

From: Bradbury, Mike@DWR

Sent: Tuesday, November 10, 2015 4:42 PM

To: Ragazzi, Erin@Waterboards

Cc: Wetzel, Jeff@Waterboards; Barnes, Peter@Waterboards; Biondi, Oscar@Waterboards; Bogdan, Kenneth M.@DWR; Enos, Cassandra@DWR

Subject: 401 Application Supplemental Information

Erin,

Per Jeff Wetzel's request, attached are supporting documents derived from the EIR/EIS and RDEIR/SDEIS that describe mitigation measures, environmental commitments, and avoidance and minimization measures to protect water quality and beneficial uses of water.

1. List of project impacts and proposed mitigation measures. RDEIR/SDEIS Executive Summary Table ES-9, pages ES-41 to ES-105:
http://baydeltaconservationplan.com/RDEIRS508/0_ExecSumm-508.pdf
2. Description of Mitigation Measures for protection of Water Quality and Beneficial Use of Water, attached
3. Project Environmental Commitments, pages 4.1-16 to 4.1-18:
http://baydeltaconservationplan.com/RDEIRS508/4_New_Alternatives-508.pdf
4. Avoidance and Minimization Measures, attached:
AMMs 1–7, 10–18, 20–25, 27, 30, and 37–39 would apply to all construction activities under Alternative 4A and would be implemented, where applicable, to avoid and minimize impacts on listed species, consistent with the approach described in Appendix 3.C, Avoidance and Minimization Measures, of the Draft BDCP, and in Appendix D, Substantive BDCP Revisions, of this RDEIR/SDEIS. These actions would minimize the risk of impacts on species resulting from construction activities.

Please let me know if you have additional questions or information needs.

Thank you,

Mike

Michael Bradbury

Program Manager II, Permitting

California WaterFix Program

Department of Water Resources

901 P Street, Suite 411b, Sacramento, CA 95814

Cell (916) 207-0803

Office (916) 651-2987

Description of Mitigation Measures for California WaterFix Alternative 4A

Measures related to Water Quality and Beneficial Uses of Water

Mitigation Measure SW-4: Implement measures to reduce runoff and sedimentation

BDCP proponents will have to demonstrate no-net-increase in runoff due to construction activities during peak flows. To achieve this, proponents will implement measures to prevent an increase in runoff volume and rate from land-side construction areas and to prevent an increase in sedimentation in the runoff from the construction area as compared to Existing Conditions. To reduce the potential for adverse impacts from large amounts of runoff from paved and impervious surfaces during construction, operations, or maintenance, the proponents will design and implement onsite drainage systems in areas where construction drainage is required. Drainage studies will be prepared for each construction location to assess the need for, and to finalize, other drainage-related design measures, such as a new onsite drainage system or new cross drainage facilities. Based on study findings, if it is determined that onsite stormwater detention storage is required, detention facilities will be located within the existing construction area.

To avoid changes in the courses of waterbodies, the BDCP proponents will design measures to prevent a net increase in sediment discharge or accumulation in water-bodies compared to Existing Conditions to avoid substantially affecting river hydraulics during peak conditions. A detailed sediment transport study for all water-based facilities will be conducted and a sediment management plan will be prepared and implemented during construction. The sediment management plan will include periodic and long-term sediment removal actions.

Prior to use of existing stormwater channels, drainage ditches, or irrigation canals for conveyance of dewatering flows, a hydraulic analysis of the existing channels will be completed to determine available capacity for conveyance of anticipated dewatering flows. If the conveyance capacity is not adequate, new conveyance facilities or methods for discharge into the groundwater will be developed. In accordance with NPDES requirements and requirements of the SWPPP, water quality analyses of the dewatering flows will be conducted to avoid water quality contamination.

As described in Section 3.6.1.1, North Delta Intakes, facilities to be constructed along the levees would be designed to provide flood neutrality during construction and operations. Facilities located along the levees, including cofferdams at the intake locations, would be designed to provide continued flood management at the same level of flood protection as the existing levees; or if applicable, to a higher standard for flood management engineering and permitting requirements if the standards are greater than the existing levee design. New facilities would be designed to withstand the applicable flood management standards through construction of flood protection embankments or construction on engineered fill to raise the facilities to an elevation above the design flood elevation for that specific location. The levee design criteria would consider the most recent criteria, including new guidelines for urban and rural levees (DWR 30 2013, 2014).

