



**RESOLUTION NO. 2017-01**

**A RESOLUTION OF THE BOARD OF THE SACRAMENTO-SAN JOAQUIN DELTA CONSERVANCY ADOPTING RESPONSIBLE AGENCY FINDINGS PURSUANT TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) FOR THE DUTCH SLOUGH TIDAL MARSH RESTORATION PROJECT REVEGETATION (PHASE 2 OF FULL PROJECT).**

**Whereas**, the Dutch Slough Tidal Marsh Restoration Project Revegetation (“Phase 2 Project”) is a proposal put forth by the Department of Water Resources to complete revegetation on the Emerson and Gilbert parcels as Phase 2 of the Dutch Slough Tidal Marsh Restoration Project (“Project”) in Contra Costa County; and

**Whereas**, the Department of Water Resources is the lead agency pursuant to CEQA (Public Res. Code, § 21000 et seq.) and the State CEQA Guidelines (14 CCR § 15000 et seq.); and

**Whereas**, the Department of Water Resources prepared the [Final Environmental Impact Report](#) (2010, EIR) and a [Final Supplemental EIR](#) (SEIR, 2014) pursuant to CEQA in order to analyze all potential adverse environmental impacts of the overall Project; and

**Whereas**, on October 31, 2014, the Department of Water Resources (1) considered and certified the Final SEIR, (2) made findings as required by CEQA with regards to potentially significant environmental effects of the overall project (Exhibit 1 of SEIR), (3) adopted a Statement of Overriding Considerations (Exhibit 2 of SEIR), (4) adopted a mitigation monitoring and reporting program (Exhibit 3 of SEIR), and (5) approved the overall Project ; and

**Whereas**, the applicant, the Reclamation District 2137, and its partner, Department of Water Resources, have requested funding from the Sacramento-San Joaquin Delta Conservancy (Delta Conservancy) for the Phase 2, Revegetation Project. The Delta Conservancy must, therefore, as a responsible agency, make certain findings prior to its approval of funding for the Phase 2, Revegetation Project.

**NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF THE SACRAMENTO-SAN JOAQUIN DELTA CONSERVANCY AS FOLLOWS:**

- a. The Delta Conservancy has, in its independent judgment, reviewed and considered the Final SEIR and the Department of Water Resources’ findings, which are incorporated herein by reference, and finds, as to those potential impacts within the Board’s powers and authorities as a responsible agency, that the Final SEIR contains a complete, objective, and accurate reporting of the Project’s potential impacts and that mitigation measures have been incorporated into the

Project that avoid and/or substantially lessen any of the potentially significant effects of the Project., except as described in paragraph d below.

- b. Further, the Board adopts the relevant portions of the Mitigation, Monitoring, and Reporting Program for the Phase 2 Revegetation for which funding is being approved (attached as Exhibit A below).
- c. The Board further finds that no additional feasible mitigation measures within the Board's authority are necessary to reduce the environmental impacts of the project to less than significant levels.
- d. The Board specifically adopts this Statement of Overriding Considerations and finds that, as part of the approval process, (a) the proposed project has eliminated or substantially lessened all significant effects on the environment where feasible, and (b) the remaining unavoidable impacts of the proposed project are acceptable in light of the environmental, economic, legal, social, technological, and other considerations set forth herein, because the benefits of the proposed project outweigh the significant and unavoidable impacts of the proposed project. The project's potentially significant effect considered relevant to the Phase 2, Revegetation Project that may not be avoided or substantially lessened is summarized below.

**Creation of aquatic habitat that may benefit non-native fish species.** The Project will result in increased habitat suitable for native species, but there is no known way to block non-native species from the created habitats. Because non-native fish species are common throughout the Delta, there is a significant risk that the Project's open water areas and tidal channels may be inhabited by non-native fish species which will compete with the native species the Project is designed to benefit. This is an unintended but unavoidable consequence of creating or opening up habitat that benefits native species.

This impact is acceptable in light of the project's benefits because the project will:

1. Restore a diversity of habitats historically present in the Delta including freshwater emergent marsh, tidal channels, riparian woodland, and native grassland.
2. Provide habitat for native species, including listed and sensitive species.
3. Contribute to the recovery of endangered and other at-risk species and native biotic communities.
4. Support the Delta food web by producing and exporting nutrients.
5. Contribute to scientific understanding of restoration processes and increase the success of other Delta restoration projects.
6. Provide shoreline access, recreational, and educational opportunities, including information about prehistoric and historical residents and past cultural uses of the Project property.

- e. The Delta Conservancy hereby authorizes and directs staff to file a Notice of Determination with the State Clearinghouse and the County Clerk's Office of the county of Contra Costa.
- f. The documents and materials that constitute the record of proceedings for this Resolution are located on the Delta Conservancy's website.

