

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER R5-2015-0087  
WASTE DISCHARGE REQUIREMENTS  
FOR  
FOLSOM DAM AUXILIARY SPILLWAY PROJECT  
SACRAMENTO COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Central Valley Water Board) finds that:

1. The United States Army Corps of Engineers submitted a Report of Waste Discharge on 27 February 2015 for the Folsom Dam Auxiliary Spillway Project, which requires the dredging, and disposal or reuse, of approximately 150,000 cubic yards of material. The auxiliary spillway is under construction jointly by the U.S. Bureau of Reclamation (USBR) and the United States Army Corps of Engineers (hereafter, Discharger).
2. The following documents are attached to this Order and hereby incorporated into and made a part of this Order by reference:
  - a. Attachment A – Placement Sites Location Map
  - b. Standard Provisions and Reporting Requirements for Waste Discharge Requirements
3. The Folsom Dam and Reservoir is located downstream of the confluence of the North and South Forks of the American River, near the City of Folsom. The Folsom Dam is a concrete gravity dam, 340 feet high and 1,400 feet in length. The main section of the dam is flanked by two earthen fill wing dams. In addition to the main section and the two wing dams, there is one auxiliary dam and eight smaller earthen fill dikes. The auxiliary spillway is located on the left abutment of the main dam, immediately downstream of the existing left wing dam, as shown in Attachment A.
4. The Auxiliary Spillway Project is part of the Folsom Dam Safety and Flood Damage Reduction Project, which is also referred to as the Joint Federal Project (JFP). The JFP is intended to provide increased flood protection and mitigate dam safety issues that may occur in the event of a Probable Maximum Flood event. The auxiliary spillway will be operated in concert with the existing spillway and river outlets on Folsom Dam to manage flood flows from Folsom Reservoir.
5. A key construction element of the project is the construction of a cutoff wall, located in a temporary rock plug, within the proposed Approach Channel. The cutoff wall, completed in May 2014, will provide seepage control to the spillway

excavation between the wall and the Auxiliary Spillway Control Structure (Attachment A).

6. The remaining major element in the project is the excavation of the Approach Channel. The Approach Channel excavation area runs 500 feet parallel to the centerline of the channel, and contains approximately 400,000 cubic yards of material, including a significant portion of bedrock. Drilling and blasting will be employed in the excavation of the hard rock material. In addition to the bedrock, dredging/excavation will remove crushed stone and the remains of a secant pile wall that forms the temporary embankment and cutoff wall. The bulk of this material is located downstream of the cutoff wall, and is not classified as dredged material, as it will consist of hard rock excavated above the mean high water mark.
7. Multiple types of excavation operations are expected to be deployed, based upon varying lake water levels at the time of operations. Dredging will be accomplished by excavator and/or clamshell dredging, as appropriate. A land based operation will excavate sediments "in the dry" to the maximum extent possible. In-water work will be accomplished with marine deployed equipment.
8. Land based operations will be repositioned based on changing lake water levels, and are expected to consist of an excavator loading into 40 ton off-highway trucks, for transport to the upland placement area. The marine operations are expected to consist of a 220-ton crane, fitted with an 8-cubic yard clamshell bucket, deployed on a flexi-float barge. The clamshell will load two belly dump scows for transport to the placement area.
9. Dredging rates are expected to vary according to the dredging method employed, and the type of material being dredged, with an estimate of 200-400 cubic yards per hour for land based equipment, and between 25 and 75 cubic yards per hour for marine based dredging.
10. Dredging activities are expected to be in operation between July 2015 and October 2018. Land based dredging operations are expected to be conducted 10 hours per day, 6 days per week, and completed in July 2015. The marine based dredging operations are expected to be conducted 20 hours per day, 6 days per week. Marine based dredging is expected to begin in November 2015.
11. Sediment dredged from marine operations is proposed for in-water placement at the Overlook in-lake placement sites, as shown in Attachment A. Dredged material placed in-water will be placed in an existing bottom depression within the in-lake placement site so that no new navigational feature is created.

