

EXHIBIT C

Final

Mitigation Monitoring and Reporting Program for the
**Site 18A Culvert Replacement and
Fish Passage Enhancement Project**



SCH#2015042009

Prepared for:



AECOM

May 8, 2015

Final
Mitigation Monitoring and Reporting Program for the

**Site 18A Culvert Replacement and
Fish Passage Enhancement Project**



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ACRONYMS AND OTHER ABBREVIATIONS

BMP	best management practice
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CWA	Clean Water Act
IS/MND	Initial Study/Mitigated Negative Declaration
NEMDC	Natomas East Main Drainage Canal
RWQCB	Regional Water Quality Control Board
SAFCA	Sacramento Area Flood Control Agency
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan

MITIGATION MONITORING AND REPORTING PROGRAM

In accordance with the California Environmental Quality Act (CEQA), Sacramento Area Flood Control Agency (SAFCA) prepared an Initial Study/Proposed Mitigated Negative Declaration (IS/MND) to provide the public and responsible and trustee agencies with information about the potential environmental effects associated with the construction and operation of the Site 18A Culvert Replacement and Fish Passage Enhancement Project (hereafter referred to as the “proposed project”).

The IS/MND concludes that implementation of the proposed project would generate significant and potentially significant adverse environmental impacts. For all potential impacts, the IS/MND prescribes feasible mitigation capable of reducing these impacts to less-than-significant levels.

Section 21081.6 of the California Public Resources Code and California Code of Regulations (CCR) Sections 15091(d) and 15097 of the State CEQA Guidelines, require a public agency to adopt a reporting and monitoring program for changes to the project that it has adopted and incorporated into the project, at the time of approval, to mitigate, avoid, or reduce significant effects on the physical environment. These conditions are also referred to as mitigation measures.

The Mitigation Monitoring and Reporting Program is to be used by SAFCA to ensure that adopted mitigation measures identified in the IS/MND are implemented and that their implementation is documented. The Mitigation Monitoring and Reporting Program is presented in tabular format.

The table columns contain the following information:

Mitigation Number: Lists the mitigation measures by number, as designated in the IS/MND.

Mitigation Measure: Provides the text of the mitigation measures, each of which has been adopted and incorporated into the project.

Timing/Schedule: Lists the time frame in which the mitigation measure is expected to take place.

Implementation Responsibility: Identifies the entity responsible for complying with the requirements of the mitigation measure.

Completion of Implementation: SAFCA is responsible for reporting on implementation of the mitigation measures. The “Action” column is to be used by SAFCA to describe the action(s) taken to complete implementation. The “Date Completed” column is to be used by SAFCA to indicate when implementation of the mitigation measure has been completed. SAFCA, at its discretion, may delegate implementation responsibility or portions thereof to qualified consultants or contractors.

Mitigation Monitoring and Reporting Program for the Site 18A Culvert Replacement and Fish Passage Enhancement Project					
Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
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Biological Resources					
BIO-1	<p>Conduct Pre-construction Survey for Woolly Rose-Mallow and Implement Impact Avoidance and Minimization Measures.</p> <p>SAFCA shall implement the following measures to avoid and minimize adverse impacts to woolly rose-mallow.</p> <ul style="list-style-type: none"> a) Before construction activities begin, a focused survey will be conducted by a qualified botanist for woolly rose-mallow shrubs that may be present in or within 50 feet of areas where ground disturbance would occur. To the extent feasible, depending on timing of project implementation, surveys will be conducted during the blooming period for this species (June–September). b) If woolly rose-mallow is detected, areas where the species occurs will be fenced for complete avoidance during project implementation, to the extent feasible. c) If woolly rose-mallow is present in areas where disturbance cannot be avoided, a qualified botanist will assess the feasibility of salvaging and transplanting individuals as part of the revegetation component of the project. If such actions are deemed feasible, they will be implemented under the direction of a qualified botanist and in coordination with California Department of Fish and Wildlife (CDFW). 	Before construction activities begin and during revegetation.	SAFCA		
BIO-2	<p>Avoid and Minimize Disturbance of Special-status Fish in Natomas East Main Drainage Canal (NEMDC)/Steelhead Creek.</p> <p>SAFCA shall implement the following measures to avoid and minimize disturbance to special-status fish in NEMDC/Steelhead Creek.</p> <ul style="list-style-type: none"> a) No grading work within the existing floodway will occur during the designated flood season (i.e., November 1 to April 15), and work will not begin until evaluation of upstream conditions indicate that inundation of the construction area is unlikely to occur. b) A worker awareness training program will be conducted for construction crews before the start of construction activities and as needed when new personnel begin work on the project. The program will include a brief overview of sensitive fisheries and aquatic resources (including riparian habitat to be preserved) on the project site, measures to minimize impacts on those resources, and conditions of relevant regulatory permits. 	Before, during, and as needed after construction activities.	SAFCA		