**PASSED, APPROVED, AND ADOPTED BY THE SACRAMENTO-SAN JOAQUIN DELTA CONSERVANCY BOARD THIS APRIL 26, 2017.**

**VOTE**

Ayes:

Noes:

Abstentions:

Absent:

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Jim Provenza, Board Chair

## Exhibit A

### **POTENTIALLY RELEVANT MITIGATION MEASURES FOR THE PHASE 2, REVEGETATION FROM THE MITIGATION MONITORING AND REPORTING PROGRAM (A SUBSET OF MEASURES IN EXHIBIT 3 OF THE DUTCH SLOUGH TIDAL MARSH RESTORATION PROJECT SEIR)**

Note: this table excludes those mitigation measures not considered relevant to Phase 2, Revegetation Project, such as those identified as pre-construction and during construction under Mitigation Timing column.

<b>Mitigation</b>	<b>Implementing Responsibility</b>	<b>Monitoring Responsibility</b>	<b>Mitigation Timing</b>
<p>Mitigation 4.1-1 Erosion Monitoring and Adaptive Management</p> <p>The existing perimeter levees along Emerson Slough shall be monitored for erosion by the Project for at least 5 years post-construction. This will allow for adaptive management of the Project site. If erosion is so great that it undermines levees, or causes water quality impairments, improvements such as channel armoring shall be implemented to manage and reduce erosion. Upon completion of the 5-year monitoring period, results shall be evaluated to determine if excessive erosion is occurring and to recommend whether further monitoring is needed.</p>	<p>DWR or its contractor will conduct monitoring of erosion in the terminal sloughs.</p>	<p>DWR Project Manager</p>	<p>Ten years post-breaching.</p>
<p>Mitigation 4.1-2 Marsh Creek Channel Monitoring</p> <p>Monitoring of the new Marsh Creek channel shall be performed for fifteen years to ensure that sedimentation is not negatively affecting flood flow conveyance. Monitoring shall be performed annually for the first five years, and, depending upon those results, every two years for the next 10 years. In addition, supplemental monitoring would occur after any emergency flood event (a 10-year or greater flow event) that occurs in the first fifteen years. The monitoring shall include regularly spaced (maximum interval of 500 feet) cross-section surveys and a thalweg survey. Additionally, monitoring the original six channel cross-sections established by NHI in 1999 (NHI 2002) shall be conducted to allow for detection of sedimentation farther upstream from the new channel. If monitoring indicates that sedimentation in the Marsh Creek channel is adversely affecting flood flow conveyance, DWR shall coordinate with the Contra Costa County Flood Control and Water Conservation District (CCCFCWCD) to develop a plan to dredge the creek (and beneficially re-use dredged sediments within the Project site) in order to restore flood flow conveyance to pre-sedimentation levels. The triggers for dredging shall be agreed upon with CCCFCWCD in the Agreement between DWR and the District.</p>	<p>DWR will conduct monitoring and coordinate with CCCFCWCD.</p>		<p>annually for the first five years, and, depending upon those results, every two years for the next 10 years</p>

<b>Mitigation</b>	<b>Implementing Responsibility</b>	<b>Monitoring Responsibility</b>	<b>Mitigation Timing</b>
<p>Mitigation 4.1-3: Breach Phase 1, Emerson Parcel, Upon Completion of Canal Encasement Project</p> <p>Mitigations 4.1-3 through 4.1-5, below, replace Mitigation 3.1.2-7 in the 2010 EIR, and are based on the results of the HydroFocus 2013 study. Mitigation measures 4.1-4 and 4.1-5 are intended to be implemented in the sequence in which they are presented, that is, Mitigation 4.1-4 would occur first, and Mitigation 4.1-5 would only be considered if 4.1-4 does not satisfactorily reduce the impact to less than significant. These mitigations would be individually applied to each parcel, and would no longer be necessary on any parcel after the adjacent Canal has been encased.</p> <p>Construction of the Emerson Parcel and Segment 2 of the Canal Encasement project (adjacent to Emerson Parcel) are expected to proceed concurrently. CCWD will not be operating the Canal throughout the encasement construction period (expected to be from Jan 2014 through Dec 2015). Therefore the Canal would not be in service or will be encased during the planned tule cultivation period or breaching on Emerson, so no mitigation would be required. The mitigation measure for Emerson is similar to that in the 2010 EIR: the perimeter levee shall not be breached until the Canal adjacent to the Emerson portion of the Project site is encased. Thus the impact on hydrology and water quality from Project activities on Emerson parcel is anticipated to be less than significant.</p> <p>If, however, Segment 2 of the Canal Encasement project has not begun when tule cultivation is initiated on Emerson, then mitigation measures 4.1-4 and 4.1-5 will apply to the Emerson Parcel.</p>	<p>DWR will ensure that no breaches are constructed until after the CCWD canal, where it is adjacent to the Project, has been encased.</p>	<p>DWR Project Manager</p>	<p>Pre-breach.</p>
<p>Mitigation 4.1-4: Manage and Monitor Water During Tule Cultivation on Gilbert and Burroughs Parcels</p> <p>Phasing. As summarized above, the groundwater seepage analyses (HydroFocus 2013) demonstrated that the tule cultivation phase would have the greatest potential for increased groundwater seepage into the adjacent unlined Canal. To limit the potential seepage impacts to the Canal, tule cultivation shall only occur on one parcel at a time when the adjacent Canal is un-encased and operational.</p>	<p>DWR, or its contractor, will conduct monitoring, and manage tule cultivation water as specified.</p>	<p>DWR Project Manager</p>	<p>During tule cultivation</p>

