

SAN FRANCISCO BAY RESTORATION AUTHORITY

Staff Recommendation
July 17, 2020

SUISUN MARSH FISH SCREEN REHABILITATION PROJECT: PHASE 1

Project No. RA-016
Project Manager: Karen McDowell

RECOMMENDED ACTION: Authorization to disburse up to \$454,624 to the Suisun Resource Conservation District to develop and test repair designs to rehabilitate the Suisun Marsh Essential Fish Screens along Montezuma Slough to ensure resiliency for 5,369 acres of managed wetlands in Suisun Marsh of Solano County.

LOCATION: Suisun Marsh, Solano County; Measure AA Region: North Bay

MEASURE AA PROGRAM CATEGORY: Vital Fish, Bird and Wildlife Habitat Program

EXHIBITS

- Exhibit 1: [Project Location and Site Maps](#)
Exhibit 2: [Project Photographs and Designs](#)
Exhibit 3: [Suisun Marsh Habitat Management, Preservation, and Restoration Plan Final Environmental Impact Statement/Environmental Impact Report \(EIS/EIR\)](#)
Exhibit 4: [Suisun Marsh Habitat Management, Preservation, and Restoration Plan, Final EIS/EIR, Appendix F: Mitigation, Monitoring and Reporting Plan \(MMRP\)](#)
Exhibit 5: [Project Letters](#)

RESOLUTION AND FINDINGS:

Staff recommends that the San Francisco Bay Restoration Authority adopt the following resolution pursuant to The San Francisco Bay Restoration Authority Act, Gov. Code Sections 66700-66706:

“The San Francisco Bay Restoration Authority hereby authorizes the disbursement of an amount not to exceed four hundred and fifty-four thousand, six hundred and twenty-four dollars (\$454,624) to Suisun Resource Conservation District to develop and test repair designs to rehabilitate Suisun Marsh Essential Fish Screens along Montezuma Slough and to upgrade the

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solar facilities that power pumps at six remote Essential Fish Screen sites to ensure resiliency for 5,369 acres of managed wetlands in Suisun Marsh of Solano County. Prior to commencement of the project, the grantee shall submit for the review and written approval of the Executive Officer of the Authority the following:

1. A detailed work program, schedule, and budget.
2. Names and qualifications of any contractors to be employed in carrying out the project.
3. A plan for acknowledgement of Authority funding.
4. Evidence that all permits and approvals required to implement the project have been obtained.
5. Evidence that the grantee has entered into agreements sufficient to enable the grantee to implement, operate, and maintain the project.”

Staff further recommends that the Authority adopt the following findings:

“Based on the accompanying staff report and attached exhibits, the San Francisco Bay Restoration Authority hereby finds that:

1. The proposed authorization is consistent with The San Francisco Bay Restoration Authority Act, Gov. Code Sections 66700-66706.
2. The proposed authorization is consistent with The San Francisco Bay Clean Water, Pollution Prevention and Habitat Restoration Measure (Measure AA).
3. The grantee is not required to enter into a project labor agreement per Resolution 22 because construction costs for the project will not exceed \$500,000.
4. The San Francisco Bay Restoration Authority has independently reviewed and considered the *Suisun Marsh Habitat Management, Preservation, and Restoration Plan Final Environmental Impact Statement/Environmental Impact Report* (SMP EIR/S), which was certified by the California Department of Fish and Wildlife (DFW) on December 22, 2011 (Exhibit 3) The EIR/S indicates that the project has potentially significant effects in the areas of Air Quality, Noise, Utilities and Public Services, Cultural Resources, Public Health and Environmental Hazards. As described in the EIR/S and accompanying MMRP (Exhibit 4) mitigation measures have been incorporated into the project, which will eliminate or substantially lessen all potentially significant effects to a less than significant level. There is no substantial evidence that the project as mitigated will have a significant effect on the environment.