Mitigation Measure SW-7: Implement Measures to Reduce Flood Damage

Determination of design flood elevation will consider the effects of sea level rise for the lifetime of the project, as determined by USACE, CVFPB, and DWR. A 200-year level of flood protection will be provided for all new facilities. For levee modifications, the level of flood protection will be the same as required for the modified levee without the new facilities.

Mitigation Measure SW-8: Implement measures to address potential wind fetch issues

Measures will be implemented to prevent an increase in potential damage from wind-driven waves across expanded open water areas at habitat restoration locations. These measures will be designed based upon wind fetch studies that will be completed prior to construction of habitat restoration areas with increased open water in the Delta. To reduce the potential for adverse impacts from the increased open water areas during wind events, levees that would be subject to increased wind-driven waves will be strengthened and possibly raised to avoid levee damage from waves or water entering the landside of the levee due to high waves. Other mechanisms to reduce the effects of wind fetch will be considered to the extent feasible in the design of restoration areas, consistent with the biological goals and objectives of the BDCP.

Mitigation Measure GW-1: Maintain water supplies in areas affected by construction dewatering

Prior to construction, BDCP proponents will determine the location of wells within the anticipated area of influence of construction sites at which dewatering would occur. Based on available information, the location of wells, depths of the wells and the depth to groundwater within these wells will be determined. During construction dewatering, monitoring wells should be installed sufficiently close to the groundwater dewatering sites, or if possible, water levels in existing wells will be monitored, in order to be able to detect changes in water levels attributable to dewatering activities. If monitoring data or other substantial evidence indicates that groundwater levels have declined in a manner that could adversely affect adjacent wells, temporarily rendering the wells unable to provide adequate supply to meet preexisting demands or planned land use demands, the BDCP proponents will implement one or more of the following measures:

- Offset domestic water supply losses attributable to construction dewatering activities. The BDCP proponents will ensure domestic water supplies provided by wells are maintained during construction. Potential actions to offset these losses include installing sheet piles to depths below groundwater elevations, deepening or modifying wells used for domestic purposes to maintain water supplies at preconstruction levels, or securing potable water supplies from offsite sources. Offsite sources could include potable water transported from a permitted source or providing a temporary connection to nearby wells not adversely affected by dewatering.
- Offset agricultural water supply losses attributable to construction dewatering activities. The BDCP proponents will ensure agricultural water supplies are maintained during construction or provide compensation to offset for crop production losses. If feasible, the BDCP proponents will install sheet piles to depths below groundwater elevations, or deepen or modify the wells to ensure agricultural production supported by water supplied by these wells is maintained. If

deepening or modifying existing wells is not feasible, the BDCP proponents will secure a temporary alternative water supply or compensate farmers for production losses attributable to a reduction in available groundwater supplies.

The implementation of this mitigation measure will follow the steps below:

- BDCP proponents will be responsible for determining the area of influence of dewatering operations and the location of potentially affected existing wells, in addition to the installation of potential new monitoring wells and the monitoring of existing wells.
- Prior to commencement of construction activities the BDCP Proponents will determine the locations of existing wells which will require monitoring. In addition, shallow monitoring wells may be installed prior to construction dewatering operations. Monitoring of water levels in these wells will occur during construction. Implementation of measures necessary to offset domestic and agricultural water supply losses will occur during construction as necessary.
- Monitoring wells will be installed; or, if feasible, water levels in existing wells will be monitored, in order to detect changes in water levels attributable to dewatering activities. Water levels in the installed monitoring wells and existing wells will be measured by the BDCP Proponents and Construction Contractors prior to construction dewatering and on a weekly or daily basis, as needed, during the entire construction dewatering period. Upon completion of construction, the water levels in the monitoring wells will be measured and monitoring will continue for up to six months following termination of construction dewatering activities or less if groundwater levels reach pre-construction levels.
- All monitoring data will be reported on a monthly basis, and in an annual summary report prepared by the BDCP Proponents and Construction Contractors that will evaluate the impacts of the construction dewatering for that year. The monthly reports will contain tabular water level data as well as changes in water levels from the previous months. The annual report will summarize monthly data and show the most recent water level contour map as well as the pre-construction contour map. The final report will include water-level contour maps for the area of the groundwater aquifer that is affected by dewatering showing initial, pre-construction water levels and final, post-construction water levels.
- If water level data indicate that dewatering operations are responsible for reductions in well productivity such that water supplies are inadequate to meet existing or planned land use demands, mitigation will be required and implemented.
- If monitoring data or other substantial evidence indicates that groundwater levels have declined in a manner that could adversely affect adjacent wells, temporarily rendering the wells unable to provide adequate supply to meet preexisting demands or planned land use demands, the BDCP proponents will implement one or more of the measures described above.