12. Materials dredged using land based equipment are proposed to be placed at the "MIAD" Upland Placement area (see Attachment A).
13. The Discharger is required to notify the Regional Water Board after the dredging project is completed.

### **DESCRIPTION OF DREDGING OPERATIONS**

14. The removal, transport, and placement of dredge sediments are the primary components of the dredging process. These actions may be divided into two distinct components common to all dredging operations: 1) the excavation and removal of sediments from water bodies (i.e., dredging), and 2) the placement and/or reuse of these dredged materials in another location (i.e., placement). These actions involve separate regulatory considerations. Both actions have the potential to produce waste as defined in California Water Code Section 13050(d). Dredging could cause sediment containing metals and other constituents to be discharged to waters of the state. The placement and/or reuse of dredged material on land may be a discharge of waste and has the potential to degrade both surface and ground water.
15. Water quality impacts from dredging projects may occur by the following means:
  - a. As a result of sediment disturbance from physically removing dredged sediments from the water body;
  - b. As a result of placement of dredged sediments where runoff or contact with surface waters may occur;
  - c. As a result of effluent water from dredged slurry dewatering ponds being returned to surface waters; and
  - d. As a result of leachate from dredged material placement infiltrating to underlying groundwater.
16. Many chemical constituents of concern are lipophilic and will preferentially sorb or attach to organically enriched or fine particles of sediment. Water column effects from dredging may occur when waste constituents on the sediment particles are either dissolved or re-suspended in the water column. As bottom sediments are disturbed in the excavation process (i.e., by the cutter head or clamshell bucket), dredging operations may cause some temporary degradation to surface waters as concentrations of turbidity, total suspended solids increase.
17. Dredged material dewatering facilities and dredged material placement sites have, historically, not been equipped with liners, and therefore leachate from dredged sediments may migrate through the soil column via soil pore space to the underlying groundwater. The Waste Extraction Test using de-ionized water

as the extraction fluid (DIWET) is designed to simulate the leaching of constituents of concern from sediments after being placed in an upland environment. The DIWET is considered a conservative test for leachate, as it does not take into account a variety of complex attenuation processes that may occur in the sediment, or in the vadose zone overlying groundwater.

### **Characteristics of Dredged Material**

18. The Discharger has performed pre-dredge analysis of sediments in the project area order to determine the anticipated sediment quality during dredging. In addition, material to be removed from the Approach Channel will be sampled during construction activities from fine grained material resulting from the blasting operations in the bedrock. These sample results will be compared to the background sample analysis that was performed on sediments at the proposed placement area. Material that meets the background or discharge criteria outlined in this Order will be authorized for placement.
19. In 2010, two core sediment samples were taken from the Transload Facility Site sediments, located near the proposed in-water placement area, using a 4" diameter Vibra-Core sampler. These individual samples were composited for laboratory analysis. In addition, one background water column sample from Lake Folsom was obtained. Sediment samples were analyzed for total recoverable metals, acid generation potential (AGP) and grain size analysis.
20. Results from the pre-dredge solids analysis performed on weathered and decomposed granite samples at the project area indicate constituent concentrations similar to background sediment samples.

### **Pre-Dredge Material Analysis (mg/kg)**

<u>Constituent</u>	<u>Concentration</u>
Antimony	<10
Arsenic	1.00
Barium	132
Beryllium	<1.00
Cadmium	<1.00
Chromium Total	34.1
Cobalt	10.1
Copper	12.3
Lead	4.73
Mercury	<1.00
Molybdenum	<5.00
Nickel	20.6

Selenium	<1.00
Silver	<1.00
Thallium	<1.00
Vanadium	59.7
Zinc	43.0

21. In 2012, samples were taken to characterize the in-lake sediment background conditions at the proposed placements sites in Folsom Lake.
22. The results of the 2012 pre-dredge analysis of in-lake background conditions representative of the proposed Overlook in-lake placement area are listed below:

