributing activities at LT-6 would be Approach Channel/Spur Dike construction activities, utilization of the Prison or Overlook staging areas, and transload facility construction/removal activities. • At the Beal's Point Campground (ST-7), guests would be staying overnight. Drill and blasting and dredging rock in-the-wet construction activities would generate noise levels that exceed the 45 dBA L_{50} nighttime exterior noise standard if it would be conducted by itself without any other simultaneous construction activities. The major noise contributing activities at ST-7 would be approach channel/spur dike construction activities, transload facility construction/removal activities, utilization of the Overlook staging area. • At Folsom Point Park (ST-8), guests would not be staying overnight. Therefore, there are no anticipated noise impacts during non-exempt hours. • At East Natoma Street and Briggs Ranch Drive (MR-9), transload facility construction/removal, Dike 8 disposal area utilization, and MIAD	• Use blast mats to cover blasts in order to minimize the possibility of fly rock. • For construction activities being conducted outside of construction noise exempt hours, the Contractor would obtain a permit from all nearby cities and counties in the vicinity of the project and maintain compliance with established limits. • For drilling activities in the water, the use of down-the-hole-hammers are recommended, which produce much less noise than top-hammer drills from the striking bar.	D, C		CVFPB will verify that all required permits were obtained from nearby city and counties and are being complied with.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
staging and disposal area utilization activities would generate noise levels that exceed the 45 dBA L_{50} nighttime exterior noise standard if the activities would be conducted individually. The major noise contributing activities at MR-9 are Approach Channel/Spur Dike construction activities, transload facility construction/removal activities, utilization of the Dike 8 disposal area, and utilization of the MIAD disposal and staging area. • At Lorena Lane (MR-10), drill and blasting and dredging rock in-the-wet and Dike 7 staging area utilization activities would generate noise levels that exceed the 45 dBA L_{50} nighttime exterior noise standard if the activities would be conducted individually. The major noise contributing activities at MR-10 would be Approach Channel/Spur Dike construction activities, transload facility construction/removal activities, utilization of the Dike 7 staging area, and utilization of the Overlook staging area. • At Folsom Church of Christ (MR-11), drill and blasting and dredging rock in-the-wet, transload facility construction/removal, and Dike 8 disposal area utilization activities would generate noise levels that exceed the 45 dBA L_{50} nighttime exterior noise standard if the activities would be conducted individually. The major noise contributing activities at MR-11 would be Approach Channel/Spur Dike construction activities, transload facility construction/removal activities, utilization of the Dike 8 disposal area, and utilization of the MIAD disposal and staging area.				

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
4.10.4 Cultural resources 1) Project activities could affect the eligibility listings for Folsom Dam, right and left wing dams 2) Construction of the cutoff wall and removal of the rock plug could affect historic properties within the Area of Potential Effects (APE). 3) Lower reservoir levels may expose previously unsurveyed areas. Excavation of material within these previously unsurveyed areas within the APE may expose historic properties. 4) The placement of disposal material within the reservoir may affect CA-SAC-358H. 5) Construction of the Approach channel, spur dike, and transload facility would result in additional permanent flood risk management features associated with Folsom Dam, Dike 7 and Dike 8.	The Corps has made preliminary determinations of eligibility for all of the known historic properties within the APE and those potentially affected by the proposed project. For those areas where survey of historic properties may still be completed, if historic properties are discovered they will need to be recorded and evaluated for their eligibility for listing in the NRHP prior to approval of the EIS/EIR. Additionally, if consultation with potentially interested Native Americans results in the identification of potential historic properties within the APE, recordation and evaluation of effects to those properties would also need to be completed prior to approval of the EIS/EIR. Those determinations will be sent to the State Historic Preservation Officer (SHPO) for comment and concurrence. If the SHPO concurs with the Corps' preliminary determinations that construction of the proposed project would have no adverse effects on historic properties there would be no need for mitigation measures. During inventory and evaluation efforts, if it is determined that a historic property may be adversely affected by the proposed project, a programmatic agreement or memorandum of agreement will be executed between the Corps and the SHPO in order to mitigate for adverse effects. However, if archeological deposits are found during project activities, work would be stopped pursuant to 36 CFR 800.13(b), Discoveries without Prior Planning, to determine the significance of the find and, if necessary, complete appropriate discovery procedures.	D, C	Contractor/ the Corps	CVFPB will verify that SHPO has provided concurrence. In the case that archaeological deposits are found during project activities, CVFPB will verify that all work has been stopped and discovery procedures are implemented pursuant to 36 CFR 800.13(b), Discoveries without Prior Planning. CVFPB will verify that record and evaluation procedures have occurred if historic properties are discovered during surveys of previously unsurveyed areas within the APE or

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
				in consultation with potentially interested Native Americans.
4.11.4 Topography and Soils There are no significant long term effects to topography and soils and therefore no mitigation is required. However, the following effects would occur due to project activities: 1) Excavation of the approach channel would include permanently excavating the rock plug area, and would result in a permanent reduction of elevation of the shoreline. 2) The construction of the spur dike would change the topography of a small portion of the Folsom Lake area (1%). 3) Construction activities will 1) result in soil disturbance and replacement of soils with concrete, and 2) temporarily expose disturbed areas to erosion by wind or rainfall events.	There would be no significant long-term effects on topography and soils, therefore, no mitigation would be required.			
4.12.4 Vegetation & Wildlife 1) Use of the Dike 8 disposal area would result in a total permanent loss of 15.8 acres of ruderal herbaceous, oak savannah, transitional wetland, and open water/ reservoir shoreline fluctuation zone habitats on the north of the dike. Associated with the loss of the habitat is the potential to remove up to 30 trees.	Mitigation measures have been implemented since the start of the Folsom JFP construction in 2008. The mitigation measures listed below would continue to be implemented throughout the final phase, as committed to in the 2007 FEIS/EIR and ROD. • To minimize dust impacts to wildlife, vegetation,	D, C, M	Contractor/ the Corps	CVFPB will verify that measures identified in the 2007 FSEIS/EIR and ROD are being met.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
2) Use of the Dike 8 disposal site has the potential to affect a variety of wildlife species, including duck species and any amphibian species that use the transitional wetland habitat in the northern reach of the Dike 8 area. 3) Use of the Dike 8 disposal site will result in the permanent loss of 2.5 acres of transitional wetlands. 4) Use of the Dike 8 disposal site has the potential to affect nesting birds and raptors using this habitat.	and wetlands, unpaved access roads would be frequently watered with raw water using a sprayer truck during periods when trucks and other construction vehicles are using the roads, except during periods when precipitation has dampened the soil enough to inhibit dust. The speed limit on unpaved roads would be limited to avoid visible dust. • Prior to bringing in equipment from other sites, contractors will clean all mud, soil, and plant/animal material from the equipment. This will help prevent the importation of plants that are exotic or invasive. • The contractor will avoid impacts to native trees, shrubs, and aquatic vegetation to the greatest extent possible and that construction is implemented in a manner that minimizes disturbance of such areas to the extent feasible. Temporary fencing shall be used during construction to prevent disturbance of native trees that are located adjacent to construction areas but can be avoided. The contractor will coordinate with Corps Biologist prior to beginning work. • A Revegetation Plan would be developed to address potential losses to all habitats impacted within the project footprint. The Revegetation Plan would be implemented immediately following construction in accordance with requirements in the SWPPP, Planning Aid Letter, and Mitigation, Monitoring, and Reporting Plan (MMRP). In addition, mitigation for the permanent loss of habitat discussed above would be required. This mitigation would			CVFPB will verify that mitigation for permanent loss of habitat is being conducted according to the CAR. CVFPB will verify that a qualified botanist is monitoring for invasive and non-native species for five years following completion of the project. CVFPB will verify the mitigation is occurring in cooperation of USBR.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	be conducted in accordance with the recommendations provided in the Coordination Act Report. The final Coordination Act Report is included in Appendix I. The final Coordination Act Report outlines the specific mitigation requirements for the removal of trees and loss of habitat. • All disturbed areas outside the reservoir area would be reseeded with forbs and grasses at the completion of construction. • Pre-construction surveys for active nests along proposed construction site, haul roads, staging areas, and disposal/stockpile sites would be performed by a qualified biologist. Work activity around active nests should be avoided until the young have fledged. The following protocol from the CDFW for Swainson's hawk would suffice for the pre-construction survey for raptors. Note: A focused survey for Swainson's hawk nests would be conducted by a qualified biologist during the nesting season (February 1 to August 31) to identify active nests within 0.25 miles of the project area. The survey would be conducted no less than 14 days and no more than 30 days prior to the beginning of construction. If nesting Swainson's hawks are found within 0.25 miles of the project area, no construction would occur during the active nesting season of February 1 to August 31, or until the young have fledged (as determined by a qualified biologist), unless otherwise negotiated with the California Department of Fish and Wildlife (CDFW) (previously name was California Department of Fish and Game). If work is begun and completed between September 1 and February 28, a survey is not required. • Any native trees or shrubs removed with a			CVFPB will verify purchase of the 2.5 acres of seasonal wetland has occurred or that appropriate mitigation measures are applied after completion of project. CVFPB will verify the Corps has coordinated with USBR and Sacramento County for site restoration.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	diameter at breast height of 2 inches or greater should be replaced on-site, in-kind with container plantings so that the combined diameter of the container plantings is equal to the combined diameter of the trees removed. These replacement plantings should be monitored for 5 years or until they are determined to be established and self-sustaining. The Corps would compensate for the loss of the 30 trees at Dike 8 with a diameter at breast height (dbh) of 2 inches or greater known to be lost by the project by planting 3,134 seedlings (live and valley oaks, cottonwoods) on a 13.34 acre site(s). Development of this site would be coordinated with the Service and CDFW. These plantings should be monitored for 5 years or until they are determined to be established and self-sustaining. The planting site(s) would be protected in perpetuity. The compensation was derived by totaling the dbh of the 30 impacted trees (783.5 inches) and multiplying it by 4 (assumes each seedling is ¼-inch in diameter) to get 3,134 trees. The area (13.34 ac) was based on planting densities used for oak woodland on other Corps projects that were 235 plants per acre. All revegetated or disturbed areas would be monitored annually by the Corps for invasive non-native plant species, particularly French broom and pampas grass, for five years following completion of construction, with the assistance of a qualified botanist. If invasive species are becoming established on areas disturbed by project activities during the five-year period, invasive species would be removed at times that preclude the plants from setting new seed. • The Corps would compensate for the loss of three acres of open water/ reservoir shoreline			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	fluctuation zone by assisting USBR with restoration at Mississippi Bar or purchasing credits at a mitigation bank. • To mitigate for the 2.5 acres of transitional wetlands associated with fill placement at Dike 8, the Corps would purchase 2.5 acres of seasonal wetlands at a Corps approved mitigation bank. • In the event that mitigation is not initiated within this two-year period, the mitigation ratios would increase by 0.5:1 if initiated within two to five years, and by 1:1 if mitigation is initiated more than five years after the permanent or temporary impacts occur The Corps would coordinate with Reclamation and Sacramento Country on the site restoration, as necessary. Any additional mitigation that could not be conducted on site would be accomplished by purchasing credits at a USFWS approved mitigation bank. A summary of the preliminary USFWS recommendations are included in Section 4.18.			
4.13.4 Special Status Species 1) Use of the proposed Dike 8 disposal area would result in direct and indirect effects to the four elderberry shrubs. Direct effects would include removal or trimming of the shrubs. Indirect effects, if the shrubs are not removed, would include physical vibration and an increase in dust during disposal activities.	If the proposed Dike 8 disposal site would be used during project construction, consultation would be initiated with USFWS and CDFW to assess the impacts discussed above and determine appropriate mitigation measures. The following mitigation measures would be proposed by the Corps during consultation to reduce the potentially significant effects associated with the Dike 8 disposal area to less than significant.			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
2) Use of the proposed Dike 8 disposal area could potentially result in direct and indirect effects to the white-tailed kite if they begin nesting in the area. Construction activities in the vicinity of a nest have the potential to result in forced fledging or nest abandonment by adult kites.	**<u>Valley Elderberry Longhorn Beetle</u>** The Corps would compensate for the loss of the four elderberry shrubs, if they are removed. The four elderberry shrubs would be transplanted to USFW approved location and monitored for 5 years. Compensation would also consist of planting elderberry shrubs and associated natives at an existing Corps mitigation site in the American River Parkway or purchasing credits at a USFWS approved mitigation bank. If the shrubs are not removed, and the proposed Dike 8 disposal area is used, the following measures taken from the USFWS "Conservation Guidelines for the Valley Elderberry Longhorn Beetle," July 1999 would be incorporated into the project to minimize potential take of the VELB: • A minimum setback of 100 feet from the dripline of all elderberry shrubs will be established, if possible. If the 100 foot minimum buffer zone is not possible, the next maximum distance allowable will be established. These areas would be fenced, flagged, and maintained during construction. • Environmental awareness training would be conducted for all workers before they begin work. The training would include status, the need to avoid adversely affecting the elderberry shrub, avoidance areas and measures taken by the workers during construction, and contact information. • Signs would be placed every 50 feet along the edge of the elderberry buffer zones. The signs	D, C, M	Contractor/ the Corps	CVFPB will verify that compensation for elderberry shrubs has occurred if removed or that minimization measures are implemented if shrubs are not removed.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	would include: "This area is the habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs should be readable from a distance of 20 feet and would be maintained during construction. Impacts to VELB would be less than significant with implementation of the USFWS conservation guidelines for the beetle. **White-tailed Kite** The following mitigation measures would be implemented prior to use of the proposed Dike 8 disposal area to reduce potential adverse effects to white-tailed kites: • A qualified biologist would survey the project area, and all areas within one-half mile of the project, prior to initiation of construction. If the survey determines that a nesting pair is present, the Corps would coordinate with CDFW and/or USFWS, and the proper avoidance and minimization measures would be implemented. • If a nesting pair is present, a biological monitor would be on-site during construction activities to ensure, in coordination with CDFW, that white-tailed kites are not adversely affected by project construction. • To avoid potential impacts to birds and raptor species, any trees that must be removed prior to	D, C		CVFPB will verify that a qualified biologist conducted a pre-construction survey, coordinated with the appropriate regulatory agencies where necessary, and implemented appropriate avoidance and minimization measures.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	use of the Dike 8 disposal area would be removed during the time period of August 15 to February 15. If trees must be removed outside of that timeframe, a qualified biologist must survey the area prior to tree removal to verify the presence or absence of nesting birds. With the implementation of these mitigation measures, effects to white-tailed kites associated with the proposed use of the Dike 8 disposal area would be less than significant.			CVFPB will verify biological monitor on site during construction activities if a nesting pair of white tail kites are found. CVFPB will verify tree removal has been done during August 15-February 15. If not, then CVFPB will verify a qualified biologist has surveyed the trees to verify absence or presence of birds.

By: _____ Date: _____ By: _____ Date: _____

William H. Edgar Jane Dolan

President Secretary

Blank Page Left Intentionally

ATTACHMENT D

Statement of Findings

Blank Page Left Intentionally

STATEMENT OF FINDINGS
FOLSOM DAM SAFETY AND FLOOD DAMAGE REDUCTION – EVENING ROCK BLASTING SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
STATE CLEARINGHOUSE # 2006022091

Project description

These Findings address the potential significant impacts and mitigation measures from construction of the Folsom Dam Safety and Flood Damage Reduction – Evening Rock Blasting. This project referred to as the Joint Federal Project (JFP), is a cooperative effort between US Bureau of Reclamation (Reclamation), US Army Corps of Engineers (USACE), Central Valley Flood Protection Board (CVFPB formerly the Reclamation Board), and the Sacramento Area Flood Control Agency (SAFCA). The Final Folsom Dam Safety and Flood Damage Reduction Environmental Impact Statement/Environmental Impact Report (FEIS/EIR) was issued in March 2007 (Reclamation 2007). The JFP is implementing dam safety and security features along with flood damage reduction features at Folsom Dam and its associated facilities (Folsom Facility).

The flood damage reduction features of the JFP include the construction of a gated auxiliary spillway southeast of the main dam. As part of the FEIS/EIR, the potential effects due to construction of the auxiliary spillway were evaluated. However, many of the design elements of the auxiliary spillway were preliminary in nature. The FEIS/EIR noted that prior to construction, design refinements would be required, and if necessary, preparation of supplemental NEPA/CEQA documentation. Since approval of the 2007 SEIS/EIR, supplemental documents have been prepared in 2008, 2009, 2010, and two in 2012 to address design refinements of the JFP.

Since approval of the 2012 Folsom Dam Modification Project – Approach Channel SEIS/EIR (2012), construction for Phases III and IV is occurring concurrently with two separate contractors working on-site. Due to spatial constraints, there are competing land use issues as well as construction traffic congestion within the project area. To maintain schedule, and alleviate safety concerns and congestion on-site, a third opportunity for rock blasting in the evening was analyzed in the Folsom Dam Safety and Flood Damage Reduction – Evening Rock Blasting Draft Supplemental Environmental Impact Report.

These Findings address the potential environmental impacts from schedule changes in rock blasting operations for the approach channel excavation. The schedule change provides an optional time frame for land based (in-the-dry) blasting during the day from (1:30PM – 2:30PM, and 10:00AM -11:00AM) in addition to evening rock blasting hours from 7:00PM– 8:00PM. Rock blasting will occur during the months of June through September of 2014 -2017. The methods and mitigation would remain consistent with the impacts analyzed in previous JFP CVFPB approved Mitigation, monitoring, and reporting plans (MMRPs).

Findings
According to CEQA Guidelines Section 15091, the Central Valley Flood Protection Board, in its capacity as lead agency, makes the following Findings:

- Changes and alterations have been required and incorporated into the JFP, which avoid or substantially lessen the potentially significant environmental impacts as identified in the final SEIR.

Statement of Facts

Noise

Impact – Noise and vibration from blasting activities would be considered significant if blasting operations were to:

- Exceed the city of Folsom's noise standards outside of the City's exempt hours and permitted thresholds
- Result in a change in noise level that would cause a substantial number of people to be highly annoyed by the project's noise
- Generate vibration levels exceeding Caltrans recommended standard of 0.2 inch per second (in/sec) peak particle velocity (PPV), or
- Generate vibration levels exceeding the Federal Transit Administration's (FTA's) maximum acceptable vibration standard of 80 vibration decibels (VdB) at nearby sensitive land uses.

Short-term construction noise impacts are considered significant if construction generated noise levels detected at nearby noise-sensitive land uses or sensitive receptors exceed the city of Folsom's noise standard, which is 50 A-weighted decibels (dBA) during the hours from 7AM to 10PM and 45dBA during the hours from 10PM to 7AM.

Mitigation
For construction activities conducted outside the city of Folsom noise exempt hours, the contractor would be required to adhere to the following mitigation measures described in the SEIS/EIR (2012):

- Obtain a permit from the city of Folsom for blasting during non-exempt hours,
- Maintain a noise monitoring program during construction non-exempt hours,
- Maintain a 24-hour standard hotline for noise complaints,
- Use blast mats to cover blasts in order to minimize the possibility of fly rock, and
- Comply with the city of Folsom's noise standards.

Finding – For reasons stated within the final SEIR, the CVFPB finds that noise levels from blasting operations during non-exempt noise construction hours of 7-8pm remain within the city of Folsom's noise ordinance standards. Noise standards allow for work to occur during construction non-exempt noise hours if the noise standards are met. With implementation of mitigation measures approved in the Approach Channel SEIS/EIR 2012 and blasting measurements falling within noise standards, noise levels from blasting are reduced to less than significant levels.

The JFP contractors have the ability to conduct construction activities, such as excavation and hauling, during non-exempt hours. However mitigation measures require a noise monitoring program, and require the contractor to stay within the city of Folsom's non-exempt noise thresholds. Implementation of mitigation measures would reduce potential noise impacts to less-than significant levels.

Potential vibration impacts were analyzed in the SEIS/EIR (2012) and determined to be less-than-significant. The new blasting time would not change potential vibration impacts, and therefore, potential vibration impacts resulting from evening blasting remain less than significant.