Mitigation Measure GW-5: Agricultural lands seepage minimization

Areas potentially subject to seepage caused by implementation of habitat restoration and enhancement actions or operation of water conveyance facilities shall be monitored and evaluated on a site-specific basis by BDCP proponents prior to the commencement of construction activities to identify baseline groundwater conditions. Restoration sites, along with the sites of water conveyance features that could

result in seepage, shall be subsequently monitored once construction is completed. Monitoring shall include placement of piezometers and/or periodic field checks to assess local groundwater levels and salinity and associated impacts on agricultural field conditions. In areas where operation of water conveyance facilities or habitat restoration is determined to result in seepage impacts on adjacent parcels, potentially feasible additional mitigation measures will be developed in consultation with affected landowners. These measures may include installation or improvement of subsurface agricultural drainage or an equivalent drainage measure, as well as pumping to provide for suitable field conditions (groundwater levels near pre-project levels). Such measures shall ensure that the drainage characteristics of affected areas would be maintained to the level existing prior to project construction.

The implementation of this mitigation measure will follow the steps below:

- BDCP Proponents and Construction Contractors will be responsible for monitoring and evaluation to identify baseline groundwater conditions as well as monitoring after construction is complete.
- Monitoring will occur at areas adjacent to the expanded Clifton Court Forebay portion at Byron Tract, where groundwater recharge from surface water would result in groundwater level increases, and other potentially impacted areas affected by operation of the water conveyance facilities.
- Monitoring and evaluation shall occur prior to commencement of construction activities to identify baseline conditions and with sufficient time allotted to develop additional mitigation measures if needed. Monitoring of restoration sites, along with the sites of water conveyance features that could result in seepage will occur after construction is completed.
- Monitoring shall include placement of piezometers and/or periodic field checks to assess 22 local shallow groundwater levels and salinity and associated impacts on agricultural field conditions.
- Monitoring will collect information on two thresholds:
 1. Water surface elevation (recorded as depth to water)
 2. Shallow groundwater salinity (measured as specific conductance)
- Monitoring of groundwater levels will occur on a daily basis to check real-time measured groundwater levels. This can be performed by equipping the piezometers with electronic water level probes which automatically record levels on a daily basis. Periodic field checks, including measurements of specific conductance will occur on a monthly basis and in the event groundwater levels are above identified thresholds.
- Baseline conditions of shallow groundwater levels and salinity will be determined prior to construction through water level measurements and water testing at the installed piezometers in proximity to restoration areas and conveyance features that might affect drainage on adjacent lands.
- Salinity will be determined by measuring specific conductance at the piezometers with a calibrated field probe before construction begins, and monthly during operation.

- Visual observations will also be used to monitor associated impacts on agricultural field conditions. Visual surveys will be conducted during periodic field checks as well as by local landowners on a continual basis.
- A seepage hotline will be established for landowners to report any visual observations of seepage or deteriorating crop health as a result of an excessive rise in the water table and/or increasing root-zone salinity due to deteriorating shallow groundwater quality.
- All monitoring data will be reported on a monthly basis, and in an annual summary report prepared by the BDCP Proponents that will evaluate the potential impacts of the operation of CMs for that year. The monthly reports will contain tabular water level and salinity data as well as compute changes in water levels and salinity from the previous months. The annual report will summarize monthly data and evaluate if impacts have occurred.
- Groundwater levels at the affected areas will be maintained to the level existing prior to project construction.
- Shallow groundwater salinity will be monitored prior to construction and a threshold will be determined in coordination with the local landowners, based on existing crop salinity tolerance (considerations will include both if shallow groundwater is used for irrigation or if shallow groundwater levels rise and encroach upon the root-zone area).