**Background Sediment Analysis (mg/kg)**

Sample 11FDTF12 BG

<u>Constituent</u>	<u>Lake Background Sediment</u>
Aluminum	8600
Antimony	<0.40
Arsenic	0.71
Barium	62.3
Beryllium	<0.40
Cadmium	<0.40
Calcium	1600
Chromium Total	25.3
Chromium VI	<0.010
Cobalt	6.93
Copper	13.5
Iron	9820
Lead	2.63
Magnesium	3960
Manganese	118
Mercury	0.0150
Nickel	16.1
Potassium	<0.40
Selenium	<0.40
Silver	<0.40
Sodium	94.7
Thallium	<0.40
Vanadium	28.5
Zinc	21.7

## **BASIN PLAN, BENEFICIAL USES, AND REGULATORY CONSIDERATIONS**

24. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition*, (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates, by reference, plans and policies adopted by the State Water Resources Control Board (State Board). These requirements implement the Basin Plan.
25. The beneficial uses of the Folsom Lake are municipal and domestic water supply; agricultural irrigation; hydropower; water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; fish spawning; wildlife habitat; and navigation.
26. The Basin Plan states, "... *We will adopt requirements for all significant dredging operations and upland disposal projects in the Region.*" The dredging and subsequent placement of dredged material from this project is considered to be a significant dredging operation within the Central Valley Region.
27. The Basin Plan defines specific Water Quality Objectives that should be attained in order to protect beneficial uses of Folsom Lake, including:
  - a. Dissolved Oxygen – The monthly median of mean daily dissolved oxygen concentration shall not fall below 85 percent of saturation in the main water mass, and the 95 percentile concentration shall not fall below 75 percent of saturation. The dissolved oxygen concentrations shall not be reduced below 7.0 mg/l at any time in waters with cold water fishery and fish spawning beneficial uses.
  - b. pH - pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed .05 in fresh waters designated for cold water fisheries beneficial uses.
  - c. Oil and Grease - Waters shall not contain oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
  - d. Turbidity - Turbidity shall be less than or equal to 10 Nephelometric Turbidity Units (NTUs) in Folsom Lake and the American River (Folsom Dam to Sacramento River), except for periods of storm runoff.
28. A Clean Water Act Section 401 Water Quality Certification (Waste Discharge Identification (WDID) #5A34CR00573) was issued by the Central Valley Water

Board for this project on 18 January 2013. The Section 401 Certification specifies water quality objectives for receiving waters that implement the terms of the Basin Plan, and are consistent with the terms of this Order, and the attached Monitoring and Reporting Plan.

29. Section 13267(b) of the Water Code provides that:

*“In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.”*

The technical reports required by this Order and the attached Monitoring and Reporting Program are necessary to assure compliance with these waste discharge requirements.

30. USEPA adopted the *National Toxics Rule* (NTR) on 5 February 1993 and the *California Toxics Rule* (CTR) on 18 May 2000. These Rules contain water quality standards applicable to this discharge. The State Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Plan [SIP]), which contains guidance on implementation of the *National Toxics Rule* and the *California Toxics Rule*. The Basin Plan contains the “Policy for Application of Water Quality Objectives” that requires consideration of published standards of other agencies in implementing narrative water quality objectives. The CTR and NTR standards may be incorporated in waste discharge requirements where appropriate to implement the Basin Plans consistent with the Policy for Application of Water Quality Objectives.
31. The Basin Plan requires that total identifiable persistent chlorinated hydrocarbon pesticides shall not be present in the water column at concentrations detectable within the accuracy of analytical methods approved by either the EPA or the Executive Officer. In addition, new sources of bioaccumulative wastes are not authorized.

32. The Basin Plan numerical and narrative water quality objectives for surface and groundwater within the basin are achieved primarily through the adoption of WDRs. Narrative water quality objectives are implemented consistent with the Policy for Application of Water Quality Objectives contained in the Basin Plan by establishing numerical limitations based on, among other factors, published standards.
33. The Basin Plan contains a Chemical Constituents water quality objective that, among other objectives, identifies numerical water quality objectives for waters designated as municipal supply. At a minimum, water designated for domestic or municipal supply shall not contain concentrations of chemical constituents in excess of the California maximum contaminant levels (MCLs) specified in the following provisions of Title 22, California Code of Regulations:
  - a. Table 64431-A (Inorganic Chemicals) of Section 64431;
  - b. Table 64431-B (Fluoride) of Section 64431;
  - c. Table 64444-A (Organic Chemicals) of Section 64444; and
  - d. Table 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) of Section 64449.