PROJECT SUMMARY:

Staff recommends that the Authority authorize a grant of up to four hundred and fifty-four thousand, six hundred and twenty-four dollars (\$454,624) to Suisun Resource Conservation District (SRCD) to develop and test repair designs to rehabilitate the Suisun Marsh Essential Fish Screens along Montezuma Slough to ensure resiliency for 5,369 acres of managed wetlands in Suisun Marsh of Solano County (Exhibit 1, Regional Map).

Suisun Marsh is largest brackish wetland on the Pacific coast. Its managed wetlands, primarily duck hunting areas owned by private landowners and the California Department of Fish and

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Wildlife (DFW), consist of diked lands that are managed to maximize waterfowl production by diverting water from adjacent sloughs at certain times of year and draining or pumping out water at other times of year. The ability to divert water from sloughs during low salinity periods into the managed wetlands is critical for improving habitats by flooding the wetlands, reducing soil salinities, and increasing germination and healthy growth of plants favored by waterfowl. Levees, ditches, water control facilities, and drainage pumps are used to manipulate the timing, duration, and depth of flooding.

If fish are pulled into the intakes (flood pipes), a process known as entrainment, the fish are either killed when they collide with water pumps or get trapped in the managed wetlands and stranded when the wetlands are later drained as part of the annual management cycle. To protect native fish populations from entrainment into managed wetlands, the US Fish and Wildlife Service, the National Marine Fisheries Service, and DFW have established a regulatory framework of diversion restrictions for unscreened diversions in Suisun Marsh. It reduces or prohibits diversions 7 months of the year (Nov 1-May 31). Restrictions coincide with critical flooding periods for wintering waterfowl habitat, spring salt leaching cycles, and wetland irrigations.

Essential Fish Screens (EFS) have been installed on intakes along Montezuma Slough in Suisun Marsh to prevent entrainment of fish (Exhibit 1. EFS Site Locations). Suisun Marsh EFS were designed to comply with USFWS Delta smelt (0.2 feet/second) and the NMFS salmon (0.4 feet/second) requirements (Exhibit 2. EFS). With EFS installed, managers can apply water to the managed wetlands during sensitive biological periods for fish, i.e., when Central Valley populations of chinook salmon, most of which use Suisun Marsh during their migrations, and other fish species of concern such as Delta and longfin smelt, are present.

To maximize habitat values of managed wetlands, water diversion infrastructure needs to be in optimal working order. After more than 20 years in a brackish, corrosive environment, the original EFS have exceeded their useful life and must be rehabilitated to extend their intended function (Exhibit 2. EFS Maintenance Concerns). Salinity in northern San Francisco Bay is determined by the interacting forces of sea level height and river inflow. With impending sea level rise due to climate change, as well as constant pressure from upstream water users to increase freshwater diversions and reduce river inflow to the Bay, salinities in Suisun Marsh are expected to increase. Therefore, properly operating EFS are essential for having the ability to divert low salinity water, when it is available, to maintain brackish habitat in the managed wetlands.

This Project is the first of two Phases: Phase 1 will assess current condition of 14 existing EFS, develop a plan to rehabilitate the EFS and associated infrastructure, develop a design for EFS rehabilitation, and test the design in a pilot project on one EFS (Exhibit 2. EFS 634 Design Concept). Phase 1 also includes upgrading the solar systems that power pumps at six remote EFS sites that don't have access to line power in order to improve efficiency and reliability (Exhibit 1, EFS Site Locations). The SRCD's 1986 boom truck will also be rebuilt during Phase I in order to restore the capacity to regularly maintain the EFS.

Phase 1 will establish a blueprint for rehabilitating the EFS including permitting and constructing a pilot project. Evaluation of Phase 1 will be shared in a summary report, and findings will guide Phase 2 which will rehabilitate the remaining 13 EFS to ensure reliability and increase resilience for Suisun Marsh managed wetlands. Staff recommends that funding for Phase 2 be considered after Phase 1 has provided the necessary findings.