Traffic

Impacts – Evening rock blasting operations for the excavation of the approach channel and rock plug will cause the temporary closure of some roads from 6:30PM to 8:30PM for the months of June through September for the years of 2014-2017. The proposed blasting time from 7PM to 8PM would require closure of Folsom Lake Crossing and the associated bike trails for up to 2 hours (30 minutes for road closures, 1 hour for blasting, 30 minutes to reopen roads). These actions would be significant if they were to:

- Substantially increase traffic in relation to existing traffic load and capacity of the roadway system
- Conflict with an applicable congestion management program, including but not limited to LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways
- Substantially disrupt the flow and/or travel time of traffic
- Exceed the Institute of Transportation Engineers (ITE) significance threshold of 50 or more new peak-direction trips during the peak hour
- Expose people to significant public safety hazards resulting from construction activities on or near the public road system
- Reduce supply of parking spaces sufficiently to increase demand above supply

Mitigation/Contractor Requirements
The contractor will implement the following requirements as described in the SEIS/EIR (2012):

- Obtain an encroachment permit from the city of Folsom and implement the requirements of the permit
- Avoid road closures during peak traffic hours (7AM-8AM and 5PM-6PM)
- Conduct blasting at consistent times
- Provide public notification - for blasting operations, associated road closures, and detours
- Prepare and submit a Traffic management plan and Blasting plan – submitted to city of Folsom and USACE for review and approval prior to commencing blasting
- Development and use of signs – for informing the public of haul routes, route changes, detours, planned road closures, minimizing traffic congestion, and ensuring public safety

Findings
The additional proposed blasting time from 7PM to 8PM would require closure of Folsom Lake Crossing and the associated bike trails for up to 2 hours (30 minutes for road closures, 1 hour for blasting, 30 minutes to reopen roads) to maintain public safety. During road closures, traffic that typically utilizes Folsom Lake Crossing to cross the American River would be detoured through historic Folsom. USACE and the JFP contractor will be required to notify the public of detour routes.

The contractor is required to obtain and comply with the conditions of the encroachment permit from the city of Folsom. Compliance requirements include avoiding closure of roads during peak hour traffic (7AM to 8AM and 5PM to 6PM), conducting blasting operations at consistent times, and notifying the public through meetings, signage, and other media outlets. The public notices would provide information on blasting operations, associated road closures, and detours. Blasting activities would be conducted during consistent times so the local driving public can be better prepared and adjust their driving patterns accordingly. In addition, prior to blasting, a traffic management plan and a blasting plan would be submitted by the contractor for approval by the city of Folsom and USACE.

With implementation of contractor requirements, the contractor would not substantially increase traffic load or capacity or conflict with LOS standards. Contractor requirements, such as road closures during off-peak hours, conducting blasting during consistent times, and providing public notification, signage, and detours will reduce the public safety risk. Furthermore, by conducting road closures during off-peak hours when general traffic volumes are lower, substantial disruption of traffic flow and travel time.

The additional blasting window would not create the need for additional parking nor reduce supply of parking spaces

Therefore, for the reasons stated in the SEIR, the CVFPB finds that impacts due to a change in schedule for the blasting operations in-the-dry during the months of June through September of each of year from 2014-2017 do not exceed traffic significance

thresholds. With implementation of contractor requirements, impacts are less than significant.

Recreation

Impact – The excavation of the approach channel and rock plug would require use of explosives, causing the temporary closure of Folsom Lake Crossing bike trail and road. The closure would be considered significant if it were to cause:

- Increased use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of facilities would occur or be accelerated or
- Substantially reduce access to existing recreational facilities or substantial reduction availability of existing recreational facilities or uses.

Mitigation

The contractor would be required to adhere to the following mitigation measures described in the SEA/EIR (2012):

- Detour routes would be clearly marked, and ADA compliant temporary ramps would be constructed as needed
- Ensure public safety, warning signs and signs restricting access would be posted before and during construction as necessary
- Fences will be erected in order to prevent access to the project area
- Public outreach would be conducted through mailings, posting signs, coordination with interested groups, and meetings, if necessary, in order to provide information regarding changes to recreational access

Finding – There would be no permanent construction-related closures to recreational trails during the construction period. The contractor is required to implement mitigation measures approved in the 2012 SEIS/EIR and 2012 SEA/EIR and associated Mitigation, Monitoring, and Reporting Plans (MMRP). The additional blasting time from 7PM to 8PM would require an encroachment permit from the city of Folsom. The contractor would coordinate with the city of Folsom and provide adequate notification to the public, including signage, prior to beginning blasting. Since the closures would be temporary in nature (no longer than two hours), consistently scheduled, and proper notification would occur, any short-term effects would be considered less-than-significant.

Blank Page Left Intentionally

ATTACHMENT E

Summary of Comments and Responses to the 2014 SEIR

Blank Page Left Intentionally

Comments and Responses on
Draft SEIR for Folsom Dam Safety and Flood Damage Reduction – Evening Rock Blasting
May 2014

No.	Agency	Comment	Response
1.	Central Valley Regional Water Quality Control Board	"Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues."	Thank you for the comments. All required permits related to water quality has been obtained by the Corps and the contractor for the construction of the Folsom Joint Federal Project, Phase IV Approach Channel Excavation. As this work is ongoing, the Corps will ensure that the contractor remains in compliance with certification and permit requirements to be implemented during construction. Furthermore, the CVFPB will verify that compliance is being met through coordination with the Corps.

Blank Page Left Intentionally

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

28 March 2014

David Martasian
Central Valley Flood Protection Board
3310 El Camino Avenue, Room 151
Sacramento, CA 95821

CERTIFIED MAIL
7013 1710 0002 3644 1448

COMMENTS TO THE DRAFT SUPPLEMENTAL/SUBSEQUENT ENVIRONMENTAL IMPACT REPORT, FOLSOM DAM SAFETY & FLOOD DAMAGE REDUCTION – EVENING ROCK BLASTING PROJECT, SCH NO. 2006022091, SACRAMENTO COUNTY

Pursuant to the State Clearinghouse's 21 March 2014 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Draft Supplemental/Subsequent Environmental Impact Report* for the Folsom Dam Safety & Flood Damage Reduction – Evening Rock Blasting Project, located in Sacramento County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml.

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/.

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 97-03-DWQ.

For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml.

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACOE). If a Section 404 permit is required by the USACOE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements.

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACOE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACOE permit, or any other federal permit, is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

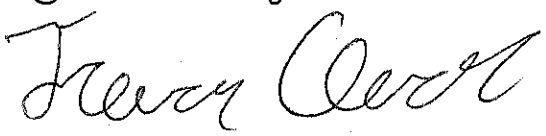
Waste Discharge Requirements

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

If USACOE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project will require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation.

For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/help/business_help/permit2.shtml.

If you have questions regarding these comments, please contact me at (916) 464-4684 or tcleak@waterboards.ca.gov.



Trevor Cleak
Environmental Scientist

cc: State Clearinghouse Unit, Governor's Office of Planning and Research, Sacramento

Blank Page Left Intentionally

ATTACHMENT F

Resolution 2014-15

Blank Page Left Intentionally

STATE OF CALIFORNIA
THE CALIFORNIA NATURAL RESOURCES AGENCY
CENTRAL VALLEY FLOOD PROTECTION BOARD

RESOLUTION NO. 2014-15

FOLSOM DAM MODIFICATION PROJECT
CERTIFICATION OF SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
FOR EVENING ROCK BLASTING
FOLSOM, CALIFORNIA

WHEREAS, the Folsom Dam Modification Project is a Joint Federal Project (JFP) authorized by Congress in the Water Resources Development Act of 1999, and by the California legislature in Water Code Section 12670.14(c); and

WHEREAS, the JFP is a cooperative effort by the U.S. Department of the Interior, Bureau of Reclamation (Reclamation), U.S. Army Corps of Engineers (USACE), the Central Valley Flood Protection Board (successor to the California State Reclamation Board), and Sacramento Area Flood Control Agency (SAFCA) to improve dam safety and flood protection for the Sacramento area by making improvements to Folsom Dam and associated structures; and

WHEREAS, the JFP consists of multiple actions over many years, with USACE, SAFCA, and the Central Valley Flood Protection Board responsible for the flood damage reduction portions, including: the control structure, chute, and stilling basin; and

WHEREAS, the Central Valley Flood Protection Board certified the Folsom Dam Safety and Flood Damage Reduction Final Environmental Impact Statement/Environmental Impact Report (FEIS/EIR) and approved the JFP in July 2007 , adopted findings, and adopted the mitigation and monitoring plan for which a Notice of Determination was filed July 27, 2007 with the State Clearinghouse; and

WHEREAS, the 2007 FEIS/EIR contained a general evaluation of the auxiliary spillway, including: the control structure, the lining of the spillway chute, and stilling basin; these features and their potential impacts were analyzed based on the level of design available at that time; and

WHEREAS, the 2007 FEIS/EIR allowed for designed refinements that may be required, and if necessary, provided provisions for preparation of supplemental environmental documents as required due to construction modifications or alterations; and

WHEREAS, the 2012 FSEA/EIR evaluated recreational impacts of the use of explosives adjacent to Folsom Lake Crossing; and

WHEREAS, the 2012 FSEIS/EIR evaluated the air quality, traffic, and noise effects of blasting (in-the-wet and in-the-dry conditions) from two (2) set time periods during the day; and

WHEREAS, the Central Valley Flood Protection Board certified the Folsom Dam Safety and Flood Damage Reduction Joint Federal Project Final Supplemental Environmental Assessment/Environmental Impact Report (FSEA/EIR) and approved the construction of the prison staging area and stilling basin drain in September 2012, adopted findings, and adopted the Mitigation, Monitoring, and Reporting Plan (MMRP) for which a Notice of Determination was filed October 2, 2012 with the State Clearinghouse; and

WHEREAS, the Central Valley Flood Protection Board certified the Folsom Dam Safety and Flood Damage Reduction Project Final Supplemental Environmental Impact Statement/Environmental Impact Report (FSEIS/EIR) and approved the approach channel construction in March 2013, adopted findings, and adopted the MMRP for which a Notice of Determination was filed March 27, 2013 with the State Clearinghouse; and

WHEREAS, project Design Refinement evaluated in this 2014 Folsom Dam Safety and Flood Damage Reduction – Evening Rock Blasting Final 2014 Supplemental Environmental Impact Report (2014 SEIR) includes an optional third blasting time frame for land based (in-the-dry) evening blasting from 7:00PM – 8:00PM during daylight hours for the months of June through September of the years 2014 – 2017.

WHEREAS, this 2014 SEIR (State Clearinghouse No. 2006022091) was circulated for public and agency review from March 21 to May 7, 2014, and responses to the comments received have been incorporated into the 2014 Final Supplemental Environmental Impact Report (2014 FSEIR); and

WHEREAS, the Central Valley Flood Protection Board is the lead agency under the California Environmental Quality Act (CEQA) for the 2014 FSEIR; and

WHEREAS, a Statement of Findings for each potentially significant impact that would result from the construction of the JFP has been prepared; and

WHEREAS, the Central Valley Flood Protection Board has considered the 2014 FSEIR and finds, on the basis of the record as a whole, including comments and written responses received on the draft document and mitigation measures, that the 2014 FSEIR reflects the independent judgment of the Central Valley Flood Protection Board; and

WHEREAS, pursuant to CEQA Guidelines Section 15091, changes and alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effects identified in the 2014 FSEIR as per the Statement of Findings.

NOW, THEREFORE BE IT RESOLVED that the Central Valley Flood Protection Board:

1. Certifies the 2014 Folsom Dam Safety and Flood Damage Reduction – Evening Rock Blasting Final Supplemental Environmental Impact Report and adopts the Statement of Findings.

2. Approves the Design Refinement for the Folsom Dam Modification Project.

3. Delegates authority to the Executive Officer to execute the Notice of Determination.

PASSED AND ADOPTED by vote of the Board on _____, 2014.

_____ _____

William H. Edgar
President

Jane Dolan
Secretary

Approved as to Legal Form and Sufficiency

_____

Jeremy Goldberg
Staff Attorney

Blank Page Left Intentionally

FINAL

FOLSOM DAM SAFETY AND FLOOD DAMAGE REDUCTION PROJECT
EVENING ROCK BLASTING

Final Supplemental Environmental Impact Report
Folsom Dam Safety and Flood Damage Reduction Project
(SCH # 2006022091)

May 23, 2014

Central Valley Flood Protection Board
3310 El Camino Avenue, Room 151
Sacramento, CA 95821

Staff Contact: David Martasian (916) 574-1442
David. Martasian@water.ca.gov

Blank Page Left Intentionally

Introduction

This Supplemental Environmental Impact Report (SEIR) has been prepared for the Folsom Dam Safety and Flood Damage Reduction Project – Evening Rock Blasting. This SEIR is a supplement to the 2007 Final EIS/EIR for the Folsom Dam Safety and Flood Damage Reduction Project, prepared by the U.S. Bureau of Reclamation in accordance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) (State Clearinghouse No. 2006022091). This project, also known as the Folsom Joint Federal Project (Folsom JFP), is a cooperative effort between the U.S. Army USACE of Engineers (USACE), the U.S. Bureau of Reclamation (USBR), the State of California Central Valley Flood Protection Board (CVFPB), and the Sacramento Area Flood Control Agency (SAFCA), collectively referred to as project partners. The CVFPB approved and certified the Folsom Dam Safety and Flood Damage Reduction Project Final EIS/EIR in 2007.

This SEIR has been prepared as a Supplemental EIR pursuant to CEQA Guidelines §15163. Section 15163 (b) of the CEQA guidelines specifically states that the supplement to the EIR need contain only the information necessary to make the previous EIR adequate for the project as revised.

The original flood control project identified in the 2007 EIS/EIR consisted of the construction of a new auxiliary spillway and associated features, adjacent to the Folsom Dam. The potential environmental effects associated with the project were analyzed in the 2007 EIS/EIR, and since then, design refinements have been evaluated in five supplemental documents in 2008, 2009, 2010, and two in 2012.

Construction of the auxiliary spillway and its associated features, specifically the approach channel, requires rock blasting. This SEIR addresses potential impacts resulting from adding one additional rock blast time period to the two time periods that have already been analyzed. The impacts and mitigation measures identified in the 2007 EIR/EIS and subsequent documents were considered when analyzing the impacts for the changes to the project description in this SEIR.

The CVFPB, as the lead agency under the California Environmental Quality Act (CEQA) will consider the potential environmental impacts from adding one additional rock blast time period when it considers whether or not to approve these changes as part of the Folsom Dam Safety and Flood Damage Reduction Project EIS/EIR.

California Environmental Quality Act (CEQA)

The CVFPB has prepared this SEIR to provide the public and interested agencies with information about the potential environmental effects from the proposed addition of a blasting time period. This SEIR was prepared in compliance with the CEQA of 1970 (as amended), and the CEQA Guidelines (California Code of Regulations, Title 14). As described in the CEQA Guidelines §15121 (a), an EIR is a public information document that assesses the potential environmental effects of a Proposed Project, as well as identifies mitigation measures and alternatives to the project that could reduce or avoid adverse environmental impacts.

Opportunities for Public and Agency Comment

The CVFPB circulated a Notice of Availability (NOA) of a Draft SEIR for the proposed changes on March 21, 2014. The NOA was circulated to the public; to local, state, and federal agencies; and to other interested parties to inform responsible agencies and the public of the proposed project changes and to solicit their comments.

Publication of the Draft SEIR marked the beginning of a 45-day public review period. One written comment concerning the proposed SEIR was submitted by May 7, 2014 (Attachment 4).

Project Description

The current spillway and outlets at the Folsom facility do not have sufficient discharge capacity for managing the predicted probable maximum flood (PMF) and lesser flood event inflows above a 100-year event (an event that has a 1% chance of occurring in any given year). Structural modifications associated with the Folsom JFP are proposed to address increasing discharge capability and/or increasing storage during extreme flood events above the 200-year event level. The new auxiliary spillway is a major feature that will address the need to safely pass part of or the entire PMF event.

In 2007, the USACE completed the Post Authorization Change Report (PACR) for the Folsom Modifications and Folsom Dam Raise Projects. This report recommended authorization of two refined projects: (1) the Folsom JFP and (2) the Folsom Dam Raise. In 2007, USBR also completed the FEIS/EIR for the Folsom JFP. This FEIS/EIR addressed alternative measures for implementing both USBR's dam safety and security obligations, as well as the USACE's flood damage reduction structural modifications at the Folsom facility. The USACE was a cooperating Federal agency in the preparation of the FEIS/EIR.

The refined Folsom JFP, as described in the USACE's PACR and USBR's FEIS/EIR, was later authorized under the Water Resources Development Act of 2007. Construction of the Folsom JFP was initiated by USBR in the fall of 2007, with USBR acting as the lead agency for the first two phases of construction. The new auxiliary spillway will address the need to safely pass part of or the entire PMF event. Increasing the discharge capability and increasing storage will potentially achieve the goal of a greater than 200-year flood protection objective (FEIS/EIR, 2007).

The Folsom JFP auxiliary spillway is being constructed by both USBR and the USACE in five phases, plus a commissioning and transfer phase. The five phases are (1) initial spillway excavation, (2) spillway excavation, (3) gated control structure, (4) lower spillway, stilling basin, and excavation and lining of the upstream approach to control structure, (5) site restoration. Phases 1 and 2 were completed in 2011. Phase 3 and 4 are currently under construction by USACE. Phase 5 is currently under design. The expected completion of the project is October 2017. Figure 1 shows an aerial photograph of the project area.

Blasting

Land-based rock excavation of the approach channel would consist of conventional drilling and blasting methods. Drilling would be performed in lifts and patterns to facilitate thorough pulverization of the granite material. In dry holes, ammonium nitrate-fuel oil (ANFO) would be used and primed with cast boosters. Water-resistant emulsified slurry would be required since water intrusion is anticipated. Explosives would be stored off-site, and would be trucked to the site on a daily basis. The explosives storage facility would be located in Jamestown, California, approximately 80 miles from the site or Suisun City, California approximately 70 miles from the site.

Blasting would typically consist of approximately 15,000 cubic yards rock shots. Blasted rock would be excavated with shovels or loaders, placed in haul trucks, and hauled to one of the on-site disposal areas, located no more than 1.5 to 2 miles from the excavation area. The proposed disposal areas have been previously analyzed and designated in the SEIS/EIR (2012).

The land-based blasting will be conducted up to one blast per day between 1:30PM and 2:30PM, over 48 months (estimated February 2014 to October 2017) for up to six days per week. Up to 200 land-based

blasts are expected. There are additional provisions for a potential second blast in the morning between 10:00AM and 11:00AM. A safety fly rock zone of 2,500 feet would be maintained for human safety. Blasting will require the closure of Folsom Lake Crossing between Folsom-Auburn Road and East Natoma Street. An encroachment permit from the city of Folsom is required, and the contractor will be required to coordinate with the city of Folsom and provide adequate notification to the public, including signage, prior to blasting. The contractor's blasting plan will be submitted to the USACE for approval prior to blasting commencement.

Proposed Project Changes

The SEIS/EIR (2012) for the approach channel analyzed impacts for the excavation and construction of a 1,100 foot long concrete lined approach channel, a spur dike, and use of a cutoff wall. Methods included in-the-dry (land based) and in-the-wet (water based) blasting and excavation. The Proposed Project only analyzes changes to in-the-dry blasting activities and schedule; there are no changes to in-the-wet blasting activities or schedule.

Shortly after the approval of the SEIS/EIR (2012), the phase 4 contractor commenced construction. At the same time, the phase 3 contractor remains on-site while finishing phase 3 activities. Due to spatial constraints, there are competing land use issues as well as construction traffic congestion within the project area. For safety reasons, and to alleviate some of the congestion on-site, a third opportunity for blasting in the evening (7PM to 8PM) is analyzed in this SEIR.

Previously analyzed project activities, such as material hauling, would remain the same as previous documents and therefore only the potential effects associated with evening blasting are analyzed in this document. To reduce potential impacts to the public, mitigation measures require blasting to be conducted at consistent times. In addition, the large-scale nature of the JFP combined with limited useable project area for construction and staging, exacerbates the projects' land-use and schedule issues, causing potential project delays. To help alleviate land-use and schedule issues, and to implement consistent blasting times, this SEIR analyzes the potential effects of evening blasting occurring through the duration the project (2017). Evening blasting would occur during the daylight hours of 7PM to 8PM from June through September of 2014 through 2017. Blasting would require the closure of Folsom Lake Crossing between Folsom-Auburn Road and East Natoma Street. Road closures would begin at approximately 30 minutes before 7PM and last until approximately 30 minutes after 8PM. The methods and mitigation would remain consistent with the impacts analyzed in the SEIS/EIR (2012).