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	<p>c) Any in-water construction activities (though not currently anticipated) will be conducted during months when special-status fish species/ sensitive life stages are least likely to be present or less susceptible to disturbance (e.g., July 1 to October 31).</p> <p>d) All riparian vegetation that is not specified to be impacted within the grading area will be identified and fenced using orange construction fencing or similar materials. Sensitive habitat information will be incorporated into project bid specifications, along with a requirement for contractors to avoid these areas.</p>				
BIO-3	<p>Conduct Pre-construction Surveys and Minimize Disturbance and Potential Loss of Active Nests of Special-Status Birds.</p> <p>a) SAFCA shall implement the following measures to minimize disturbance and potential loss of active nests of special-status birds.</p> <p>b) Focused surveys for Swainson’s hawk and other nesting raptors will be conducted by a qualified biologist before on-site project activities begin. To the extent feasible, surveys for Swainson’s hawk will follow guidelines provided in Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in California’s Central Valley (Swainson’s Hawk Technical Advisory Committee 2000). A minimum of one survey will be conducted no more than 14 days before beginning project activities that are conducted during the nesting season (March 15–August 31). Surveys for Swainson’s hawk nests will include all accessible areas of suitable nesting habitat located within 0.25 mile of areas subject to project disturbance, and surveys for other raptors will include accessible suitable nesting habitat within 500 feet of project disturbance.</p> <p>c) Surveys for Modesto song sparrow will include suitable habitat east of Northgate Boulevard and within up to 200 feet of areas of project disturbance, depending on the disturbance level. Surveys will be conducted within 7 days before on-site project activities begin in a given area during the migratory bird nesting season (March 1–August 31).</p>	Before and during construction activities.	SAFCA		

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	<p>d) If active nests are found, appropriate buffers will be established and maintained around the nest sites to avoid nest failure resulting from project activities. The appropriate size and shape of the buffers will be determined by a qualified biologist and may vary depending on the species, nest location, nest stage, and construction activity. The buffers may be adjusted if a qualified biologist determines that such an adjustment would not be likely to adversely affect the nest. Monitoring will be conducted to confirm that project activity is not resulting in detectable adverse effects on nesting birds or their young. No project activity will begin within the buffer areas until a qualified biologist has determined that the young have fledged or the nest site is otherwise no longer in use.</p>				
BIO-4	<p>Avoid and Minimize Disturbance of Riparian Vegetation and Develop Restoration Plan to Compensate for Tree Loss.</p> <p>SAFCA shall implement the following measures to avoid and minimize disturbance of riparian vegetation and trees.</p> <p>a) If canopy and/or root pruning, cabling, or other corrective measures for preserved trees are necessary, such measures will be conducted as specified by a Certified Arborist and will conform to the pruning standards of the International Society of Arboriculture.</p> <p>b) Ground disturbance activity, equipment, and vehicles will not encroach within 1 foot of the drip line of trees to be preserved, to the extent feasible. The dripline area will be protected with high visibility fencing or tape before any ground disturbance or movement or storage of heavy equipment and other vehicles occurs. All fencing/tape will be removed following construction and before revegetation plantings are installed.</p> <p>c) Excavating within a distance of half the drip line beyond the drip line will be avoided whenever practicable. If necessary, any authorized fill or excavation within this area will be supervised by a Certified Arborist.</p> <p>d) To prevent root tearing and mangling by heavy equipment, hand digging will be conducted around roots in the vicinity of major trees to be preserved before pruning of roots greater than 2-inch diameter. Severed roots larger than 2 inches in diameter will be pruned or trimmed and covered with earth as soon as possible.</p>	<p>Before, during, and after construction and revegetation activities.</p>	<p>SAFCA.</p>		

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	<p>e) If construction activities other than excavation are required within the dripline of preserved trees, a 6-inch layer of mulch or shredded wood material will be laid on top of the soil to protect the soil and roots (3/4-inch plywood may be used if mulch is not feasible). Mulch and/or plywood will be removed after construction is complete.</p> <p>f) Removal of protected trees and other riparian vegetation (e.g., shrubs) will be compensated by planting appropriate species as part of the revegetation component of the project. Replacement plantings will be provided in accordance with City and County ordinances. Other riparian vegetation will be compensated at a 1:1 replacement ratio, based on the acreage removed. Revegetation efforts will be implemented as described in the restoration plan that has been prepared for the project. This will ensure adequate plantings of appropriate species are installed, maintained, and monitored to meet replacement requirements and compensate for removal of protected trees and other riparian vegetation.</p>				
Geology and Soils					
GEO-1	Prepare and Implement a Grading and Erosion Control Plan.				
	<p>a) Before earthmoving activities commence, SAFCA shall prepare and implement a grading and erosion control plan. The grading and erosion control plan will be prepared and implemented before on-site grading activities begin. The plan will be consistent with the State's National Pollutant Discharge Elimination System permit, and will include site-specific grading associated with culvert replacement and restoration activities.</p> <p>b) The aforementioned plan will include the location, implementation schedule, and maintenance schedule of all erosion and sediment control measures; a description of measures designed to control dust and stabilize disturbed soils within the construction-site; and a description of the location and methods of storage and disposal of construction materials. Erosion and sediment control measures could include the use of berms, straw cover, swales, wattles, and silt fencing, and covering or watering of stockpiled soils to reduce wind erosion.</p>	Before and during construction activities.	SAFCA.		