SRCD works collaboratively with private landowners; local, state, and federal agencies; and conservation organizations to meet the needs of Suisun Marsh, Solano County, and the San Francisco Bay-Delta. The 1977 Suisun Marsh Preservation Act empowered SRCD with the local responsibility for regulating and improving water management practices on privately owned lands within the primary management area of Suisun Marsh. Since it was formed 40 years ago, SRCD has had extensive experience in managing wetland improvement projects in Suisun Marsh. Earlier partners have included the Bureau of Reclamation, Department of Water Resources, and Central Valley Project Improvement Act. Under Phase 1, SRCD will manage the Project team for the planning. This will include handling funding allocation and billing for a subcontract to Ducks Unlimited (DU) for planning, design, and management of the pilot project. A similar arrangement may be used to manage Phase 2 for full scale construction, if funded. DFW, the largest public landowner in Suisun Marsh, will provide logistical assistance with the assessment of EFS on their property, and has a long history of managing wetlands.

SRCD leads semiannual workshops to inform local landowners of changes in regulatory issues and permitting to manage their wetlands. The surrounding communities including Bay Point, Benicia, Fairfield, Pittsburg, Suisun City, and Travis Air Force Base work in partnership with SRCD and the landowners in issues concerning conservation of Suisun Marsh. The community supports efforts to improve water quality, public recreation, and ecosystem values.

Site Description: Suisun Marsh is in Solano County and lies between freshwater Central Valley outflows from the Sacramento and San Joaquin River and saltwater from San Francisco Bay, creating a unique and ecologically rich brackish wetland complex of more than 50,000 acres. It is a mosaic of public and privately owned tidal and managed wetlands, bays, and sloughs. It is the largest contiguous brackish water marsh on the Pacific coast and is a critical part of the Bay-Delta estuary ecosystem encompassing over 10% of California's remaining wetlands.

Suisun Marsh provides essential habitat for more than 221 bird species, 45 mammals, 16 herptiles, and over 40 fish. In addition to the primary value as waterfowl habitat, managed wetlands provide valuable habitat for a variety of non-waterfowl birds, mammals, reptiles, and amphibians. Birds such as Suisun song sparrows, salt marsh common yellowthroats, shorebirds, and ring-necked pheasants forage and nest in the managed wetlands. These habitats support mammals such as the salt marsh harvest mouse, northern river otter, coyote, raccoon, striped skunk, black-tailed jackrabbit, muskrat, and tule elk as well as native herptiles (e.g., western pond turtles, and gopher snakes).

Suisun Marsh is protected from development and urban encroachment under 1977 legislation – the Suisun Marsh Preservation Act and 1976 Suisun Marsh Protection Plan to preserve its integrity and assure continued wildlife use. Primary land uses are open space and conservation of managed wetland and wildlife habitat. It is a principal area for Pacific Flyway wintering waterfowl, and the largest public landowner is DFW managing over 15,000 acres on the Grizzly Island Wildlife Area complex. Suisun Marsh supports the state's commercial and recreational salmon fishery by providing important tidal rearing areas for juvenile salmonids. To protect salmon, restrictions on unscreened water diversions and use of EFS in Montezuma Slough were included in the U.S. Army Corps of Engineers (Corps) 1995 Regional General Permit (RGP), with consultation with U.S. Bureau of Reclamation, USFWS, NMFS, and other agencies (Exhibit 2). These water diversion restrictions, along with those imposed for the seasonal protection of Delta and longfin smelt, were incorporated by the Corps as special conditions in RGP 3. Installation of the EFS have included 4 periods: October 1996 (two solar, three line power); July

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1998 (three solar, four line power); October 2000 (one solar); and 2006 (one line power). Twelve of the EFS sites benefit twenty-six private landowners, including EFS 634 where the pilot project will be conducted (Exhibit 1, EFS Site Locations). The other two EFS sites benefit property owned by SRCD and DFW.