Project Area

The project area is located in the city of Folsom at Folsom Dam, approximately 20 miles north of Sacramento (Figure 1). The new auxiliary spillway is located on the left abutment of the main dam, immediately downstream of the left wing dam. The approach channel for the auxiliary spillway is expected to extend approximately 1,100 feet upstream of the concrete control structure. In this document, the "project area" consists of the ongoing auxiliary spillway construction area; the footprint of the approach channel; a spur dike; the existing project haul routes; the existing disposal areas at the Mormon Island Auxiliary Dam (MIAD) and Dike 7; and the existing staging areas at the Folsom Overlook and Folsom Prison sites. The project area is shown on the map in Figure ES-2.

Alternatives

The purpose of the alternatives analysis in an EIR is to describe a range of reasonable alternatives to the project, or to the location of the project, that could feasibly attain most of the project objectives. Section 15126.6 of the CEQA Guidelines requires the lead agency to identify alternatives that would avoid or substantially lessen any of the significant adverse effects of the Proposed Project, and to evaluate the comparative merits of the alternatives (CEQA Guidelines, Section 15126.6). This may include those alternatives that could, in some instance, be more costly, or otherwise impede to some degree the attainment of certain project objectives.

A. No Project Alternative

The project partners are currently constructing the JFP. Since rock blasting has been analyzed in the SEIS/EIR (2012) and is part of the approved project, previously analyzed blast times (1:30PM to 2:30PM and 10:00AM to 11:00AM) are considered to be the No Project Alternative.

Since the original blasting activities described in the SEIS/EIR 2012 are unchanged, the no project alternative would generate the same potential effects on noise, traffic and recreation. Therefore, this alternative would not have any substantive environmental benefits or effects when compared to the Proposed Project.

B. Environmentally Superior Alternative

The No Project Alternative would not reduce potential effects on noise, traffic and recreation. Not implementing the additional blasting time may result in project delays. Project delays could cause the project to continue past the October 2017 proposed completion date, and prolong flood risks to the greater Sacramento area. In addition, temporary construction impacts could also be extended, causing greater potential for environmental impacts to traffic, noise and recreation.

Therefore, the Environmentally Superior Alternative is considered the Proposed Project. The Proposed Project allows for increased on-site safety to complete the project on schedule. No other reasonable alternatives have been identified capable of achieving the goals and objectives.

Areas of Analysis

The following resource areas were previously analyzed in detail in the SEIS/EIR (2012) and no new impacts would result from the new proposed blasting time. Therefore the following resources were not analyzed further in this SEIR.

- Air Quality
- Climate Change
- Water quality
- Fisheries
- Aesthetics/Visual
- Topography and Soils
- Vegetation & Wildlife
- Special Status Specials
- Cultural Resources

- Cumulative Effects

The proposed changes to allow for an additional blasting time have been analyzed in this SEIR and are considered to be temporary, construction effects, and with the implementation of mitigation measures, potential impacts to noise, traffic, recreation, would be considered less-than-significant.

A. Recreation

1. Previous Analysis

Potential recreational impacts to Folsom Lake users, camping activities, recreational trails and day use facilities were analyzed in the SEIS/EIR (2012). The additional proposed time for blasting activities has the potential to impact recreational trails, and therefore is considered in this addendum. Blasting activities from 7PM to 8PM would not create additional impacts to the other recreational features.

2. Basis of Significance

An impact to recreation is considered to be significant if it would result in any of the following:

- Increased use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of facilities would occur or be accelerated.
- Substantially reduced access to existing recreational facilities; substantial reduction in availability of existing recreational facilities or uses.

3. Effects Analysis

There would be no permanent construction-related closures to recreational trails during the construction period. However, the excavation of the approach channel and rock plug would require use of explosives, causing the temporary closure of Folsom Lake Crossing, including the bike trail associated with the Folsom Lake Crossing Bridge. The additional blasting time from 7PM to 8PM would require an encroachment permit from the city of Folsom. The contractor would coordinate with the city of Folsom and provide adequate notification to the public, include signage, prior to beginning blasting. Since the closures would be temporary in nature (no longer than two hours), consistently scheduled, and proper notification would occur, any short-term effects would be considered less-than-significant.

In addition, the contractor would be required to adhere to the following mitigation measures described in the SEA/EIR (2012):

- detour routes would be clearly marked, and ADA compliant temporary ramps would be constructed as needed
- to ensure public safety, warning signs and signs restricting access would be posted before and during construction, as necessary
- fences will be erected in order to prevent access to the project area
- public outreach would be conducted through mailings, posting signs, coordination with interested groups, and meetings, if necessary, in order to provide information regarding changes to recreational access

Any effects to recreation from the additional blasting time would be short-term and with the mitigation measures described above, the impacts would be less-than-significant.

B. Traffic and Circulation

1. Previous Analysis

Potential traffic impacts associated with the approach channel excavation were analyzed in the SEIS/EIR (2012). Due to the nature of excavation, a combination of ripping and blasting would be required to excavate the rock plug in-the-dry. Blasting operations could occur up to 6 days per week beginning February 2014 and would end in October 2017. One blast could occur each day between 1:30PM-2:30PM with a provision for a second blast from 10:00AM-11:00AM. Blasting would cause the short-term, temporary closure of Folsom Lake Crossing up to 2 hours per blast event once a day with a provision for a second blast. Potential impacts to traffic from blasting activities were found to be less-than-significant.

2. Basis of Significance

Adverse effects on traffic are considered significant if the project would result in any of the following:

- Substantially increase traffic in relation to existing traffic load and capacity of the roadway system
- Conflict with an applicable congestion management program, including but not limited to LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways
- Substantially disrupt the flow and/or travel time of traffic
- Exceed the Institute of Transportation Engineers (ITE) significance threshold of 50 or more new peak-direction trips during the peak hour
- Expose people to significant public safety hazards resulting from construction activities on or near the public road system
- Reduce supply of parking spaces sufficiently to increase demand above supply

The following screening criterion is recommended by the Institute of Transportation Engineers (ITE) (1989) for assessing the effects of construction projects that create temporary traffic increases. To account for the large percentage of heavy trucks associated with typical construction projects, ITE recommends a threshold level of 50 or more new peak-direction trips during the peak hour. Therefore, an alternative would cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system, and result in a significant impact related to traffic, if it would result in 50 or more new truck trips during the a.m. peak hour or the p.m. peak hour.

3. Effects Analysis

Blasting techniques would remain the same as described in the SEIS/EIR (2012), this includes the initial excavation for the rock plug which would utilize ripping and blasting techniques as well as disposal of material at the project disposal/fill sites.

The additional proposed blasting time from 7PM to 8PM would require closure of Folsom Lake Crossing and the associated bike trails for up to 2 hours (30 minutes for road closures, 1 hour for

blasting, 30 minutes to reopen roads) to maintain public safety. During road closures, traffic that typically utilizes Folsom Lake Crossing to cross the American River would be detoured through historic Folsom. USACE and the JFP contractor will be required to notify the public of detour routes, as shown in Attachment 1. Traffic detours would be similar to those that have occurred since before the completion of the Folsom Lake Crossing Bridge and for closures required for blasting during previous JFP phases. Blasted material will be excavated with shovels or loaders and disposed of at the stockpile/disposal/fill sites.

Measures required to be implemented before blasting begins include obtaining and complying with an encroachment permit from the city of Folsom. Compliance requirements include; avoid closure of roads during peak hour traffic (7AM to 8AM and 5PM to 6PM, [City of Folsom personnel]), conduct blasting operations at consistent times, and notify the public through meetings, signage, and other media outlets. In addition, prior to blasting, a traffic management plan and a blasting plan would be submitted by the contractor for approval by the city of Folsom and USACE.

Impacts to traffic from road closures are considered to be less-than-significant because general traffic volumes during off-peak hours are considerably lower and the short term stoppages due to blasting activities would have no significant degradation to service levels. The basis of comparison for determining the significant effects of each action alternative is any deterioration in Level of Service (LOS) rating or an increase in traffic volume to road capacity (V/C) of 0.05 for roadways with an existing LOS of F compared against the No Action/No Project Alternative. No LOS deteriorations would occur in 2013, 2014, 2015, 2016, or 2017. In addition, there would be some roadways in certain years that would experience an increase in V/C. However, the increase is less than the 0.05 threshold, and therefore, the project construction activity would have no effect on the roadway network.

Blasting activities would be conducted during a consistent time so the local driving public can be better prepared and adjust their driving patterns accordingly. The contractor would also provide public information notices for the blasting operations and associated road closures. With the implementation of the abovementioned measures, any public safety hazards resulting from construction activities on or near the public road system would be less-than-significant.

Traffic volumes from closure of Folsom Lake Crossing would not substantially increase traffic in relation to existing traffic load and capacity of the roadway system, conflict with an applicable congestion management program, or standards established by the county congestion management agency for designated roads or highways, substantially disrupt the flow and/or travel time of traffic.

The additional blasting window would not create the need for additional parking nor reduce supply of parking spaces, therefore potential impacts to parking would be less-than-significant.

C. Noise and Vibration

1. Previous Analysis

The potential impacts associated with blasting, hauling and disposing of excavated material at on-site disposal sites were analyzed previously in the SEIS/EIR (2012) and impacts were found to be less-than-significant with mitigation measures implemented.

Potential noise impacts associated with blasting during 7PM to 8PM are analyzed in this SEIR. Since associated activities, such as hauling, have been analyzed previously, that activity will not be analyzed further.

1. Basis of Significance

Noise and vibration effects from general construction activities to human sensitive receptors, would be considered significant if:

- The City of Folsom noise standards are exceeded outside of the City's exempt hours and permitted thresholds. The city of Folsom's construction noise exempt hours are during the periods of 7AM to 6PM on weekdays and 8AM to 5PM on weekends.

- The project results in a change in the noise level that would cause a substantial number of people to be highly annoyed by the project's noise.

Short-term construction noise impacts are considered significant if construction generated noise levels detected at nearby noise-sensitive land uses or sensitive receptors exceed the city of Folsom's noise standard, which is 50 A-weighted decibels (dBA) during the hours from 7AM to 10PM and 45 dBA during the hours from 10PM to 7AM.

Short and long term vibration impacts would be significant if the project construction would expose sensitive receptors to or would generate vibration levels that exceed Caltrans recommended standard of 0.2 inch per second (in/sec) peak particle velocity (PPV), or the Federal Transit Administration's (FTA's) maximum acceptable vibration standard of 80 vibration decibels (VdB) at nearby sensitive land uses.

2. Effects Analysis

The loudness of sound perceived by the human ear depends primarily on the overall sound pressure level and frequency of the sound source. The human ear is not equally sensitive to loudness at all frequencies in the audible spectrum. There is a strong correlation between the way humans perceive sound and A-weighted sound levels (i.e. dBA). For this reason the dBA can be used to predict community response to noise from the environment, including noise from transportation and stationary sources.

For the purposes of this SEIR, the noise descriptors used to define project generated noise are as follows.

- Leq (Equivalent Noise Level): The average noise level. The instantaneous noise levels during a specific period of time in dBA are converted to relative energy values. From the sum of the relative energy values, an average energy value is calculated, which is then converted back to dBA to determine the Leq.
- SPL (Sound Pressure Level): SPL is used to describe sound at a specified distance or specific receptor location. SPL depends not only on the power of the source, but also on the distance from the source and the acoustical characteristics of the transmission path (absorption, reflection, etc.).

To describe the time-varying character of environmental noise, the statistical or percentile noise descriptors L10, L50, and L90 may be used. These are the noise levels equaled or exceeded during

10 percent, 50 percent, and 90 percent of the measured time interval. Sound levels associated with L10 typically describe transient or short-term events. L50 represents the median sound level during the measurement interval, while L90 levels are typically used to describe background noise conditions.

The city of Folsom uses L50 as the baseline criterion noise metric. Construction noise is exempt from these regulations during the periods of 7AM to 6PM on weekdays and 8AM to 5PM on weekends. If construction were to occur outside of these periods, the contractor would be required to comply with exterior and interior noise limits at residential receptors, as summarized in Table 1 below. In the event the measured ambient noise level exceeds the applicable noise level standard in Table 1, the applicable standard shall be adjusted so as to equal the ambient noise level. For impulse noise (such as impact pile driving or blasting), the limits are reduced by 5 dBA. If the ambient noise level is above 50 dBA, then this becomes the new standard at each individual noise-sensitive receptor.

Table 1. City of Folsom Noise Ordinance.*

			Noise Levels Not To Be Exceeded In Residential Zone (dBA) **	
Exterior Noise Standards	**Maximum Time of Exposure**	**Noise Metric**	**7 a.m. to 10 p.m. (daytime)**	**10 p.m. to 7 a.m. (nighttime)**
	30 Minutes/Hour	L_{50}	50 dBA	45 dBA
	15 Minutes/Hour	L_{25}	55 dBA	50 dBA
	5 Minutes/Hour	$L_{8.3}$	60 dBA	55 dBA
	1 Minute/Hour	$L_{1.7}$	65 dBA	60 dBA
	Any period of time	L_{max}	70 dBA	65 dBA
Interior Noise Standards				
	5 Minutes/Hour	$L_{8.3}$	45 dBA	35 dBA
	1 Minute/Hour	$L_{1.7}$	50 dBA	40 dBA
	Any period of time	L_{max}	55 dBA	45 dBA

*Construction Noise Exemption Times: 7:00 a.m. – 6:00 p.m. Weekdays, 8:00 a.m. – 5:00 p.m. Weekends

**5 dBA reduction for impact noise during non-exempt times SOURCE: City of Folsom, CA Municipal Code. Chapter 8.42

The existing noise environment within the project area is influenced primarily by operations associated with the JFP and vehicular traffic on Folsom Lake Crossing. Ambient noise level measurements at Folsom Lake Crossing were conducted and results showed levels of 70 dBA (CDCR, 2013). Multiple residences are scattered throughout the area and located immediately west of Folsom Point Park and Folsom Lake Crossing. These single-family residences are located within 500 feet of the haul road and 400 feet of the Dike 7 Staging Area. The closest residences to the approach channel blasting activities are located approximately 3,300 feet away at the western end of Mountain View Drive and the western end of Lorena Lane. Folsom State Prison is located south of the proposed project area, on the far side of Lamb Chop Hill. See attachment 2 for sensitive receptor locations within the project area.

The haul road, which is used to transport material from the approach channel to disposal areas, extends east from the proposed project area along the edge of Folsom Lake to the disposal sites located on the northwest side of the intersection of East Natoma Street and Green Valley Road. The proximity of the haul road to noise-sensitive receivers is less than 1,000 feet along sections of Mountain View Drive and Elvie Lane and runs just south of Folsom Point Park.
Several residential areas within the project vicinity may be affected by noise from approach channel blasting. However, noise levels at known sensitive receptor sites resulting from blasting would only be at the levels listed in Table 2 for no more than a few seconds.

According to the Folsom JFP Noise Technical Report (Appendix H of the Approach Channel SEIS/EIR, 2012), SPL noise levels from a single blasting event (1 blast consists of 75 charges) would be 40-60 dBA at sensitive receptors within the area. Table 2 shows SPL dBA levels at monitored noise sensitive receptors. These figures do not exceed the ambient noise levels measurements at Folsom Lake Crossing of 70 dBA.

Implementation of mitigation measures (Attachment 3) would reduce any effects from blasting to less-than-significant levels. These include obtaining a permit from the city of Folsom for blasting during non-exempt hours, maintaining a noise monitoring program during construction non-exempt hours, maintaining a 24-hour standard hotline for noise complaints, and using blast mats to muffle the noise. Construction activities that are conducted outside the city of Folsom noise exempt times, are required to comply with the city of Folsom's noise standards in Table 1.

Table 2. Noise Levels at Noise-Sensitive Receivers due to Individual Blasts

Site ID	Noise Level due to Individual Blast (dBA SEL)
MR-1a	54
MR-1b	50
LT-2	48
LT-3	60
LT-4	45
LT-5	51
LT-6	57
ST-7	60
ST-8	59
MR-9	54
MR-10	51
MR-11	48
Bio-1	40
Bio-2	55
Bio-3	43
Bio-4	41
Bio-5	45
Bio-6	50
Bio-7	44
Bio-8	44

Source: Appendix H: SEIS/EIR (2012) pg 2-43

The SEIS/EIR (2012) estimated noise levels at sensitive receptor sites for an individual blast activity (Table 2). These figures did not exceed the ambient noise level measurements of 70 dBA for Folsom Lake Crossing (SEIS/EIR, 2012).

Noise levels from blasting and associated activities would not exceed 60 dBA Leq at any wildlife receptor site, therefore there are no expected impacts to wildlife habitat during non-exempt construction noise hours.

The largest noise impacts from the proposed Project are due to construction activities being conducted outside of construction noise exempt hours. The JFP contractors have the ability to conduct construction activities, such as excavation and hauling, during non-exempt hours (SEIS/EIR, 2012), however mitigation measures require a noise monitoring program, and require the contractor to stay within the city of Folsom's non-exempt noise thresholds.

Implementation of mitigation measures would reduce potential noise impacts to less-than significant levels.

Potential vibration impacts were analyzed in the SEIS/EIR (2012) and determined to be less-than-significant. The new blasting time would not change potential vibration impacts, and therefore, potential vibration impacts resulting from evening blasting have not been analyzed further.

Conclusion

This analysis concludes the activities associated with the proposed additional blasting time would remain consistent with the impacts analyzed in the SEIS/EIR (2012). The proposed Project will remain compliant with Federal, State, and local significance thresholds for impacts related to recreation, traffic and noise.

Based on the above analysis, the proposed construction activities and potential resulting impacts are considered less-than-significant with implementation of previously approved mitigation measures SEIS/EIR (2012).

References

1. EIS/EIR (2007). Folsom Dam Safety and Flood Damage Reduction. Final Environmental Impact Statement/Environmental Impact Report. March 2007.

2. CEQA. California Environmental Quality Act. CEQA Statute and Guidelines. January 1, 2013.

3. SEIS/EIR (2012). Folsom Dam Modification Project Approach Channel. Final Supplemental Environmental Impact Statement/Environmental Impact Report. December 2012.

4. PACR (2007). American River Watershed Project, Post Authorization Change Report. Folsom Dam Modification and Folsom Dam Raise Projects. March 2007.

5. WRDA (2007). Water Resources Development Act. Website accessed on March 18, 2014. http://www.gpo.gov/fdsys/pkg/PLAW-110publ114/pdf/PLAW-110publ114.pdf

6. SEA/EIR (2012). Folsom Dam Safety and Flood Damage Reduction Prison Staging Area and Stilling Basin Drain. Final Supplemental Environmental Assessment/Environmental Impact Report. September 2012.

7. City of Folsom personnel. 2014. City of Folsom personnel coordination with DWR via email to provide off peak hour hours for traffic. February 20, 2014.

8. City of Folsom Municipal Code. City of Folsom Municipal Code and City Charter. Title 8, Chapter 8.42 Noise Control. Section 8.40.040 Exterior Noise Standards. Website accessed on March 18, 2014. http://www.codepublishing.com/CA/Folsom/.