<b>Mitigation</b>	<i>Implementing Responsibility</i>	<i>Monitoring Responsibility</i>	<i>Mitigation Timing</i>
<p>Monitoring. If a parcel is flooded for tule cultivation while the Canal is unencased and in service, the Project shall perform continuous monitoring in the Canal to assess potential water quality (salinity) impacts. DWR will establish stage and EC (electrical conductivity, a surrogate for salinity) monitoring stations in the Canal adjacent to the parcel undergoing tule cultivation and just east of the Project site, telemetered to provide real-time measurements to DWR and CCWD.</p> <p>Determine Baseline EC Degradation. DWR and CCWD shall cooperatively examine existing data sets to determine baseline (existing) degradation in Canal EC that occurs within the unlined Canal. This baseline degradation will be determined for each month of the year, or each season of the year, as appropriate.</p> <p>Monitor Project Impacts. Salinity impacts from the restoration will be measured by subtracting the baseline degradation from the difference between real-time measurements of daily average EC at the mouth of the Canal and the EC adjacent to the restoration site.</p> <p>No impact shall be considered to have occurred at any time when the chloride concentration at CCWD's Pump Plant #1 is at or below 40.0 mg/liter (equivalent to EC of 315 <math>\mu</math>S/cm). During these times monitoring and impact assessment are not required. CCWD will provide DWR with the EC and chloride data from Pump Plant #1 on a regular basis.</p> <p>Significant Impacts. Salinity impacts as a result of the Project shall be deemed significant if the increase in daily average EC due to the Project as quantified using the methods described above (Determine Project impacts) exceeds 17.5 <math>\mu</math>S/cm or is greater than a 5% increase for more than one day and the measured chloride concentration at CCWD's Pump Plant 1 is greater than 40.0 mg/l. If this threshold is reached, measures identified in Mitigation 4.1-5, below, shall be implemented.</p> <p>Water Management. During the tule cultivation period, the Project shall gradually increase water levels at the site until they reach their maximum elevation (approximately +3.0 ft NGVD29)<sup>6</sup>.</p> <p>Periods of No-diversion in the Canal. During CCWD's annual no-diversion period (typically the</p>			

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<p>month of April), the water level on the parcel under tule cultivation shall not exceed +2.0 NGVD29 as measured at a staff gage in the southernmost region of tule cultivation. CCWD will notify DWR at least 14 days in advance of any time that it anticipates that daily average pumping at Pump Plant 1 will be below 50 cfs until CCWD notifies DWR that pumping has been greater than 50 cfs for 5 days.</p>			
<p>Mitigation 4.1-5: Reduce or Eliminate Seepage Effects</p> <p>If monitoring and assessment described in Mitigation 4.1-4 indicates that the Project (either during tule cultivation phase or after breaching) is causing significant water quality impacts that have not been controlled by changes in Project water levels, then DWR shall implement the following measures:</p> <p>Mitigate the impacts to CCWD water quality by paying for an alternate source of water if impacts exceed the following threshold. Where salinity exceeds the greater of 5% or 17.5 <math>\mu\text{S}/\text{cm}</math>, over 40 mg/l of water as measured at Pump Plant #1, DWR will pay CCWD \$54 (in 2013 dollars) per day per <math>\mu\text{S}/\text{cm}</math> over the 40 mg/l threshold,. The payments will be used to offset CCWD's cost of obtaining and conveying water from alternate sources including but not limited to diversions at CCWD's other intakes, releases from Los Vaqueros Reservoir, or transfers of water from another purveyor of water.. DWR shall pay this amount to CCWD by January 31<sup>st</sup> of each year for the previous year's impacts. DWR and CCWD will collaborate to determine the duration and quantification of significant impacts subject to payment.</p> <p>If tules are under cultivation and the significance criteria have been exceeded for a total of 30 or more days per calendar year the Project will be drained, no further water will be applied, and the levees will not be breached until the adjacent Canal is encased.</p> <p>If the levees have been breached and the significance criteria have been exceeded for a total of 30 or more days per calendar year, a soil bentonite cutoff wall or groundwater collection system shall be placed within the south levee or within the setback area between the levee and property line to</p>	<p>DWR will pay mitigation costs if necessary, and manage tules as specified, and implement barrier solution if necessary.</p>	<p>DWR Project Manger</p>	<p>During tule cultivation and post- breaching</p>