PROJECT FINANCING

San Francisco Bay Restoration Authority	\$454,624
Suisun Resource Conservation District	\$50,000
Project Total	\$504,624

The project is a combination of planning, design, construction, operations, and maintenance. The construction costs for this project, which involve the pilot project for EFS 634 and upgrades of the solar systems, account for less than \$300,000 of the total project costs. SRCD will provide staff resources from the Water Manager Program (\$40,000) and the Lower Joice Island Program (\$10,000) to contribute to the proposed project. SRCD's Water Manager Program is funded through the Suisun Marsh Preservation Agreement Implementation Fund and supports three SRCD staff to assist landowners in wetland habitat management in the marsh. An endowment supports a caretaker/equipment operator on Lower Joice Island, which is where one of the EFS is located. The caretaker will assist in all work concerning that EFS, including transportation to and from the island, moving people and equipment on the island, and any needed work with equipment to inspect the facilities.

CONSISTENCY WITH AUTHORITY'S ENABLING LEGISLATION, THE SAN FRANCISCO BAY RESTORATION AUTHORITY ACT:

The proposed project is consistent with Section 66704.5(a), (b), and (e) of the San Francisco Bay Restoration Authority Act and is therefore eligible for grant funding from the Authority. Consistent with Section 66704.5(a), the project is within the Authority's jurisdiction as shoreline parcel(s) in the San Francisco Bay, and SRCD is an eligible grantee as a special district with the local responsibility for regulating and improving water management practices on privately owned lands within the primary management area of Suisun Marsh. Consistent with section 66704.5(b), the project will access and test repair designs to rehabilitate the Suisun Marsh EFS along Montezuma Slough to ensure resiliency for 5,369 acres of managed wetlands in Suisun Marsh of Solano County. Consistent with section 66704.5(e), this is a proposed planning, construction, operation, and maintenance project, all of which are eligible phases for Authority funding.

CONSISTENCY WITH MEASURE AA PROGRAMS AND ACTIVITIES:

The project supports the *Vital Fish, Bird and Wildlife Habitat Program's* purpose to significantly improve wildlife habitat that will support and increase vital populations of fish, birds, and other wildlife in and around the Bay by increasing reliability and resilience of 14 EFS that provide

water for adaptive management. It will (a) enhance protected lands by ensuring more reliable water for the DFW's Grizzly Island Wildlife Area; and (b) protect wetlands to benefit shorebirds, waterfowl, and fish including the Central Valley chinook salmon, Delta smelt, and green sturgeon. EFS diversions are critical for management of these wetlands.

CONSISTENCY WITH MEASURE AA PRIORITIZATION CRITERIA:

1. **Greatest positive impact.** This project will have a great positive impact on the Bay as a whole, because it benefits a large expanse of contiguous wetlands (5,369 acres) and associated wildlife. The project to rehabilitate the EFS on public and private lands in Suisun Marsh will sustain the water diversions to retain and enhance the value of managed wetlands while protecting Central Valley populations of chinook salmon, most of which use Suisun Marsh during their migrations, and other fish species of concern such as Delta and longfin smelt. Enhancing 50,000 acres of managed wetlands is a co-equal goal with restoration of 7,000 acres tidal marsh under the Suisun Marsh Plan EIR/EIS (2014), since both components of the habitat mosaic benefit a wide diversity of wildlife species.

2. **Greatest long-term impact.** This Project has a long-term impact on the Bay, because it supports the conservation goals under the Suisun Marsh Plan EIR/EIS (2014). In development for over a decade, the Suisun Marsh Plan is the guidance document for conservation of this critical area of the estuary over the next 30 years. It was based on best scientific studies indicating enhancement of up to 50,000 acres of managed wetlands as a major element of the preferred habitat mosaic (see San Francisco Baylands Ecosystem Habitat Goals Project 1999). The Goals Project states: "On the majority of lands within Suisun Marsh, the long-standing practice of managing diked wetlands primarily for waterfowl should continue. These brackish marshes should be enhanced, through protective management practices, to increase their waterfowl carrying capacity."