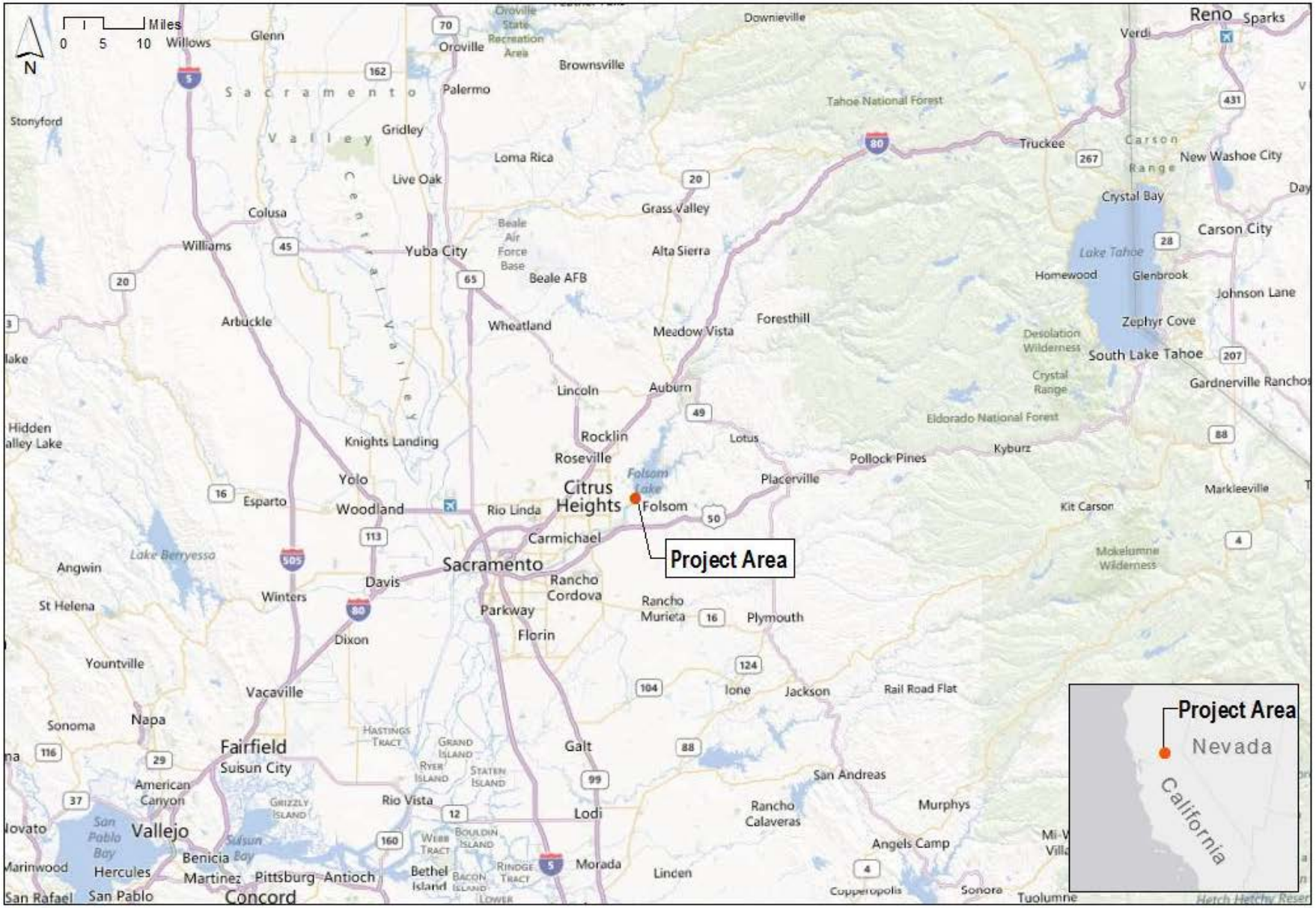
9. CDCR, 2013. California Department of Corrections and Rehabilitation. Draft Environmental Impact Report. Level II Infill Correctional Facilities Project. June 2013.

Blank Page Left Intentionally

FIGURES

Blank Page Left Intentionally

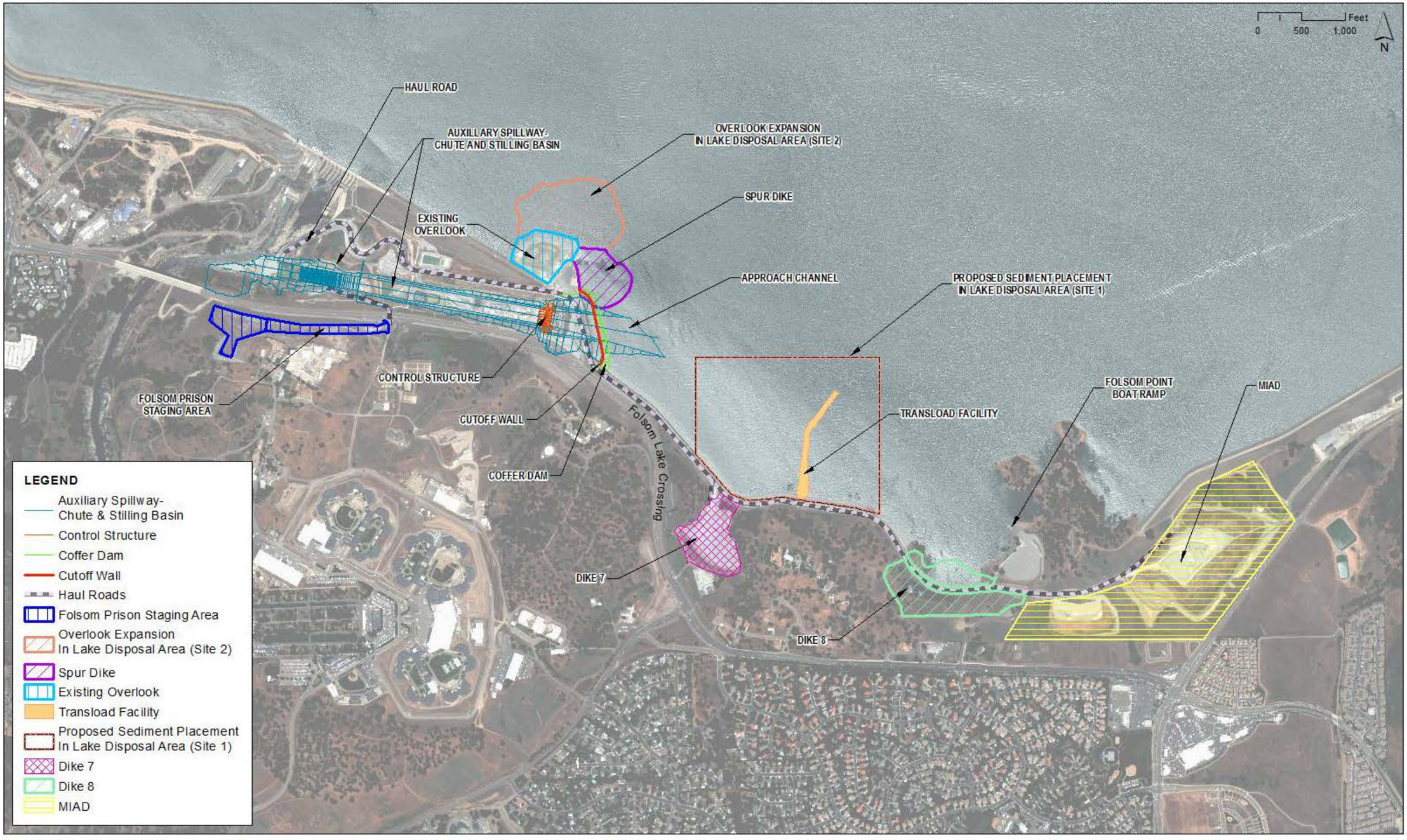
Aerial View of Project Area and Folsom Dam



US Army Corps of Engineers
Sacramento District

ES 1 - Project Vicinity Map

Folsom Dam Modification Project, Approach Channel SEIS/ EIR
December 2012



US Army Corps of Engineers
Sacramento District

ES - 2 Project Area Map

**Folsom Dam Modification Project,
Approach Channel SEIS/ EIR
December 2012**

ATTACHMENTS

Blank Page Left Intentionally

ATTACHMENT 1

Blast Notice and Detour Example

Blank Page Left Intentionally

Folsom Lake Crossing closures during blasting

- Folsom Lake Crossing will be closed for up to one hour weekdays beginning Oct. 24 for blasting work to excavate portions of the new Folsom Dam auxiliary spillway.

- Closures are scheduled each weekday from 1:30 p.m. to 2:30 p.m., and are expected to last 20 working days. No blasting will occur on weekends or holidays. During blasting, traffic on Folsom Lake Crossing will be restricted between Folsom-Auburn Road and East Natoma Street. Detour signs will be posted providing alternate routes. The Folsom Lake Crossing pedestrian and bicycle path will be closed from 12:30 p.m. to 2:30 p.m. during blasting.

- A map of the blasting area and closure detours is on the back of this notice. Similar closures occurred in 2011 and 2009 as part of previous phases of the project.

- The U.S. Army Corps of Engineers Sacramento District will hold a public meeting Oct. 23 from 6 p.m. to 7 p.m. at the Corps' Folsom Resident Office to further explain the project and blasting closures.

- The Folsom Dam auxiliary spillway project is a $900-million cooperative effort between the Corps, U.S. Bureau of Reclamation, Central Valley Flood Protection Board, California Department of Water Resources and the Sacramento Area Flood Control Agency to improve the safety of Folsom Dam and reduce flood risk for the Sacramento area.

PUBLIC MEETING

Wednesday, Oct. 23 - 6 p.m. to 7 p.m.
Folsom Resident Office
598 E. Natoma Street
Folsom, CA 95630

U.S. Army Corps of Engineers
Sacramento District

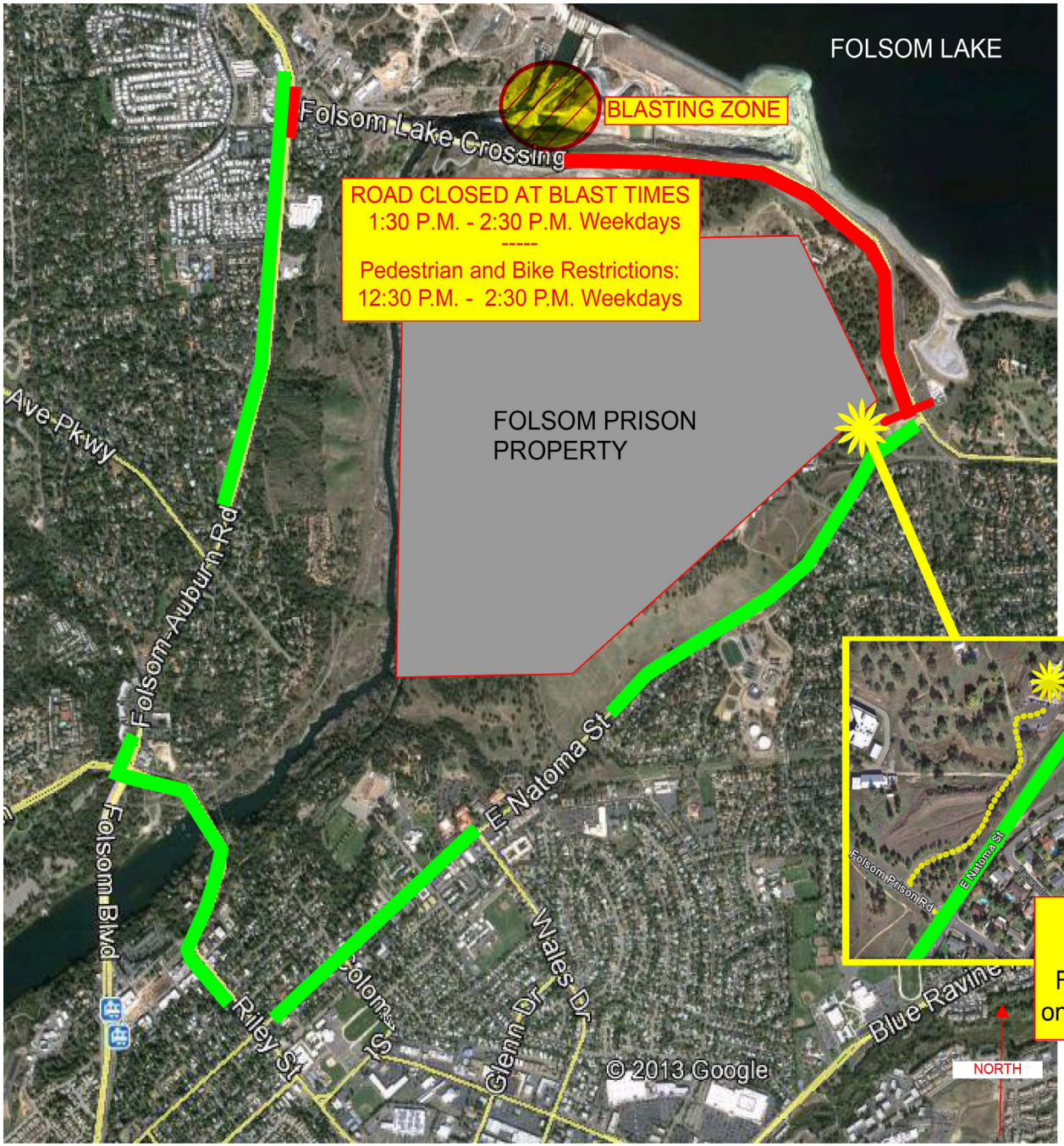
U.S. Department of the Interior
Bureau of Reclamation

Department of Water Resources
State of California

Central Valley Flood Protection Board
Public Safety and Flood Management
State of California

SAFCA
Sacramento Area Flood Control Agency

For more information, please contact:
U.S. Army Corps of Engineers Sacramento District
Public Affairs Office
916-557-5100
spk-pao@usace.army.mil



FOLSOM DAM BLASTING
ROAD CLOSURE ROUTES

FOLLOW ALL DETOUR SIGNS AND OBEY FLAGGERS INSTRUCTIONS

WESTBOUND TRAFFIC:

1. AT INTERSECTION OF EAST NATOMA AND FOLSOM LAKE CROSSING, TURN LEFT ON EAST NATOMA TOWARDS RILEY STREET.

2. TURN RIGHT ON RILEY THROUGH DOWNTON FOLSOM TO FOLSOM AUBURN ROAD.

3. TURN RIGHT ON FOLSOM AUBURN ROAD.

EASTBOUND TRAFFIC:

1. TAKE RILEY STREET THROUGH DOWNTOWN FOLSOM.

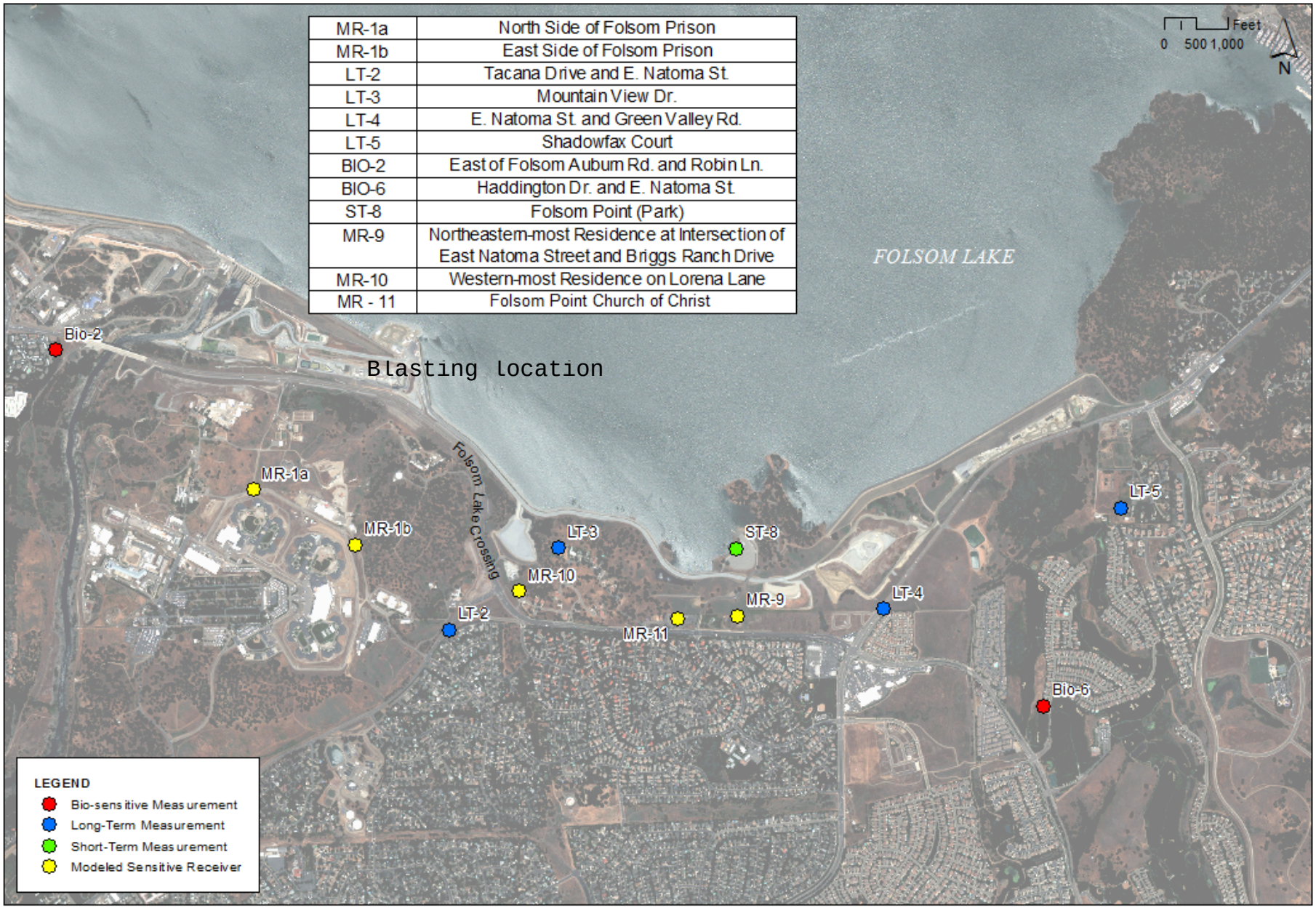
2. TURN LEFT ON EAST NATOMA STREET TOWARDS NATOMA STREET.

PUBLIC MEETING
From Natoma St., turn onto Folsom Prison Rd., then right onto private drive towards office

ATTACHMENT 2

Sensitive Receptors Map

Blank Page Left Intentionally



US Army Corps of Engineers
Sacramento District

Plate 6 - Sensitive Noise Receptors

Folsom Dam Modification Project, Approach Channel SEIS/ EIR
December 2012

Blank Page Left Intentionally

ATTACHMENT 3

Folsom Dam Modification Project

Approach Channel

SEIS/EIR 2012

Folsom Dam Safety Flood Damage Reduction Project

SEA/EIR 2012

Mitigation Monitoring and Reporting Plans

Blank Page Left Intentionally

MITIGATION, MONITORING, AND REPORTING PLAN

FOLSOM DAM MODIFICATIONS PROJECT – APPROACH CHANNEL

SACRAMENTO COUNTY, CALIFORNIA

This mitigation monitoring or reporting plan (MMRP) is designed to fulfill Section 21081.6 (a) of the California Public Resources Code (CEQA). Section 21081.6 (a) requires that public agencies adopt a reporting or monitoring program whenever a project or program is approved that includes mitigation measures identified in an environmental document for which the agency makes a finding pursuant to CEQA Section 21081 (a) (1). The mitigation measures and strategies described below and in the attached table are to be used to avoid, minimize, or reduce any potentially significant environmental impacts.

The MMRP table includes the following:

- Section and Impacts – identifies the issue area section of the Supplemental Environmental Impact Statement/Environmental Impact Report (SEIS/EIR) and corresponding impact.
- Mitigation Measures – lists the adopted mitigation measures from the SEIS/EIR.
- Implementation Timing – identifies the timing of implementation of the action described in the mitigation measures.
- Responsible for Implementation – identifies the agency/party responsible for implementing the actions described in the mitigation measures.
- Responsible for Monitoring /Reporting Action– identifies the agency/party responsible for monitoring implementation of the actions described in the mitigation measures. Verification will be carried-out during the project and a MMRP completion report will be submitted to the CVFPB upon completion of the project.