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minimize groundwater seepage into the unlined Canal.			
<p>Mitigation 4.1-6: Groundwater Intrusion Protection– East of Site</p> <p>If deemed necessary by the urban development to the east, the Project shall participate in a joint study to quantify the relative contributions of all possible sources of groundwater intrusion into the parcels east of the restoration site, thereby quantifying the relative role of the Project in contributing to groundwater pumping needs. This study would include the private inholding on the west side of Jersey Island Road.</p> <p>This study shall include field monitoring to measure actual flux into the eastern parcel. If this study determines a significant contribution from the Project that would adversely affect hydrologic conditions east of the Project site that cannot be addressed with existing or planned groundwater management systems, then the technical and economic feasibility of constructing an effective means of reducing flux into the parcels shall be evaluated and a feasible system shall be implemented.</p> <p>Measures that may be considered include a groundwater cutoff wall, toe drain, or financial contribution to the operations and maintenance of groundwater collection systems currently in place or anticipated to be in place with new residential development, at levels commensurate with the documented percent contribution of the Project to increased groundwater levels and volumes to the south requiring abatement. If the monitoring determines that there are impacts to the functioning of the septic system for the private inholding, and the sewer infrastructure for the development to the east has been installed, an additional option would be to connect the inholding to the City sewer system.</p>	DWR will participate in a joint study if needed, and implement any required corrections	DWR Project Manger	Before, during and after construction
<p>Mitigation 4.1-7: Groundwater Monitoring</p> <p>The 2010 EIR required groundwater monitoring of the lands to the south, west, north, and east of the project site, to determine baseline groundwater levels and quality. Data will be used to determine baseline and post-project groundwater levels, hydraulic gradients, flow directions, and water quality</p>	DWR’s contractor, HydroFocus, will continue to conduct groundwater	DWR Project Manager	After breaching (pre-project baseline has been completed)

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<p>(salinity, major ions, nitrogen species and stable isotopes). The study was to be conducted for at least one year prior to project implementation, and for at least one year after.</p> <p>Groundwater monitoring began in November 2010 and continued until December 2012 to establish the baseline conditions. Fifteen existing and nine new wells were monitored, as well as two control wells located over 1 mile from the project site and unlikely to be impacted by project implementation. Wells are located on Ironhouse Sanitary District (west), Jersey Island (north), Hotchkiss Tract (east), and parcels south of the Canal. Wells monitor the shallow (within 30' of the surface) aquifer, which is known to be of higher salinity than local surface water, and which shows changes in the hydraulic gradient as local water management practices change.</p> <p>Data will be used to determine baseline and post-project groundwater levels, hydraulic gradients, flow directions, and water quality (salinity, major ions, nitrogen species and stable isotopes). Post project monitoring of these wells shall commence after the levee of Emerson parcel is breached.</p>	<p>monitoring</p>		
<p>Mitigation 4.1-11: Minimize Potential Pollution Caused By Inundation Of Site</p> <p>Sites shall not be inundated (connected to tidal water sources) until surface soil conditions have been stabilized, all construction debris removed, and all surface soils containing chemicals in excess of the Sediment Screening Criteria for "surface material" have been remediated or removed from the site.</p>	<p>DWR or construction monitor will ensure it is carried out.</p>	<p>DWR Project Manager</p>	

<b>Mitigation</b>	<b>Implementing Responsibility</b>	<b>Monitoring Responsibility</b>	<b>Mitigation Timing</b>
<p>Mitigation 4.1-12: Marsh Creek Water Quality Testing and Evaluate Feasibility of Marsh Creek Relocation Based On Water Quality Considerations</p> <p>If and when the RWQCB establishes criteria for EDCs of concern, the Marsh Creek water-quality testing program described in Impact 4.1-13 shall be expanded to include these compounds. The program shall identify scientifically sound and appropriate water quality thresholds to maintain the ecological integrity of restored habitats. These thresholds will be defined in consultation with CVRWQCB and other resource protection agencies. If the water-quality monitoring program indicates that Marsh Creek contains levels of metals, MeHg, EDCs, coliforms, pesticides, or other pollutants that threaten the ecological health of habitats within the Dutch Slough site, then Mitigation 4.1-13 below will be implemented.</p>	<p>DWR will make decision to incorporate EDCs into water quality monitoring program based upon RWQCB decision, and whether to divert Marsh Creek, based upon results of monitoring</p>	<p>DWR Project Manager</p>	<p>After RWQCB establishes criteria for EDCs</p>
<p>Mitigation 3.3.1-8.1: Levee Design and Maintenance</p> <p>Levees shall include vegetation cover and biotechnical and/or physical buffering and feature gently graded slopes. Levees planted with marsh and riparian vegetation in and feature flatter slopes provide a wave-damping wetland bench will dissipate wave energy and minimize erosion as well as support habitat objectives. Periodic levee inspections and maintenance shall be specified as part of the project design.</p> <p>Anticipated levee maintenance activities include levee inspections and patrolling, grading, engineering, vegetation and rodent control, debris removal, drainage cleaning, seepage control, underwater surveys, and slope protection.</p>	<p>DWR or its contractor will inspect and maintain levees.</p> <p>DWR will ensure levee design, construction, and maintenance follow these guidelines</p>	<p>DWR Project Manager</p>	<p>During design and construction phases, and post-construction</p>