Suisun Marsh supports a large proportion of the contiguous wetlands in the San Francisco estuary. It provides public access and recreation, carbon sequestration (brackish areas may have the greatest potential for sequestering carbon with minimal methane emissions) and increases resilience to change through providing the "knobs" or management options to adaptively manage the wetlands with changing freshwater inflows. It adds to the scope of the geographic distribution in the Measure AA projects since Suisun Marsh is the largest wetland complex in Solano County. Finally, managed wetland impoundments may be the most viable adaptation to climate change effects of sea level rise.

3. **Leveraging resources and partnerships.** See Project Financing section above for details on \$50,000 matching funds provided by SRCD. In addition, DU has agreed to contribute \$5000 in-kind support from their organization base funding for their participation. This will include contributed GIS software and survey equipment, support for staff time to attend coordination meetings, and time for the Project Manager and Project Engineer.

The twenty-eight private landowners that benefit by the EFS sites will contribute support for long-term maintenance of the EFS, and they will provide logistical support for the project planning and pilot construction. Similarly, both DFW and SRCD will provide logistical assistance with the assessment of EFS on their properties. Funding support for these

contributions are independently obtained, and Authority funding match will not be required to secure them. In addition, SRCD has submitted two DFW Prop 1 Proposals (in review) that will be complementary to this Project, providing drainage infrastructure for increased flood-and-drain capability and scientific studies of salinity management.

4. **Economically disadvantaged communities.** This Project will benefit economically disadvantaged communities, since Suisun Marsh is surrounded by several recognized block and tract disadvantaged communities including south Fairfield, Pittsburg, Suisun City, and Travis Air Force Base. The project will provide enhanced recreational opportunities and benefit the wetland ecosystem health that comprises the neighboring environment for these disadvantaged communities. The project will benefit water quality within the region, potentially reducing contaminants (such as mercury methylation) through improved water control. It will significantly reduce bare areas without vegetation throughout the marsh that are sources of windborne dust and associated contaminants that affect the diverse neighboring communities. The project will improve available wildlife resources to all local community members, many of whom regularly use the area for recreation including sport harvest of fish and game.
5. **Benefits to economy.** This project will provide employment opportunities for Bay Area residents, especially in Solano County, for construction of the infrastructure as well as for ongoing maintenance. Flood risk for infrastructure and the shoreline communities that ring the Suisun Marsh will be reduced by establishing EFS diversion gates that allow waters to be directed into wetlands during flooding events if needed. The EFS infrastructure itself will be designed to be durable on the basis of the past 20 years of maintenance experience.
6. **Monitoring, maintenance, and stewardship.** Under the Suisun Marsh Plan (2014), monitoring, maintenance, and stewardship of managed wetlands is a required, coequal element with tidal restoration, so that success of one requires the other component. Monitoring has been formalized in the Adaptive Management Plan (Suisun Marsh Plan 2014, Appendix E) and Mitigation, Monitoring and Reporting Plan (Appendix F) and overseen by the Adaptive Management Action Team of which SRCD is a member. EFS flowmeters will provide continuous records of the diversion rates to the wetlands. In addition, required vegetation monitoring is conducted every three years across the entire region to detect changing conditions. For the past 20 years, landowners have been required to support maintenance of the EFS to keep them in good working condition, and this practice will continue for the rehabilitated infrastructure systems. The lessons learned over the past 20 years of screen maintenance will be included in the assessment, with the primary goal of simplifying the maintenance for enhanced durability. The local, private, and public landowners will be the stewards of the EFS, and through them, of the wetlands.
7. **Coastal Conservancy's San Francisco Bay Area Conservancy Program.** This project satisfies the selection criteria of the Coastal Conservancy's San Francisco Bay Area Conservancy Program's Criteria
 - a. This project is supported by adopted local/regional plans. The project supports the primary regional plan of the Suisun Marsh Plan EIR/EIS (2014). The Plan was the result of more than a decade of work, integrating the policies and regulations of