The Basin Plan's incorporation of these provisions, by reference, is prospective, and includes future changes to the incorporated provisions as the changes take effect. The Basin Plan recognizes that the Central Valley Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.

34. The Basin Plan contains narrative water quality objectives for chemical constituents, taste and odor, and toxicity. The narrative toxicity objective requires that surface waters and groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in plants or animals. The chemical constituent objective requires that surface water and groundwater shall not contain chemical constituents in concentrations that adversely affect beneficial uses.
35. State Board Resolution No. 68-16 ("Statement of Policy with Respect to Maintaining High Quality Waters in California") requires that the Regional Water Board, in regulating the discharge of waste, must maintain high quality waters of the state until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State; will not unreasonably affect beneficial uses; and will not result in water quality less than that described in the Regional Water Board's policies.
36. The provisions of this Order are consistent with State Board Resolution 68-16 and 40 CFR 131.12 (the federal anti-degradation policy). This Order



establishes requirements that will result in best practicable treatment, or control of the discharge to assure that pollution or nuisance will not occur, and that any discharges will not unreasonably affect beneficial uses or result in water quality less than prescribed in the Basin Plans.

37. Water Code section 13260 states that each Discharger covered under WDRs shall submit an appropriate fee, as determined by the State Water Resource Control Board. This WDR requires that the Dischargers subject to the WDR submit a one-time application fee for a single episode dredging project.
38. The Project is subject to federal jurisdiction and requires a U.S. Army Corps of Engineers Section 10 permit (Rivers & Harbors Act) for dredging operations, and may require a Clean Water Act (CWA) Section 404 permit for the discharge to surface waters. Other applicable state and federal permits must be obtained prior to discharge. The Project may also be subject to regulation by the California Department of Fish and Wildlife, the National Marine Fisheries Service, the United States Fish and Wildlife Service, and the State Lands Commission.
39. The discharges authorized herein are exempt from the requirements of Title 27 of the California Code of Regulations ("Title 27"). The exemption, pursuant to Title 27, section 20090(b), is based on the following:
  - a. The Board is issuing WDRs;
  - b. The WDRs will ensure consistency with the Basin Plan;
  - c. The wastes regulated by these WDRs do not need to be managed as hazardous wastes.
40. Pursuant to Water Code section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.
41. This Order does not preempt or supersede the authority of municipalities, flood control agencies, and other local agencies to prohibit, restrict, or control discharges of waste subject to their jurisdiction, but such regulation by other entities may not be less stringent than this Order.
42. In December 2012, in accordance with the California Environmental Quality Act (CEQA) (PRC, Section 21000, et seq.), the Discharger adopted a Final Supplemental Environmental Impact Statement/Environmental Impact Report (SEIS/EIR) for the Folsom Dam JFP Project (State Clearinghouse No. 2012072039). The SEIS/EIR supplements the Final EIS/EIR and record of Decision completed in 2007 for the Folsom Dam Safety and Flood Damage

Reduction Project. The Central Valley Water Board, as a responsible agency, has considered the SEIS/EIR prepared by the Discharger as required by California Code of Regulations, title 14, section 15096. The Central Valley Water Board has included mitigation measures and requirements described in the EIR, in this Order to address significant environmental impacts that are within the jurisdiction of the Central Valley Water Board.

### **PUBLIC NOTICE**

43. All of the above, as well as the supplemental information and details in the attached Information Sheet, incorporated by reference herein, were considered in establishing the following conditions of discharge.
44. Interested agencies and persons were notified of the intent to prescribe an Order for this discharge and were provided an opportunity for a public hearing, and an opportunity to submit their written views and recommendations.
45. In a public meeting, all comments pertaining to the discharges were heard and considered.