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Hazards and Hazardous Materials					
HAZ-1	<p>Prepare and Implement a Construction Fire Prevention Plan.</p> <p>A fire prevention plan will be prepared and implemented by SAFCA or prepared by the construction contractor for review and approval by SAFCA in coordination with the appropriate emergency service and/or fire suppression agencies of the applicable local or State jurisdictions before the start of any construction activities. The plan will describe fire prevention and response methods, including fire precautions, requirements for spark arrestors on equipment, and suppression measures that are consistent with the policies and standards of the affected jurisdictions. When heavy equipment is used for construction during the dry season, a water truck shall be maintained on the construction site. Materials and equipment required for implementation of the plan will be available on the construction site. Training will be provided to all construction personnel regarding fire safety, and all personnel will be made familiar with the contents of the plan before the start of construction activities.</p>	Before and during construction activities.	SAFCA.		
Hydrology and Water Quality					
HYD-1	<p>Prepare and Implement a Storm Water Pollution Prevention Plan or a Storm Water Management Plan and Associated Best Management Practices.</p> <p>a) During the development of improvement plans, SAFCA will consult with the Central Valley Regional Water Quality Control Board (RWQCB) and Sacramento County. The purpose of the consultation will be to acquire the regulatory approvals necessary to obtain a Clean Water Act (CWA) Section 401 Water Quality Certification, and any other necessary waivers under the Porter-Cologne Water Quality Control Act.</p> <p>b) SAFCA will also prepare and implement the appropriate storm water pollution prevention plan (SWPPP) or storm water management plan (SWMP) to prevent and control pollution and to minimize and control runoff and erosion. The SWPPP or SWMP will identify the activities that may cause pollutant discharge (including sediment) during storms or strong wind events and the best management practices (BMPs) that will be employed to control pollutant discharge. Construction techniques that will be identified and implemented to reduce the potential for runoff may include minimizing site disturbance,</p>	Before and during construction activities.	SAFCA.		

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	<p>controlling water flow over the construction site, stabilizing bare soil, and ensuring proper site cleanup. In addition, the SWPPP or SWMP will include an erosion control plan and BMPs that specify the erosion and sedimentation control measures to be implemented, which may include silt fences, staked straw bales/wattles, silt/sediment basins and traps, geofabric, trench plugs, terraces, water bars, soil stabilizers and re-seeding and mulching to revegetate disturbed areas. The SWPPP shall also include dust control practices to prevent wind erosion, sediment tracking and dust generation by construction equipment. No disturbance of surfaces will occur between October 15 and April 15 without erosion control measures in place.</p> <p>c) The SWPPP or SWMP will also include a spill prevention, control, and countermeasure plan, and applicable hazardous materials business plans, and will identify the types of materials used for equipment operation (including fuel and hydraulic fluids), and measures to prevent and materials available to clean up hazardous material and waste spills. The SWPPP or SWMP will also identify emergency procedures for responding to spills.</p> <p>d) The BMPs presented in either document shall be clearly identified and maintained in good working condition, with sufficient backup stock on-site during all site work and construction activities. The construction contractor will retain a copy of the approved SWPPP or SWMP on the construction site and modify it as necessary to suit specific site conditions through amendments approved by the Central Valley RWQCB, if necessary.</p>				
Noise					
NOI-1	<p>Implement Measures to Reduce Construction Noise Effects.</p> <p>SAFCA shall require that its engineering design consultants and construction contractors implement the following measures to avoid and minimize construction traffic noise effects on sensitive receptors. These measures are consistent with SAFCA’s standard contract specifications for noise control.</p> <p>To the extent feasible and practicable, the primary construction contractors shall employ noise-reducing construction practices such that noise from construction complies with applicable noise-level rules, regulations, and ordinances that apply to the work, including the noise standards established</p>	During construction activities.	SAFCA.		

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	<p>for non-transportation noise sources by the applicable agencies (City of Sacramento), depending on the jurisdictional location of the affected receptor(s). Measures that shall be used to limit noise shall include the following:</p> <ul style="list-style-type: none"> a) Prohibit use of materials and equipment deliveries prior to 7 a.m. and after 6 p.m., Monday through Saturday; and prior to 9 a.m. and after 6 p.m., on Sunday. b) Establish and enforce construction site and haul road speed limits. c) Route construction-related truck traffic along roadways that will cause the least disturbance to residents. d) Use high-grade engine exhaust silencers and engine-casing sound insulation. e) Restrict the use of bells, whistles, alarms, and horns to safety-warning purposes. 				
Transportation/Traffic					
TRA-1	Repair Damaged Roadways and Bike Trails Following Construction.				
	<p>Following completion of construction, SAFCA, its engineering design consultants, or its construction contractors will assess and repair any project-related damage to roadways and paved bicycle/pedestrian paths that were used during construction, including all project-related potholes, fractures, or other damages.</p>	<p>Following completion of the culvert replacement and swale modifications.</p>	SAFCA.		

REFERENCES

Swainson's Hawk Technical Advisory Committee. 2000 (May 31). *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley*. Available: https://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html. Accessed March 9, 2015.

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