- government entities at federal, state, and local levels with the practices of the local private landowners.
- b. This project is multijurisdictional and serves a regional constituency. The jurisdictions that will benefit from this project include the state of California, Solano County, local cities (Benicia, Fairfield, and Suisun City), local Suisun Marsh stakeholders, landowners, the regional hunting heritage constituency, the recreational fishing community, and birdwatchers.
 - c. This project can be implemented in a timely way. Since SRCD holds all of the needed permits, this project (Phase 1) could be completed within two years of funding, and Phase 2, for which funding will be considered at a later date, could be accomplished in two years following that, with all of the rehabilitation done within five years.
 - d. This project will provide opportunities for benefits that could be lost if the project is not quickly implemented. Existing EFS are deteriorating rapidly, including failure of EFS Worthington (#634) this year, which negatively affects 66 wetland acres, and without rehabilitation in the near future, habitats for hundreds to thousands of wetland areas may be degraded or lost.
 - e. This project includes matching funds from other sources of funding or assistance. SRCD will leverage costs (\$50,000 total) from the SRCD Water Manager's Program and the Lower Joice Island Program to contribute to the project. DU has agreed to contribute \$5000 of in-kind support for their participation.
8. **San Francisco Bay Conservation and Development Commission's Coastal Management Program.** This Project is consistent with the San Francisco Bay Conservation and Development Commission (BCDC) coastal management program which is the primary environmental regulator of Suisun Marsh through its Suisun Marsh Protection Plan. A proposed update to that plan is in progress, and EFS will be included in the update. Each local government entity including SRCD has its own Local Protection Plan which was certified by BCDC, and SRCD will include the EFS work within its plan. The Fish and Wildlife Element of the Protection Plan was prepared by DFW, which is a partner in this project, following the 1974 Suisun Marsh Preservation Act provisions. The Suisun Marsh Supplement includes several BCDC reports.
9. **San Francisco Bay Joint Venture's Implementation Strategy.** Suisun Marsh is unique under Measure AA in that it is part of the Central Valley Joint Venture which has contributed a letter of support (Exhibit 4). The CVJV was created in 1990, and the Suisun Marsh was included within the boundaries because of its importance in supporting resident breeding and wintering waterfowl of the Pacific Flyway. The primary focus of the CVJV was implementation of the North American Waterfowl Management Plan objectives and protection, restoration and maintenance of Central Valley waterfowl habitats. Achieving the objective of the CVJV Implementation Plan benefits a wide array of wetland species including shorebirds, wading birds, amphibians, reptiles, fish, mammals, invertebrates, and wetland plants.
- In 1996, the SFBJV was established and adopted boundaries that include the watershed above the Suisun Marsh and the wetland areas downstream of the Marsh and the entire San Francisco Bay. This project has been entered in EcoAtlas' Project Tracker and will be

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proposed for SFBJV adoption in an upcoming meeting. It also provides an opportunity for neighboring JVs to work together in a single region.

COMPLIANCE WITH CEQA:

The proposed project consists of three tasks: 1) assess current conditions of 14 EFS and develop a plan to rehabilitate their infrastructure; 2) test the design in a pilot project on one EFS; and 3) restore maintenance capacity and upgrade the solar power at six remote sites with newer technologies to improve efficiency and reliability.

The first task is statutorily exempt from the requirement to prepare an environmental document under the California Environmental Quality Act (CEQA) and categorically exempt from CEQA under 14 Cal. Code of Regulations Sections 15262 and 15306, as it only involves assessment of EFS and development of a plan for possible future actions that have not yet been approved, adopted or funded, and basic data collection, research and resource evaluation activities that will not result in serious or major disturbance to an environmental resource. The planning studies will consider environmental factors. Staff will file a Notice of Exemption for the planning portion upon approval of the proposed project.

The third task is categorically exempt from the provisions of CEQA pursuant to Title 14 California Code of Regulations Section 15301 Existing Facilities. This section exempts repair and minor alteration of existing public facilities and topographic features with no expansion of use. Restoring maintenance capacity and upgrading the solar power at six remote sites is a minor alteration with no expansion of use.