Mitigation Measure GW-7: Provide an alternate source of water

For areas that will be on or adjacent to implemented restoration components, groundwater quality will be monitored by BDCP proponents prior to implementation to establish baseline groundwater quality conditions. Unacceptable degradation of groundwater quality will be determined by comparing post-implementation groundwater quality to relevant regulatory standards and with consideration of previously established beneficial uses. For wells affected by degradation in groundwater quality, water of a quality comparable to pre-project conditions would be provided. Options for replacing the water supply could include drilling an additional well or a deeper well to an aquifer zone with water quality comparable to or better than preconstruction conditions or replacement of potable water supply. Construction activities are anticipated to be localized and would not result in change in land uses. The well drilling activities would result in short-term noise impacts for several days. (Chapter 31 provides an assessment of the impacts of implementing proposed mitigation measures.)

Mitigation Measure WQ-11: Avoid or Minimize Reduced Water Quality Conditions

The implementation of mitigation actions shall be focused on avoiding or minimizing those incremental effects attributable to implementation of Alternative 4A operations only. Mitigation actions to avoid or minimize the incremental EC effects attributable to climate change/sea level rise are not required because these changed conditions would occur with or without implementation of Alternative 4A. The goal of specific actions is to reduce/avoid additional exceedances of Delta EC objectives and reduce long-term average concentration increases to levels that would not adversely affect beneficial uses within the Delta. Implementation of Mitigation Measure WQ-11 would be expected to reduce effects on EC to a less-than-significant level.

Mitigation Measure WQ-11a: Adaptively Manage Diversions at the North and South Delta 25 Intakes to Reduce or Eliminate Water Quality Degradation in Western Delta

Modeling results for Alternative 4A indicated water quality degradation in the Sacramento River at Emmaton during May-September of dry and critical water year types, relative to the No Action Alternative (ELT). Additional flow in the Sacramento River at Emmaton would be expected to reduce EC levels under Alternative 4A to levels closer to the No Action Alternative (ELT) that would not be expected to adversely affect beneficial uses. By reducing diversions from the north Delta intakes during these periods (and consequently increasing diversions from the south Delta intakes), additional flow would be available in the Sacramento River to reduce water quality degradation with respect to EC. The BDCP proponents shall adaptively manage the split between north and south Delta diversions during May-September of dry and critical water years to limit EC in the Sacramento River at Emmaton to levels consistent with the No Action Alternative.

Mitigation Measure WQ-11b: Adaptively Manage Head of Old River Barrier and 38 Diversions at the North and South Delta Intakes to Reduce or Eliminate Exceedances of 39 the Bay-Delta WQCP Objective at Prisoners Point

Modeling results for Alternative 4A indicated additional exceedances of the Bay-Delta WQCP objective for protection of striped bass between Jersey Point and Prisoners Point at Prisoners Point. It is expected that by adaptively managing the Head of Old River Barrier and the fraction of south Delta versus north Delta diversions, exceedances of the EC objective at Prisoners Point could be avoided, and EC levels at Prisoners Point would be decreased to a level that would not adversely affect aquatic life beneficial uses. The BDCP proponents shall adaptively manage the Head of Old River Barrier and the split between north and south Delta diversions during April-May to avoid exceedances of the objective at Prisoners Point. These actions would not be required in critical water years, when the objective does not apply. The BDCP proponents will consult with CDFW, USFWS, and NMFS to ensure that such actions are warranted to avoid adverse impacts of salinity on striped bass spawning in the San Joaquin River, and to minimize adverse effects these mitigation actions may have on other species.