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
4.2.4 Air Quality 1) Construction activities will generate criteria pollutants from equipment exhaust emissions and fugitive dust emissions. 1) The unmitigated annual criteria pollutants would exceed the qualitative Sacramento Metropolitan Air Quality Management District (SMAQMD) Particulate Matter 10 (PM10) threshold and the quantitative SMAQMD Nitrogen Oxide (NOx) threshold as well as the General Conformity thresholds for PM10 and NOx. 2) Sensitive receptors within 1,000ft of the construction area could potentially be exposed to diesel particulate matter (DPM). 3) Construction workers and local sensitive receptors in the area may be exposed to airborne Naturally Occurring Asbestos (NOA) from construction activities from fugitive dust sources and trackout related to fugitive dust emissions or transportation of uncovered soils. 4) Sensitive receptors located within 1,000ft of the construction area could be exposed to offensive odors emitted from construction activities. 5) The Folsom JFP is expected to exceed the General Conformity de minimis thresholds for NOx emissions over the life of the project when mitigated.	**SMAQMD's Basic Construction Emissions Control Practices** The SMAQMD requires construction projects to implement basic construction emission control practices to control fugitive dust and diesel exhaust emissions (SMAQMD 2011). The Corps would comply with the following control measures for the project: • Water all exposed surfaces twice daily. Exposed surfaces include but are not limited to: soil piles, graded areas, unpaved parking areas, staging areas, and access roads. • Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would travel along freeways or major roadways should be covered. • Use wet power vacuum street sweepers to remove any visible trackout mud or dirt from adjacent public roads at least once a day. Use of dry power sweeping is prohibited. • Complete all roadways, driveways, sidewalks, or parking lots to be paved as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d)(3) and	D, C	Contractor/ the Corps	CVFPB will verify that the Basic Construction Emission Control Practices are being implemented by the contractor. Basic practices include the use of higher tiered equipment beginning in 2015, BMPs, and submittal of equipment specs by the contractor to SMAQMD.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	2485]. Provide clear signage that posts this requirement for workers at the site entrances. • Maintain all construction equipment in proper working condition according to the manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated. • Interim Tier 4 and/or Final Tier 4 off-road equipment would be used beginning in year 2015. • In addition to using Tier 3 and Tier 4 off-road equipment, contractors would report their equipment specifications to the SMAQMD and the Corps to ensure the mitigation is implemented. **<u>Construction Area Particulate Matter Mitigation Measures</u>** If the project's construction contractor determines that the construction activities would actively disturb more than 15 acres per day, then the contractor would be required to conduct PM10 and PM2.5 dust modeling. If that modeling shows violations of SMAQMD's PM10 substantial CAAQS significance thresholds of the PM2.5 CAAQS thresholds, then the contractor would be required to implement sufficient mitigation to eliminate any significant PM10 or PM2.5 impacts. **<u>Fugitive Dust Emission Mitigation Measures</u>** Fugitive dust mitigation would require the use of adequate measures during each construction activity and would include frequent water applications or application of soil additives, control of vehicle access, and vehicle speed restrictions. The Corps would implement the dust mitigation	D,C C	Contractor/ the Corps	SMAQMD ensures compliance of dust modeling, and CVFPB verifies dust modeling has been completed and impacts for emissions exceeding significance thresholds are mitigated for. CVFPB verifies fugitive dust emission

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	measures listed below. A geologist would monitor the project area for the presence of NOA during all construction activities. All grading / excavation projects at Folsom Dam are required by SMAQMD to produce an Asbestos Dust Mitigation Plan and fee payment to be submitted to the District 90 days prior to commencement of grading and/or other soil impacting activities. The Corps would comply with the CARB's Section 93105, 2002-07-09 Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations (CARB 2008). The Corps would additionally ensure implementation of the fugitive dust mitigation measures below, which are similar to those required under an Asbestos Dust Control Plan. • Limit vehicle speeds on unpaved roads to 15 miles per hour, and • Water at least every two hours of active construction activities or sufficiently often to keep the area adequately wetted. • Remove any visible track-out from a paved public road at any location where vehicles exit the work site: this removal effort shall be accomplished using wet sweeping of a HEPA filter-equipped vacuum device daily. • Install one or more of the following track-out prevention measures: o A gravel pad designed using good engineering practices to clean the tires of exiting vehicles.	D, C		mitigation measures are implemented. Measures include verifying that a geologist is on-site to monitor for the presence of NOA during construction activities. CVFPB verifies Asbestos dust mitigation plan and fee have been paid to SMAQMD. CVFPB verifies that compliance with CARB's Section 93105, 2002-07-09 asbestos ATCM for Grading, Quarrying, and Surface mining Operations requirements are being met.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	o A tire shaker o A wheel wash system o Pavement extending for not less than 50 feet from the intersection with the paved public road, or o Any other measure(s) as effective as the measures listed above. • Pre-wet the ground to the depth of anticipated cuts, and • Suspend any excavation operations when wind speeds are high enough to result in dust emissions across the property line, despite the application of dust mitigation measures. • To mitigate stockpile handling and stockpile wind erosion fugitive dust emissions, active storage pile would be kept adequately wetted using wet suppression controls. • To mitigate fugitive dust emissions from storage piles that would remain inactive for more than seven days, the Corps would ensure implementation of one or more of the following measures: o Wet suppression controls o Establishment and maintenance of surface crusting sufficient to satisfy the surface crusting test identified in the Asbestos ATCM			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	o Apply chemical dust suppressants or chemical stabilizers, o Cover with tarp(s) or vegetative cover, and/or o Install wind barriers across open areas. o Install wind barrier of 50 percent porosity around three sides of storage piles, and/or o Any other measure(s) as effective as the measures listed above. • To mitigate fugitive dust emissions from in-dry blasting operations, water would be applied every 4 hours within 100 feet of the demolition area. • To mitigate fugitive dust emissions from the rock crushing facility, wet suppression controls would be implemented. • To mitigate fugitive dust emissions from the concrete batch plant operations, one or more of the following measures would be implemented: o Apply water sprays, o Set up enclosures, hoods, curtains, shrouds, movable and telescoping chutes, and/or			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	o Install a central dust collection system. o To mitigate staging area or haul road emissions, the Corps would upon completion of the project, accomplish post-construction stabilization of disturbed surfaces by using one or more of the following measures: o Establishing a vegetative cover, o Placing at least 12 inches of non-asbestos-containing material, o Paving, and/or o Implementing any other measure deemed sufficient to prevent wind speeds of 10 miles per hour or greater from causing visible dust emissions. **<u>Exhaust Emission Mitigation Measures</u>** Cleaner Off-Road Equipment The project will incorporate the Los Angeles County Metropolitan Transportation Authority (LACMTA) Green Construction Policy (LACMTA 2011) requirements for the on-site construction off-road equipment. The Corps will use Tier 3 off-road equipment for the first two years of construction (2013-2014), and use interim Tier 4 off-road equipment beginning in 2015.	C		CVFPB will verify implementation of LACTMA Green construction policy requirements including use of higher tiered equipment.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	The project will ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40% opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately. Non-compliant equipment will be documented and a summary provided to the Corps and SMAQMD monthly. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. Marine Engine Standards The USEPA adopted Tier 3 and Tier 4 standards for newly-built marine engines in 2008. The Tier 3 standards reflect the application of technologies to reduce engine PM and NO_x emission rates. Tier 4 standards reflect application of high-efficiency catalytic after-treatment technology enabled by the availability of ultra-low sulfur diesel (ULSD). These Tier 4 standards would be phased in over time for marine engines beginning in 2014 (USEPA 2008). The Corps will use Tier 2 and 3 marine engines standards to reduce marine exhaust emissions. Due to uncertainty as to the availability of Tier 4 marine engines within the required project timeline, this mitigation measure does not require the use of Tier 4 marine engines. However, should they become available during the appropriate construction periods, use of these engines would further lower project emissions.	C C		CVFPB will verify non-compliant equipment list and monthly summary has been submitted to SMAQMD and the Corps. CVFPB will verify tier level of equipment.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	Haul Truck Controls MY 2010 or newer haul trucks will be used for the duration of the project. Use of these trucks will provide the best available emission controls for NOx and PM emissions. Use of Electrical Equipment Construction equipment powered by electricity, rather than diesel fuel, eliminates criteria pollutant emissions from diesel combustion. Electrification would result in a small amount of indirect CO_2 emissions due to the operation of the electric grid. Various types of construction equipment may feasibly be run on electricity. The Corps will electrify the concrete batch plant and the rock crushing facility. **NO_x Mitigation Fee** The Contractor would provide payment of the appropriate SMAQMD-required NO_x mitigation fee to offset the project's NO_x emissions when they exceed SMAQMD's threshold of 85 lbs/day. Estimated calculations for these mitigation fees are included under each alternative's effects analysis in Tables 24 and 29. The NOx Mitigation Fee applies to all emissions from the project: on-road (on-and off site), off-road, portable, marine and stationary equipment and vehicles. **SIP Inclusion** The Folsom JFP is expected to exceed the General Conformity de minimis threshold for NOx over the life of the project when mitigated. Therefore, the Corps must demonstrate conformity by (1) showing the project will meet all ozone SIP control requirements; and (2) meeting one of following options:	C C C D,C		CVFPB will verify MY 2010 or newer haul trucks are being used. CVFPB will verify that the concrete batch plant and rock crushing facility have been electrified. CVFPB will verify payment of NOx mitigation fee to SMAQMD. CVFPB will verify that the contractor has stayed within the estimated emissions in the 2011 SIP

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	• Demonstrate that the total direct and indirect emissions are specifically identified and accounted for in the applicable SIP. • Demonstrate that the total direct and indirect emissions would not exceed the emissions budgets specified in the applicable SIP. • Obtain a written commitment from the State to revise the SIP to include the emissions from the action. • Fully offset the total direct and indirect emissions by reducing emissions of the same pollutant or precursor in the same non-attainment or maintenance area. The option applicable to this project is to obtain a written commitment from the State Governor or the Governor's designee for SIP actions, as described in 40 CFR §93.158(a)(5)(i)(B), to revise the SIP to achieve the needed emission reductions prior to the time emissions from the Federal action would occur, such that total direct and indirect emissions from the action do not exceed the 2011 SIP emissions budgets. An analysis of the project's estimated emissions was conducted by SMAQMD, in coordination with CARB and USEPA. This analysis indicated that the project's emissions could be included in the 2011 SIP emissions budget. SMAQMD prepared a conformity analysis which is included with this SEIS/EIR as Appendix B. In order to comply with SMAQMD's analysis, the Corps has committed to use the following mitigation measures to reduce the total project NOx, PM10, and PM2.5 emissions:			emissions budget and implement required Air Quality mitigation measures stated within Section 4.2.7 (Air Quality mitigation measures) of the Final SEIS/EIR.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	• Off-road construction equipment complying with the LACMTA Green Construction Policy. Use Tier 3 off-road equipment for first two years of construction (2013-2014) and Tier 4 off-road equipment beginning 2015. • Marine engines complying with USEPA Tier 2 and Tier 3 engine standards. Use Tier 2 marine engines for the first two years of construction (2013-2014) and Tier 3 marine engines beginning 2015. • Use of model year 2010 or newer haul trucks beginning in 2013. • Electrification of concrete batch plant and rock crushing plant. • Fugitive dust controls which include watering controls on blasting operations, unpaved roads, excavation, wet suppression on stockpiles, and speed control. • Ensure that air pollution specifications are incorporated into all construction contracts. Those specifications will require that contractors limit annual emission to levels that do not exceed the annual estimates shown in Table 23 (for Alternative 2) or Table 28 (for Alternative 3).			
4.3.4 Climate Change The project would emit GHGs from construction activities due to fuel combustion from onsite construction vehicles, worker vehicles for workers commuting to and from the project, and indirect emissions from the electricity used to	Implementations of the mitigation discussed in the air quality analysis (Section 4.2.7), including the use of the LACMTA Green Construction Policy requirements for the on-site construction off-road equipment would further reduce	C	Contractor/ the Corps	CVFPB will verify LACTMA Green Construction Policy

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
operate the rock crusher and concrete batch plant.	the GHG emissions associated with this project (LACMTA 2011). In addition, SMAQMD recommends the following mitigation measures for reducing GHG emissions from construction projects. The use of electric equipment is already listed above and will reduce direct GHG emissions from fuel-based equipment. The Corps will implement the following mitigation measures: • Improve fuel efficiency from construction equipment: o Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to no more than 3 minutes (5 minute limit is required by the state airborne toxics control measure [Title 13, sections 2449(d)(3) and 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site. The following mitigation measures are relevant to impacts, but will likely not be required by the Corps. However the selected contractor will be encouraged to implement these measures where practicable: o Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated. o Train equipment operators in proper use of equipment.	C		requirements, air quality mitigation measures, electrification of concrete batch plant & rock plug, and practicable mitigation measures are being implemented. CVFPB will verify if practicable GHG reducing measures are implemented.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	o Use the proper equipment size for the job. o Use equipment with new technologies (repowered engines, electric drive trains). • Perform on-site material hauling with trucks equipped with on-road engines (if determined to be less emissive than the off-road engines). • Use a CARB approved low carbon fuel for construction equipment. (NO_x emissions from the use of low carbon fuel must be reviewed and increases mitigated.) • Encourage and provide carpools, shuttle vans, transit passes and/or secure bicycle parking for construction worker commutes. • Recycle or salvage non-hazardous construction and demolition debris (goal of at least 75% by weight). • Use locally sourced or recycled materials for construction materials (goal of at least 20% based on costs for building materials, and based on volume for roadway, parking lot, sidewalk and curb materials). Wood products utilized should be certified through a sustainable forestry program. • Produce concrete on-site if determined to be less emissive than transporting ready mix. • Use SmartWay certified trucks for deliveries and equipment transport. • Develop a plan to efficiently use water for adequate dust control.			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
4.4 Water Quality 1) Long term changes to the rate and amount of surface runoff in the form of hydromodification could potentially affect local drainages. **Construction activities** 2) Project activities may disturb or mobilize sediments which have the potential to affect total suspended solids, pH, turbidity, and dissolved oxygen. Re-suspension of sediments may affect the concentrations of metals in the water column releasing metals that are present in lake sediments from both natural and human sources. **Construction activities in the dry** 3) Project activities (construction and excavation) occurring in the dry would have short term impacts on water quality from ground disturbing activities. Exposed soil could potentially erode as a result of significant runoff events causing turbidity in local waterways. In addition, debris, inadvertent spills of fuels, oils or concrete mix materials from construction equipment, work areas, staging areas, or the concrete batch plant could be a source of contamination into adjacent waterways. **Construction activities in the wet**	Implementation of the below mitigation measures by the contractor would reduce the significant impacts on water quality, and jurisdictional waters to a less than significant level. Compliance and evaluation as a part of the provisions stated for the various permits discussed below would serve to minimize and mitigate potential hydrologic impacts due to construction activities. The contractor would be required to obtain an NPDES Construction Storm Water Permit from the CVRWQCB, because the project would disturb more than one acre of land. Across the entire construction site, debris, soil, or oil and fuel spills could temporarily adversely affect the water quality of Folsom Lake and the Lower American River (including Lake Natoma) downstream. The construction storm water permit pertains to the prevention of increased turbidity of adjacent waterways as resulting from site erosion and sedimentation, as well as debris, soil, fuel, and oil spill prevention. The contractor would be required to design and implement a SWPPP prior to initiating construction activities, and to implement standard BMPs (see "Mitigation" below). There is also a potential for fugitive dust and construction runoff to enter waterways due to soil excavation, equipment use, cutoff wall construction, and movement of trucks in the project area and along the haul routes. However, frequent watering of haul routes, proper coverage and control of material stock piles (e.g. dirt, aggregate, etc.), and the installation of K-rails to prevent any construction related materials or vehicles from entering the waterways, would help to prevent such pollution impacts. All these measures would be required of the contractor. The NPDES Industrial Storm Water Permit requires that a	D,C D,C	Contractor/ the Corps	CVFPB will verify that the contractor has obtained permits and is implementing required BMPs, SWPPP and mitigation measures associated with these 3 NPDES permits: 1) construction storm water permit, 2) Industrial storm water permit, and the 3) limited threat discharge permit. CVRWQCB will ensure compliance with Section 401 permit. CVFPB will verify the Corps has obtained the Section 401 permit and is complying with