**IT IS HEREBY ORDERED** that all the U.S. Army Corps of Engineers and the U.S. Bureau of Reclamation, and all heirs, successors, or designees, in order to meet the provisions contained in Division 7 of California Water Code and regulations adopted thereunder, shall comply with the following:

#### **A. Discharge Prohibitions:**

1. Dredging shall be confined to the area of operation described or referenced in the RWD.
2. Dredging shall not exceed the maximum depth or volume stated or referenced in the RWD.
3. The placement of dredged material shall be confined to the designated area stated or referenced in the RWD, unless authorized for removal or reuse.
4. Discharge to the dredged material placement areas shall consist solely of sediment, rock, sand, and water produced from the dredging operation.
5. Discharge of waste hazardous wastes, as that term is defined in California Code of Regulations, title 22, section 66261.1 *et seq.* is prohibited.
6. The discharge of petroleum products to surface waters is prohibited.

7. The discharge of persistent chlorinated hydrocarbon pesticides at concentrations detectable within the accuracy of analytical methods is prohibited.
8. Activities shall not cause visible oil, grease, or foam in the work area or downstream.

**B. Discharge Specifications:**

1. Neither the treatment nor the discharge shall cause a nuisance or condition of pollution as defined by the Water Code section 13050.
2. No constituent shall be released or discharged, or placed where it will be released or discharged, in a concentration, or in a mass that causes violation of the Groundwater Limitation.
3. Objectionable odors originating at the dredged material placement or disposal site shall not be perceivable beyond the limits of the property.

**C. Groundwater Limitation**

Placed dredged sediment shall not, in combination with other sources and/or derived sources, cause the following in groundwater:

1. An adverse impact to beneficial uses, or exceedance of water quality objectives.
2. Cause underlying groundwater to contain waste constituents statistically greater than background water quality.
3. Dredged material may not be reused, without prior authorization, in sensitive ecological areas, such as wetlands.
4. All areas disturbed by the project activities shall be protected from washout and erosion.

**D. Receiving Water Limitations:**

Receiving Water Limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this Order.

The discharge shall not cause the following in the receiving water:

1. Oils, greases, waxes, floating material (liquids, solids, foam, and scum) or suspended material to create a nuisance result in a visible film, or coating on the surface of the water, or on objects in the water, or otherwise adversely affect beneficial uses.
2. The discharge from dredging operations, including material disturbed by either the cutter head or bucket during dredging, shall not cause or contribute to acute toxicity in the receiving waters.
3. Except for periods of storm runoff, activities shall not cause turbidity increases in surface water to exceed:
  - i. where natural turbidity is less than 1 Nephelometric Turbidity Units (NTUs), controllable factors shall not cause downstream turbidity to exceed 2 NTUs;
  - ii. where natural turbidity is between 1 and 5 NTUs, increases shall not exceed 1 NTU;
  - iii. where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent;
  - iv. where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs; and
  - v. where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

Except that these limits will be eased during in-water working periods to allow a turbidity increase of 15 NTUs over background turbidity. In determining compliance with the above limits, appropriate averaging periods may be applied provided that beneficial uses will be fully protected. Averaging periods may only be used with prior approval of the Central Valley Water Board staff.

4. Activities shall not cause dissolved oxygen to be reduced below 7.0 mg/l at any time in waters with cold water fishery and fish spawning beneficial uses.
5. Activities shall not cause settleable matter to exceed 0.1 ml/l in surface waters.
6. The compliance point for the turbidity, dissolved oxygen, and settleable matter limits, for in-water construction and excavation work (i.e. the dredge operation) shall be no greater than 300 feet from the operation.
7. The Discharger shall notify the Central Valley Water Board immediately if the above criteria for turbidity, dissolved oxygen, settleable matter, or other water quality objectives are exceeded.