Mitigation Measure AQUA-1a: Minimize the Use of Impact Pile Driving to Address Effects of Pile Driving and Other Construction-Related Underwater Noise

BDCP proponents will include specification in any construction contracts involving the installation of in-water or nearshore pilings, that piles will be installed using vibratory methods, or other non-impact driving methods, wherever feasible, especially outside of the in-water work window. Such methods have been shown to effectively minimize physical or substantial behavioral effects on fish and other aquatic species. The method selected will be based on geotechnical studies that will be conducted to determine the feasibility of vibratory installation of sheet pile, intake pipe foundation piles, and dock piles for barge landings. Additionally, the vibratory hammer will be started gradually to alert fish in the area that vibration will occur.

Mitigation Measure AQUA-1b: Monitor Underwater Noise and if Necessary, Use an Attenuation Device to Reduce Effects of Pile Driving and Other Construction-Related Underwater Noise

If Mitigation Measure AQUA-1a cannot be implemented during pile driving activities that occur in-water, project proponents will implement Mitigation Measure AQUA-1b, which would include the monitoring of noise and if necessary, the attenuation of noise through either the dewatering of the cofferdam area and/or the installation of a bubble curtain or other attenuation device to minimize underwater noise. This measure would not be applicable to sheet pile installations, where it would not be feasible to surround the entire sheet pile wall, and which are expected to be installed using a vibratory hammer for at least 80-90% of the time. Where impact pile driving is required, DWR will monitor underwater sound levels to determine compliance with the underwater noise effects thresholds at a distance appropriate for protection of the species (183 dB SELcumulative for fish less than 2 grams; 187 dB SELcumulative for fish greater than 2 grams). If noise is expected to exceed applicable thresholds, an attenuation device or other mechanism to minimize noise will be implemented.

Mitigation Measure AQUA-22d: Ensure January through June Delta outflows do not result in changes in longfin smelt abundance

Initial operations would set delta outflow such that longfin smelt abundance would not be reduced. This could be accomplished by reducing SWP/CVP exports, transferring water from non-CVP/SWP sources to increase outflow, or using water stored in Oroville. Science developed through the Adaptive Management Program (described in Section 4.1) will be used to make appropriate adjustments to operations, including outflow, to minimize effects on longfin smelt. These operations would be implemented consistent with applicable biological opinions, incidental take statements, and other permits.

Mitigation Measure AQUA-78d: Slightly adjust the timing and magnitude of Shasta, Folsom, and/or Oroville Reservoir releases, within all existing regulations and requirements, to ameliorate changes in instream flows that would cause an adverse effect to fall-run Chinook salmon.

Whenever possible during real-time operations, project proponents will slightly adjust Shasta, Folsom and/or Oroville Reservoir operations to ensure that instream flows are sufficient to minimize or avoid migration-related effects to fall-run Chinook salmon. Based on the timing of the modeled flow fluctuations, it is expected that adjustments to minimize drastic changes in releases during operations among various months in which there are increases and decreases in flow, will minimize or avoid substantial reductions in flow without effects on existing applicable regulations or operations.

Mitigation Measure BIO-147: Monitor Bank Swallow Colonies and Evaluate Winter and Spring Flows Upstream of the Study Area

To address the uncertainty of the impact of upstream spring flows on existing bank swallow habitat, DWR will monitor existing colonies upstream of the study area and collect habitat suitability data including soil type, number of active burrows per colony, and height of average burrows. DWR will quantify the magnitude of spring flows that would result in potential mortality of active colonies. In addition, to determine the degree to which reduced winter flows are contributing to habitat loss, DWR will quantify the winter flows required for river meander to create suitable habitat through lateral channel migration and bank resurfacing. If impacts of upstream flows on bank swallow are identified, replacement habitat will be established at a minimum of 2:1 for the length of bank habitat affected.

Replacement habitat will consist of removing bank revetment to create habitat for bank swallow at a location subject to CDFW approval (Bank Swallow Technical Advisory Committee 2013).

Mitigation Measure BIO-176: Compensatory Mitigation for Fill of Waters of the U.S.