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
4) Project activities occurring in the wet (dredging, construction, disposal, and blasting) could have short term impacts on water quality. Potential dredging of material for the haul road embankment, transload facility ramp, and spur dike have the potential to cause turbidity in Folsom Lake, affecting water quality and the potential for bioaccumulation of mercury. **Construction of project features** 5) Construction and removal of the transload facility, haul road embankment, and the construction of the spur dike would require materials to be placed directly into the water. 6) Construction of the transload facility, haul road embankment and the spur dike would raise local bed elevation by as much as 60 ft causing a change in the relative abundance of habitat types available at various reservoir levels affecting local benthic organisms. **Disposal** 7) Approximately 400,000 cy of material from the approach channel would be removed during in-the-wet conditions. The in-the-wet excavation activities (dredging and blasting) have the potential to create substantial turbidity, thus affecting water temperature and dissolved oxygen concentrations. These activities also have the potential to mobilize existing contaminants such as mercury with potential for the bioaccumulation of mercury in the aquatic environment.	SWPPP is designed and implemented, and is specific to the concrete batch plant operation. Pertaining to the concrete batch plant site, debris, oil and fuel, or concrete mix material spills could temporarily adversely affect the water quality of Folsom Lake and the Lower American River (including Lake Natoma) downstream. The industrial storm water permit addresses potential pollution inputs due to storm water runoff that are associated with all activities at the concrete batch plant. The contractor would be required to cover and control all material stock piles in order to prevent suspension of dust or concrete mix material due to wind. The contractor would also be required to coordinate the handling of all waste waters generated from concrete production with the CVRWQCB. In accordance with the NPDES Limited Threat Discharge Permit, groundwater must be tested for priority pollutants prior to dewatering activity in order to determine if any treatment would be required before discharging into Folsom Reservoir. Once cleared for dewatering, periodic, routine, and standardized sampling of the groundwater must be conducted before discharge into Folsom Reservoir occurs. This routine sampling ensures that the groundwater either meets or exceeds the water quality standards listed for beneficial uses of Folsom Reservoir and the Lower American River. Groundwater would be pumped into a holding tank where it is to be tested to meet water quality standards before being surface-discharged into Folsom Reservoir. All mandatory groundwater samples analyzed, both prior to commencement of dewatering activity and during ongoing dewatering operations, must be conducted by a State Certified Lab and meet the Reporting Minimum Levels. • An NPDES permit would be obtained prior to construction activities, commencing by filing a Notice of Intent (NOI) with the CVRWQCB and	D, C		the requirements throughout the project. CVFPB will verify dewatering permit is obtained and requirements are being met. Requirements include implementing a water quality monitoring plan by a qualified water specialist during dewatering activities.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
8) Dredged and excavated material that is not used for spur dike construction would be disposed at one of the proposed disposal sites, including potentially the in-reservoir disposal site. 9) Benthic organisms would be smothered by the discharge of dredged material at the in-reservoir disposal site. 10) Disposal material mechanically dredged, barged, and then placed in water have the potential to create turbidity. 11) Disposal material may be transported via barge and then trucked to upland placement sites creating the risk for potential turbidity and sediment releases into the reservoir. 12) Excavated material may be disposed of at on land disposal sites. **Impacts to the waters of the United States (U.S.)** 13) Disposal of material into jurisdictional water will have permanent effects of 9 acres at the spur dike, and 2.5 acres of transitional wetlands at Dike 8. Disposal of material into jurisdictional waters will have temporary effects on 2.5 acres at the transload facility, 1 acre at the haul road embankment, and 85 acres of open waters into Folsom lake.	preparing a SWPPP. As required under the General Permit, the SWPPP would identify implementation measures necessary to mitigate potential construction-related water quality concerns. These measures would include BMPs and other standard pollution prevention actions such as erosion and sediment control measures, proper control of non-stormwater discharges, and hazardous spill prevention and response. The SWPPP would also include requirements for BMP inspections, monitoring, and maintenance. The NOI indicates the intent to comply with the General Permit which outlines conditions to minimize sediment and pollutant loading. The following items are examples of BMPs that would be implemented during construction: o Erosion control BMPs such as use of mulches or hydro seeding to prevent detachment of soil following guidance presented in the California BMP Handbooks – Construction (CASQA 2003). A detailed site map would be included in the SWPPP outlining specific areas where soil disturbance may occur, and drainage patterns associated with excavation and grading activities. In addition, the SWPPP would provide plans and details for the BMPs to be implemented prior, during and after construction to prevent erosion of exposed soils and to treat sediments before they are transported offsite. o Sediment control BMPs such as silt fencing or detention basins that trap soil			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	particles. o Construction staging areas designed so that stormwater runoff during construction would be collected and treated in a BMP such as a detention basin. o Management of hazardous material and wastes to prevent spills. o Vehicle and equipment fueling BMPs so these activities occur only in designated staging areas with appropriate spill controls. o Maintenance checks of equipment and vehicles to prevent spills or leaks of liquids of any kind. • Measures to control on-site spills would be included in the SWPPP. In addition to the spill prevention and control BMPs presented above, the SWPPP would contain a visual monitoring program and a chemical monitoring program for pollutants that are non-visible to be implemented if there is a failure of BMPs. Proper storage and handling of materials and equipment servicing would only occur in designated areas. If a spill occurs, appropriate steps would be taken to inform local regulatory agencies as well as implementation of a spill response program as outlined in the SWPPP. The following BMPs would be implemented as part of the SWPPP and spill response program: o All barge and boat maintenance activities would be conducted outside			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	the reservoir, with appropriate hazardous material containment measures in place. o All hydraulic dredge hoses and lines would be regularly inspected for cracks and leaks and appropriately maintained to prevent contamination. o Drilling activities should not use ammonium nitrate fuel oil (ANFO) as it would dissolve in water and release ammonia and nitrates. o Contractors would submit plans for containment measures for drilling fluids caused by hose breaks and other sources, shut down and clean up of spills. o All terrestrial based construction equipment would be refueled and oiled at least one hundred feet from the reservoir high water mark with appropriate hazardous material containment measures in place. o All barges and boats would be clean before they are launched. o Refueling would be conducted outside the reservoir when practicable, with appropriate hazardous material containment measures in place. If on-shore refueling is not feasible, over-water refueling activities would include the following fuel and oil spill avoidance and minimization measures:			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	• A dedicated refueling area would be created. The refueling area would be located to minimize exposure to wind and waves, and would be equipped at all times with spill containment equipment, such as environmentally inert oil sorbent spill booms, absorbent pads, and appropriate waste disposal vessels to contain at least 100 gallons of fuel or oil. • At least two appropriate fire extinguishers would be easily accessible and prominently displayed on site. • Appropriate communication devices would be available at all times in case of emergencies. • Fuel would be stored in a double walled tank or other appropriate secondary containment structures. • Fueling would take place only under calm wind and wave conditions such that spilled fuel would be visible and recoverable. • If refueling activities would take place after sundown, adequate light would be used so that any spill would be easily visible. • If more than 55 gallons of fuels are stored onsite, the contractor would file a Hazardous Materials Business Plan with the county. • The refueling station would store less than 1.320 gallons of fuel above ground at any time. If storage of 11,320 gallons or more of fuels is required, the contractor would file a Spill Prevention, Control and Countermeasure (SPCC) Plan with the Regional Board.			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	• During refueling operations, fuel bibs, fuel collars, fuel vent collection vessels, and/other appropriate spill minimization equipment would be used to prevent overflow fuel from reaching the water. • In the event of a spill into the water, environmentally inert sorbent booms and absorbent material would be deployed by trained personnel to contain and clean up the spill. The spill would not be treated by the use of any agent which would disperse, emulsify or coagulate the spilled material. • The discharge of any quantity of oil that violates state water quality standards, causes a film or sheen on the water surface, or leaves sludge or emulsion beneath surface would be reported immediately 24 hours a day to the U.S. Coast Guards National Response Center (NRC) at 1-800-424-8802 or 1-202-426-2675 and the USACE and the USBR. • The Corps would obtain a Section 401 permit from the CVRWQCB and comply with all requirements of the permit to ensure compliance with Section 401 of the CWA. • If water quality parameters for mercury exceed 0.05 mg/L (and as specified in the 401 Certification), additional response actions would be implemented to reduce parameters to threshold. • Guidance would be obtained from the CVRWQCB for testing earthen materials before constructing or adjacent to the reservoir to ensure any potentially associated pollutants, particularly concrete or concrete runoff, would not be			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	introduced into the reservoir that would violate water quality standards. Fill material would be placed in the reservoir during periods of lower water elevation, when possible. BMPs, as discussed in the 401 permit and 404 (b) (1) analyses (Appendix D), would be adhered to in order to minimize water quality impacts during the placement of fill in the reservoir. The Corps would obtain a dewatering permit from CVRWQCB and would implement applicable water quality monitoring by a qualified water quality specialist during dewatering activities. • Mitigation measures to minimize water quality impacts due to construction within and along the reservoir shoreline would be developed in consultation with CVRWQCB staff. These measures may include placement of a silt curtain surrounding the construction zone or construction of cofferdams. If appropriate, routine water samples would be collected at the start and completion of each dredging and/or blasting period. Water quality monitoring by a qualified water quality specialist would be performed outside the silt curtain to verify that they are effective at keeping turbidity, sediment, and associated pollutants from dispersing into the Lake. Water quality monitoring would involve grab sampling by boat during operations, and could also include deployment of continuous monitoring devices that log turbidity, conductivity, and pH. Those details would be worked out with the CVRWQCB through development of the SWPPP and monitoring plan. • A water quality monitoring plan would be	D D, C		CVFPB will verify that a water quality monitoring plan has been reviewed by CVRWQCB prior to in reservoir construction work. CVFPB will verify the Corps has assisted USBR and initiated mitigation in 2013 for the 10 acres of riparian

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	developed for review by the CVRWQCB prior to any in reservoir construction work. The plan would address sampling requirements during dredging, blasting, excavation, and placement of fill within the reservoir. If turbidity readings exceed action level values established by the CVRWQCB, corrective actions would be implemented in accordance with the plan. • The Corps would assist USBR with their mitigation requirements to ensure the 10 acres of riparian wetlands would be initiated by 2013. The Corps would also assist USBR to create up to an additional 5 acres on riparian wetlands at Mississippi Bar to compensate for temporal losses. • To mitigate for the 2.5 acres of transitional wetlands associated with fill placement at Dike 8, the Corps would purchase 2.5 acres of seasonal wetlands at a Corps approved mitigation bank. • In the event that mitigation is not initiated within this two-year period, the mitigation ratios would increase by 0.5:1 if initiated within two to five years, and by 1:1 if mitigation is initiated more than five years after the permanent or temporary impacts occur Following development of sentinel species and trigger levels, baseline levels in sentinel species would be monitored so that changes in response to construction activities can be detected. It is important to note that the fish tissue samples in Folsom Lake indicate that these species are already impacted by mercury, so it would be expected that many sentinel species would exceed desirable levels of mercury for a healthy ecosystem under baseline conditions.	C D,C		wetlands. CVFPB will verify purchase of 2.5 seasonal wetlands at an approved Corps mitigation bank. CVFPB will verify if contractor has been using the practicable measures outlined in Section 4.4.6 of the Final SEIS/EIR.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	The following mitigation measures are relevant to impacts, but will likely not be required by the Corps. However the selected contractor will be encouraged to implement these measures where practicable: • During the process of dredging material to construct the approach channel for the auxiliary spillway, sediment containing mercury would be controlled using a variety of methods, including, but not limited to, silt curtains, silt fences, as well as other BMPs and construction methods approved by the CVRWQCB. • Details on the proper use of silt curtains to protect water quality are available in guidance developed by the Corps Engineer Research and Development Center (Corps 2005). The following BMPs from this guidance should be considered during the use of silt curtains to ensure compliance with turbidity guidelines as established by the CVRWQCB: o Silt curtains should be selected, designed, and installed to meet permit and water quality certification requirements where applicable. o Silt curtains should be designed to pass water either under or through their walls. Curtains are designed to confine suspended sediment and to allow it to settle or be filtered, not to impede the movement of water. o In applications where the curtain will be extended to the bottom of the waterway in moving water conditions, a heavy woven permeable filter fabric should be designed into the curtain to relieve			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	pressure on the curtain wall. o In all but the slowest current flows, curtains will "billow out" in the downstream direction, allowing water to pass beneath the curtain, thereby reducing the effective skirt depth. o Extra length (up to 10 to 20 percent) and depth (slack) of curtains should be included in designs to allow for exchanges of water within the curtain. o Special designs may be required for applications of curtains at depths greater than 10 to15 feet or with currents exceeding 1 ½ knots. At greater depths, loads or pressures on curtains and mooring systems become excessive and could result in failure of standard construction materials. o Minimize the number of joints in the curtain; a minimum continuous span of 15 m (50 feet) between joints is a "good rule of thumb." o Curtains of a bright color (yellow or "international" orange) are recommended to enhance visibility for boaters. o Anchor lines should be attached to the flotation device, not to the bottom of the curtain. o Care should be taken during removal of silt curtains to avoid or minimize			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	resuspension of settled solids. o Removal of settled solids trapped by the silt curtain is optional and should only be considered if the resulting bottom contour elevation is significantly altered. o Designs should conform to relevant contract specifications and manufacturer recommendations and guidelines for installation and safety measures. • In addition to the above BMPs regarding silt curtains, the following could be implemented by the contractor, as needed, to further reduce turbidity: o When dredging contaminated sediment, installing silt curtains within continuous or intermittent sheet pile walls to provide anchoring points has proven to be more effective than using silt curtains alone. o Aquatic habitat can be protected with deflection curtains provided they are properly designed and deployed, taking into consideration site-specific conditions. Regular inspections would be performed to verify the integrity and proper installation of the silt curtains. In addition to the above-listed mitigation measures, an Adaptive Management Plan will be developed as a mitigation control measure to assist with the management of construction control BMPs and monitor the effects onto the aquatic environment. It is difficult to predict the precise effects construction activities would have on turbidity,			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	sedimentation and on the increase on total mercury and methylation of mercury. Therefore, monitoring and adaptive management of construction controls are critical components of protecting against significant effects to bioaccumulation. The Adaptive Management Plan would consist of monitoring the environment outside of the construction zones as specified in the Section 401 Water Quality Permit, and would specify triggers for adaptive management actions to avoid exceeding significance thresholds for turbidity and mercury.			
4.5.4 Fisheries Project construction activities that could affect fish populations include dredging of fine sediments prior to the placement of the haul road embankment, transload facility, and the spur dike, in-water disposal of construction material through hydraulic or mechanical placement, and dredging and blasting of the approach channel. The project could potentially affect aquatic life in the following ways: • Increased turbidity within the water column; • Bioaccumulation of mercury; • Blasting and acoustic (vibration and sound energy) actions • Introduction of contaminants, fuel and oil spills; • Physical crushing;	The following section addresses potential BMPs and mitigation measures to reduce effects to fish populations and habitat. Additional mitigation to address turbidity, storm water runoff, fuel containment and oil spills are addressed under water quality in Section 4.4.6. • Aquatic construction equipment and boats would be decontaminated of invasive species prior to placement in Folsom Lake per approval by CDFW. Two months prior to placement of construction vessels in Folsom Lake, the contractor will coordinate with CDFW to discuss invasive species quagga and zebra mussel decontamination and inspection species. A decontamination period of up to one month may be required on vessels originating from infested water bodies. • Speeds would be limited for construction vessels (dredges, barges) to 2 knots or less when approaching or operating in dredging locations. Smaller support vessels carrying personnel and supplies would be limited to 5 knots. • The contractor's blasting plan would be	D D, C	Contractor/ the Corps	CVFPB will verify that decontamination of construction equipment and boats prior to construction has occurred in coordination with CDFW. CVFPB will verify contractor coordination and approval of blasting plan by

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
• Water temperature increase; and • Introduction of nonnative quagga or zebra mussels from marine vessels and nonnative and invasive vegetation. **Turbidity** 1) Construction activities could create turbidity which could adversely affect fish health, mortality, reproduction and habitat. 2) Dredging activities will increase turbidity and sedimentation which may negatively affect fish. 3) Construction activities have the potential to negatively influence fish due to the concentration level of sediments and duration of turbidity. 4) Persistent sedimentation and turbidity from in-water placement of fill, disposal, dredging and excavation will be high and exceed levels safe for fish health and habitat protection over the duration of in-water construction. 5) Impacts to water quality and fish or aquatic habitat due to the increase sedimentation and turbidity. 6) Incidental silt release at the bottom of the silt curtain could affect fish adjacent to the silt curtains. 7) Fish could become entrained or entrapped	coordinated and approved by the Corps to reduce adverse blast effects to aquatic organisms. • Surface fish kill would be collected to avoid bird scavenging and to conduct surface monitoring of fish. Assessment of numbers, size, and species would be conducted by a qualified fisheries specialist to provide an index of blast caused mortality. These results would be reported to CDFW within the first 24 hours after blasting. • The contractor would record maximum water pressures achieved by the blast shots by a transducer recording system to ensure compliance with blast thresholds. • Total mercury monitoring would be conducted for water and sentinel species by a qualified specialist. USFWS and regulatory agencies would be advised of levels in water and sentinel organisms. • A monitoring plan would be implemented to evaluate turbidity effects on fish within the project area. Monitor turbidity levels at limnetic, profundal and benthic zones in the project area as specified by the CVRWQCB. Turbidity levels must not increase to effect summer salmon habitat in front of Folsom Dam. Additional monitoring of turbidity levels are to be conducted in front of Folsom Dam from June through October to ensure turbidity levels does not exceed CVRWQCB thresholds. This monitoring will be conducted by the Corps. Regulatory agencies and the Corps will implement a stocking program in Folsom Lake to compensate for lost angler opportunity and fish incurring mortality from project effects. At a minimum, approximately 6,000 catchable size	C	.	the Corps has occurred. CVFPB will verify that a qualified fish specialist is conducting surface monitoring of fish kill.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
within the silt curtains. 8) Aquatic populations in Folsom reservoir can be negatively affected by increased turbidity. 9) Transportation of fill across the reservoir on barges creates risk for potential sediment releases into the reservoir. 10) Water temperature increases due to turbid water is possible inside and outside the silt curtains which may or may not negatively affect fish in the immediate area. 11) Construction activities have the potential to produce substantial turbidity and sedimentation that may violate water quality thresholds that address aquatic protection **Bioaccumulation** 1) Construction activities have the potential to increase methlymercury concentrations in aquatic organisms and Folsom reservoir fish populations which can create indirect effects on fisheries and human health. **Blasting and Acoustic Actions** 1) Underwater sound from blasting and construction activities/equipment has the potential to adversely affect fish inhabiting Folsom Lake. Acoustic noise would result from blasting, marine engines, dredge equipment	triploid rainbow trout will be purchased by the Corps and stocked in Folsom Lake. Fish restocking numbers and species composition will be subject to change to compensate for mortality and recreational fishing losses. The following mitigation measures are relevant to impacts, but will likely not be required by the Corps. However, the selected contractor will be encouraged to implement these measures where practicable: • Silt curtains should be installed at excavation, in-water disposal, dredging, blasting, and fill placement sites as a method to comply with CVRWQB Section 401 turbidity thresholds and exclude fish from the blast point. Use of this mitigation method will be decided by the contractor, but it is expected in order to achieve compliance with CVRWQCB Section 401 turbidity thresholds. • Charges should be placed in drilled holes with stemming utilizing adequate angular material to reduce energy dispersal to the environment. Use of this mitigation will be decided by the contractor. • The Blasting Plan should be designed to minimize the weight of explosive charges per delay and the number of days of explosive exposure. Use of this mitigation would be decided by the contractor. • Explosives should be subdivided using delays to reduce total pressure. Use of this mitigation measure will be decided by the contractor. Where possible use decking in drill holes to reduce total pressure. Use of this mitigation measure would be decided by the contractor • Use shaped charges for superficial charges to focus	D, C	.	CVFPB will verify if other practicable mitigation and BMPs are being implemented by the contractor to reduce effects to fish population.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
scraping sediments, airlift use, and rock placement. 2) The use of explosives can cause damage or mortality to aquatic organisms within the project area. **Introduction of contaminants, fuel, and oil spills** 1) Construction activities have a higher risk for chemical contamination of aquatic life, due to the increased period of in-the- wet or underwater excavation, blasting and dredging. **Physical Crushing** 1) Incidental physical crushing of fish could result from entrapment of fish and placement of fill material, dredging, air lift operation, and underwater blasting. **Introduction of Nonnative and Invasive Species** 1) Due to the use of aquatic construction equipment and boats, there is the potential for nonnative quagga or zebra mussels and nonnative and invasive vegetation to be introduced into Folsom Lake Reservoir.	the blast energy, reducing energy released to the aquatic environment during demolition. Use of this mitigation will be decided by the contractor. • Blasting arrays should be configured with maximum charge weights located in the middles of lesser charge weights as decided by the contractor. • Conduct continuous monitoring on sublethal and lethal blast effects on fish. Conduct adaptive management to reduce effects of blasting on fish if significance thresholds for sublethal and lethal effects established by CDFW, USFWS and the Corps are exceeded. • Bubble curtains are recommended for use during blasting and vibratory hammer use in under water construction. Bubble curtains, when effective, could reduce the velocity of sound waves and increase sound attenuation • If bubble curtains are implemented, clean air compressors would be used without oil or contaminants. • Acoustic fish scare methods are an option and may be used prior to blasting as a deterrent to fish within the blast affected area if determined to be effective. If pre-blast deterrence is used, non-detonated methods such as decompressed air are recommended; detonated blasts can cause harm to aquatic organisms are not recommended. • Install and adjust silt curtains to prevent incidental fish passage. Erect additional barriers as needed to eliminate potential fish passage during installation and adjustment of silt curtains. Use			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	effective acoustic noise where appropriate to discourage fish from the curtain area. Utilize other materials as necessary to prevent incidental fish passage. • When possible, schedule blasting during months when salmonids are using upstream tributaries (e.g. February through June for rainbow trout) and exclude blasting during summer months when some species (e.g. salmon) utilize colder water directly in front of the Folsom Dam. It is unlikely that this mitigation measure will be implemented due to project schedule constraints. • Blasting Methodology will be adapted to reduce game and native fish mortality if fish kill numbers are above an acceptable threshold established by regulatory agencies and the Corps. • Submerge the dredge cutterhead within the substrate to the maximum extent practicable when the dredge pumps are engaged, and utilize a slow rotation speed where feasible. • Utilize entrainment lessening equipment where applicable on hydraulic dredging apparatus to minimize fish kill. • Cutterheads would be no greater than 3 feet from the lakebed floor when cleaning the pipeline. Pipeline clearing will be kept to the minimum amount necessary.			
4.6.4 Aesthetics and Visual Resources Direct effects from construction activities include the temporary effect of ongoing construction activities due to:	The primary effects described above are associated with the disposal of soil. There is the potential that some of this soil	C, M	Contractor/ the Corps	CVFPB will verify that soil is being