8. Esthetically undesirable discoloration.
9. Fungi, slimes, or other objectionable growths.
10. The ambient pH to fall below 6.5, exceed 8.5, or the 30-day average to change by more than 0.5 units.
11. Deposition of material that causes nuisance or adversely affects beneficial uses.
12. Radionuclides to be present in concentrations that exceed maximum contaminant levels specified in the California Code of Regulations, Title 22; that harm human, plant, animal or aquatic life; or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
13. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.
14. Toxic pollutants to be present in the water column, sediments, or biota in concentrations that adversely affect beneficial uses; that produce detrimental response in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health.
15. Violation of any applicable water quality standard for receiving waters adopted by the Regional Water Board or the State Board pursuant to the CWA and regulations adopted thereunder.
16. Taste or odor-producing substances to impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to cause nuisance or adversely affect beneficial uses.

**E. Provisions:**

1. Pursuant to Section 13267 of the Water Code, the Discharger may be required to submit technical reports as directed by the Executive Officer.
2. The Discharger shall comply with the attached **Monitoring and Reporting Program**, which is part of this Order, and any revision thereto as ordered by the Executive Officer.

3. In accordance with California Business and Professions Code Sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by, or under the direction of, registered professionals competent and proficient in the fields pertinent to the required activities. Each technical report submitted by the Discharger shall contain a statement of qualifications of the responsible licensed professional(s) as well as the professional's signature and/or stamp of the seal, as appropriate.
4. The Discharger shall take all reasonable steps to prevent any discharge in violation of this Order. Violations may result in enforcement action, including Regional Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision, or rescission, of the Order.
5. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements", (Standard Provisions), dated 1 March 1991, which are, by reference, a part of this Order.
6. The Discharger shall notify the Regional Water Board when the dredging project is complete.
7. The Discharger shall immediately notify the Regional Water Board by telephone within 24 hours whenever a violation or an adverse condition occurs as a result of the dredging and disposal operation or the discharge of effluent. Written confirmation shall follow within two (2) weeks. An "adverse condition" is defined as any action or incident that may result in a risk to public health and safety, condition of nuisance, violation of water quality standards or violation of other conditions of this Order.
8. The Discharger shall not alternate any material or change the character, location, or volume of the discharge as described in the RWD.
9. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Violations may result in enforcement action requiring corrective action, or imposing administrative civil liability (monetary fines), or in revision or rescission of the Order. The Central Valley Water Board considers the Discharger to have continuing responsibility for correcting any problems which may arise in the future as a result of the dredging activities and of the subsequent use of the dredge material disposal sites.
10. This Order does not relieve the Discharger from the responsibility to obtain other necessary local, State, and Federal permits to construct facilities

necessary for compliance with this Order, nor does this Order prevent imposition of additional standards, requirements, or conditions by any other regulatory agency.

11. A copy of this Order shall be kept as a reference for dredging operation personnel. Key operating personnel shall be familiar with their contents.

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

[http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality)  
or will be provided upon request.

I, PAMELA CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region on 5 June 2015.

Original signed by \_\_\_\_\_  
PAMELA C. CREEDON, Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2015-0087  
FOR  
FOLSOM DAM AUXILIARY SPILLWAY PROJECT  
SACRAMENTO COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring dredging operations, dredged materials, effluent, and receiving waters in accordance with the requirements of the Waste Discharge Requirements R5-2015-0087. This MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless a revised MRP is issued by the Executive Officer.

All samples should be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form.

Field test instruments (such as those used to test pH, turbidity, and dissolved oxygen) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are calibrated daily according to manufacturer specifications;
3. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of this MRP.

In the event that any turbidity measurements exceed the limits, dredging operations and/or discharge shall cease immediately, and an additional water sample shall be taken immediately at the point of exceedance. The report of turbidity exceedance and steps taken to comply with the provisions of this Order shall be reported immediately by phone, fax or email to the Regional Water Board. Dredging and/or discharge shall be suspended until turbidity levels return to levels in compliance, or as otherwise instructed by the Central Valley Water Board.