All mitigation proposed as compensatory mitigation would be subject to specific success criteria, success monitoring, long-term preservation, and long-term maintenance and monitoring pursuant to the requirements of the Mitigation Rule. All compensatory mitigation shall fully replace lost function through the mechanisms discussed below which will result in restoration and/or creation of habitat with at least as much function and value as those of the impacted New Alternatives: Alternatives 4A, 2D, and 5A habitat. In some cases, the mitigation habitat will afford significantly higher function and value than that of impacted habitat.

Compensation ratios are driven by type, condition, and location of replacement habitat as compared to type, condition and location of impacted habitat. Compensatory mitigation usually includes restoration, creation, or rehabilitation of aquatic habitat. The USACE does not typically accept preservation as the only form of mitigation; use of preservation as mitigation typically requires a very high ratio of replacement to impact. It is anticipated that ratios will be a minimum of 1:1, depending on the factors listed above.

Compensatory mitigation will consist of restoration, creation, and/or rehabilitation of aquatic habitat. Typically, impacted habitat will be replaced in-kind, although impacts on some habitat types such as agricultural ditches, conveyance channels, and Clifton Court Forebay, will be mitigated out-of-kind with higher functioning habitat types such as riparian wetland, marsh, and/or seasonal wetland.

Compensatory mitigation shall be accomplished by one, or a combination of the following methods:

- Purchase credits for restored/created/rehabilitated habitat at an approved wetland 16 mitigation bank;
- On-site (adjacent to the project footprint) restoration or rehabilitation of wetlands 18 converted to uplands due to past land use activities (such as agriculture) or functionally 19 degraded by such activities;
- On-site (adjacent to the project footprint) creation of aquatic habitat;
- Off-site (within the Delta) restoration or rehabilitation of wetlands converted to uplands due to past land use activities (such as agriculture) or functionally degraded by such activities;
- Off-site (within the Delta) creation of aquatic habitat; and/or
- Payment into the Corps' Fee-in-Lieu program.

Purchase of Credits or Payment into Fee-in-Lieu Program

It is envisioned that purchase of bank credits and/or payment into a fee-in-lieu program will be utilized for habitat types that would be difficult to restore or create within the Delta. Examples are vernal pool habitat, which requires an intact hardpan or other impervious layer and very specific soil types, and alkali seasonal wetland, which requires a specific set of chemical soil parameters. It is anticipated that only a small amount of compensatory mitigation will fall into these categories.

On-Site Restoration, Rehabilitation and/or Creation

Much of the Delta consists of degraded or converted habitat that is more or less functioning as upland. Opportunities will be sought where on-site restoration, rehabilitation, and/or creation could occur immediately adjacent to the project footprint. It is anticipated that some of the compensatory mitigation will fall into this category.

Off-Site Restoration, Rehabilitation and/or Creation

There exists, within the immediate vicinity of the project area, Delta land which has been subject to agricultural practices or other land uses which have degraded or even converted wetlands that existed historically. Sites within the Delta will be evaluated for their restoration, rehabilitation, and/or creation potential. It is anticipated that most of the compensatory mitigation will fall into this category.

Compensatory mitigation will result in no net loss of acreage of Waters of the U.S. and will accomplish full functional replacement of impacted wetlands. All impacted wetlands will be replaced with fully functioning wetland habitat demonstrating high levels of habitat, water quality, and hydrologic/hydraulic function. Since many impacted wetlands are likely to function at significantly less than high levels, the compensatory mitigation will result in a significant net increase in wetland function.

Mitigation Measure REC-2: Provide Alternative Bank Fishing Access Sites

Construction-related impacts on informal fishing access sites near the proposed water conveyance facilities, such as along the east bank of the Sacramento River, in the vicinity of the proposed intakes, in the vicinity of the expanded Clifton Court Forebay, and would be considered significant because construction would alter the river bank and/or restrict access, making these sites unusable. To compensate for the loss of these informal sites during construction, the BDCP proponents will enhance nearby formal fishing access sites, including partnering with Yolo County to enhance the Clarksburg Fishing Access site on the west bank of the Sacramento River, with the Sacramento County Department of Regional Parks to enhance the Cliffhouse Fishing Access site on the east bank of the Sacramento River and the Georgiana Slough Fishing Access site east of the Sacramento River, and with Contra Costa County to enhance fishing sites near Clifton Court Forebay, as well as other nearby sites. Prior to construction of the proposed water conveyance facilities, the BDCP proponents will ensure adequate signage will be placed at the informal sites that would be directly affected by construction of the intakes, directing anglers to the formal sites. Upgrading the existing fishing access sites will be completed prior to beginning construction of the intakes.