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
1) Equipment, boats, and haul trucks operating in the area 2) Permanent effect on the change in shoreline due to construction of the approach channel and spur dike 3) Potential permanent disposal of material in the proposed disposal areas	would be used by USBR for construction of a large landside berm at the auxiliary dam, however, it is assumed that not all of the material at the disposal sites would be reused. As a result, the excess material would be recontoured and landscaped to maintain visual consistency with the surrounding hills. The contractor would revegetate the disposal areas with native grasses to provide ground cover, erosion control, and to allow it to regain some aesthetic consistency with the surrounding areas. Additionally, since the approach channel is the final phase of the overall JFP, the haul road would be removed following project construction. The area would be regraded and revegetated with native grasses to return the area to a natural state consistent with the shoreline of Folsom Lake.			used by USBR and that leftover soil has been recontoured and landscaped. Following construction, CVFPB will verify the contractor has revegetated with native grasses and the haul road has been removed.
4.7.4 Recreation 1) During construction activities, waters surrounding the spur dike, approach channel, and transload facility would be excluded from public access due to safety concerns. Direct effects include limiting recreational activities to outside the boundary. Indirect effects will occur if those recreational activities are relocated to other local recreation areas increasing the usage and wear and tear on the facilities. In addition, upon completion of the project, the waters in front of the approach channel will remain blocked off from public use for security reasons. 2) Folsom point would be temporarily closed for 1 day for 6-8 hours for the initial launch site to begin construction of the transload facility.	The following measure would be taken to keep the public informed of the project and reduce potential effects on recreational activities. • To ensure public safety, warning signs and signs restricting access would be posted before and during construction, as necessary. Public outreach will be conducted through mailings, posting signs, coordination with interested groups, and meetings, if necessary, in order to provide information regarding changes to recreational access in and around Folsom Lake. Public outreach would also explain the purpose of the safety exclusion barrier around the blast site and the effects that underwater blasting can have on people if they are in the water and in range of the blast.	D, C	Contractor/ the Corps	CVFPB will verify that safety measures are implemented. Safety measures include safety signs, public outreach and use of a safety exclusion barrier around the blast site.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
3) Excavation of the approach channel and rock plug would require use of explosives causing temporary closure of Folsom Lake Crossing and the bike trail associated with Folsom Lake Crossing Bridge. Blasting events could occur every day up to twice per day over 44 months from February 2014 to August 2017 with the potential for up to 400 blasts in-the-wet and up to 200 blasts in-the-dry. Blasting events have the potential to last up to 2 hours and would be scheduled from 1:30 p.m. to 2:30 p.m. with additional provisions for a second blast from 10:00 a.m. to 11:00 a.m. This 2 hour period would allow for 30 minutes to close Folsom Lake Crossing road, 1 hour to conduct blasting, and 30 minutes to reopen the roadway. 4) The proposed project would a draw a construction workforce creating the potential need for worker vehicle parking areas.	• At low water levels, a safety route and hazards will be marked for recreational boaters access into Folsom Point launch area as needed • Workers will use staging areas for parking.			
4.8.4 Traffic & Circulation 1) Construction activities will have temporary, direct effects on traffic and circulation in the project area by resulting in the growth of labor force accessing the site on a daily basis, and growth of truck trips due to the import of the aggregate material for the transload facility, spur dike and large deliveries. 2) Traffic effects due to blasting operations of the proposed excavation for the approach channel and rock plug will cause the temporary closure of some roads estimated from Feb 2014 –	Since there would be no significant effects on traffic and circulation, no mitigation would be required. However, the following measures would be implemented to avoid or minimize any effects, as well as ensure public safety on area roadways. • The construction contractor would be required to prepare a traffic management plan, outlining proposed routes to be approved by the appropriate agencies, and implement the plan prior to initiation of construction. High collision	D,C	Contractor/The Corps	CVFPB will verify the contractor has an approved traffic management plan prior to

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
October 2017	intersections would appropriate local entity, and implement it be identified and avoided if possible. Drivers would be informed and trained on the various types of haul routes, and areas that are more sensitive (e.g., high level of residential or education centers, or narrow roadways). The construction contractor would develop and use signs to inform the public of the haul routes, route changes, detours, and planned road closures to minimize traffic congestion and ensure public safety.	D,C	.	construction. CVFPB will verify that contractor has implemented public signs and traffic congestion is minimized.
4.9.4 Noise All Construction activities have the potential to be conducted during non-exempt hours. There are potential significant impacts if construction activities are conducted during non-exempt hours. Major noise contributing construction activities are defined as activities that generate noise levels of 35 dBA or higher any noise-sensitive receptors. The following activities are a brief description of such activities: • At Folsom State Prison (MR-1a and MR-1b), it is assumed that the prison structures would provide a minimum of 30 dBA attenuation due to the concrete walls and small, thick glass windows. It is also assumed that the exterior concrete walls surrounding the prison facility would provide an additional 5 dBA of attenuation. Taking these assumptions into account noise levels at Folsom State Prison would not be significant.	The following measures would be implemented in order to reduce noise effects from general construction activities to less than significant. Any activity that would generate noise that could not be mitigated to less than significant would be conducted only during those hours when construction noise is exempt. • Conduct the loudest construction activities during construction noise exempt hours, or as permitted by the city of Folsom. These activities include blasting, drilling, and dredging. • Establish a noise monitoring program for construction activities that may exceed noise thresholds outside of construction noise exempt hours in order to maintain compliance with exterior noise standards and permits. See Appendix G for monitoring program guidelines. • Maintain a standard 24 hour hotline for noise	D, C C		CVFPB will verify that a noise monitoring program for activities that may exceed non-exempt hour thresholds has been implemented by the contractor. CVFPB will verify

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
• At Tacana Drive and East Natoma Street (LT-2), drill and blasting and dredging rock in-the-wet, transload facility construction/removal, and Dike 7 staging area utilization activities would generate noise levels that exceed the 45 dBA L_{50} nighttime exterior noise standard if the activities would be conducted individually. The major noise contributing activities at LT-2 would be Approach Channel/Spur Dike construction activities, transload facility construction/removal activities, and utilization of the Dike 7 staging area. • At Mountain View Drive (LT-3), drill and blasting and dredging rock in-the-wet, transload facility construction/removal, and Dike 7 staging area utilization activities would generate noise levels that exceed the 45 dBA L_{50} nighttime exterior noise standard if the activities would be conducted individually. The major noise contributing activities at LT-3 would be Approach Channel/Spur Dike construction activities, transload facility construction/removal activities, utilization of the Dike 7 and Overlook staging areas, and utilization of the Dike 8 disposal area. • At East Natoma Street and Green Valley Road (LT-4), MIAD disposal and staging area utilization would generate noise levels that exceed the 45 dBA L_{50} nighttime exterior noise standard if it was utilized without any other simultaneous construction activities. The major noise contributing activities at LT-4 would be Approach Channel/Spur Dike construction activities, transload facility construction/removal	complaints. • Contractor would be responsible for maintaining equipment in best possible working condition. • Each piece of construction equipment would be fitted with efficient, well-maintained mufflers. • Schedule truck loading, unloading, and hauling operations during non-exempt construction hours as much as practicable. • Locate construction equipment as far as possible from nearby noise-sensitive receptors. In particular, locating the batch plant at the Folsom Overlook staging area would reduce noise effects on sensitive receptors during non-exempt hours. • Situate construction equipment so that natural berms or aggregate stockpiles are located in between the equipment and noise-sensitive receptors. • Enclose pumps that are not submerged and enclose above-ground conveyor systems in acoustically treated enclosures. • Line or cover hoppers, conveyor transfer points, storage bins and chutes with sound-deadening material. • Acoustically attenuating shielding (barriers) and shrouds would be used when possible.	C C		a 24 hour hotline for noise complaints is established. CVFPB will verify maintenance checks for equipment have been done. CVFPB will verify that the loudest construction activities are conducted during noise exempt hours.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
activities, utilization of the Dike 8 disposal area, and utilization of the MIAD disposal and staging areas. • At East of Folsom Auburn Rd. and Pierpoint Circle (LT-6), utilization of the Prison staging area would generate noise levels that exceed the 45 dBA L_{50} nighttime exterior noise standard if it was utilized without any other simultaneous construction activities. The major noise contributing activities at LT-6 would be Approach Channel/Spur Dike construction activities, utilization of the Prison or Overlook staging areas, and transload facility construction/removal activities. • At the Beal's Point Campground (ST-7), guests would be staying overnight. Drill and blasting and dredging rock in-the-wet construction activities would generate noise levels that exceed the 45 dBA L_{50} nighttime exterior noise standard if it would be conducted by itself without any other simultaneous construction activities. The major noise contributing activities at ST-7 would be approach channel/spur dike construction activities, transload facility construction/removal activities, utilization of the Overlook staging area. • At Folsom Point Park (ST-8), guests would not be staying overnight. Therefore, there are no anticipated noise impacts during non-exempt hours. • At East Natoma Street and Briggs Ranch Drive (MR-9), transload facility construction/removal, Dike 8 disposal area utilization, and MIAD	• Use blast mats to cover blasts in order to minimize the possibility of fly rock. • For construction activities being conducted outside of construction noise exempt hours, the Contractor would obtain a permit from all nearby cities and counties in the vicinity of the project and maintain compliance with established limits. • For drilling activities in the water, the use of down-the-hole-hammers are recommended, which produce much less noise than top-hammer drills from the striking bar.	D, C		CVFPB will verify that all required permits were obtained from nearby city and counties and are being complied with.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
staging and disposal area utilization activities would generate noise levels that exceed the 45 dBA L_{50} nighttime exterior noise standard if the activities would be conducted individually. The major noise contributing activities at MR-9 are Approach Channel/Spur Dike construction activities, transload facility construction/removal activities, utilization of the Dike 8 disposal area, and utilization of the MIAD disposal and staging area. • At Lorena Lane (MR-10), drill and blasting and dredging rock in-the-wet and Dike 7 staging area utilization activities would generate noise levels that exceed the 45 dBA L_{50} nighttime exterior noise standard if the activities would be conducted individually. The major noise contributing activities at MR-10 would be Approach Channel/Spur Dike construction activities, transload facility construction/removal activities, utilization of the Dike 7 staging area, and utilization of the Overlook staging area. • At Folsom Church of Christ (MR-11), drill and blasting and dredging rock in-the-wet, transload facility construction/removal, and Dike 8 disposal area utilization activities would generate noise levels that exceed the 45 dBA L_{50} nighttime exterior noise standard if the activities would be conducted individually. The major noise contributing activities at MR-11 would be Approach Channel/Spur Dike construction activities, transload facility construction/removal activities, utilization of the Dike 8 disposal area, and utilization of the MIAD disposal and staging area.				

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
4.10.4 Cultural resources 1) Project activities could affect the eligibility listings for Folsom Dam, right and left wing dams 2) Construction of the cutoff wall and removal of the rock plug could affect historic properties within the Area of Potential Effects (APE). 3) Lower reservoir levels may expose previously unsurveyed areas. Excavation of material within these previously unsurveyed areas within the APE may expose historic properties. 4) The placement of disposal material within the reservoir may affect CA-SAC-358H. 5) Construction of the Approach channel, spur dike, and transload facility would result in additional permanent flood risk management features associated with Folsom Dam, Dike 7 and Dike 8.	The Corps has made preliminary determinations of eligibility for all of the known historic properties within the APE and those potentially affected by the proposed project. For those areas where survey of historic properties may still be completed, if historic properties are discovered they will need to be recorded and evaluated for their eligibility for listing in the NRHP prior to approval of the EIS/EIR. Additionally, if consultation with potentially interested Native Americans results in the identification of potential historic properties within the APE, recordation and evaluation of effects to those properties would also need to be completed prior to approval of the EIS/EIR. Those determinations will be sent to the State Historic Preservation Officer (SHPO) for comment and concurrence. If the SHPO concurs with the Corps' preliminary determinations that construction of the proposed project would have no adverse effects on historic properties there would be no need for mitigation measures. During inventory and evaluation efforts, if it is determined that a historic property may be adversely affected by the proposed project, a programmatic agreement or memorandum of agreement will be executed between the Corps and the SHPO in order to mitigate for adverse effects. However, if archeological deposits are found during project activities, work would be stopped pursuant to 36 CFR 800.13(b), Discoveries without Prior Planning, to determine the significance of the find and, if necessary, complete appropriate discovery procedures.	D, C	Contractor/ the Corps	CVFPB will verify that SHPO has provided concurrence. In the case that archaeological deposits are found during project activities, CVFPB will verify that all work has been stopped and discovery procedures are implemented pursuant to 36 CFR 800.13(b), Discoveries without Prior Planning. CVFPB will verify that record and evaluation procedures have occurred if historic properties are discovered during surveys of previously unsurveyed areas within the APE or

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
				in consultation with potentially interested Native Americans.
4.11.4 Topography and Soils There are no significant long term effects to topography and soils and therefore no mitigation is required. However, the following effects would occur due to project activities: 1) Excavation of the approach channel would include permanently excavating the rock plug area, and would result in a permanent reduction of elevation of the shoreline. 2) The construction of the spur dike would change the topography of a small portion of the Folsom Lake area (1%). 3) Construction activities will 1) result in soil disturbance and replacement of soils with concrete, and 2) temporarily expose disturbed areas to erosion by wind or rainfall events.	There would be no significant long-term effects on topography and soils, therefore, no mitigation would be required.			
4.12.4 Vegetation & Wildlife 1) Use of the Dike 8 disposal area would result in a total permanent loss of 15.8 acres of ruderal herbaceous, oak savannah, transitional wetland, and open water/ reservoir shoreline fluctuation zone habitats on the north of the dike. Associated with the loss of the habitat is the potential to remove up to 30 trees.	Mitigation measures have been implemented since the start of the Folsom JFP construction in 2008. The mitigation measures listed below would continue to be implemented throughout the final phase, as committed to in the 2007 FEIS/EIR and ROD. • To minimize dust impacts to wildlife, vegetation,	D, C, M	Contractor/ the Corps	CVFPB will verify that measures identified in the 2007 FSEIS/EIR and ROD are being met.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
2) Use of the Dike 8 disposal site has the potential to affect a variety of wildlife species, including duck species and any amphibian species that use the transitional wetland habitat in the northern reach of the Dike 8 area. 3) Use of the Dike 8 disposal site will result in the permanent loss of 2.5 acres of transitional wetlands. 4) Use of the Dike 8 disposal site has the potential to affect nesting birds and raptors using this habitat.	and wetlands, unpaved access roads would be frequently watered with raw water using a sprayer truck during periods when trucks and other construction vehicles are using the roads, except during periods when precipitation has dampened the soil enough to inhibit dust. The speed limit on unpaved roads would be limited to avoid visible dust. • Prior to bringing in equipment from other sites, contractors will clean all mud, soil, and plant/animal material from the equipment. This will help prevent the importation of plants that are exotic or invasive. • The contractor will avoid impacts to native trees, shrubs, and aquatic vegetation to the greatest extent possible and that construction is implemented in a manner that minimizes disturbance of such areas to the extent feasible. Temporary fencing shall be used during construction to prevent disturbance of native trees that are located adjacent to construction areas but can be avoided. The contractor will coordinate with Corps Biologist prior to beginning work. • A Revegetation Plan would be developed to address potential losses to all habitats impacted within the project footprint. The Revegetation Plan would be implemented immediately following construction in accordance with requirements in the SWPPP, Planning Aid Letter, and Mitigation, Monitoring, and Reporting Plan (MMRP). In addition, mitigation for the permanent loss of habitat discussed above would be required. This mitigation would			CVFPB will verify that mitigation for permanent loss of habitat is being conducted according to the CAR. CVFPB will verify that a qualified botanist is monitoring for invasive and non-native species for five years following completion of the project. CVFPB will verify the mitigation is occurring in cooperation of USBR.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	be conducted in accordance with the recommendations provided in the Coordination Act Report. The final Coordination Act Report is included in Appendix I. The final Coordination Act Report outlines the specific mitigation requirements for the removal of trees and loss of habitat. • All disturbed areas outside the reservoir area would be reseeded with forbs and grasses at the completion of construction. • Pre-construction surveys for active nests along proposed construction site, haul roads, staging areas, and disposal/stockpile sites would be performed by a qualified biologist. Work activity around active nests should be avoided until the young have fledged. The following protocol from the CDFW for Swainson's hawk would suffice for the pre-construction survey for raptors. Note: A focused survey for Swainson's hawk nests would be conducted by a qualified biologist during the nesting season (February 1 to August 31) to identify active nests within 0.25 miles of the project area. The survey would be conducted no less than 14 days and no more than 30 days prior to the beginning of construction. If nesting Swainson's hawks are found within 0.25 miles of the project area, no construction would occur during the active nesting season of February 1 to August 31, or until the young have fledged (as determined by a qualified biologist), unless otherwise negotiated with the California Department of Fish and Wildlife (CDFW) (previously name was California Department of Fish and Game). If work is begun and completed between September 1 and February 28, a survey is not required. • Any native trees or shrubs removed with a			CVFPB will verify purchase of the 2.5 acres of seasonal wetland has occurred or that appropriate mitigation measures are applied after completion of project. CVFPB will verify the Corps has coordinated with USBR and Sacramento County for site restoration.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	diameter at breast height of 2 inches or greater should be replaced on-site, in-kind with container plantings so that the combined diameter of the container plantings is equal to the combined diameter of the trees removed. These replacement plantings should be monitored for 5 years or until they are determined to be established and self-sustaining. The Corps would compensate for the loss of the 30 trees at Dike 8 with a diameter at breast height (dbh) of 2 inches or greater known to be lost by the project by planting 3,134 seedlings (live and valley oaks, cottonwoods) on a 13.34 acre site(s). Development of this site would be coordinated with the Service and CDFW. These plantings should be monitored for 5 years or until they are determined to be established and self-sustaining. The planting site(s) would be protected in perpetuity. The compensation was derived by totaling the dbh of the 30 impacted trees (783.5 inches) and multiplying it by 4 (assumes each seedling is ¼-inch in diameter) to get 3,134 trees. The area (13.34 ac) was based on planting densities used for oak woodland on other Corps projects that were 235 plants per acre. All revegetated or disturbed areas would be monitored annually by the Corps for invasive non-native plant species, particularly French broom and pampas grass, for five years following completion of construction, with the assistance of a qualified botanist. If invasive species are becoming established on areas disturbed by project activities during the five-year period, invasive species would be removed at times that preclude the plants from setting new seed. • The Corps would compensate for the loss of three acres of open water/ reservoir shoreline			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	fluctuation zone by assisting USBR with restoration at Mississippi Bar or purchasing credits at a mitigation bank. • To mitigate for the 2.5 acres of transitional wetlands associated with fill placement at Dike 8, the Corps would purchase 2.5 acres of seasonal wetlands at a Corps approved mitigation bank. • In the event that mitigation is not initiated within this two-year period, the mitigation ratios would increase by 0.5:1 if initiated within two to five years, and by 1:1 if mitigation is initiated more than five years after the permanent or temporary impacts occur The Corps would coordinate with Reclamation and Sacramento Country on the site restoration, as necessary. Any additional mitigation that could not be conducted on site would be accomplished by purchasing credits at a USFWS approved mitigation bank. A summary of the preliminary USFWS recommendations are included in Section 4.18.			
4.13.4 Special Status Species 1) Use of the proposed Dike 8 disposal area would result in direct and indirect effects to the four elderberry shrubs. Direct effects would include removal or trimming of the shrubs. Indirect effects, if the shrubs are not removed, would include physical vibration and an increase in dust during disposal activities.	If the proposed Dike 8 disposal site would be used during project construction, consultation would be initiated with USFWS and CDFW to assess the impacts discussed above and determine appropriate mitigation measures. The following mitigation measures would be proposed by the Corps during consultation to reduce the potentially significant effects associated with the Dike 8 disposal area to less than significant.			

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
2) Use of the proposed Dike 8 disposal area could potentially result in direct and indirect effects to the white-tailed kite if they begin nesting in the area. Construction activities in the vicinity of a nest have the potential to result in forced fledging or nest abandonment by adult kites.	**<u>Valley Elderberry Longhorn Beetle</u>** The Corps would compensate for the loss of the four elderberry shrubs, if they are removed. The four elderberry shrubs would be transplanted to USFW approved location and monitored for 5 years. Compensation would also consist of planting elderberry shrubs and associated natives at an existing Corps mitigation site in the American River Parkway or purchasing credits at a USFWS approved mitigation bank. If the shrubs are not removed, and the proposed Dike 8 disposal area is used, the following measures taken from the USFWS "Conservation Guidelines for the Valley Elderberry Longhorn Beetle," July 1999 would be incorporated into the project to minimize potential take of the VELB: • A minimum setback of 100 feet from the dripline of all elderberry shrubs will be established, if possible. If the 100 foot minimum buffer zone is not possible, the next maximum distance allowable will be established. These areas would be fenced, flagged, and maintained during construction. • Environmental awareness training would be conducted for all workers before they begin work. The training would include status, the need to avoid adversely affecting the elderberry shrub, avoidance areas and measures taken by the workers during construction, and contact information. • Signs would be placed every 50 feet along the edge of the elderberry buffer zones. The signs	D, C, M	Contractor/ the Corps	CVFPB will verify that compensation for elderberry shrubs has occurred if removed or that minimization measures are implemented if shrubs are not removed.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	would include: "This area is the habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs should be readable from a distance of 20 feet and would be maintained during construction. Impacts to VELB would be less than significant with implementation of the USFWS conservation guidelines for the beetle. **White-tailed Kite** The following mitigation measures would be implemented prior to use of the proposed Dike 8 disposal area to reduce potential adverse effects to white-tailed kites: • A qualified biologist would survey the project area, and all areas within one-half mile of the project, prior to initiation of construction. If the survey determines that a nesting pair is present, the Corps would coordinate with CDFW and/or USFWS, and the proper avoidance and minimization measures would be implemented. • If a nesting pair is present, a biological monitor would be on-site during construction activities to ensure, in coordination with CDFW, that white-tailed kites are not adversely affected by project construction. • To avoid potential impacts to birds and raptor species, any trees that must be removed prior to	D, C		CVFPB will verify that a qualified biologist conducted a pre-construction survey, coordinated with the appropriate regulatory agencies where necessary, and implemented appropriate avoidance and minimization measures.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	use of the Dike 8 disposal area would be removed during the time period of August 15 to February 15. If trees must be removed outside of that timeframe, a qualified biologist must survey the area prior to tree removal to verify the presence or absence of nesting birds. With the implementation of these mitigation measures, effects to white-tailed kites associated with the proposed use of the Dike 8 disposal area would be less than significant.			CVFPB will verify biological monitor on site during construction activities if a nesting pair of white tail kites are found. CVFPB will verify tree removal has been done during August 15-February 15. If not, then CVFPB will verify a qualified biologist has surveyed the trees to verify absence or presence of birds.