### **DREDGE OPERATION MONITORING**

Sampling, described in the Dredge Operation Monitoring Table of this MRP, shall be conducted anytime in-water dredging operations are performed. Visual Observations shall be taken at both the dredge operation and the compliance points. Grab samples shall be taken at approximately 2/3 of the total depth of the water body, and shall be taken from the following stations:



<u>Station</u>	<u>Description</u>
<b>R-1</b>	Up-current, upwind, or at a location undisturbed by the dredging operation, not to exceed 300 feet from the dredge operation.
<b>R-2</b>	Within 300 feet down-current (or downwind) of the dredging operation.

Samples shall be collected and analyzed from Stations R-1 and R-2 as follows:

**DREDGE OPERATION MONITORING TABLE**

Parameter	Unit	Type of Sample	Minimum Sampling Frequency	Required Analytical Test Method
Turbidity	NTU	Grab	Every 4 hours during in-water work	(1)
Settleable Material	ml/l	Grab	Every 4 hours during in-water work	(1)
Visible construction related pollutants <sup>(2)</sup>	Observations	Visual Inspections	Continuous throughout the construction period	—
pH	Standard Units	Grab	Every 4 hours during in-water work	(1)
Dissolved Oxygen (DO)	mg/l & % saturation	Grab	Every 4 hours during in-water work	(1)

<sup>(1)</sup> Pollutants shall be analyzed using the analytical methods described in 40 Code of Federal Regulations Part 136; where no methods are specified for a given pollutant, the method shall be approved by Central Valley Water Board staff.

<sup>(2)</sup> Visible construction-related pollutants include oil, grease, foam, fuel, petroleum products, and construction-related, excavated, organic or earthen materials.

**RECEIVING WATER MONITORING**

The Discharger shall conduct receiving water monitoring when discharging to surface waters. If no discharge is occurring, then receiving water monitor does not need to be performed. Receiving water monitoring stations are located as follows:

<u>Station</u>	<u>Description</u>
<b>R-3</b>	Up-current, upwind, or at a location undisturbed by the dredging operation, not to exceed 300 feet from the dredge operation.

**R-4** Within 300 feet down-current (or downwind) of the dredging operation.

Receiving water monitoring shall include at least the following:

**RECEIVING WATER MONITORING TABLE**

Parameter	Unit	Type of Sample	Minimum Sampling Frequency	Required Analytical Test Method
Turbidity	NTU	Grab	Every 4 hours during in-water work	(1)
Settleable Material	ml/l	Grab	Every 4 hours during in-water work	(1)
Visible construction related pollutants <sup>(2)</sup>	Observations	Visual Inspections	Continuous throughout the construction period	—
pH	Standard Units	Grab	Every 4 hours during in-water work	(1)
Dissolved Oxygen (DO)	mg/l & % saturation	Grab	Every 4 hours during in-water work	(1)

<sup>(1)</sup> Pollutants shall be analyzed using the analytical methods described in 40 Code of Federal Regulations Part 136; where no methods are specified for a given pollutant, the method shall be approved by Central Valley Water Board staff.

<sup>(2)</sup> Visible construction-related pollutants include oil, grease, foam, fuel, petroleum products, and construction-related, excavated, organic or earthen materials.

In addition to the monitoring described in the Receiving Water Monitoring Table, additional constituents of concern may be identified by the Regional Water Board staff.

When conducting the receiving water sampling, a log shall be kept of the receiving water conditions. Notes on receiving water conditions shall be summarized in the monitoring report.

Attention shall be given to the presence or absence of:

- a. Floating or suspended matter
- b. Discoloration
- c. Bottom deposits
- d. Aquatic life
- e. Visible films, sheens, or coatings
- f. Fungi, slimes, or objectionable growths
- g. Potential nuisance conditions
- h. Flow Direction
- i. Upstream Conditions

## **DREDGE MATERIAL REUSE MONITORING**

The Discharger shall be required to implement a monitoring program for upland placement or reuse applications that have a significant potential for impacting water quality either through surface erosion and/or leaching to groundwater. As required, monitoring for erosion shall continue until the Discharger has demonstrated that erosion control measures have adequately stabilized the placed dredged material.