<b>Mitigation</b>	<b>Implementing Responsibility</b>	<b>Monitoring Responsibility</b>	<b>Mitigation Timing</b>
<p>Mitigation 3.3.1-8.2: Repair Unintended Levee Breaches</p> <p>To prevent channel erosion and potential damage to the levee systems, unintended levee breaches at Dutch Slough that are not consistent with the restoration option shall be repaired by the project sponsors.</p>	DWR will repair unintended breaches that are not consistent with Project objectives	DWR Project Manager	Post- breaching
<p>Mitigation 3.3.1-8.3: Maintain Levee Along Dutch Slough</p> <p>Levees along Dutch Slough shall be maintained to prevent increase in wind-wave fetch that could lead to greater erosion and scour of Jersey Island levees.</p>	DWR will maintain levee along Dutch Slough	DWR Project Manager	Post- breaching
<p>Mitigation 4.2-3: Rock Slope Protection Placement and Backfill and Riparian Planting</p> <p>Where feasible, both exterior and interior levee slopes shall be planted with native grasses and trees to increase available wildlife habitat. In areas where riparian vegetation shall be planted in riprap (i.e., the Emerson perimeter levee), rocks above the high tide line shall be backfilled with topsoil to provide a substrate for revegetation efforts, and increase survival of plants. Sand or gravel may be used to fill voids below the high tide line to reduce downward soil movement and water turbidity.</p>	DWR will ensure that exterior levee design and construction meet these requirements	DWR Project Manager	During design and construction
<p>Mitigation 4.2-7: Conduct Swainson’s Hawk Nest Surveys and Establish Buffers around Active Nests</p> <p>Preconstruction Surveys. If work will occur during the nesting season (March 1 to July 31), a focused survey for active nests shall be conducted by a qualified biologist 5 days prior to construction. If a lapse in project-related work of 15 days or longer occurs, another focused survey shall be performed and the results sent to CDFW prior to resuming work. The biologist shall conduct a second monitoring of the potential nest trees and Swainson’s hawk nests 72 hours prior to construction. Results of each survey/monitoring effort shall be documented and submitted to CDFW.</p> <p>Surveys shall be conducted in proposed work areas, staging and storage areas, haul routes, and</p>	DWR will incorporate tree protection in its design; project construction supervisors will be informed of tree protection measures.	DWR Project Manager	Current and on-going

<b>Mitigation</b>	<b>Implementing Responsibility</b>	<b>Monitoring Responsibility</b>	<b>Mitigation Timing</b>
<p>stockpile and borrow areas, including the ISD parcel, and shall extend ¼-mile beyond the limits of work. The surveys shall be conducted at the appropriate times of day, during appropriate nesting times, shall be of sufficient duration to observe movement patterns, and shall concentrate on areas of suitable habitat. Surveys shall be conducted in accordance with CDFW guidelines, and Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in California’s Central Valley (Swainson’s Hawk Technical Advisory Committee 2000).</p> <p>Active Nests. Construction activities within ¼-mile of an active nest should be limited to the greatest extent possible from egg-laying to post-hatching. If construction must occur in that time frame, construction should be initiated prior to egg-laying to allow time for hawks to acclimate to the disturbance before eggs are laid. Levee breaches shall be constructed after local Swainson’s hawks have fledged their young to the extent feasible, and preferably after the birds have migrated south for the winter.</p> <p>Where construction cannot be sufficiently limited to avoid disturbing Swainson’s hawks during nesting, 5 days and 3 days prior to the initiation of construction at any site where a nest is within ¼-mile of construction, a qualified biologist will observe the subject nest(s) for at least 1 hour. Nest status shall be determined and normal nesting behaviors observed. The results of preconstruction monitoring shall be reported to CDFW within 24 hours of each survey.</p> <ul style="list-style-type: none"> <li>• No Contact. Physical contact with an active nest tree shall be prohibited from the time of egg-laying to fledging, unless CDFW consents to the contact. Construction personnel outside of vehicles shall be restricted to a distance greater than 660 feet from the nest tree unless construction activities require them to be closer. If personnel must come within 82 feet of an active nest tree for more than 15 minutes while adults are brooding, the nesting adults shall be monitored for stressed behavior. If stressed behavior is identified, personnel shall be removed until the behavior normalizes. Similar procedures shall be applied if personnel must come within 164 feet of an active nest for longer than 1 hour.</li> <li>• Late Construction. If construction will occur within ¼-mile of an active nest site between</li> </ul>			