The second task involves replacement of an exterior water control structure and attaching it to an existing fish screen facility on Montezuma Slough. This existing fish screen facility has an existing sheet pile bulkhead on the tidal side of the exterior levee that this water control structure pipe will pass through. This activity is considered in the Suisun Marsh Habitat Management, Preservation, and Restoration Plan (SMP) Final EIR/EIS as “Installing or Replacing Pipe for Existing Exterior Flood or Dual-Purpose Gates Water.”

The SMP, finalized in 2014, is a site specific programmatic 30 year plan, including environmental permitting and environmental review (EIR/EIS), and the Mitigation, Monitoring, and Reporting Program (MMRP). The SMP Final EIR/EIS was completed by the U.S. Bureau of Reclamation (BOR), USFWS, and DFW, with support of the SRCD and the Department of Water Resources. The suite of actions required to conduct the ongoing operation and maintenance of Suisun Marsh managed wetlands are addressed and analyzed as a project specific elements of SMP for the publicly and privately owned Suisun Marsh diked managed wetlands, levees, water control infrastructure and water conveyance facilities (Fish Screens) for 30 years from the approval date of the SMP, i.e., through 2044.

It should be noted that project sites within the Suisun Marsh are located within areas identified as Essential Fish Habitat and/or critical habitat for federally listed species under the Endangered Species Act. Timing windows and best management practices have been designated for maintenance activities, and must be observed as outlined in the biological opinions issued by the U.S. Fish and Wildlife Service on June 10, 2013 and the National Marine Fisheries Service (NMFS) on July 3, 2013. An evaluation by a biologist or on-site monitor shall be done at each

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site during project implementation of exterior pipe replacement or riprap placement to document project actions for the purpose of identifying any condition that could adversely affect salmonids, green sturgeon, or their habitat. A NMFS biologist will be immediately notified whenever conditions are identified that could adversely affect salmonids, green sturgeon, or their habitat in a manner not described in the opinion.

DFW filed a Notice of Determination under CEQA on December 22, 2011. The MMRP for the Suisun Marsh Habitat Management, Preservation, and Restoration Plan identifies the following mitigation measures and environmental commitments to mitigate impacts to water quality and fish for replacement of an exterior water control structure and pipe in managed wetlands.

- Implement construction activities from June to September when the wetlands are dry enough to conduct these activities.
- Pipe replacement as well as repair, replacement, or installation of exterior water control structures will not change the existing use or diversion capacity.
- All pipes will be pre-assembled before installation to minimize work time.
- All bulkheads will be in place prior to backfilling the bulkhead during installation, repair, or re-installation of water control structures.
- All work to be performed on the exterior side of levees shall commence and be completed within a 6-hour period, from 3 hours prior to low tide to 3 hours after low tide.
- Construction equipment used for projects will be checked each day prior to work and, if necessary, action will be taken to prevent fluid leaks. If leaks occur during work, the Corps, its permittee, or the contractor will contain the spill and remove the affected soils.
- All contractors must have a supply of erosion and pollution control materials on site to facilitate a quick response to unanticipated storm events or emergencies.
- No in-water work will occur during the repair of existing exterior levees; the coring of existing levees; pipe replacement at the exterior flood or dual-purpose gate; pipe replacement at the existing exterior drain gate; installation, repair, or re-installation of water control bulkheads.
- Restrict levee repairs and pipe replacements to the dry season and dry days.
- Develop and implement a hazardous spill plan.
- Install or replace water control structures only during low tides (within a six-hour period, from three hours prior to low tide to three hours following low tide) when there is the least chance of affecting fish.
- Perform all in-water work by hand and during low tides as part of the following activities:
 - repair, replacement, or installation of exterior water control structures; and
 - pipe replacement at the exterior flood or dual-purpose gate.

Staff has independently evaluated the EIR/EIS and the MMRP and concurs that there is no substantial evidence that the proposed project will have a significant effect on the environment. Staff therefore recommends that the Authority find that the project as mitigated avoids, reduces

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or mitigates the possible significant environmental effects to less than significant and that there is no substantial evidence that the project will have a significant effect on the environment.

Upon approval the project, staff will file a Notice of Determination.