By: _____ Date: _____ By: _____ Date: _____

William H. Edgar Jane Dolan

President Secretary

Blank Page Left Intentionally

MITIGATION, MONITORING, AND REPORTING PLAN

FOLSOM DAM SAFETY AND FLOOD DAMAGE REDUCTION PRISON STAGING AREA AND STILLING BASIN DRAIN

SACRAMENTO COUNTY, CALIFORNIA

This mitigation monitoring or reporting plan (MMRP) is designed to fulfill Section 21081.6 (a) of the California Public Resources Code (CEQA). Section 21081.6 (a) requires that public agencies adopt a reporting or monitoring program whenever a project or program is approved that includes mitigation measures identified in an environmental document for which the agency makes a finding pursuant to CEQA Section 21081 (a) (1). The mitigation measures and strategies described below and in the attached table are to be used to avoid, minimize, or reduce any potentially significant environmental impacts.

The MMRP table includes the following:

- Section and Impacts – identifies the issue area section of the Supplemental Environmental Assessment/Environmental Impact Report (SEA/EIR) and corresponding impact.
- Mitigation Measures – lists the adopted mitigation measures from the SEA/EIR.
- Implementation Timing – identifies the timing of implementation of the action described in the mitigation measures.
- Responsible for Implementation – identifies the agency/party responsible for implementing the actions described in the mitigation measures.
- Responsible for Monitoring /Reporting Action– identifies the agency/party responsible for monitoring implementation of the actions described in the mitigation measures. Verification will be carried-out during the project and a MMRP completion report will be submitted to the CVFPB upon completion of the project.

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
3.3.1 – Air Quality Construction activities would result in short term air emissions of ROG, NOx, CO, CO2, PM10 & PM2.5 and Diesel particulate matter that are less than the significant thresholds. However, due to the non-attainment zone of Sacramento County with respect to O3, PM10, and PM2.5, Sacramento Metropolitan Air Quality Management District (SMAQMD) has recommended projects within the Sacramento Valley Air Basin implement a set of Basic Construction Emissions Control Practices as BMPs and a set of Enhanced Exhaust Control Practices to reduce hydrocarbon emissions.	The Basic Construction Emission Control Practices that would be implemented by the contractor during the construction project are the following: • Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads. • Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered. • Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited. • Limit vehicle speeds on unpaved roads to 15 miles per hour (mph). • All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to five minutes (as required by the state airborne toxics control measure [Title 13, Section 2485 of	D, C	Contractor, USACE	SMAQMD, CVFPB Verify Air Quality plan submittal to USACE and SMAQMD. Verify emission reduction measures and BMP's are in place and implemented. Verify SMAQMD has received the Off-road equipment inventory

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site. • Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated. In addition, SMAQMD recommends that the project implement a set of Enhanced Exhaust Control Practices to further reduce hydrocarbon emissions. The Enhanced Exhaust Control Practices that would be implemented by the contractor during construction include the following: • Provide a plan for approval by the lead agency and SMAQMD demonstrating that the heavy-duty (50 horsepower [hp] or more) off-road vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, would achieve a project-wide fleet-average 20 percent NOX reduction and 45 percent particulate reduction compared to the most recent California Air Resources Board (ARB) fleet average. 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. The SMAQMD's Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction.			

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	• Submit to the lead agency and SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 hp, that would be used an aggregate of 40 or more hours during any portion of the construction project. The inventory would include the horsepower rating, engine model year, and projected hours of use for each piece of equipment. The inventory would be updated and submitted monthly throughout the duration of the project, except that an inventory would not be required for any 30-day period in which no construction activity occurs. At least 48 hours prior to the use of subject heavy-duty off-road equipment, the contractor would provide SMAQMD with the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman. The SMAQMD's Model Equipment List can be used to submit this information. • Ensure that emissions from all off-road diesel-powered equipment used on the project site do not exceed 40 percent opacity for more than 3 minutes in any 1 hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) would be repaired immediately. Non-compliant equipment would be documented and a summary provided to the lead agency and SMAQMD monthly. A visual survey of all in-operation equipment would be made at least weekly, and a monthly summary of the visual survey results would be submitted throughout the duration of			

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	the project, except that the monthly summary would not be required for any 30-day period in which no construction activity occurs. The monthly summary would include the quantity and type of vehicles surveyed as well as the dates of each survey. The SMAQMD and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this section would supercede other SMAQMD or State rules or regulations. • If at the time of construction, SMAQMD has adopted a regulation applicable to construction emissions, compliance with the regulation may completely or partially replace this mitigation. Consultation with the SMAQMD prior to construction would be necessary to make this determination.			
3.3.2 Climate Change Construction activities would result in a net increase of GHG emissions over a finite period – approximately 4 months for construction and 4 years for the operation of the batch plant. Emissions are expected to be below the reporting levels of the U.S. Environmental Protection Agency of 25,000 metric tons of CO2 equivalents / year and CARBs interim threshold of 7,000 mtCO2e/year. Emissions; • would not conflict with Federal, State, or local goals to reduce GHGs • will be avoided or reduced through	Since there would be no significant effects on climate change, no mitigation would be required. However, the following measures would be implemented by the contractor to reduce any GHG emissions from construction of the design refinements. • Improve fuel efficiency from construction equipment by minimizing idling time either by shutting equipment off when not in use or reducing the time of idling to no more than three minutes (five minute limit is required by the state airborne toxics control measure [Title 13, Section 2485 of the California Code of Regulations]).	D, C	Contractor, USACE	USACE, CVFPB Verify that GHG reduction measures are being implemented.

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
implementation of BMPs into the design of the project Mitigation measures will be implemented by the contractor to reduce GHG emissions from the project.	Provide clear signage that posts this requirement for workers at the entrances to the site. • Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated. • Use equipment with new technologies (repowered engines, electric drive trains). • Perform on-site material hauling with trucks equipped with on-road engines (if determined to be less emissive than the off-road engines). • Encourage and provide carpools, shuttle vans, transit passes and/or secure bicycle parking for construction worker commutes. • Produce concrete on-site if determined to be less emissive than transporting ready mix.			
3.3.3 – Noise & Vibration There would be no significant effects from the construction project on noise or vibration, and therefore no mitigation would be required. Most construction noise impacts are short term, temporary and would occur during the City of Folsom's allowed construction hours which are exempt from exterior noise standard limits (7:00 a.m. to 6:00 p.m. during weekdays and 8:00 a.m. to 5:00 p.m. on weekends).	Since there would be no significant effects on noise or vibration, no mitigation would be required. However, the following measures would be implemented by the contractor during construction activities in order to further reduce any potential noise effects: • Appropriate level of sound attenuation would be used during construction to meet local ordinances. Potential sound attenuations measures that could be considered include, but not limited to, temporary sound barriers near the	D, P, C	Contractor, USACE	USACE, CVFPB Verify the contractor has notified all sensitive receptors within the project area Verify that all noise & vibration

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
The concrete batch plant may operate outside of the non-exempt hours (6 pm – 7am) but the sources of the noise levels would occur far enough from sensitive receptors that the noise is attenuated below ambient noise levels	noise source or otherwise places between the sources of construction noise and noise-sensitive receptors, as appropriate. • Residents and businesses near the project area would be provided with advance notices of project activities, schedule, anticipated traffic, and potential noise issues. The advance notice would describe the potential noise disruption and the steps that would be taken to minimize the noise. • The construction contractor would monitor noise from construction activity. In the event that construction noise exceeds the City of Folsom's thresholds, corrective actions would be taken to reduce the noise levels or stop the activity. • Heavy truck deliveries would be scheduled during exempt working hours and whenever possible, avoid deliveries during a single hour, especially during non-exempt hours. Haul trucks operating near noise sensitive receptor sites would be spaced apart to avoid noise effects from simultaneous operation. • Engine brake (jake brake) use within city limits would be prohibited. Many noise complaints arise from heavy truck use of engine brakes to slow the truck down. Use of this type of braking can be avoided by proper speed control. • The contractor would properly maintain and tune engines of all equipment and maintain properly			measures are implemented Verify construction activities occur within the designated hours or if outside of exempt hours, verify City of Folsom's noise ordinances are being met.

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	functioning mufflers on all internal combustion engines to minimize noise levels.			
3.3.4 - Traffic • Slow moving trucks leaving and entering the staging and construction areas through the intersection could present a hazard to higher speed traffic on Folsom Lake Crossing. • Construction vehicles would not block the inbound lane into the prison driveway but the outbound lane would experience some traffic delays due to trucks exiting right onto Folsom Lake Crossing.	• Installation of a traffic signal would stop traffic at Folsom Lake Crossing and allow the slower moving truck traffic to enter the intersection without causing a safety hazard • In the event of an emergency, movement of construction traffic would cease to ensure that emergency vehicles would have unobstructed access in and out of the northern prison entrance. Since there would be no significant effects on traffic, no mitigation would be required. Implementation of the following measures by the contractor would help to ensure public safety during construction. • Construction zones along residential roadways would be posted to notify approaching motorists of trucks entering and exiting roadside construction sites and to reduce speeds through the construction zone. • Before and during construction, signs would be placed at construction areas to notify users of ongoing construction and limits of use. • All speed limits, traffic laws, and transportation	D, C	Contractor, USACE	CVFPB, USACE Verify Traffic Control Plan has been approved by the City of Folsom Verify traffic control measures are implemented.

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	regulations would be obeyed during construction. • On-street parking for construction workers would be prohibited. • Off-street parking would be identified and provided to the construction workers and their vehicles and trucks. If possible, parking would be close enough to walk to the site.			
3.3.5 Water Resources and Quality Construction Activities may impact adjacent waterways by: 1) Increasing turbidity through site erosion and sedimentation	In order to maintain existing water quality conditions and beneficial uses, the contractor would be required to obtain NPDES permits, implement the required and standard BMPs and SWPPP, and implement, the measures in the Spill Prevention and Response Plan (SPRP) and the Erosion and Sediment Control Plan (ESCP) • A NPDES Construction Storm Water Permit from the CVRWQCB would be required since the project would disturb more than 1 acre of land. The Construction Storm Water Permit pertains to the prevention of increased turbidity of adjacent waterways from site erosion and sedimentation. The contractor would be required to design and implement a SWPPP prior to initiating construction activities, and to implement standard BMPs. Dust control measures would be implemented to avoid dust and soil from entering	D, C	Contractor, USACE	CVFPB Verify NPDES permit has been obtained. Verify SWPPP and SPRP & ESCP has been obtained and BMP's are implemented.

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
2) Discharge of pollution from the Concrete Batch Plant	the river or other drainages as a result of construction activities. Precautions would be followed to avoid erosion and movement of soils into drainage systems. Implementation of BMPs and NPDES permit requirements would reduce water quality impacts from construction to less than significant • The NPDES Industrial Storm Water Permit requires that a SWPPP is designed and implemented specific to the concrete batch plant operation. Debris, oil and fuel, or concrete mix material spills pertaining to the concrete batch plant site could adversely affect water quality. The industrial storm water permit addresses potential pollution inputs due to storm water runoff that are associated with all activities at the concrete batch plant. The contractor would be required to cover and control all material stock piles to prevent suspension of dust or concrete mix material due to wind. The contractor would also be required to coordinate the handling of all wastewaters generated from concrete production with the CVRWQCB. For the concrete batch plant installed at the Folsom State Prison staging area, the implementation of BMPs and NPDES permit requirements would reduce water quality impacts to less than significant.			

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
3) Fugitive dust	Frequent watering of haul routes, proper covering and control of material stock piles (e.g., dirt and aggregate) would help to prevent fugitive dust pollution impacts.			
4) Construction of the stilling basin drain	To avoid impacts to water quality, the stilling basin drain would be constructed landside by excavating the open cut trench while leaving in a plug at the river end. Once the trench is completed, the plug would then be removed. Since there would be no significant effects on water resources or quality, no mitigation would be required. However, the following standard BMPs would be implemented to avoid or minimize any effects of construction on surface waters. Standard BMPs include; • Appropriate erosion control measures would be incorporated into the SWPPP in order to prevent sediment from entering waterways. Examples include, but are not limited to: straw bales/wattles, erosion blankets, silt fencing, mulching, re-vegetation, and temporary covers. An appropriately designed and effective sediment capture and stilling basin must be implemented to capture and control sediments carried by site runoff. Sediment and erosion control measures must be maintained during construction at all times. Inspect control measures before, during, and after a rain event. • Implement appropriate measures to prevent any debris, soil, rock, or other materials/products associated with construction activities from			

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	entering waterways. The contractor would use a water truck or other appropriate measures to control fugitive dust on haul roads, construction areas, and stockpiles. • A concrete and fuel spill management plan would be developed for the project. • Provide secondary containment for storage of any fuel, oil or other liquid and properly dispose of such liquid wastes. • Fuel and maintain vehicles in specified staging areas only, which are designed to capture potential spills. These areas cannot be near any ditch, stream, or other body of water or feature that may convey water to a nearby body of water. • Fuels and hazardous materials would not be stored on site. Any spills of hazardous material would be cleaned up immediately. Spills would be reported in construction compliance reports. • Inspect and maintain vehicles and equipment to prevent dripping of oil, lubricants, or any other fluids. • Schedule construction to avoid as much of the wet season as possible. Ground disturbance activities are expected to begin in the summer of 2013. If rains are forecast during the construction period, erosion control measures would be implemented.			

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
	• Train construction personnel in storm water pollution prevention practices. • Re-vegetate and restore areas cleared by construction in a timely manner to control erosion. • Implementation of any additional requirements as mandated by either the construction storm water permit, industrial storm water permit, or the limited threat discharge permit would further reduce any potential adverse affects to adjacent waterways. In addition, the measures in the Spill Prevention and Response Plan and the Erosion and Sediment Control Plan would prevent any significant adverse effects to water quality in the project area. The inclusion of the above mitigation measures and complete compliance with all water quality permits, would reduce any water resources and water quality impacts to a less than significance.			
3.3.6 Fisheries Construction of the spillway drain could potentially affect fish species inhabiting the outflow channel, or Lake Natoma through sediment collecting in the stilling basin and entering the river. The potential adverse effects on fisheries in the project area resulting from the design refinements would be indirect, resulting from short-term water quality degradation.	Mitigation measures for fisheries are the same as those listed for water quality and resources in Section 3.3.5 of the final SEA/EIR. In summary, compliance with the various water quality permits needed for this project, including implementation of the SWPPP and its associated BMPs, would reduce potential, indirect effects to less-than-significant.	D, C,	Contractor, USACE	CVFPB Verify NPDES permit has been obtained. Verify SWPPP and SPRP & ESCP has been obtained and BMP's are implemented.

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

Section and Impacts	Mitigation Measures	Implementation Timing	Responsible for Mitigation	Responsible for Monitoring/ Reporting Action
3.3.7 - Recreation Installation of the temporary traffic signal and widening of an existing dirt access road would restrict recreational access along the bike trail. Widening of the existing dirt access road would, for approximately 1 week, require limited access to the bike trail for approximately 70 feet at the north intersection of Folsom Lake Crossing.	In order to reduce impacts to recreation, detour routes and ADA-compliant temporary ramps would be constructed as needed. To ensure public safety, warning signs and signs restricting access would be posted before and during construction, as necessary. Detour routes would be clearly marked, and fences erected in order to prevent access to the project area. Public outreach would be conducted through mailings, posting signs, coordination with interested groups, and meetings, if necessary, in order to provide information regarding changes to recreational access. A temporary path would be constructed to allow recreationalists to safely pass the work zone.	C	Contractor, USACE	CVFPB Verify with USACE that the contractor has implemented detour routes correctly, implemented public safety measures and public outreach measures
3.3.8 – Cultural Resources Construction activities are not expected to impact cultural resources. However, if any potential significant cultural resources are discovered during construction, then the following mitigation measures will be implemented.	Should any potentially significant cultural resources be discovered during construction, all ground-disturbing activities would cease in the area of the discovery, and take action as required by 36 CFR 800.13(b), "discoveries without prior planning". Data recovery or other mitigation measures could be necessary to mitigate adverse effects to significant properties. Implementation of mitigations measures, which could include avoidance and recordation or evaluation of a previously unidentified historic property by a qualified archeologist, would reduce these effects to less than significance.	C	Contractor, USACE	CVFPB Verify with USACE that activities have been halted if cultural resources are discovered

Notes:
D: To be implemented or included as part of project design. Includes pre-project permitting and agency coordination.
P: To be implemented prior to construction being initiated (pre-construction), but not part of project design or permitting.
C: To be implemented during project construction.
M: To be implemented as ongoing maintenance after construction is complete.
O: To be implemented as an operational practice after construction is complete.

ATTACHMENT 4

Comments and Responses

Blank Page Left Intentionally

Comments and Responses on
Draft SEIR for Folsom Dam Safety and Flood Damage Reduction – Evening Rock Blasting
May 2014

No.	Agency	Comment	Response
1.	Central Valley Regional Water Quality Control Board	"Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues."	Thank you for the comments. All required permits related to water quality has been obtained by the Corps and the contractor for the construction of the Folsom Joint Federal Project, Phase IV Approach Channel Excavation. As this work is ongoing, the Corps will ensure that the contractor remains in compliance with certification and permit requirements to be implemented during construction. Furthermore, the CVFPB will verify that compliance is being met through coordination with the Corps.

Blank Page Left Intentionally

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

28 March 2014

David Martasian
Central Valley Flood Protection Board
3310 El Camino Avenue, Room 151
Sacramento, CA 95821

CERTIFIED MAIL
7013 1710 0002 3644 1448

COMMENTS TO THE DRAFT SUPPLEMENTAL/SUBSEQUENT ENVIRONMENTAL IMPACT REPORT, FOLSOM DAM SAFETY & FLOOD DAMAGE REDUCTION – EVENING ROCK BLASTING PROJECT, SCH NO. 2006022091, SACRAMENTO COUNTY

Pursuant to the State Clearinghouse's 21 March 2014 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Draft Supplemental/Subsequent Environmental Impact Report* for the Folsom Dam Safety & Flood Damage Reduction – Evening Rock Blasting Project, located in Sacramento County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml.

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/.

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 97-03-DWQ.

For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml.

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACOE). If a Section 404 permit is required by the USACOE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements.

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACOE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACOE permit, or any other federal permit, is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

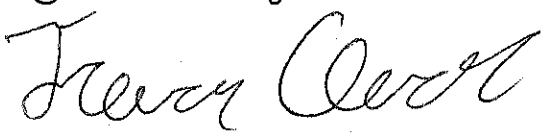
Waste Discharge Requirements

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

If USACOE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project will require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation.

For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/help/business_help/permit2.shtml.

If you have questions regarding these comments, please contact me at (916) 464-4684 or tcleak@waterboards.ca.gov.



Trevor Cleak
Environmental Scientist

cc: State Clearinghouse Unit, Governor's Office of Planning and Research, Sacramento

Blank Page Left Intentionally