<b>Mitigation</b>	<b>Implementing Responsibility</b>	<b>Monitoring Responsibility</b>	<b>Mitigation Timing</b>
<p>March 15 and July 31, the following additional measures shall be implemented:</p> <ul style="list-style-type: none"> <li>• Staging areas for equipment, materials, and work personnel shall be located ¼-mile away from the active nest site. These areas shall be flagged and identified to all work personnel during employee orientation.</li> <li>• If construction occurs within 328 feet of an active nest, no construction shall occur prior to 8:00 AM, and shall be discontinued by 5:00 PM each day.</li> <li>• A qualified biologist shall check on the nest site daily during project construction.</li> <li>• If a nest with eggs or young fledglings is abandoned during Project activities, DWR shall notify CDFW and initiate action to salvage any abandoned eggs and return the young to the wild. If the young have already hatched, they shall be retrieved and returned to the wild using methods acceptable to CDFW. Persons handling eggs and/or young birds shall have in their possession the appropriate scientific collecting permits from CDFW.</li> </ul>			
<p>Mitigation 4.2-9: Minimize and Compensate for Potential Impacts to Burrowing Owls</p> <p>Annual surveys will be conducted starting in 2008 to determine foraging and nesting status, and population size. . In addition, surveys will be conducted within 30 days of commencement of earth- moving activities, or other construction activities, such as placement of fill. Pre-construction surveys must be repeated if more than 30 days pass between survey dates and construction activities.</p> <p>Presence or sign of burrowing owl and all potentially occupied burrows will be recorded and monitored according to DFG guidelines. If burrowing owls are not detected by sign or direct observation, construction may proceed. If burrowing owls are present during surveys conducted between February 1 and August 31, grading will not be allowed within 250 feet of any burrow, unless approved by DFG.</p> <p>A compensatory mitigation plan shall be prepared and implemented if burrowing owls are confirmed to occur on site. Compensatory mitigation shall comply with guidelines accepted by DFG. Mitigation may include placement of exclusion doors on occupied burrows (passive</p>	<p>DWR or its biological consultants will conduct surveys.</p> <p>If burrowing owls are confirmed, DWR will mitigate as determined in consultation with DFG.</p>	<p>DWR Project Manager</p>	<p>Current and on-going</p> <p>Pre-construction</p> <p>Pre-construction</p>

<b>Mitigation</b>	<b>Implementing Responsibility</b>	<b>Monitoring Responsibility</b>	<b>Mitigation Timing</b>
<p>relocation), establishment of artificial burrows on or near the project site, or monitoring of burrows.</p> <p>If burrowing owls are detected on the project site, foraging habitat with natural or artificial burrows will be acquired and permanently protected to compensate for the habitat loss. The protected lands shall be occupied burrowing owl habitat, or created habitat, in an area acceptable to DFG. First priority would be to preserve habitat on the project site; second priority would be to off-site locations near (within approximately a 5 mile radius of) the project site; third priority would be to off-site location further from the project site that is acceptable to DFG. Habitat will be acquired, permanently protected, and enhanced through management, for the benefit of the burrowing owl. If lands are purchased and managed, a Mitigation and Monitoring Plan describing the mitigation and monitoring requirements and performance standards will be prepared. Alternatively, the required mitigation can be met by purchase of credits in an accepted mitigation bank, in-lieu fee program, or approved Habitat Conservation Plan</p> <p>If acceptable to DFG, Mitigation 3.4.1-8.1 (purchase of off-site mitigation area primarily for Swainson's hawk) may also be applied to this impact to compensate for significant loss of suitable habitat because the degree to which restored grasslands on the project site (which, under the influence of higher groundwater elevations adjacent to restored tidal marsh, may naturally develop lowland grassland characteristics less suited to burrowing owl) compensate for habitat losses is doubtful.</p>			
<p>Mitigation 4.2-11: Mitigation for Potential Impacts to Yellow-Breasted Chats and other Songbirds</p> <p>Mitigation 3.4.1-3 applies to this impact. Annual bird surveys will be conducted, beginning in 2008, which will assess use of the site by yellow-breasted chats and other special status marsh songbirds. If those surveys have documented nesting by any special status marsh songbirds prior to construction, applicants shall conduct additional surveys for yellow-breasted chats and avoid disturbance of high-use habitats during the nesting season. This would reduce</p>	<p>DWR will ensure that construction timing and methods do not disturb nesting birds.</p>	<p>DWR Project Manager</p>	<p>Current and ongoing</p>