### **REPORTING**

The specified parameters shall be monitored as previously described, and reported at a minimum of once per month, with violations reported to the Central Valley Water Board Staff within 24 hours of the discovery of the violation. This violation notification to Central Valley Water Board can be done by either telephone or e-mail. Written confirmation and description of the violation shall follow within 2 weeks.

If the project is in operation and/or monitoring is required for more than one month, Monthly Monitoring Reports shall be submitted electronically to the Central Valley Water Board Staff no later than 15 days from the end of the month in which monitoring is conducted.

Monthly Monitoring Reports shall include:

- 1 The date, time, manner, and exact place of sampling;
- 2 The name of person(s) taking samples;
- 3 The dates of sample analyses (if any) and the person(s) performing the analyses;
- 4 The analytical methods used;
- 5 The results of the analyses;
- 6 A comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements;
- 7 Copies of any laboratory analytical report(s); and
- 8 Calibration logs verifying calibration of all hand-held monitoring instruments and devices used to comply with the prescribed monitoring program.

In reporting monitoring data, the Discharger shall arrange the data such that the date, sample type (e.g., effluent, equalization basin, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the MRP shall be reported to the Central Valley Water Board.

A letter transmitting the self-monitoring reports shall accompany each report. This letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility

modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions General Reporting Requirements Section B.3.

The Discharger shall implement the above monitoring program as of the date of this Order.

Ordered by:

\_\_\_\_\_  
PAMELA C. CREEDON, Executive Officer

\_\_\_\_\_  
5 June 2015

(Date)

## INFORMATION SHEET

WASTE DISCHARGE REQUIREMENTS ORDER R5-2015-0087  
U.S. ARMY CORPS OF ENGINEERS AND U.S. BUREAU OF RECLAMATION  
FOLSOM DAM AUXILIARY SPILLWAY PROJECT  
SACRAMENTO COUNTY

The Folsom Dam and Reservoir is located downstream of the confluence of the North and South Forks of the American River, near the City of Folsom. The Folsom Dam is a concrete gravity dam, 340 feet high and 1,400 feet in length. The Auxiliary Spillway Project is part of the Folsom Dam Safety and Flood Damage Reduction Project, which is also referred to as the Joint Federal Project (JFP). The JFP is intended to provide increased flood protection and mitigate dam safety issues that may occur in the event of a Probable Maximum Flood event.

A key construction element of the JFP is the excavation of the Approach Channel to the main spillway, which will require the excavation of approximately 400,000 cubic yards of material, including bedrock. Up to 150,000 cubic yards of this material is classified as dredged material, removed from below the mean high water mark. Pre-dredge analyses of sediments in the project area have been performed in order to determine the anticipated sediment quality during dredging. In addition, fine grained material resulting from the blasting operations in the bedrock will be sampled and compared to the background sample analysis performed on sediments at the proposed placement area. Material that meets the discharge criteria outlined in this order will be authorized for placement.

The removal, transport, and placement of dredge sediments are the primary components of the dredging process. These actions may be divided into two distinct components common to all dredging operations: 1) the excavation and removal of sediments from water bodies (i.e., dredging), and 2) the placement and/or reuse of these dredged materials in another location (i.e., placement). These actions involve separate regulatory considerations. Both actions have the potential to produce waste as defined in California Water Code Section 13050(d). Dredging could cause sediment containing metals and other constituents to be discharged to waters of the state. The placement and/or reuse of dredged material on land may be a discharge of waste and has the potential to degrade both surface and ground water.

This dredging WDR Order directs the U.S. Army Corps of Engineers and the U.S. Bureau of Reclamation to dredge and place dredged material as described in the Report of Waste Discharge, and to follow the Monitoring and Reporting Program accompanying this Order.

ATTACHMENT A  
 PLACEMENT SITES LOCATION MAP  
 WASTE DISCHARGE REQUIREMENTS ORDER R5-2015-0087  
 FOLSOM DAM AUXILIARY SPILLWAY PROJECT