As part of design of the intakes, the BDCP proponents will ensure that public access to the Sacramento River, including fishing access, will be incorporated into the design of the intakes. The access sites will be placed a reasonable distance from the intake to ensure the safety of recreationists and to compensate for the loss that would occur as a result of constructing the intakes.

Mitigation Measure REC-6: Provide a Temporary Alternative Boat Launch to Ensure Access to San Luis Reservoir

Consistent with applicable recreation management plans, DWR and Reclamation will work with DPR to establish a boat ramp extension at or near the Basalt boat launch or other alternative boat ramp site at San Luis Reservoir to maintain reservoir access in years when access becomes unavailable.

Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned

The BDCP proponents will restore barge unloading facility sites will to preconstruction conditions once the facilities are decommissioned and removed to minimize the impact on visual quality and character at these sites. Restoration of the decommissioned sites will meet the following performance standards.

- All disturbed terrain will be restored.
- Replacement plantings will be installed in areas where vegetation was removed.
 - All replacement plantings will be native and indigenous to the area.
 - No invasive plant species will be used under any conditions.

Implementation of this measure will result in restoration of the barge unloading facility sites.

Avoidance and Minimization Measures for California WaterFix Alternative 4A

AMMs Related to Water Quality and Beneficial Use of Water

AMM2 – Construction Best Management Practices and Monitoring

http://baydeltaconservationplan.com/RDEIRS508/Ap_D_00_SubRev-508.pdf

Pages D.3-82 to D.3-86

AMM3 - Stormwater Pollution Prevention Plan

[http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Appendix_3C - Avoidance and Minimization Measures.sflb.ashx](http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Appendix_3C_-_Avoidance_and_Minimization_Measures.sflb.ashx)

Pages 3.C-14 to 3.C-19

AMM4 - Erosion and Sediment Control Plan

[http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Appendix_3C - Avoidance and Minimization Measures.sflb.ashx](http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Appendix_3C_-_Avoidance_and_Minimization_Measures.sflb.ashx)

Pages 3.C-20 to 3.C-21

AMM5 - Spill Prevention, Containment, and Countermeasure Plan

[http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Appendix_3C - Avoidance and Minimization Measures.sflb.ashx](http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Appendix_3C_-_Avoidance_and_Minimization_Measures.sflb.ashx)

Pages 3.C-21 to 3.C-22

AMM6 - Disposal and Reuse of Spoils, Reusable Tunnel Material, and Dredged Material

http://baydeltaconservationplan.com/RDEIRS508/Ap_D_00_SubRev-508.pdf

Pages D.3-86 to D.3-91

AMM7 - Barge Operations Plan

[http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Appendix_3C - Avoidance and Minimization Measures.sflb.ashx](http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Appendix_3C_-_Avoidance_and_Minimization_Measures.sflb.ashx)

Pages 3.C-27 to 3.C-31

AMM10 - Restoration of Temporarily Affected Natural Communities

[http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Appendix_3C - Avoidance and Minimization Measures.sflb.ashx](http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Appendix_3C_-_Avoidance_and_Minimization_Measures.sflb.ashx)

Page 3.C-37

AMM11 - Covered Plant Species

http://baydeltaconservationplan.com/RDEIRS508/Ap_D_00_SubRev-508.pdf

Pages D.3-91 to D.3-93

AMM27 - Selenium Management

http://baydeltaconservationplan.com/RDEIRS508/Ap_D_00_SubRev-508.pdf

Pages D.3-106 to D.3-108

AMM37 Recreation

http://baydeltaconservationplan.com/RDEIRS508/Appendix_D_00_SubRev-508.pdf

Pages D.3-108 to D.3-113