<b>Mitigation</b>	<b>Implementing Responsibility</b>	<b>Monitoring Responsibility</b>	<b>Mitigation Timing</b>
impacts to chats and other riparian songbirds to less than significant levels.			
<p>Mitigation 4.2-17: In Water Construction Windows</p> <p>With the exception of the construction of the temporary crossing of Marsh Creek, all in-water work shall be restricted to a work-window from August 1 through October 31, which is timed to occur when sensitive fish species or life stages are not present or are least susceptible to disturbance. The temporary crossing of Marsh Creek shall be removed by October 15 each year, or earlier if required by the Contra Costa County Flood Control and Water Conservation District.</p> <p>In addition, all in-water work shall be conducted, to the extent possible, during the lowest tide possible (preferably the spring low tides). In-water work occurring in shallow waterways (approximately 4 feet deep or less) should be conducted when water is at its lowest level, and presumably the chance of fish being present is low.</p>	DWR, or its construction monitor, will assure that construction in areas where material may enter a slough is limited to the allowed in-water work windows	DWR Project Manager	During construction
<p>Mitigation 4.2-18: Implement Fish Rescue Plan Inside Cofferdams</p> <p>DWR shall prepare a Fish Rescue Plan for review and approval by CDFW, USFWS, and NMFS. (As of February 2013, a draft Fish Rescue Plan has been prepared and is undergoing agency review.) The Fish Recue Plan shall describe the methods that shall be used to capture and relocate fishes from in-water work areas prior to and during dewatering, and shall include establishment of seine and block nets on an outgoing tide to herd fish downstream and out of the work area prior to placement of the downstream cofferdam. The fish rescue effort shall be implemented by a qualified biologist before and during the dewatering activities and shall involve capture and return of those fishes not excluded from the dewatered area by the seines or nets to suitable habitat downstream of the work area.</p>	DWR, or its consultant, will prepare the plan and conduct fish rescue operations.	DWR Project Manager	Plan to be prepared pre-construction; rescue operations to be conducted as needed.
<p>Mitigation 4.2-20: Release On-Site Water Gradually</p> <p>Any water that may need to be released from the restoration area shall be tested for DO prior to release to the surrounding water body. If the DO of the release water is higher than or up to 0.5</p>	DWR, or its construction monitor, will test	DWR Project Manager	During construction and tule

<b>Mitigation</b>	<b>Implementing Responsibility</b>	<b>Monitoring Responsibility</b>	<b>Mitigation Timing</b>
<p>mg/L below surrounding water DO levels, the water may be released without restriction. If the DO of the release water is lower than 0.5 mg/L below surrounding water DO levels, the water shall be released on low tides, to facilitate water movement out of the sloughs, and release shall stop one (1) hour before the rising tide.</p>	<p>water DO before</p>		<p>management.</p>
<p>Mitigation 4.2-21: Limit Operation During Migration Periods of Sensitive Species</p> <p>Water level management activities shall be limited during migration periods for sensitive species such as salmon to reduce the potential impacts upon these species.</p>	<p>DWR, or its contractor, will manage water to protect sensitive fish species</p>	<p>DWR Project Manager</p>	<p>After open water management is initiated</p>
<p>Mitigation 4.2-23: Install Fish Screens on Pumps and Culverts</p> <p>DWR shall install fish screens designed to meet criteria developed by NMFS and CDFW (and selected by USFWS) on any pump intakes that could be used temporarily for pre-breach water management activities, pumping out temporary construction areas, and on the gated culvert used for water management in the managed non-tidal marsh area on the Gilbert parcel. Screens shall be in place at all times when pumps or culverts are in use, and to the greatest extent practicable, at all times regardless of operational status. Screen mesh size shall be 1.75 millimeters (mm) (0.0689 inch) and the design approach velocity shall be less than 0.2 feet per second. Screens shall be cleaned as frequently as necessary to maintain the required approach velocity.</p>	<p>DWR, or its contractor, will include screens in design and will install</p>	<p>DWR Project Manager</p>	<p>During construction</p>
<p>Mitigation 4.2-24: Enhance Tidal Exchange</p> <p>In the event that non-native vegetation and fish predators become dominant in the tidal marshes of the Project site, measures to facilitate greater tidal exchange to the marsh and promote habitat favorable to the establishment of native SAV and native fish, such as additional breaches, will be undertaken. The corrective actions taken will be based upon the feasibility, hydrologic benefits, and ecological values of the actions.</p>	<p>DWR will assess monitoring data and if necessary, construct additional breaches or take other action to increase tidal</p>	<p>DWR Project Manager</p>	<p>Post-breach</p>

<i>Mitigation</i>	<i>Implementing Responsibility</i>	<i>Monitoring Responsibility</i>	<i>Mitigation Timing</i>
	exchange		
<p>Mitigation 3.11.1-1: Watercraft Restrictions</p> <p>To minimize conflicts between motorized and non-motorized watercraft, 5 mile-per-hour speed limit signs (no wake zone) should be posted in Emerson and Little Dutch sloughs. In addition, signs should be posted at the entry points to the new open water areas indicating that no motorized watercraft are allowed. A mutual aid agreement with the Contra Costa Sheriff's Department Marine Unit and the California Department of Boating and Waterways would provide enforcement oversight as well as provide for public safety.</p>	<p>DWR, in coordination with the City of Oakley, will install signs.</p> <p>DWR will coordinate with the Sheriff and DBW.</p>	DWR Project Manager	During construction or post-construction
<p>Mitigation 3.11.1-2: Temporary Effects on Recreational Access During Project Construction</p> <p>Construction activities shall be phased and coordinated to minimize the amount of time that Marsh Creek Trail access would be restricted. Public notices with information on restricted access conditions and timeframes shall be posted on site and provided to any recreation users who have requested notification.</p>	DWR will provide notification on site and to interested users.	DWR Project Manager	During construction
<p>Mitigation 3.11.1-3: Provide Signage and Education on Trail Rules and Etiquette</p> <p>Signs shall be posted displaying the proper protocol and pamphlets shall be provided at the park and at all trailheads. In addition, outside of the dog run area, dogs must be on leashes no longer than 10 feet. There shall be a limit of 3 dogs per person in the City Community Park and Dutch Slough Restoration Project public access areas.</p>	DWR, in coordination with the City of Oakley, will install signs.	DWR Project Manager	Post-construction
<p>Mitigation 3.15.1-4.1: Adapt and Apply Regional (Central Valley/Suisun) Best Management Practices (BMPs) for Managed Marshes to Tidal Marshes</p> <p>Adapt BMPs for managed marsh to be compatible with basic ecological restoration objectives of freshwater tidal marsh restoration in the western Delta, following applicable precedents from San</p>	DWR will adopt and apply BMPs for managed marsh as compatible with	DWR Project Manager	During final design approval, and during

<i>Mitigation</i>	<i>Implementing Responsibility</i>	<i>Monitoring Responsibility</i>	<i>Mitigation Timing</i>
<p>Pablo Bay (Petaluma, Napa-Sonoma) and Suisun and Grizzly Bay marshes, in consultation with Contra Costa, Solano, and Marin-Sonoma MVCDs, the California Department of Fish and Game, and the U.S. Fish and Wildlife Service. Add tidal marsh MVCD activities to regional permits for MVCD activities in wetlands in the Central Valley.</p>	<p>restoration objectives.</p>		<p>construction</p>
<p>Mitigation 3.15.1-4.2: Adapt and Apply Regional (Central Valley/Suisun) Best Management Practices (BMPs) for Managed Marshes to Open Water Marshes</p> <p>BMPs are habitat-based strategies that can be implemented when needed for mosquito control in managed wetlands. These strategies represent a range of practices that wetland managers can incorporate into existing habitat management plans or in the design of new wetland restoration or enhancement projects. Ideally, BMPs can be used to decrease the production of mosquitoes and reduce the need for chemical treatment without significantly disrupting the ecological character, habitat function, or wildlife use in managed wetlands. Not all BMPs would be appropriate for a given wetland location or set of circumstances.</p> <ul style="list-style-type: none"> <li>• <b>Timing of managed marsh flooding and drawdown (nontidal managed open water options).</b> Timing of flooding and drawdown shall be coordinated with local MVCD, adapted to current- year temperature, rainfall patterns, and mosquito vector risks, to minimize mosquito production and vector risks.</li> <li>• <b>Rapid flooding and drawdown of managed marsh.</b> Marshes shall be flooded and drawn down (emerged bed) as quickly as operational controls allow.</li> <li>• <b>Water control.</b> Once wetlands have been flooded, water surface elevations shall minimally fluctuate prior to drawdown, except during winter periods of low mosquito production. Minimal fluctuation is based on the need to circulate water (maximize turnover). Marsh submergence depths shall be managed to maximize areas with minimal initial flooding depths of two feet (twenty four inches).</li> <li>• <b>Wetland design features to reduce mosquito production.</b> Managed wetland edges</li> </ul>	<p>DWR will adopt and apply BMPs for managed marsh as compatible with restoration objectives.</p>	<p>DWR Project Manager</p>	<p>During final design approval, and during construction</p>

<b>Mitigation</b>	<i>Implementing Responsibility</i>	<i>Monitoring Responsibility</i>	<i>Mitigation Timing</i>
<p>shall be constructed to enable efficient access by MCVD field crews for monitoring and treatment. Edge slopes of managed nontidal marsh areas shall be steeper than to 4:1 (horizontal : vertical). Open water areas with sufficient fetch and wind-wave turbulence to minimize mosquito production shall be interspersed within managed marsh, at least 20% of total area. Floating aquatic vegetation shall be actively suppressed in open water areas within managed marsh.</p>			
<p>Mitigation 3.15.2-4: Health Effects From Mosquitoes</p> <p>Same as for Alternative 1, but with the following additions: (a) minimize or eliminate artificial berms within middle or high marsh plains; replace their drainage divide functions with temporary structures that restrict fish movement without impounding water on the marsh surface, such as mesh or geotextile fabric fences; (b) adaptively modify marsh plain drainage patterns with amphibious excavation/dredging equipment to expose poorly drained backwater marsh areas to adequate tidal circulation and mosquito predator fish access; (c) Orient the Marsh Creek delta so that flood sediment deposition does not obstruct, occlude, or cut off tidal flows from channels and create standing water mosquito habitat.</p>	<p>DWR will ensure that project designs and implementation minimize features that may increase mosquitoes</p>	<p>DWR Project Manager</p>	<p>During final design approval and during construction</p>